

**Teens and Tobacco in  
Minnesota, the View from 2008**  
*Results from the Minnesota Youth  
Tobacco and Asthma Survey*

---

**Minnesota Department of Health  
Division of Health Policy  
Center for Health Statistics**

**December, 2008**



Commissioner's Office  
625 Robert St. N.  
P.O. Box 64975  
St. Paul, MN 55164-0975  
(651) 201-4989  
[www.health.state.mn.us](http://www.health.state.mn.us)

## ACKNOWLEDGMENTS

We express our thanks and appreciation to the thousands of students who completed the Minnesota Youth Tobacco and Asthma Survey in 2008 and in previous years for their willingness to answer our questions about their experiences with and thoughts about tobacco use. We are equally indebted to the principals, teachers and staff who worked with us to administer the survey at nearly 70 schools around the state. Research assistants Titilayo Adegboyega and Caroline Butler contributed impressively to all phases of the 2008 project, from contacting and recruiting schools to preparing the completed survey forms for analysis. We thank them and wish them well in their public health and medical careers. Our colleagues at the Office on Smoking and Health at the Centers for Disease Control and Prevention (CDC) provided core questions for the survey, drew the school samples, and edited the data. The Research Triangle Institute scanned the survey answer sheets.

Financial support for the 2008 Minnesota Youth Tobacco and Asthma Survey was provided by the U.S. Centers for Disease Control and Prevention under grant U58/CCU522818-03 awarded to the Minnesota Department of Health.

Finally, we would like to thank the many people throughout the state who are dedicated to improving the well-being of our young people by encouraging them to reject tobacco use and other threats to health. We hope this information will help us all to understand better the trends and dynamics of tobacco use in Minnesota.

### FOR MORE INFORMATION, CONTACT:

Center for Health Statistics  
Division of Health Policy  
Minnesota Department of Health  
P.O. Box 64882  
St. Paul, MN 55164-0882

Phone: (651) 201-3504  
Fax: (651) 201-5179  
TTY: (651) 201-5797  
E-mail: [HealthStats@state.mn.us](mailto:HealthStats@state.mn.us)

If you require this document in another format, such as large print, Braille or cassette tape, call 651-201-3504.

Printed on recycled paper.

## TABLE OF CONTENTS

	Page
List of Tables.....	iv
List of Figures.....	vi
Executive Summary.....	vii
1 Introduction.....	1
2 The Extent of Current Tobacco Use.....	2
3 The Extent of Any Use of Tobacco in Lifetime.....	8
4 Characteristics of Current Smokers.....	12
5 Access to Cigarettes.....	15
6 Trying to Quit.....	17
7 Interactions with Health Professionals about Smoking.....	19
8 Home Environment, Friends and Smoking.....	20
9 Exposure to Secondhand Smoke.....	24
10 Perceptions, Rules and Opinions about Secondhand Smoke.....	29
11 Attitudes and Beliefs about Tobacco Use.....	32
12 Tobacco Promotional Products.....	34
13 School Curriculum, Community Activities, and Media Exposure.....	36
14 Tobacco Use, Secondhand Smoke, and Asthma.....	39
15 Discussion and Implications.....	43
Appendix A: Description of Survey Methods.....	47
Notes.....	50

## LIST OF TABLES

		Page
1	Percent of students who used various tobacco products on one or more of the past 30 days, by gender, 2008.....	2
2	Change in percent of students who used various tobacco products on one or more days in the past 30 days, 2000-2008 .....	4
3	Change in percent of students who used any form of tobacco and who smoked cigarettes on one or more days in the past 30 days, by gender, 2000-2008.....	6
4	Percentage of current tobacco users who use two or more forms of tobacco, 2000-2008.....	7
5	Percent of Minnesota and U.S. high school students who are current smokers.....	7
6	Percent of students who have ever used specific tobacco products in lifetime, by gender, 2008.....	8
7	Change in percent of students who have ever used various tobacco products in lifetime, 2000-2008.....	9
8	Change in percent of students who have ever used specific tobacco products in their lifetime, by gender, 2000-2008.....	11
9	Characteristics of current cigarette smokers, 2008.....	13
10	Change in selected characteristics of current smokers, 2000-2008 (high school students only).....	14
11	Usual method of obtaining cigarettes, 2008 (current smokers under 18 only).....	15
12	Change in percentage of current smokers under 18 who usually obtain their cigarettes by buying them at a store, 2000-2008 (high school smokers under 18 only).....	16
13	Attempts by current smokers to quit smoking, 2008.....	17
14	Change in current smokers' desire to stop smoking and attempts to quit, 2000-2008 (high school smokers only).....	18
15	Interactions with health professionals about smoking, by current smoking status, 2008.....	19
16	Living with a smoker and having friends who are smokers, by current smoking status, 2008.....	21
17	Parent involvement in children's smoking behavior, by current smoking status, 2008.....	22
18	Change in percent of students who live with a smoker and have friends who are smokers, by current smoking status, 2000-2008.....	23

19	Exposure to secondhand smoke, by current smoking status, 2008.....	25
20	Change in percent of students who were exposed to secondhand smoke in a room or a car during the past seven days, 2000-2008.....	27
21	Change in percent of students who were exposed to secondhand smoke in a room or a car during the past seven days, by smoking status, 2000-2008 (High school only).....	28
22	Beliefs about the harmfulness of secondhand smoke, by current smoking status, 2008.....	29
23	Smoking restrictions at home, in vehicles and at work, by current smoking status, 2008.....	30
24	Percent of students who believe that people should <u>never</u> allow smoking in various locations, by current smoking status, 2008.....	31
25	Attitudes and beliefs about tobacco use, by current smoking status, 2008...	32
26	Change in attitudes about the social benefits of smoking, 2000-2008.....	33
27	Receipt of and attitudes toward tobacco promotional products, by current smoking status, 2008.....	34
28	Change in receipt of and attitudes toward tobacco promotional products, 2000-2008.....	35
29	School curriculum, community activities, and media exposure, 2008.....	37
30	Change in school curriculum, community activities and media exposure, 2000-2008.....	38
31	Percent of students with current asthma, by gender, 2008.....	40
32	Tobacco use and current asthma status, 2008.....	40
33	Living with a smoker, secondhand smoke exposure, and current asthma status, 2008.....	41
34	Major policy developments between the 2005 and 2008 youth tobacco surveys.....	44
A-1	Survey participation statistics for youth tobacco surveys.....	49

## LIST OF FIGURES

	Page
1 Percentage of students who used any tobacco in the past 30 days and who smoked cigarettes in the past 30 days, by grade in school, 2008.....	3
2 Percentage of students using tobacco in the past 30 days, 2000-2008.....	5
3 Percentage of students smoking cigarettes in the past 30 days, 2000-2008.....	5
4 Percent of high school students who have ever used various tobacco products, 2000-2008.....	10
5 Percent of students who are current smokers, by number of four closest friends who smoke, 2008.....	21
6 Change in percentage of students exposed to any secondhand smoke in the past seven days, 2000-2008.....	26

## EXECUTIVE SUMMARY

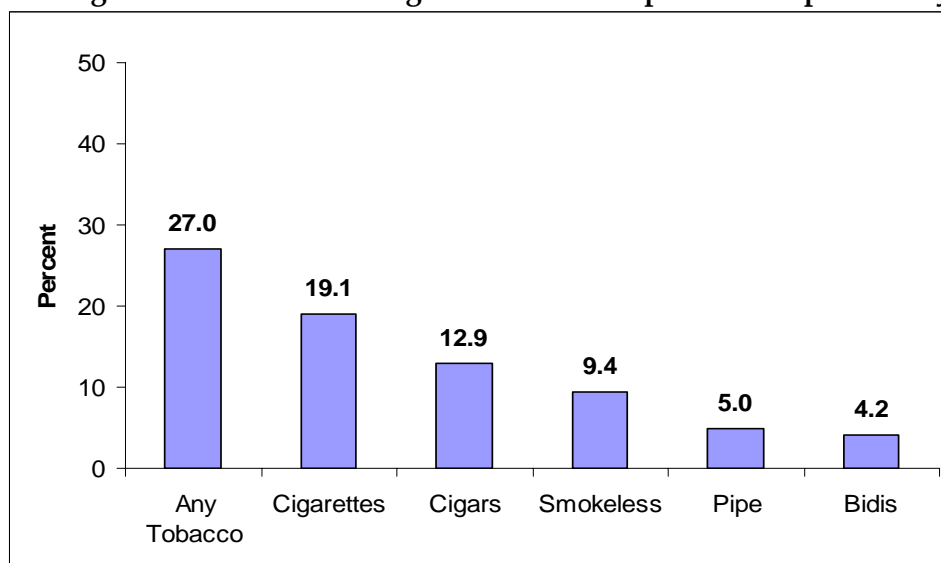
The 2008 Minnesota Youth Tobacco and Asthma Survey is the latest in a series of youth tobacco surveys conducted by the Minnesota Department of Health. Previous surveys took place in 2000, 2002 and 2005. The purpose of the survey is to provide tobacco prevention programs and public officials with information for strategic planning and decision-making. Topics covered include the extent of tobacco use, characteristics of smokers, secondhand smoke exposure, and attitudes and beliefs about tobacco use. Public schools and classrooms across the state were selected at random for the 2008 survey, and over 4,500 students in grades 6 through 12 participated.

### Findings

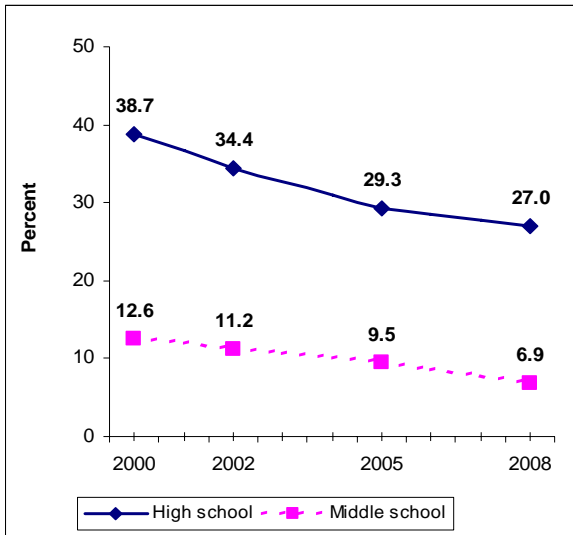
#### Current Tobacco Use

- In middle school (grades 6-8), 6.9 percent of students are current tobacco users, meaning that they used any form of tobacco in the past 30 days; 3.4 percent are current cigarette smokers.
- In high school (grades 9-12), 27.0 percent of students used tobacco in the past 30 days. One in five high school students (19.1%) smoked cigarettes, 12.9 percent smoked cigars or little cigars, and 9.4 percent used smokeless tobacco in the past 30 days.
- In 2008, an estimated 85,000 public school students (12,600 in middle school, 72,400 in high school) are current tobacco users.
- At the high school level, males are considerably more likely to use various tobacco products than are females.

