

# Smoking:

## Prevalences and Trends from 1998 to 2002

### Smoking Decreases Among Youth

#### Québec Survey of Tobacco Use in High School Students

Following various prevention, protection and smoking cessation programs undertaken in Québec since the mid-1990s, the Québec Ministry of Health has mandated the *Institut de la statistique du Québec (ISQ)* (Québec Institute of Statistics) to conduct ongoing surveys on smoking among youth. As occurs with most large-scale surveys of this type, data is being collected in schools.

The third edition of the *Québec Survey of Tobacco Use in High School Students* took place in 2002, the previous ones in 1998 and 2000. The main goal of this biennial survey is to profile and monitor trends in the smoking habits of young people in Québec.

The survey not only indicates the prevalence and frequency of tobacco use, but also covers additional topics such as sociodemographic factors associated with smoking, access to cigarettes, exposure to environmental (second-hand) tobacco smoke (ETS), attitudes towards smoking and cessation activities.

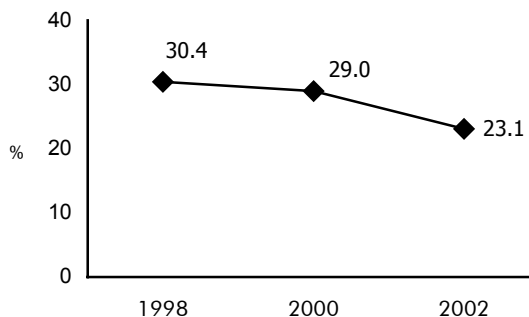
Since the 2000 edition, the *Québec Survey of Tobacco Use in High School Students* has included two other sections on risk behaviours in youth – alcohol consumption and drug use, and gambling.

The 2002 results presented in this bulletin only cover the smoking section of the survey. They are based on data collected in the autumn of 2002 from approximately 4,800 students in Secondary 1 to 5 in 150 high schools across Québec.

The partial results on the alcohol/drugs and gambling sections are presented in two other bulletins. A report containing the complete results of the three sections will be published in the autumn of 2003.

The data collected in 2002 reveal a substantial decrease in tobacco use among Québec high school students. The proportion of students having smoked in the 30 days preceding the survey was 23%, a significant<sup>1</sup> decrease from that reported in 2000 (29%; Figure 1). This is a new trend, since no significant decline in the overall smoking rate had been observed between 1998 and 2000.

**Figure 1: Trend in Smoking Rates Among High School Students, 1998-2002**



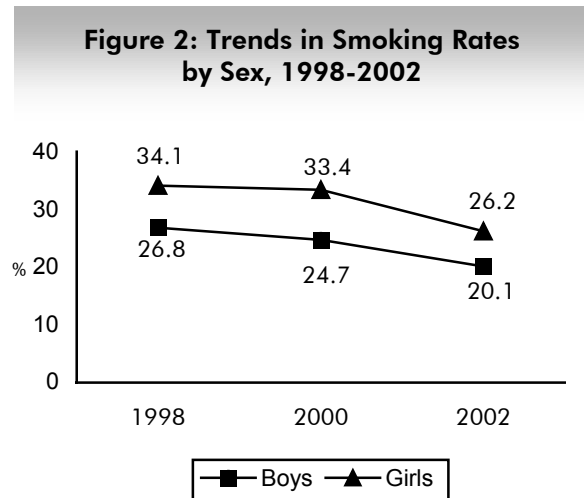
Source: Institut de la statistique du Québec, *Québec Survey of Tobacco Use in High School Students, 2002*.

In this bulletin, detailed results on various types of smokers and non-smokers and other characteristics of tobacco use can provide an insight into the nature and scope of this decrease observed. However, the survey does not allow for specific associations to be made between the decline in the smoking rate and any large-scale programs aimed at reducing or preventing smoking in youth.