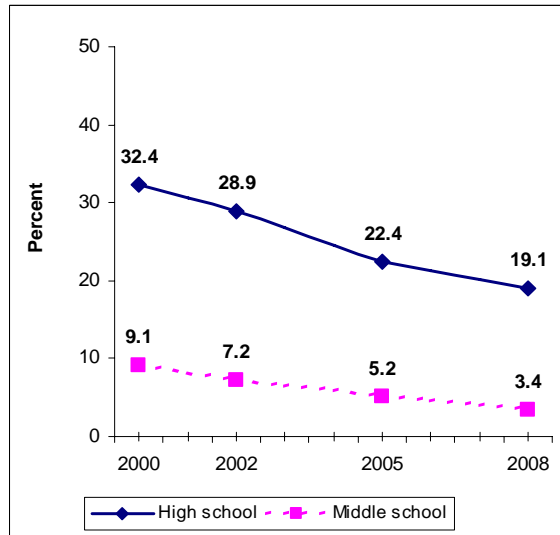
**Percent of high school students using various tobacco products in past 30 days, 2008**



Percent using any tobacco in last 30 days



Percent smoking cigarettes in past 30 days



### Trends in Current Tobacco Use

- Overall tobacco use and smoking rates have declined in recent years, continuing the downward trend that has been in place since 2000. Survey results for 2008 suggest this downward trend may be slowing among high school students.
- Between 2005 and 2008, the percentage of middle school students who used any tobacco products in the past 30 days declined from 9.5 percent to 6.9 percent. This decrease is statistically significant. At the high school level, the percentage of students using any tobacco products declined from 29.3 percent to 27.0 percent. This decrease is not statistically significant.
- Between 2005 and 2008, the percentage of students who smoked cigarettes in the past 30 days declined from 5.2 to 3.4 percent in middle school and from 22.4 to 19.1 percent in high school. Again, the decrease for middle school students was statistically significant, but the decrease for high school students was not.
- In 2008, an estimated 85,000 public school students used tobacco in the past 30 days, down from 97,000 in 2005.
- While cigarette smoking has declined since 2000, there has been no change since 2000 in the percentage of students smoking cigars or little cigars or using smokeless tobacco.
- Trends among male and female students are markedly different. Among female high school students, cigarette smoking declined by 31 percent between 2005 and 2008, and overall tobacco use declined by 25 percent. However, there was no decrease at all among males.
- Since 2005, the percentage of high school students who are current cigarette smokers has decreased at about the same rate in Minnesota as in the nation as a whole.



### Multiple Use

- Nearly half of high school current tobacco users (48.0%) report using two or more forms of tobacco in the past 30 days. The most frequent combinations are cigarettes and cigars, and cigarettes and smokeless tobacco.
- Among high school tobacco users, the percentage using two or more forms of tobacco increased significantly from 42.4 percent in 2005 to 48.0 percent in 2008.

### Any Tobacco Use in Lifetime

- Less than one-fourth of middle school students (22.5%) have ever tried any form of tobacco in their lifetime, a significant decrease from 27.8 percent in 2005.

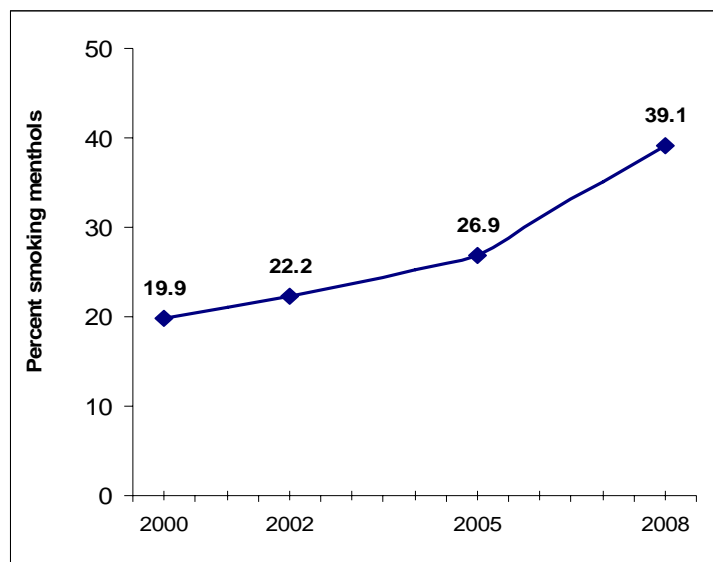
### Access to Cigarettes

- Over three-fourths of high school smokers under 18 get their cigarettes from other people, including 41.5 percent who give someone else money to buy cigarettes for them. About 10 percent (9.5%) of underage high school smokers usually get their cigarettes by purchasing them in a store.
- About one in five students (20.3% middle school; 22.0% high school) report that they know of places that sell single or loose cigarettes (“loosies”).

### Characteristics of Smokers

- Smoking menthol cigarettes has increased sharply. Between 2005 and 2008, the percentage of high school smokers who usually smoke menthols rose from 26.9 percent to 39.1 percent. Since 2000, preference for menthols has doubled.

Percent of high school smokers who usually smoke menthol cigarettes



## Quitting

- About half of high school smokers want to stop smoking (48.1%) and just over half have made a quit attempt in the past 12 months (51.8%).

## Health Professionals

- In the past 12 months, about 40 percent of high school students report being asked by a doctor, dentist, nurse or other health professional if they smoke, and about 30 percent report being advised by a health professional not to smoke.

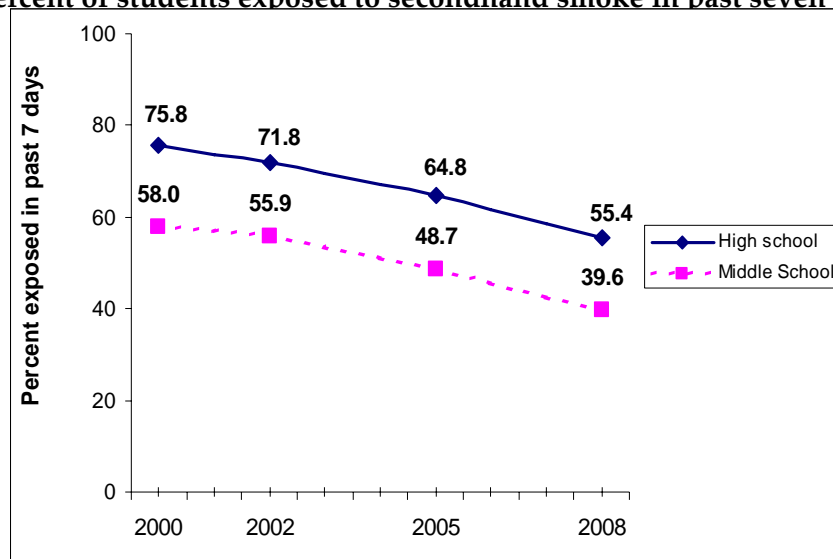
## Home Environment, Friends, and Smoking

- Three-fourths of middle school smokers (74.5%) and over half of high school smokers (58.3%) live with someone else who smokes. Living with a smoker greatly increases the odds of becoming a smoker.
- Current smokers tend to form friendship groups with other smokers. In high school, 70.6 percent of current smokers but only 13.9 percent of non-smokers have two or more smokers among their four closest friends.

## Exposure to Secondhand Smoke

- Over half of high school students (55.4%) and 39.6 percent of middle school students were exposed to secondhand smoke in the past seven days.
- Exposure to secondhand smoke declined between 2005 and 2008, from 64.8 to 55.4 percent for high school students and from 48.7 to 39.6 percent for middle school students. Both changes are statistically significant and continue the downward trend that has been in place since 2000.
- Repeated exposure to secondhand smoke in the past seven days also declined significantly for both middle school and high school students.

**Percent of students exposed to secondhand smoke in past seven days**



### **Perceptions, Rules and Opinions about Secondhand Smoke**

- Over 90 percent of students agree that secondhand smoke is harmful.
- Among high school students, 77.0 percent report that smoking is never allowed inside their home and 65.1 percent report that smoking is never allowed in the vehicle they drive or ride in the most.
- Current smokers are much less likely than non-smokers to have smoke-free rules in their homes and vehicles.
- Support for public and private smoke-free rules is very high. Nearly 90 percent of middle school students believe that smoking should never be allowed inside their homes, in their vehicles, at workplaces, and in indoor public places. Support by high school students ranges from 71.0 percent for smoke-free rules in vehicles to 81.3 percent for smoke-free rules in indoor public places.

### **Attitudes and Beliefs about Tobacco Use**

- Close to half of middle school smokers (42.7%) and 20.5 percent of high school smokers agree that so-called “light” or “low-tar” cigarettes are less risky than regular or full flavor cigarettes.

### **Tobacco Promotional Merchandise**

- Between 2005 and 2008, the percentage of students who received or bought tobacco brand promotional merchandise declined from 15.3 to 8.4 percent in middle school and from 21.8 to 17.5 percent in high school.

### **School Curriculum, Community Activities and Media Exposure**

- The percentage of high school students who were taught about the dangers of tobacco use in school declined sharply from 60.3 percent in 2005 to 37.4 percent in 2008, and the percentage who practiced ways to resist pressures to use tobacco in school fell from 24.5 to 16.9 percent.
- The percentage of students who saw or heard media messages about the dangers of smoking in the past 30 days declined between 2005 and 2008 for both middle school students (from 75.1% to 65.5%) and high school students (from 81.7% to 76.6%).

### **Tobacco Use, Secondhand Smoke, and Asthma**

- High school students with asthma are significantly more likely than students who don't have asthma to report smoking cigarettes in the past 30 days, using smokeless tobacco in the past 30 days, and living with someone else who smokes.

- Middle school students with asthma are significantly more likely than students who don't have asthma to report being exposed to secondhand smoke in the past seven days.

## **Discussion**

The continuing drop in overall tobacco use and cigarette smoking and the solid, broad-based decline in exposure to secondhand smoke are welcome news for everyone concerned about reducing the harm of tobacco use. The strong support of young people for smoke-free rules in public places and in their own homes and vehicles is further evidence that smoking is becoming less attractive and acceptable.

Survey results, however, point to several issues that tobacco prevention programs should monitor and address. First, while tobacco use and smoking has declined substantially for female high school students since 2005, it has not changed at all for males. Second, while cigarette smoking has steadily declined since 2000, there has been no reduction in use of cigars and smokeless tobacco. Third, use of menthol cigarettes by students has increased sharply. Fourth, less than half of students report being asked if they smoke or being advised not to smoke by a doctor, dentist or nurse in the past 12 months. Fifth, many smokers still believe that "light" or "low-tar" cigarettes are less risky than regular cigarettes. Sixth, fewer high school students are being taught about the dangers of tobacco in school or about ways to resist pressures to use tobacco.

## SECTION 1 INTRODUCTION

Tobacco use continues to be the leading cause of premature death in the U.S. In Minnesota, about 5,600 deaths per year are attributed to cigarette smoking,<sup>1</sup> and the medical costs due to tobacco illnesses reached \$1.98 billion in 2002.<sup>2</sup> At least 80 percent of adult smokers report that they had their first cigarette before the age of 18.<sup>3</sup> Preventing young people from starting to smoke in the first place is a key strategy to reducing the long-term harm and tragedy caused by tobacco use. The Department of Health and all organizations working to prevent and reduce youth tobacco use need data that can contribute to strategic and program planning and that can measure progress toward achieving overall goals.

This report describes tobacco use by Minnesota adolescents through data provided by the 2008 Minnesota Youth Tobacco and Asthma Survey. It also describes changes over time since the survey was first conducted in 2000.

The Minnesota Department of Health has conducted the youth tobacco survey in 2000, 2002, 2005, and 2008. The survey includes questions on the use of various tobacco products, characteristics of smokers, exposure to secondhand smoke, attitudes and beliefs, and other topics. A set of questions about asthma was added in 2008, and the survey was renamed the Minnesota Youth Tobacco and Asthma Survey. Over 4,500 Minnesota public school students from grades 6-12 participated in the 2008 survey. Information about the survey methods can be found in Appendix A. Reports based on earlier surveys can be found on the web at <http://www.health.state.mn.us/divs/chs/tobacco/index.html>.

In accordance with guidelines from the Centers for Disease Control and Prevention, results are presented separately for middle school students (grades 6-8) and high school students (grades 9-12). Trend results have been tested for statistical significance, and any significant differences between the 2000 and 2008 results or between the 2005 and 2008 results are noted in the tables. Most of the discussion of trends focuses on the most recent period between 2005 and 2008.

**SECTION 2**  
**THE EXTENT OF CURRENT TOBACCO USE**

**Tobacco Use—Overall and by Gender**

In 2008, the survey found that 27.0 percent of high school students and 6.9 percent of middle school students are current tobacco users, meaning that they have used some form of tobacco in the past 30 days. (Table 1) Using these percentages, we estimate that 85,000 public school students (12,600 in middle school; 72,400 in high school) are current tobacco users.

Cigarettes are the most common form of tobacco used – 19.1 percent of high school students and 3.4 percent of middle school students are current cigarette smokers. At the high school level, substantial numbers of students smoke cigars, cigarillos or little cigars, and use smokeless tobacco, including snuff, dip and chewing tobacco.

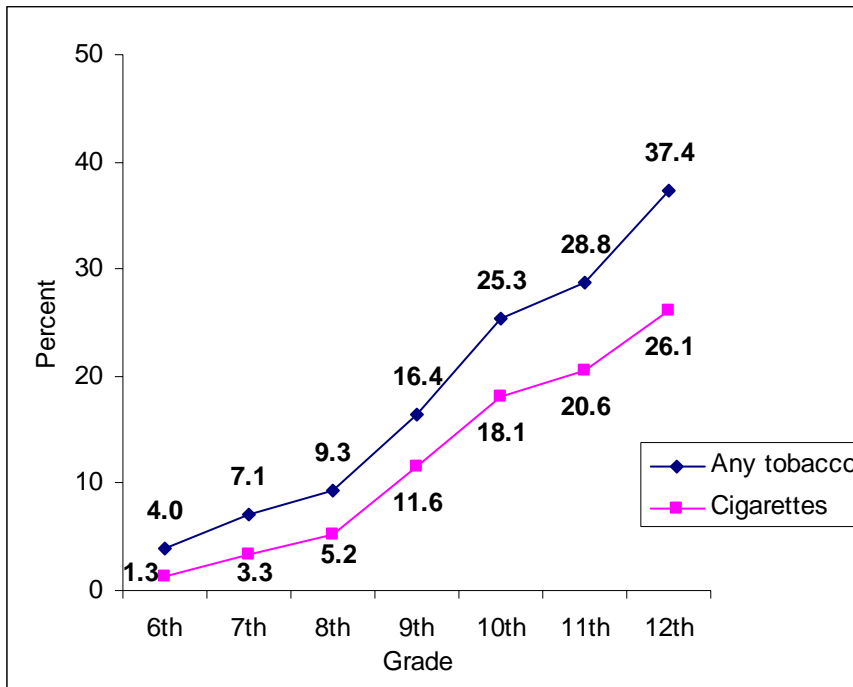
Among high school students, males are more likely than females to have used tobacco in the past 30 days. One-third of males (33.3%) are current tobacco users, compared to one-fifth of females (19.5%). Males are more likely than females to smoke cigarettes, and are far more likely to smoke cigars or little cigars and use smokeless tobacco.

**Table 1. Percent of students who used various tobacco products on one or more of the past 30 days, by gender, 2008**

	<b>Middle School</b>			<b>High School</b>		
	Female	Male	Total	Female	Male	Total
Any tobacco products	5.7%	8.0%	6.9%	19.5%	33.3%	27.0%
Cigarettes	3.5%	3.2%	3.4%	15.9%	21.6%	19.1%
Cigars, cigarillos, little cigars	1.8%	3.5%	2.7%	7.1%	18.0%	12.9%
Smokeless tobacco	1.2%	3.0%	2.2%	2.4%	15.6%	9.4%
Pipe	1.8%	2.7%	2.2%	3.1%	6.1%	5.0%
Bidis*	1.4%	2.1%	1.8%	2.8%	5.2%	4.2%

\* Bidis are small brown cigarettes from India consisting of tobacco wrapped in a leaf and tied with a thread.  
Source: Minnesota Youth Tobacco and Asthma Survey, 2008

**Figure 1. Percentage of students who used any tobacco in the past 30 days and who smoked cigarettes in the past 30 days, by grade in school, 2008.**



Source: Minnesota Youth Tobacco and Asthma Survey, 2008

### **Tobacco Use by Grade in School**

Use of cigarettes and other tobacco products escalates rapidly during the teen years. The percentage of students who are current tobacco users and current smokers increases gradually as they move through middle school and then much more rapidly as they move through high school. (Figure 1)

### **Use of Multiple Tobacco Products**

Many young people are currently experimenting with or using more than one form of tobacco. Of all current tobacco users, 44.7 percent of middle school students and 48.0 percent of high school students report using two or more forms of tobacco during the past 30 days.

The use of multiple tobacco products usually involves cigarettes plus some other product. At the high school level, 62.9 percent of current cigar smokers, 64.6 percent of current smokeless tobacco users, 72.9 percent of current pipe smokers, and 76.9 percent of current bidi smokers also smoked cigarettes in the past 30 days.

**Table 2. Change in percent of students who used various tobacco products on one or more days in the past 30 days, 2000-2008.**

<b>Middle School</b>							
	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008		Percent Change 2005-2008
Any tobacco use	12.6	11.2	9.5	6.9	-45%	§	-27% §
Cigarettes	9.1	7.2	5.2	3.4	-63%	§	-35% §
Cigars, cigarillos	3.7	2.7	3.0	2.7	--		--
Smokeless tobacco	2.2	2.2	2.8	2.2	--		--
Pipe	2.7	2.6	2.4	2.2	--		--
Bidis*	2.8	2.8	2.8	1.8	--		--
<b>High School</b>							
	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008		Percent Change 2005-2008
Any tobacco use	38.7	34.4	29.3	27.0	-30%	§	-8%
Cigarettes	32.4	28.9	22.4	19.1	-41%	§	-15%
Cigars, cigarillos	13.0	12.3	12.0	12.9	-1%		+8%
Smokeless tobacco	10.2	9.7	7.9	9.4	--		--
Pipe	5.0	5.4	3.7	5.0	--		--
Bidis*	4.8	5.5	3.9	4.2	--		--

\* Bidis are small brown cigarettes from India consisting of tobacco wrapped in a leaf and tied with a thread.

-- Percent change not shown when baseline percentage is below 10%, unless statistically significant.

§ Differences between the stated years are statistically significant at  $p < .05$ .

Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

## Trends in Tobacco Use

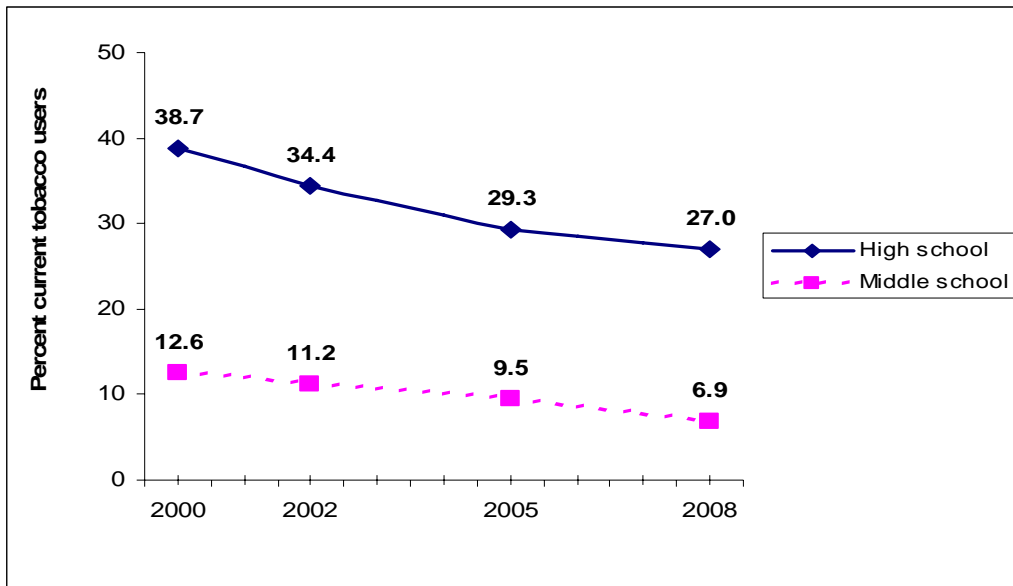
Overall use of tobacco by middle school students has reached new lows. The percentage of middle school students who used tobacco in the past 30 days declined from 9.5 percent in 2005 to 6.9 percent in 2008, a statistically significant decrease. Current use of any form of tobacco is just about half of what it was in 2000. Similarly, the percentage of students who smoked cigarettes in the past 30 days fell from 5.2 percent in 2005 to 3.4 percent in 2008, also a statistically significant decrease. Current smoking by middle school students is now less than half of what it was in 2000. (Table 2)