1. In this document the percentages are based on values that have been weighted and adjusted according to the sample design. The statistical tests have a confidence interval of 95%. Statistical differences are considered significant at the threshold of  $p < 0.05$

## More Girls Smoke than Boys

The decline in smoking was significant in both boys and girls between 2000 and 2002 (Figure 2). Though the decline seems more pronounced in girls, it remains that a significantly higher proportion of girls smoke cigarettes than boys.



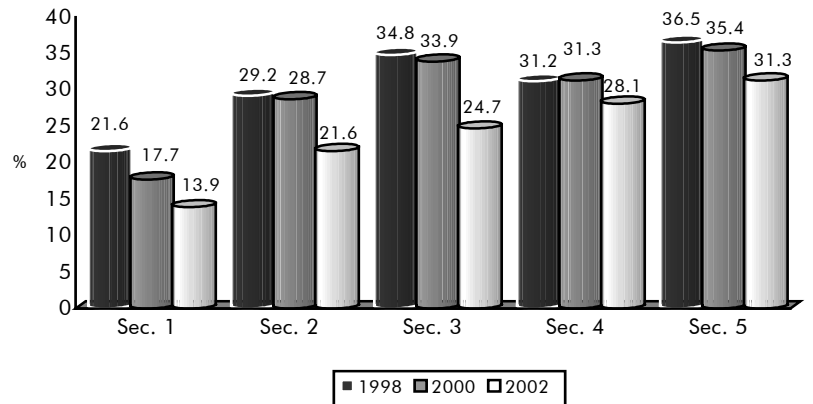
Source: Institut de la statistique du Québec, Québec Survey of Tobacco Use in High School Students, 2002.

## Younger Students Resist the Temptation

The results suggest smoking has become less attractive among the youngest high school students. Indeed, between 1998 and 2002, smoking cigarettes significantly decreased in each of the first three years of high school, while no significant decrease was observed in Secondary 4 and 5 (Figure 3).

In accordance with this hypothesis, between 1998 and 2002, the highest increase in students who had never tried smoking, not even a few puffs, was among those in Secondary 1, going from 49% to 61% (data not shown). In this same group, the rate of new smokers significantly decreased, going from 12% to 8% between 1998 and 2002 (data not shown).

**Figure 3: Trends in Smoking Rates by Year of High School, 1998-2002**



Source: Institut de la statistique du Québec, Québec Survey of Tobacco Use in High School Students, 2002.

## Detailed Portrait of Cigarette Smoking

Categorizing students into six categories (see box next page) provides more detail on the decline in smoking. Indeed, the three major categories of smokers saw significant decreases – there were fewer daily smokers, occasional smokers and new smokers in 2002 compared to those in 2000 (Table 1).

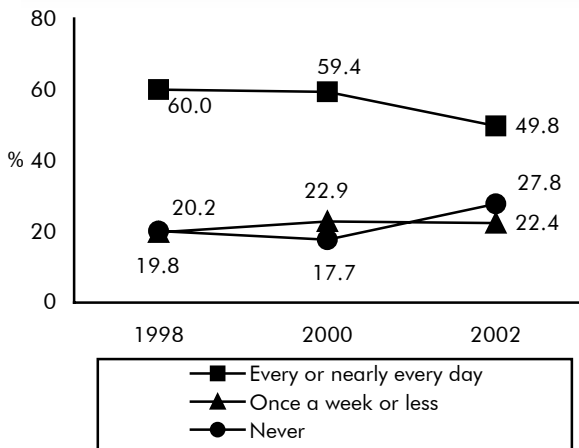
The increase in non-smokers (Table 1) can be attributed to the significant growth in the proportion of youth who reported never having smoked a whole cigarette (permanent non-smokers). This group comprised 48% of students in 1998, 54% in 2000, and rose to 60% in 2002. In brief, the rise in numbers of non-smokers could be more related to the arrival of new students not having experimented with smoking than to a trend in cessation. This at least is what can be understood from the overall significant decreases in the categories of former smokers and experimental smokers between 1998 and 2002.