In high school, tobacco use has also continued to decline, although the rate of decline has slowed a bit. The percentage of high school students who are current tobacco users declined from 29.3 percent in 2005 to 27.0 percent in 2008, and the percentage who are

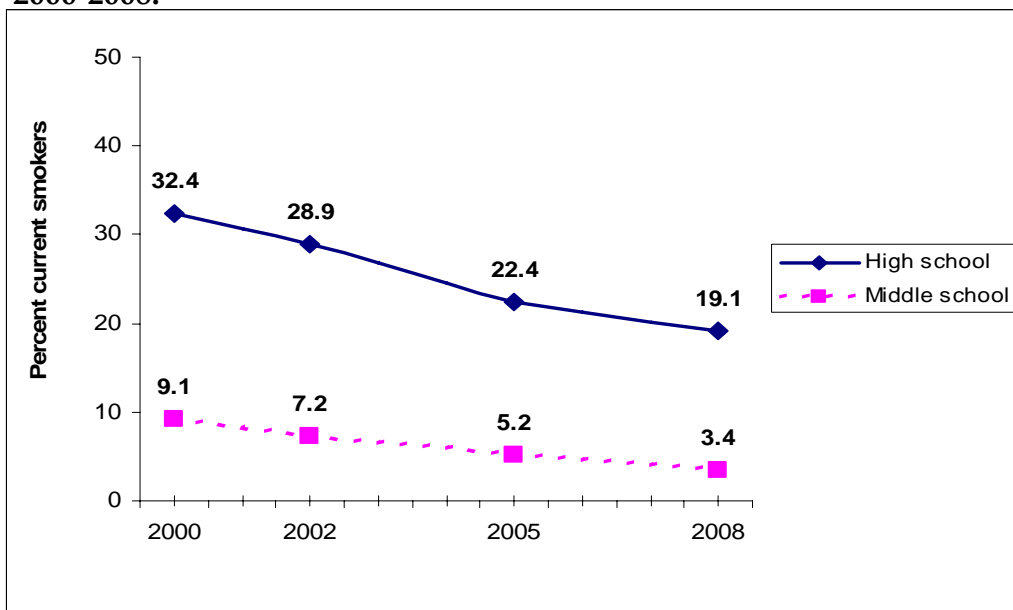


current cigarette smokers fell from 22.4 percent to 19.1 percent. Neither of these decreases is statistically significant. Since 2000, current use of any tobacco has fallen by 30 percent and current smoking has dropped by 41 percent. However, use of cigars, smokeless tobacco, pipes and bidis has basically held steady since 2000. (Table 2)

**Figure 2. Percentage of students using tobacco in the past 30 days, 2000-2008.**



**Figure 3. Percentage of students smoking cigarettes in the past 30 days, 2000-2008.**



Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

**Table 3. Change in percent of students who used any form of tobacco and who smoked cigarettes on one or more days in the past 30 days, by gender, 2000-2008.**

<b>Middle School</b>							
	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008		Percent Change 2005-2008
<b>Current tobacco user</b>							
Females	12.3	10.7	8.0	5.7	-54%	§	-29%
Males	12.9	11.5	10.8	8.0	-38%	§	-26%
<b>Current cigarette smoker</b>							
Females	9.5	8.0	5.2	3.5	-63%	§	--
Males	8.7	6.4	5.0	3.2	-63%	§	--
<b>High School</b>							
	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008		Percent Change 2005-2008
<b>Current tobacco user</b>							
Females	34.1	28.8	25.9	19.5	-43%	§	-25% §
Males	42.7	39.5	32.3	33.3	-22%	§	+3%
<b>Current cigarette smoker</b>							
Females	32.6	27.4	22.9	15.9	-51%	§	-31% §
Males	32.0	30.1	21.7	21.6	-33%	§	0%

-- Percent change not shown when baseline percentage is below 10%, unless statistically significant.

§ Differences between the stated years are statistically significant at p<.05.

Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

### **Trends in Tobacco use, by Gender**

For middle school students, overall tobacco use and cigarette smoking declined at roughly the same rate for both males and females between 2005 and 2008. (Table 3)

Among high school students, important differences between males and females have emerged in recent years. Females have continued to make notable progress. Between 2005 and 2008, current tobacco use by females declined by 6.4 percentage points (-25%) and current cigarette smoking fell by 7.0 percentage points (-31%). Both of these changes are statistically significant. In contrast, there was no change between 2005 and 2008 for male students, after substantial declines in previous years. As a result, there is now a sizable gap in the cigarette smoking rates between males and females, where none existed before. Similarly, the male-female gap in current overall tobacco use has grown appreciably larger since 2005.

**Table 4. Percentage of current tobacco users who use two or more forms of tobacco, 2000-2008.**

	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008	Percent Change 2005-2008
Percent multiple users:						
Middle School	35.6	32.5	35.9	44.7	+26%	+25%
High School	40.7	45.2	42.4	48.0	+18% §	+13% §

§ Differences between the stated years are statistically significant at  $p < .05$ .

Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

### Trends in Multiple Tobacco Use

While the overall number of tobacco users has been decreasing over the years, the proportion of current tobacco users who use more than one kind of tobacco appears to be increasing. Between 2005 and 2008, the proportion of high school current tobacco users who used two or more forms of tobacco in the past 30 days rose from 42.4 percent to 48.0 percent, a statistically significant increase. (Table 4) An increase can also be seen for middle school tobacco users, but that change is not statistically significant, due primarily to the small number of current tobacco users in middle school.

### National Trends

Comparison between Minnesota youth tobacco survey results and national results is difficult because the surveys are not always conducted during the same year. The most recent national data for high school grades 9-12 is from the National Youth Risk Behavior Survey (YRBS). In 2005, the high school smoking rates from the National YRBS and the Minnesota Youth Tobacco Survey were basically identical (23.0% national, 22.4% Minnesota). Since then, the national rate declined to 20.0 percent in 2007, while the Minnesota rate fell to 19.1 percent in 2008. (Table 5) Given the available data, it appears that Minnesota's high school smoking rate has been tracking closely with the national rate in recent years.

**Table 5. Percent of Minnesota and U.S. high school students who are current smokers**

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Minnesota YTS*	32.4%		28.9%			22.4%			19.1%
National YRBS**		28.5%		21.9%		23.0%		20.0%	
National YTS***	28.0%		22.9%		21.7%		19.7%		

\*Minnesota Youth Tobacco Survey; \*\*National Youth Risk Behavior Survey; \*\*\*National Youth Tobacco Survey

**SECTION 3**  
**THE EXTENT OF ANY USE OF TOBACCO IN LIFETIME**

Trying various kinds of tobacco is a first step that may eventually lead to regular use. Therefore, health organizations track the proportion of youth who have ever tried or used tobacco, with the goal of reducing the number who have ever taken this initial step.

**Any Use of Tobacco Products in Lifetime – 2008 Results**

In 2008, nearly one in four middle school students (22.5%) and over one-half of high school students (53.6%) reported that they had ever used one or more forms of tobacco in their lifetime. Males were more likely than females to report trying each of the major tobacco products, and the male-female gap was quite large during the high school years. (Table 6)

Among high school students, especially males, the percentage who had ever smoked cigars or little cigars was almost as high as the percentage who had ever smoked cigarettes. Rather than being wedded solely to cigarettes, many young people have experimented with a variety of tobacco products.

**Table 6. Percent of students who have ever used specific tobacco products in lifetime, by gender, 2008**

	<b>Middle School</b>			<b>High School</b>		
	Female	Male	Total	Female	Male	Total
Any tobacco products	20.1%	24.5%	22.5%	47.5%	58.9%	53.6%
Cigarettes	14.2%	15.1%	14.7%	42.2%	49.1%	45.7%
Cigars, cigarillos, little cigars	7.5%	11.3%	9.4%	24.6%	41.7%	33.2%
Smokeless tobacco	6.0%	10.5%	8.3%	12.1%	30.1%	21.2%

Source: Minnesota Youth Tobacco and Asthma Survey, 2008

**Table 7. Change in percent of students who have ever used various tobacco products in lifetime, 2000-2008.**

<b>Middle School</b>								
Ever used...	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008		Percent Change 2005-2008	
Any form of tobacco	41.3	36.5	27.8	22.5	-46%	§	-19%	§
Cigarettes	33.3	27.4	19.7	14.8	-56%	§	-25%	
Cigars, cigarillos	18.3	16.3	12.8	9.5	-48%	§	-26%	§
Smokeless tobacco	12.4	11.2	9.8	8.3	-33%	§	-15%	
<b>High School</b>								
Ever used...	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008		Percent Change 2005-2008	
Any form of tobacco	69.5	63.7	56.3	53.6	-23%	§	-5%	
Cigarettes	64.7	58.4	49.4	45.9	-29%	§	-7%	
Cigars, cigarillos	45.8	40.7	34.8	33.3	-27%	§	-4%	
Smokeless tobacco	29.2	26.5	20.2	21.2	-27%	§	+5%	

§ Differences between the stated years are statistically significant at  $p < .05$ .

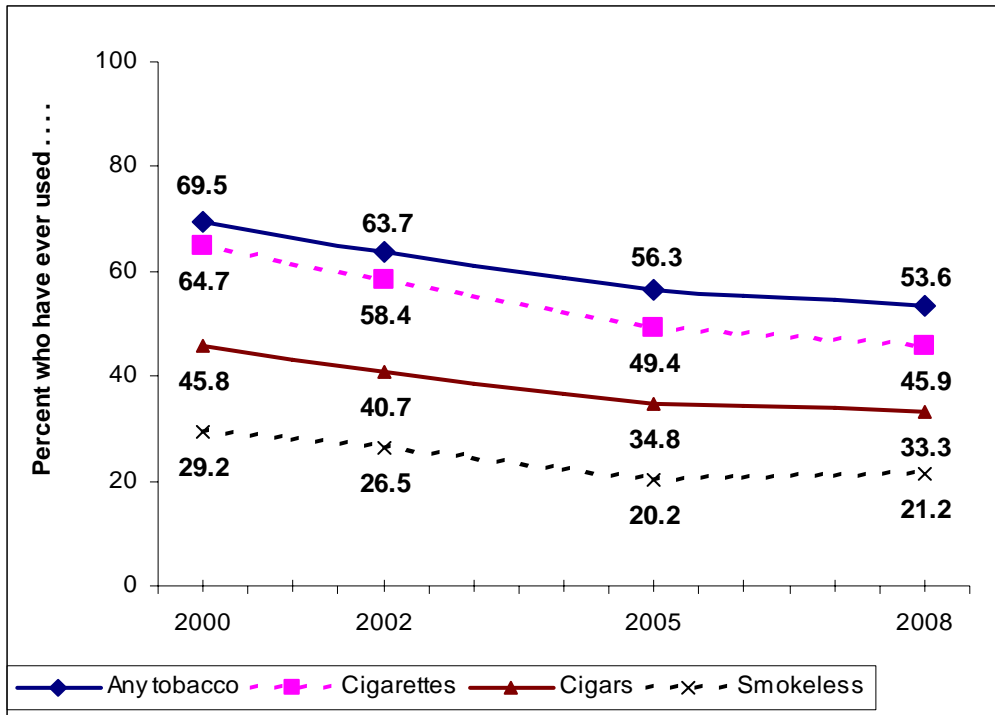
Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

### **Trends in Ever Use of Tobacco**

As with current tobacco use, the proportion of students who have ever used tobacco continues to decline. At the middle school level, the proportion who have ever used tobacco declined from 27.8 percent to 22.5 percent between 2005 and 2008. This decline is statistically significant. In addition, fewer students reported that they had ever smoked cigarettes or cigars. (Table 7)

Among high school students, there have been slight changes in these measures during the last few years. Between 2005 and 2008, the proportion who had ever used any tobacco product fell slightly from 56.3 percent to 53.6 percent, and the proportion who had ever smoked cigarettes dropped from 49.4 percent to 45.9 percent. Neither change is statistically significant. In addition, ever use of cigars and smokeless tobacco did not change between 2005 and 2008, ending the downward trend that had been in place between 2000 and 2005. (Table 7, Figure 4)

**Figure 4. Percent of high school students who have ever used various tobacco products, 2000-2008.**



Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

### Trends in Ever Use of Tobacco, by Gender

In middle school, both males and females continued to see reductions between 2005 and 2008 in the percentage who had ever tried tobacco and specific tobacco products. For example, the percentage of females who had ever smoked cigarettes declined from 18.5 percent to 14.2 percent, and the percentage of males dropped from 20.7 percent to 15.1 percent. With one exception, these reductions are not statistically significant, but males and females appear to be moving in the same direction. (Table 8)

At the high school level, females continued to show modest reductions between 2005 and 2008 in the percentage who had ever used any tobacco, cigarettes, and cigars, led by a 7.0 percentage point drop in the percentage of females who had ever smoked a cigarette. None of these declines are quite large enough to be statistically significant. Males, however, showed no change at all in ever using cigarettes, cigars, smokeless tobacco, or tobacco in general, bringing to an end a downward trend that had existed between 2000 and 2005. (Table 8)

**Table 8. Change in percent of students who ever used specific tobacco products in their lifetime, by gender, 2000-2008.**

<b>Middle School</b>							
Percent ever used...	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008		Percent Change 2005-2008
<b>Any tobacco product</b>							
Females	38.1	32.9	25.2	20.1	-47%	§	-20%
Males	44.2	39.8	30.3	24.5	-45%	§	-19%
<b>Cigarettes</b>							
Females	31.2	25.2	18.5	14.2	-54%	§	-23%
Males	35.2	29.4	20.7	15.1	-57%	§	-27%
<b>Cigars, cigarillos</b>							
Females	13.8	12.2	9.3	7.5	-46%	§	-19%
Males	22.5	20.1	15.9	11.3	-50%	§	-29% §
<b>Smokeless tobacco</b>							
Females	7.3	7.8	6.7	6.0	--		--
Males	17.3	14.6	12.7	10.5	-39%	§	-17%
<b>High School</b>							
Percent ever used...	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008		Percent Change 2005-2008
<b>Any tobacco product</b>							
Females	66.0	58.9	53.6	47.5	-28%	§	-11%
Males	72.7	68.3	58.7	58.9	-19%	§	0%
<b>Cigarettes</b>							
Females	63.7	56.3	49.2	42.2	-34%	§	-14%
Males	65.5	60.4	49.3	49.1	-25%	§	0%
<b>Cigars, cigarillos</b>							
Females	35.3	29.9	27.5	24.6	-30%	§	-11%
Males	55.9	51.3	41.9	41.7	-25%	§	0%
<b>Smokeless tobacco</b>							
Females	16.9	14.2	11.2	12.1	-28%	§	+8%
Males	41.2	38.5	28.9	30.1	-27%	§	+4%

-- Percent change not shown when baseline percentage is below 10%, unless statistically significant.

§ Differences between the stated years are statistically significant at p<.05.

Source: Minnesota Youth Tobacco Surveys, 2000 through 2008.

## SECTION 4 CHARACTERISTICS OF CURRENT SMOKERS

This section describes the starting age, frequency of smoking, and brand preferences of current cigarette smokers. Note that the results for middle school smokers are based on a small number of current smokers (less than 100 current smokers in the sample), so the true percentage for all middle school smokers could fluctuate widely from the estimate provided by the survey.

### **Age at First Cigarette**

Middle school smokers have by definition started to smoke at an early age, so it is not surprising that over 75 percent had their first cigarette at the age of 12 or younger. High school smokers include many who started at a relatively late age; still, nearly 40 percent of high school smokers had already smoked a whole cigarette at age 12 or younger. (Table 9) Early starters are at particularly high risk for smoking-related diseases because they are more likely to become addicted smokers earlier in life and to remain regular, heavy smokers for many years.

### **Frequency of Smoking**

More than half of middle school smokers (56.5%) and one-third of high school smokers (33.1%) are occasional smokers, having a cigarette on one to five days out of the past 30 days. In high school, slightly less than half of current smokers (46.1%) have a cigarette everyday or nearly everyday, smoking at least 20 of the previous 30 days. (Table 9)

Most smokers do not smoke large numbers of cigarettes per day. Only about one-fourth (22.7% middle school, 25.3% high school) report that they typically smoke six or more cigarettes per day on the days they smoke. (Table 9) Teenagers on average smoke fewer cigarettes per day than the typical adult smoker.<sup>4</sup>

### **Types and Brands of Cigarettes**

More than half of middle school smokers (53.4%) and 39.1 percent of high school smokers report that they usually smoke menthol cigarettes. At the high school level, females (48.7%) are much more likely than males (31.7%) to prefer menthols. Adding menthol to cigarettes reduces the harshness of cigarette smoke, thus making it easier for young smokers to get started and stick with it.<sup>5</sup> Marlboro continues to be the most commonly smoked brand of cigarettes, followed by Camel and Newport. (Table 9) These are the most heavily advertised and promoted brands in the U.S.



**Table 9. Characteristics of current cigarette smokers, 2008**

	<b>Middle School</b>	<b>High School</b>
Percent of current smokers who smoked their first whole cigarette at age 12 or younger	75.5%	39.5%
On how many days in the past 30 days did you smoke cigarettes?		
1-2 days	32.6%	21.7%
3-5 days	23.9%	11.4%
6-19 days	12.9%	20.8%
20 or more days	30.5%	46.1%
Total	100.0%	100.0%
During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?		
One cigarette or less per day	46.8%	31.3%
2-5 cigarettes per day	30.5%	43.4%
6-10 cigarettes per day	12.4%	15.4%
11-20 cigarettes per day	2.8%	5.7%
More than 20 cigarettes per day	7.5%	4.2%
Total	100.0%	100.0%
Percent of current smokers who smoke six or more cigarettes per day, on the days they smoke	22.7%	25.3%
Percent of current smokers who usually smoke menthol cigarettes	53.4%	39.1%
During the past 30 days, what brand of cigarettes did you usually smoke?		
Marlboro	36.7%	46.4%
Camel	22.5%	19.6%
Newport	14.7%	15.9%
Some other brand	11.2%	8.6%
Do not have a usual brand	14.9%	9.4%
Total	100.0%	100.0%

Source: Minnesota Youth Tobacco and Asthma Survey, 2008

**Table 10. Change in selected characteristics of current smokers, 2000-2008 (high school students only).**

	<b>High School</b>				Percent Change 2000-2008		Percent Change 2005-2008
	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)			
Percent who smoked first whole cigarette at age 12 or younger	47.5	46.4	42.9	39.5	-17%	§	-8%
Percent who smoked on 20 or more of the past 30 days	52.3	51.0	45.7	46.1	-12%		+1%
Percent who smoke six or more cigarettes per day, on the days they smoke	31.6	33.0	27.9	25.3	-20%		-9%
Percent who usually smoke menthol cigarettes							
Females	20.8	23.3	30.4	48.7	+134%	§	+60% §
Males	18.9	21.2	23.4	31.7	+68%	§	+35%
All students	19.9	22.2	26.9	39.1	+96%	§	+45% §

§ Differences between the stated years are statistically significant at  $p < .05$ .

Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

### **Trends in Characteristics of Current Smokers**

Between 2005 and 2008 there has been little change in the age at which current smokers had their first cigarette, the frequency of smoking, and the number of cigarettes smoked per day.

However, there has been a sharp increase in the use of menthol-flavored cigarettes. Between 2005 and 2008, the proportion of high school smokers who usually smoke menthol cigarettes rose from 26.9 percent to 39.1 percent, a statistically significant increase. (Table 10) The increase has been particularly large for female smokers, rising from 30.4 percent to 48.7 percent between 2005 and 2008. Overall, since 2000, preference for menthol cigarettes has doubled.