**Table 1: Trends in Types of Smokers and Non-Smokers, 1998-2002**

	Smokers			Non-Smokers		
	Daily	Occasional	New	Former Smokers	Former Experimenters	Permanent Non-Smokers
	%					
1998	12.0	7.9	10.5	3.0	18.6	48.0
2000	12.4	6.2	10.4	2.5	14.6	54.0
2002	10.3	4.6	8.2	1.9	14.6	60.4

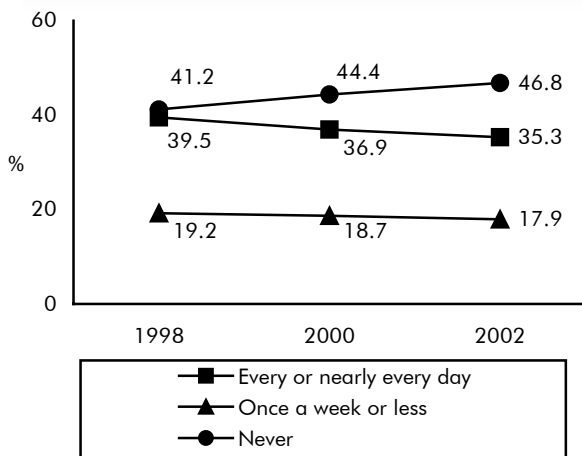
Source: Institut de la statistique du Québec, Québec Survey of Tobacco Use in High School Students, 2002.

**Figure 4: Trends in Exposure to Environmental Tobacco Smoke (ETS) in the School Yard, 1998-2002**



Source: Institut de la statistique du Québec, Québec Survey of Tobacco Use in High School Students, 2002.

**Figure 5: Trends in Exposure to Environmental Tobacco Smoke (ETS) at Home, 1998-2002**



Source: Institut de la statistique du Québec, Québec Survey of Tobacco Use in High School Students, 2002.

## No Change in Smoking Habits Among Smokers

Though there were fewer smokers in 2002 compared to previous years, there was no significant change observed among smokers with regards to frequency of smoking, number of cigarettes smoked, and mean age of beginning to smoke (see survey report for data). Although there were no changes observed in their smoking habits, increased numbers of smokers wished to quit. In 2002, 36% reported their intention to quit in the six months following the survey, a significant increase compared to 31% in 2000 (data not shown).

## Fewer Friends who Smoke, Less Exposure to Smoke at School

The decrease in smoking seems to be reflected in a drop in the number of reported friends who are smokers. In 2002, 27% of high school students reported that *none* of their friends smoked. This was a significant increase compared to 2000 (21%) and 1998 (19%) (data not shown). The decline in cigarette smoking was also probably related to a significant decrease in the proportion of students who reported being exposed every day or nearly every day to environmental tobacco smoke (ETS) (second-hand smoke) in the schoolyard. This coincides with a significant increase in the number of students who said they had never been exposed to ETS in the school yard (Figure 4).

## And at Home?

In the same vein, there was a significant decrease in the proportion of students who reported being exposed every day or nearly every day to environmental tobacco smoke in their home between 1998 and 2002, again coinciding with an increase in those who reported never having been exposed (Figure 5). We can presume that there may have been certain changes in attitudes and behaviours vis-à-vis smoking among the parents. If student smokers' declarations are reliable, 36% of them reported having had their parents' permission to smoke. In this regard, the attitudes of the parents of student smokers did not seem to have changed from 1998 (35% data not shown).

## How are smokers and non-smokers defined ?

**Smokers** → had smoked in the 30 days preceding the survey.

Three groups of smokers categorized as follows:

- **New (Beginner)** → had smoked fewer than 100 whole cigarettes in their life
- **Occasional** → had smoked at least 100 cigarettes in their life and did not smoke every day at the time of the survey
- **Daily** → had smoked at least 100 cigarettes in their life and smoked every day at the time of the survey

The last two groups are considered **established smokers** (criterion: 100 cigarettes smoked). They are also called "**current smokers**."