**SECTION 5  
ACCESS TO CIGARETTES**

**Getting Cigarettes**

Most adolescent smokers under 18 usually obtain their cigarettes through other people rather than by walking into a store and buying them. Three-fourths of high school smokers under 18 get their cigarettes through “social sources”, typically friends, siblings, or someone else they know; the most common method of getting cigarettes (41.5%) is giving someone else money to make the purchase. Even though it is illegal for stores to sell tobacco products to anyone under 18, 4.9 percent of middle school smokers and 9.5 percent of underage high school smokers report that they usually get their cigarettes by purchasing them directly in a store, usually a gas station or convenience store. (Table 11)

**“Loosies”**

An emerging issue in youth access to tobacco is the availability of single cigarettes, sometimes called “loosies”. Loosies are easier on the budget, since they do not require paying out \$4 or \$5 for a full pack, are easier to hide, and may be attractive to young people who are starting to experiment with smoking. In the 2008 survey, all students

**Table 11. Usual method of obtaining cigarettes, 2008 (current smokers under 18 only)**

	<b>Middle School</b>	<b>High School</b>
During the past 30 days, how did you usually get your own cigarettes?		
Social sources:		
Gave someone else money to buy them for me	21.2%	41.5%
Borrowed or bummed them from someone else	18.3%	27.1%
Person 18 or older gave them to me	7.3%	9.9%
Direct Purchase:		
Bought them in a store (convenience store, gas station, etc.)	4.9%	9.5%
Bought them from a vending machine	1.5%	1.7%
Other sources:		
Took them from a store or family member	20.9%	3.0%
Got them some other way	25.8%	7.4%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

Source: Minnesota Youth Tobacco and Asthma Survey, 2008

**Table 12. Change in percentage of current smokers under 18 who usually obtain their cigarettes by buying them at a store, 2000-2008 (high school smokers under 18 only).**

	<b>High School</b>				Percent Change 2000-2008	§	Percent Change 2005-2008
	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)			
Percent who usually buy their own cigarettes at a store	15.9	16.3	11.1	9.5	-40%		-14%

§ Differences between the stated years are statistically significant at  $p < .05$ .  
 Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

were asked: “In the area where you live, do you know of any places that sell single or loose cigarettes?” About one in five students (20.3% middle school; 22.0% high school) responded that they know of such places.

### **Trends in Methods of Obtaining Cigarettes**

The percentage of high school underage smokers who bought their own cigarettes directly from a store did not change much between 2005 and 2008. However, over the long-term, the percentage who were able to get their cigarettes through direct purchase declined from 15.9 percent in 2000 to 9.5 percent in 2008, a statistically significant change. (Table 12) Enforcement of laws prohibiting sales to minors has tightened over this period. A statewide program of random undercover compliance checks found that teens were able to buy tobacco products in 7.9 percent of stores tested in 2007. This is down from 19.2 percent of stores tested in 2000.<sup>6</sup>

## SECTION 6 TRYING TO QUIT

### Attempts to Quit – 2008 Results

Nearly half of current smokers say they want to stop smoking and just over half report that they have tried to quit in the past 12 months. (Table 13) To measure quit attempts, a student is asked if they have stopped smoking for at least 24 hours explicitly because they were trying to quit. Many reported that they made multiple quit attempts. The typical smoker is likely on average to make many serious attempts to quit before being successful.

### Trends in Quit Attempts

The number of current smokers who appear to be interested in quitting has decreased somewhat in recent years. In 2005, 60.5 percent of high school smokers reported making at least one quit attempt in the past 12 months, compared to 51.8 percent in 2008, a statistically significant difference. (Table 14) As the overall smoking rate declines, it may be that the smaller group of current smokers is a bit more committed to remaining smokers.

**Table 13. Attempts by current smokers to quit smoking, 2008**

	Middle School	High School
Percent of current smokers who want to stop smoking?	45.5%	48.1%
How many times during the past 12 months have you stopped smoking for one day or longer because you were trying to quit smoking?		
Have not tried to quit	46.3%	48.2%
1 time	15.2%	13.1%
2 times	10.1%	12.4%
3 or more times	28.4%	26.2%
Total	100.0%	100.0%
Percent of current smokers who tried to quit at least once in the past 12 months	53.7%	51.8%

Source: Minnesota Youth Tobacco and Asthma Survey, 2008

**Table 14. Change in current smokers' desire to stop smoking and attempts to quit, 2000-2008 (high school smokers only).**

	<b>High School</b>					
	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008	Percent Change 2005-2008
Percent who want to stop smoking cigarettes	61.0	61.8	54.5	48.1	-21% §	-12%
Percent who stopped smoking for at least 24 hours because they were trying to quit	N/A	63.6	60.5	51.8	N/A	-14% §

§ Differences between the stated years are statistically significant at  $p < .05$ .

N/A The wording of the question on quit attempts was sufficiently different in 2000 compared to the following years that comparisons may not be reliable.

Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

**SECTION 7**  
**INTERACTIONS WITH HEALTH PROFESSIONALS ABOUT SMOKING**

Doctors, dentists, nurses and other health professionals can play an important role in preventing smoking and encouraging quitting through their clinical interactions with adolescents. Newly updated guidelines suggest that health professionals ask the patient if they smoke and advise them not to smoke.<sup>7</sup> Health professionals can then refer smokers to stop-smoking programs and prescribe or suggest medications that help with quitting. The 2008 Minnesota Youth Tobacco and Asthma Survey added two questions that address the “ask” and “advise” steps of these guidelines.

About one in five middle school students (18.5%) and two in five high school students (40.2%) report that in the past 12 months a doctor, dentist, nurse or other health professional had asked if they smoke. Just under one-third (31.6% middle school; 30.5% high school) reported that a health professional had directly advised them not to smoke. (Table 15) No significant differences were found between smokers and non-smokers.

Some students, perhaps a substantial number, did not receive these brief interventions because they did not see any health professional in the past 12 months. Nevertheless, it is likely that health professionals could reach more young people by fully adopting these ask and advise practices during patient visits.

**Table 15. Interactions with health professionals about smoking, by current smoking status, 2008.**

During the past 12 months, did any doctor, dentist, nurse, or other health professional....	Middle School			High School		
	Current smoker	Not current smoker*	Total	Current smoker	Not current smoker*	Total
...ask you if you smoke?						
Yes	25.1%	18.2%	18.5%	39.1%	40.6%	40.2%
No	58.1%	63.9%	63.6%	47.9%	48.9%	48.7%
Do not know or not sure	16.7%	17.9%	17.9%	13.0%	10.5%	11.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
...advise you not to smoke?						
Yes	32.9%	31.7%	31.6%	29.2%	30.7%	30.5%
No	48.7%	49.9%	49.9%	62.4%	56.0%	57.0%
Do not know or not sure	18.4%	18.4%	18.5%	8.4%	13.3%	12.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

\* Have never smoked cigarettes or have not smoked any cigarettes in past 30 days  
Source: Minnesota Youth Tobacco and Asthma Survey, 2008

## SECTION 8 HOME ENVIRONMENT, FRIENDS AND SMOKING

The social surroundings of teens are closely associated with whether or not they are smokers. The example and acceptance of smoking at home and among friends can influence young people to take up and continue smoking. On the other hand, smokers also shape their social environment, by gravitating toward other young people who smoke.<sup>8</sup>

### **Living with a Smoker**

About one in three middle school students (32.5%) and over one in three high school students (38.9%) report that they live with someone who smokes. This could be a parent, a brother or sister, a relative, or anyone else who lives in the same home. Current smokers are much more likely than non-smokers to live with a smoker. In fact, three-fourths of middle school smokers (74.5%) report that they live with another smoker. (Table 16) The fact that this figure is so high suggests that the home environment is a powerful factor leading to smoking at an early age.

### **Friends and Peers**

Current smokers tend to hang out with other smokers, and smoking plays an important role in the formation of social groups among teens. In middle school, 67.9 percent of current smokers report that two or more of their four closest friends are also smokers; only 4.4 percent of non-smokers have two or more smokers among their closest friends. In high school, 70.6 percent of current smokers have two or more smokers among their closest friends, compared to 13.9 percent of non-smokers. (Table 16) The more friends you have who smoke, the greater the likelihood that you are a current smoker. (Figure 5)

### **Parent Involvement**

Just under half of middle school students (46.9%) report that their parents sometimes, often or very often discuss the dangers of tobacco use with them. In high school, that percentage drops to 31.5 percent. Current smokers in middle school are much less likely to report that their parents discuss tobacco use with them, but that is not true of high school smokers. (Table 17)

Interestingly, only 42.6 percent of high school smokers and even fewer middle school smokers report that they are sure that their parents know they smoke. (Table 17)



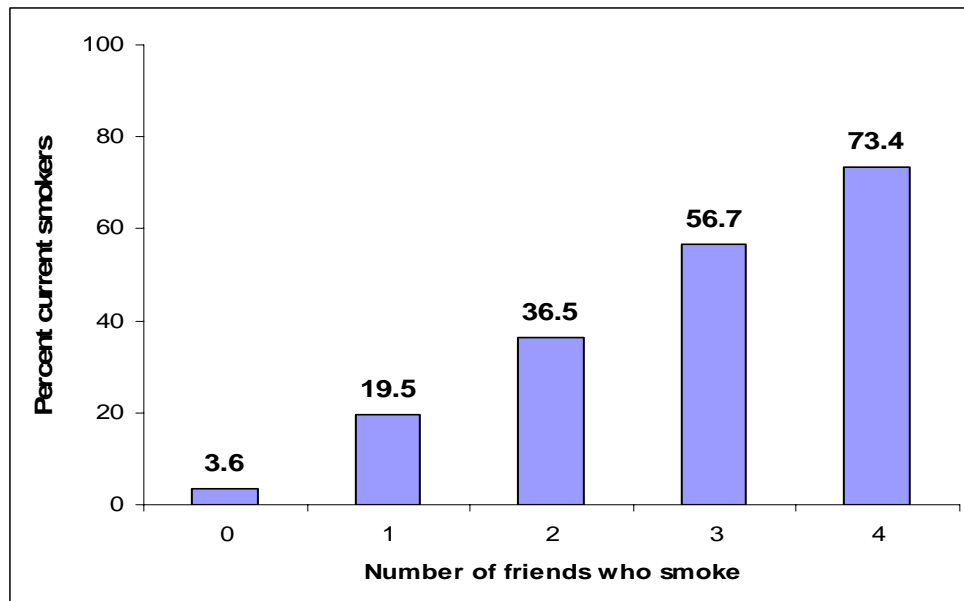
**Table 16. Living with a smoker and having friends who are smokers, by current smoking status, 2008**

	Middle School			High School		
	Current smoker	Not current smoker*	Total	Current smoker	Not current smoker*	Total
Does anyone who lives with you now smoke cigarettes?						
Yes	74.5%	30.8%	32.5%	58.3%	34.1%	38.9%
No	25.5%	69.2%	67.5%	41.7%	65.9%	61.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
How many of your four closest friends smoke cigarettes?						
None	17.1%	88.5%	86.0%	11.3%	69.0%	57.8%
One	15.1%	7.2%	7.5%	18.0%	17.1%	17.4%
Two	23.7%	2.4%	3.1%	19.7%	7.9%	10.3%
Three	9.0%	1.0%	1.3%	19.0%	3.3%	6.4%
Four	35.1%	1.0%	2.1%	31.9%	2.7%	8.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Percent of students for whom at least two of four closest friends are smokers	67.9%	4.4%	6.5%	70.7%	13.9%	24.9%

\* Have never smoked cigarettes or have not smoked any cigarettes in past 30 days

Source: Minnesota Youth Tobacco and Asthma Survey, 2008

**Figure 5. Percent of students who are current smokers, by number of four closest friends who smoke, 2008. (High school students only)**



**Table 17. Parent involvement in children’s smoking behavior, by current smoking status, 2008**

	Middle School			High School		
	Current smoker	Not current smoker*	Total	Current smoker	Not current smoker*	Total
In the past 12 months, how often have your parents or guardians discussed the dangers of tobacco use with you?						
Never	48.9%	28.1%	28.7%	34.9%	41.3%	40.1%
Rarely	19.8%	24.4%	24.4%	25.4%	28.9%	28.4%
Sometimes	15.0%	31.5%	30.7%	20.0%	20.8%	20.6%
Often	11.8%	10.1%	10.3%	14.3%	7.0%	8.3%
Very often	4.4%	5.9%	5.9%	5.4%	2.1%	2.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Do your parents know that you smoke cigarettes?						
Yes	29.7%	--	--	42.6%	--	--
No	40.8%	--	--	37.8%	--	--
Not sure	29.5%	--	--	19.6%	--	--
Total	100.0%	--	--	100.0%	--	--

\* Have never smoked cigarettes or have not smoked any cigarettes in past 30 days

-- The question applies to smokers only.

Source: Minnesota Youth Tobacco and Asthma Survey, 2008

### Trends in Home and Friend Environment

Since 2000, the percentage of students living with someone who smokes has decreased significantly for middle school students in general and middle school non-smokers in particular. Most of this change occurred in recent years, with the percentage of middle school students who live with a smoker declining from 38.2 percent in 2005 to 32.5 percent in 2008. (Table 18) However, there has been no change in the proportion of high school students who live with a smoker.

As smoking rates have come down since 2000, the typical teen is likely to find that fewer of his or her friends are smoking. Between 2000 and 2008, for example, the percentage of high school students who had two or more smokers among their four closest friends fell from 39.8 percent to 24.9 percent, a statistically significant decrease. Among middle school students, the decline was from 13.2 percent to 6.5 percent, also statistically significant. (Table 18) For smokers, there has been little or no change in the

make-up of friendship groups. Smokers continue to maintain high numbers of smokers in their friendship groups, even though the overall number of smokers to choose from has gone down.

There has been no change over the years in the percentage of students reporting that their parents discuss the dangers of tobacco use with them.

**Table 18. Change in percent of students who live with a smoker and have friends who are smokers, by current smoking status, 2000-2008.**

<b>Middle School</b>						
	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008	Percent Change 2005-2008
<b>Lives with someone who smokes</b>						
Current smokers	69.5	72.9	67.9	74.5	+7%	+10%
Not current smokers	37.3	37.7	36.2	30.8	-17% §	-15%
All students	40.5	40.4	38.2	32.5	-20% §	-15%
<b>At least two of four closest friends are smokers</b>						
Current smokers	61.9	64.4	65.0	67.9	+10%	+5%
Not current smokers	8.2	7.7	5.8	4.4	-46% §	-24%
All students	13.2	12.0	8.9	6.5	-51% §	-27%
<b>High School</b>						
	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008	Percent Change 2005-2008
<b>Lives with someone who smokes</b>						
Current smokers	52.9	57.2	56.4	58.3	+10%	+3%
Not current smokers	33.7	32.6	31.6	34.1	+1%	+8%
All students	39.9	39.7	37.0	38.9	-3%	+5%
<b>At least two of four closest friends are smokers</b>						
Current smokers	78.4	75.2	74.4	70.7	-10% §	-5%
Not current smokers	21.3	18.9	15.2	13.9	-35% §	-9%
All students	39.8	35.5	28.0	24.9	-37% §	-11%

§ Differences between the stated years are statistically significant at p<.05.

Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

## SECTION 9 EXPOSURE TO SECONDHAND SMOKE

### Current Exposure – 2008 Results

Reducing exposure to secondhand hand smoke is one of the major components of a comprehensive strategy to reduce the damage caused by tobacco use. The latest scientific evidence estimates that about 3,000 adult non-smokers die of lung cancer and an additional 46,000 die of coronary heart disease each year due to secondhand smoke exposure. An estimated 430 babies died of sudden infant death syndrome related to secondhand smoke. Breathing secondhand smoke can cause health problems in children, such as increased severity of asthma attacks, respiratory illnesses, chronic cough, bronchitis and middle ear problems.<sup>9</sup>

The youth tobacco survey has traditionally asked about exposure to secondhand smoke in a room or in a car during the previous seven days. In 2008, a question was added about exposure in the workplace for those youth (less than half) who have jobs. Table 19 summarizes the responses to each of these questions, and also combines the responses to create measures of any exposure, repeated exposure, and everyday exposure. It should be noted that the 2008 survey was conducted *after* the statewide Freedom to Breathe Law went into effect on October 1, 2007. A major component of that law is a ban on smoking in almost all indoor public places, including restaurants, bars, night clubs, and bowling alleys.

High school students are more likely than middle school students to be exposed to secondhand smoke, whether in an enclosed room, in a car, or at work. Over half of high school students (56.9%) report exposure at some time in the past seven days, compared to 39.9 percent of middle school students. One-third of high school students (33.7%) report that they were repeatedly exposed (on three or more days), compared to 21.8 percent of middle school students. (Table 19)

Nearly all current smokers were exposed to someone else's smoke in the past seven days. Current smokers tend to grow up in households where there are other smokers, and they tend to hang out and share cigarettes with other smokers, so exposure is almost inevitable. At the high school level, 94.7 percent of current smokers and 47.8 percent of non-smokers report being exposed in the past seven days. The differences are even larger with more frequent levels of exposure. About half of high school smokers (49.8%) report everyday exposure, compared to 11.1 percent of non-smokers. (Table 19)

**Table 19. Exposure to secondhand smoke, by current smoking status, 2008.**

During the past 7 days....	Middle School			High School		
	Current smoker	Not current smoker*	Total	Current smoker	Not current smoker*	Total
...On how many days were you in the same room with someone who was smoking cigarettes?						
0 days	12.7%	66.1%	64.0%	10.2%	57.8%	48.7%
1 or 2 days	15.2%	16.9%	16.8%	19.9%	21.3%	21.1%
3 or 4 days	16.2%	5.8%	6.2%	13.6%	6.1%	7.6%
5 or 6 days	4.4%	2.6%	2.7%	13.2%	4.4%	6.1%
All 7 days	51.4%	8.7%	10.2%	43.1%	10.4%	16.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
...On how many days did you ride in a car with someone who was smoking cigarettes?						
0 days	20.9%	79.2%	77.0%	18.9%	72.7%	62.4%
1 or 2 days	30.6%	9.9%	10.7%	21.8%	14.7%	16.1%
3 or 4 days	15.2%	4.5%	4.9%	16.1%	5.7%	7.9%
5 or 6 days	4.3%	2.1%	2.2%	11.7%	3.2%	4.8%
All 7 days	28.9%	4.3%	5.3%	31.4%	3.6%	8.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
...On how many days did you breathe smoke from someone who was smoking in the place where you work?						
No job/did not work in past 7 days	--	--	93.8%	51.5%	65.9%	63.3%
0 days	--	--	3.8%	27.4%	26.6%	26.5%
1 to 3 days	--	--	1.0%	10.7%	5.4%	6.5%
4 to 6 days	--	--	.5%	3.3%	1.0%	1.5%
All 7 days	--	--	1.0%	7.1%	1.1%	2.3%
Total	--	--	100.0%	100.0%	100.0%	100.0%
Any exposure to second-hand smoke in past 7 days	91.1%	37.8%	39.9%	94.7%	47.8%	56.9%
Repeated exposure to secondhand smoke in past 7 days**	75.9%	19.7%	21.8%	77.0%	23.4%	33.7%
Everyday exposure to secondhand smoke in past 7 days***	55.6%	9.6%	11.3%	49.8%	11.1%	18.3%

\* Have never smoked cigarettes or have not smoked any cigarettes in past 30 days

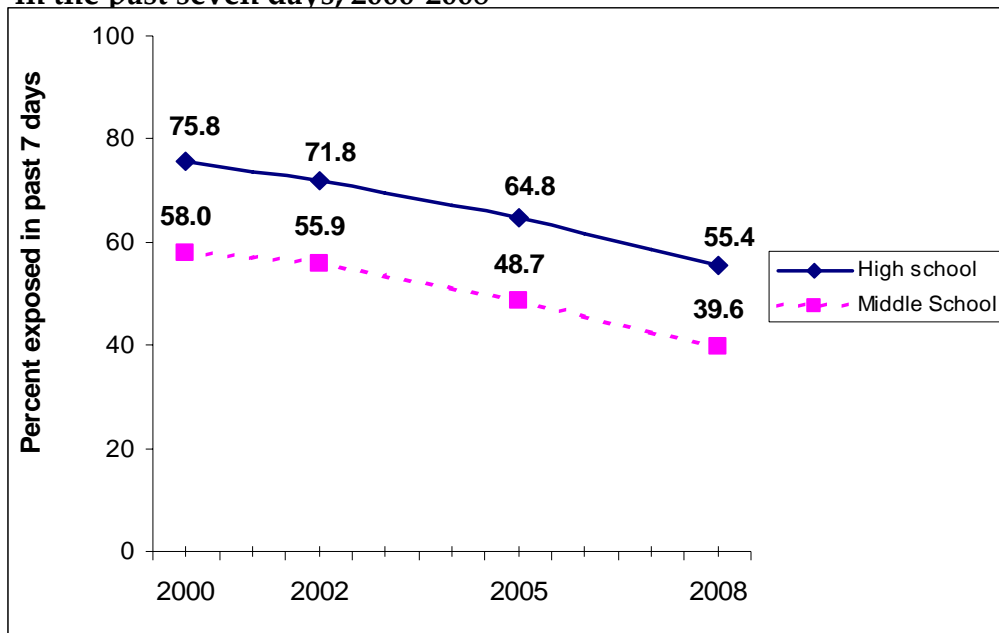
\*\*Exposed in room on at least 3 days or in car on at least 3 days or at work on at least 4 days in past 7 days

\*\*\*Exposed in room on all 7 days or in car on all 7 days or at work on all 7 days in past 7 days

-- The number of smokers and non-smokers who have jobs is too small for analysis.