**Non-smokers** → had not smoked in the 30 days preceding the survey.

Three groups of non-smokers categorized as follows:

- **Former smokers** → had smoked 100 cigarettes, but had quit smoking
- **Former experimenters** → had smoked but not to the critical threshold of 100 cigarettes
- **Permanent non-smokers** → had never smoked a whole cigarette.

## Fewer Students Try to Purchase Cigarettes in Stores

The 2002 edition of the survey revealed a significant decrease in the proportion of young smokers under the age of 18 years who had tried to buy cigarettes in a store in the four weeks preceding the survey, 58% in 2002 versus 65% in 2000 (data not shown). Slightly more than half of the 2002 group (52%) reported they had been refused at least once during the same period, a significantly lower proportion than what was observed in 2000 (59%) (data not shown).

## Encouraging Results

A number of surveys conducted in the 1990s showed an increasing trend in cigarette smoking among youth. The significant decrease shown in the *Québec Survey of Tobacco Use in High-School Students, 2002* therefore comprises encouraging findings for public health in general and for people devoted to reducing the incidence and prevalence of smoking.

Although this survey was not designed to evaluate the efficacy of specific anti-smoking programs, certain results are likely a partial reflection of a synergistic impact of all such programs conducted in Québec in recent years. It is of interest to note that various public health interventions have had a dissuasive influence on the incidence of smoking among adolescents. This is at least suggested by the significant increase in the proportion of youth who have never smoked, particularly among students in the early grades of high school.

## Access to the Survey Data

The ISQ encourages researchers and those working in the anti-smoking, drugs, and gambling addiction fields to use the raw data of this survey. Researchers can access the data by contacting the *Centre d'accès aux données de recherche* of the ISQ (CADRISQ), with offices in Montréal and Québec City. Detailed data from the *Québec Survey of Tobacco Use in High-School Students, 2002* will be available for the general public in the autumn of 2003. For further information on accessing the data, consult the ISQ's website at ([www.stat.gouv.qc.ca](http://www.stat.gouv.qc.ca)).

## Methodology in Brief

To ensure the validity of the comparisons, the methodology used in the survey has been the same from one edition to the next.

**Target population:** all students enrolled in high schools in Québec, public or private, francophone or anglophone, with the exception of schools not governed by the Ministry of Education, aboriginal schools, schools far from urban centres, and schools composed of at least 30% handicapped students. In all, the sample was therefore representative of more than 95% of students enrolled in high school in Québec.

**Sample stratified by:**

- Language of instruction
- Private or public system
- Region

**Selection process:**

- Random selection of schools (approximately 160)
- Random selection of classes (36 by grade level, 180 in all) in the schools previously selected at random – one class per school, sometimes two
- All students in the selected classes were asked to respond to a questionnaire (5,300 potential respondents).

**Data collection instrument:** Closed, anonymous, self-administered questionnaire given in the classroom under the supervision of an ISQ representative.

**Collection period:** Early November to mid-December, every two years since 1998.

**Combined response rate (classes and schools):** 89.8 % (1998), 92.4 % (2000), 93.4 % (2002).

### To learn more about the *Québec Survey of Tobacco Use in High School Students*

This bulletin, as well as highlights of the reports of the *Québec Survey of Tobacco Use in High School Students*, can be accessed on the ISQ's website at [www.stat.gouv.qc.ca](http://www.stat.gouv.qc.ca) by clicking on "English," "Publications," "Studies and Analyses," section entitled "Health."

You can also telephone the Coordinator of the survey, Jacynthe Loiselle, at (514) 873-4749 or 1-800-463-4090 (toll-free if calling from outside the Montréal region).

Published by the *Institut de la statistique du Québec*.

Suggested reference: Perron, B., Loiselle, J. (2003). Smoking: Prevalences and Trends from 1998 to 2002, *Québec Survey of Tobacco Use in High School Students, 2002* (Summary results), Québec, Institut de la statistique du Québec, May.