Source: Minnesota Youth Tobacco and Asthma Survey, 2008

**Figure 6. Change in percentage of students exposed to any secondhand smoke in the past seven days, 2000-2008**



Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

### Trends in Exposure to Secondhand Smoke

Exposure to secondhand smoke has declined considerably in recent years. It should be noted that the trend in secondhand smoke exposure is measured by combining only questions on exposure in a room and in a car, since the question on workplace exposure was not asked before 2008.

Between 2005 and 2008, exposure to any secondhand smoke in the past seven days fell from 48.7 percent to 39.6 percent for middle school students, and from 64.8 percent to 55.4 percent for high school students. (Figure 6) Both decreases are statistically significant. Since 2000, exposure to secondhand smoke by middle school and high school students has fallen by 32 percent and 27 percent respectively. (Table 20)

Measures of more frequent amounts of exposure have also moved downward. Between 2005 and 2008, repeated exposure by middle school students dropped by 6.4 percentage points, and everyday exposure dropped by 4.2 percentage points, with both declines being statistically significant. (Table 20) There were also declines in repeated and everyday exposure among high school students since 2005, but they did not reach statistical significance.

**Table 20. Change in percent of students who were exposed to secondhand smoke in a room or a car during the past seven days, 2000-2008.**

<b>Middle School</b>								
	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008		Percent Change 2005-2008	
Any exposure*	58.0	55.9	48.7	39.6	-32%	§	-19%	§
Repeated exposure**	34.4	33.1	28.1	21.7	-37%	§	-23%	§
Everyday exposure***	20.1	19.2	15.4	11.2	-44%	§	-27%	§
<b>High School</b>								
	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008		Percent Change 2005-2008	
Any exposure*	75.8	71.8	64.8	55.4	-27%	§	-15%	§
Repeated exposure**	49.3	45.7	38.0	33.4	-32%	§	-12%	
Everyday exposure***	26.5	24.1	19.5	18.0	-32%	§	-8%	

\*Exposed in room or car on at least one day during the past 7 days

\*\*Exposed in room on at least 3 days or in car on at least 3 days during the past 7 days

\*\*\*Exposed in room on all 7 days or in car on all 7 days during the past 7 days

§ Differences between the stated years are statistically significant at  $p < .05$ .

Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

### **Trends in Exposure to Secondhand Smoke, by Smoking Status**

Non-smokers have reaped the benefits of recent decreases in secondhand smoke. Between 2005 and 2008, the percentage of high school non-smokers exposed to any secondhand smoke in the past seven days declined from 56.3 percent to 46.1 percent, a statistically significant drop of 10.2 percentage points. Repeated exposure dropped by 3.7 percentage points, also statistically significant. (Table 21) For the first time in this series of surveys, fewer than half of high school non-smokers had any exposure in the past seven days.

There was no real change in reported exposure by current smokers. Because they often live with, hang out with, and ride in cars with other smokers, current smokers almost always have some exposure to secondhand smoke during the course of a week.

**Table 21. Change in percent of students who were exposed to secondhand smoke in a room or a car during the past seven days, by smoking status, 2000-2008 (High school only).**

	<b>High School</b>				Percent Change 2000-2008		Percent Change 2005-2008	
	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)				
Any exposure*								
Current smoker	96.7	95.2	94.6	94.3	-2%		0%	
Not current smoker	65.5	61.9	56.3	46.1	-30%	§	-18%	§
Repeated exposure**								
Current smoker	81.1	80.7	76.3	76.7	-5%		+1%	
Not current smoker	33.6	30.9	26.9	23.2	-31%	§	-14%	§
Everyday exposure***								
Current smoker	49.6	48.3	45.2	48.8	-2%		+8%	
Not current smoker	15.3	14.0	12.3	10.9	-29%	§	-11%	

\*Exposed in room or car on at least one day during the past 7 days.

\*\*Exposed in room on at least 3 days or in car on at least 3 days during the past 7 days

\*\*\*Exposed in room on all 7 days or in car on all 7 days during the past 7 days

§ Differences between the stated years are statistically significant at p<.05.

Source: Minnesota Youth Tobacco Surveys, 2000 through 2008



**SECTION 10**  
**PERCEPTIONS, RULES AND OPINIONS ABOUT SECONDHAND SMOKE**

**Perceptions of Secondhand Smoke**

Over 90 percent of middle school and high school students agree that secondhand smoke is definitely or probably harmful, with about 80 percent saying it is “definitely” harmful. There has been no change in this measure of perception of harmfulness since 2000. Current smokers are less likely than non-smokers to agree that secondhand smoke is harmful. Even so, more than half of current smokers (51.6% middle school; 59.8% high school) think that secondhand smoke is “definitely” harmful. (Table 22)

**Table 22. Beliefs about the harmfulness of secondhand smoke, by current smoking status, 2008.**

	<b>Middle School</b>			<b>High School</b>		
	Current smoker	Not current smoker*	Total	Current smoker	Not current smoker*	Total
Do you think the smoke from other people’s cigarettes is harmful to you?						
Definitely yes	51.6%	83.2%	82.2%	59.8%	82.0%	78.0%
Probably yes	31.3%	10.9%	11.6%	28.4%	12.0%	14.9%
Probably not	8.3%	2.3%	2.5%	6.2%	2.5%	3.2%
Definitely not	8.8%	3.5%	3.7%	5.6%	3.5%	3.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

\* Have never smoked cigarettes or have not smoked any cigarettes in past 30 days  
 Source: Minnesota Youth Tobacco and Asthma Survey, 2008

**Smoke-free Rules**

Having smoke-free rules in homes and vehicles and at workplaces protects people from secondhand smoke and also conveys the message that smoking is not a desirable or acceptable activity. For the first time in 2008, the Minnesota Youth Tobacco and Asthma Survey asked about smoking rules at home, in vehicles, and in the workplace.

About 80 percent of students (81.9% middle school; 77.0% high school) report that smoking is never allowed inside their home. Current smokers, especially those in middle school, are far less likely to live in homes where smoking is prohibited. (Table 23) This may reflect the fact that young smokers are more likely to live with parents or

other relatives who smoke. Smoking inside the home is less likely to be frowned upon in these households.

About three-fourths of middle school students (76.3%) and two-thirds of high school students (65.1%) report that smoking is never allowed in the vehicle they drive or ride in the most. Non-smokers are three times as likely as smokers to report smoke-free rules in vehicles. (Table 23)

**Table 23. Smoking restrictions at home, in vehicles and at work, by current smoking status, 2008.**

	Middle School			High School		
	Current smoker	Not current smoker*	Total	Current smoker	Not current smoker*	Total
Which of these best describes the rules about smoking inside the house where you live? Smoking is...						
...Never allowed inside my home	42.2%	83.4%	81.9%	60.2%	81.0%	77.0%
...Allowed only at some times or in some places	23.9%	11.0%	11.3%	20.9%	11.0%	12.9%
...Always allowed inside my home	33.9%	5.6%	6.7%	18.9%	8.0%	10.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Which of the following best describes the rules about smoking in the vehicle you drive or ride in the most? Smoking is...						
...Never allowed inside the vehicle	26.5%	78.0%	76.3%	22.1%	74.9%	65.1%
...Sometimes allowed inside the vehicle	28.0%	13.5%	14.0%	32.3%	16.3%	19.3%
...Always allowed inside the vehicle	45.5%	8.5%	9.7%	45.5%	8.8%	15.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(Among those who have jobs) Which of these best describes smoking where you work? Smoking is...						
...Never allowed where I work	--	--	71.9%	40.4%	59.6%	55.3%
...Allowed, but only at some times or in some places	--	--	13.1%	42.6%	34.8%	36.2%
...Always allowed where I work	--	--	15.0%	16.9%	5.6%	8.4%
Total	--	--	100.0%	100.0%	100.0%	100.0%

\* Have never smoked cigarettes or have not smoked any cigarettes in past 30 days  
 -- The number of smokers and non-smokers who have jobs is too small for analysis.  
 Source: Minnesota Youth Tobacco and Asthma Survey, 2008

Over 90 percent of middle school students and more than half of high school students did not work in the past seven days, so smoke-free rules at work do not yet apply to many students. Among high school students who do work, 55 percent report that smoking is never allowed where they work. (Table 23) Note that the survey question does not distinguish between inside and outside work locations.

### Opinions about Smoke-free Rules

Young people strongly endorse smoke-free rules. Roughly 80 percent of high school students believe that smoking should never be allowed in their own home (79.4%), indoor workplaces (80.6%), and indoor public places (81.3%). Over 70 percent believe smoking should never be allowed in their vehicles. Support is even stronger among middle school students. Close to 90 percent of middle school students support smoke-free rules in each of the above locations. (Table 24)

Current smokers are far less likely than non-smokers to support smoke-free rules. Nevertheless, about half of high school smokers (51.1%) believe smoking should never be allowed in indoor public places, and nearly half (47.2%) endorse no-smoking rules inside their home. (Table 24)

**Table 24. Percent of students who believe that people should never allow smoking in various locations, by current smoking status, 2008.**

Percent who agree that people should never allow smoking...	Middle School			High School		
	Current smoker	Not current smoker*	Total	Current smoker	Not current smoker*	Total
...inside their home	42.7%	90.2%	88.6%	47.2%	87.0%	79.4%
...in their vehicles	38.0%	88.8%	87.0%	22.5%	81.8%	71.0%
...in the indoor areas of places where people work	58.9%	91.5%	90.2%	43.8%	89.2%	80.6%
...in indoor public places, such as malls, movie theaters, clubs or restaurants	53.1%	89.3%	87.9%	51.1%	88.2%	81.3%

\* Have never smoked cigarettes or have not smoked any cigarettes in past 30 days  
Source: Minnesota Youth Tobacco and Asthma Survey, 2008

**SECTION 11**  
**ATTITUDES AND BELIEFS ABOUT TOBACCO USE**

**Attitudes about the Social Benefits of Smoking**

Most young people do not believe that tobacco use provides social benefits. Few students agree that smokers have more friends (11.0% middle school; 17.1% high school) or that cigarettes make young people look cool (9.1% middle school; 12.1% high school). Smokers, however, are much more likely than non-smokers to hold such beliefs. In fact, about half of middle school smokers (53.0%) believe that smokers have more friends, and 40 percent believe that smoking makes young people look cool. (Table 25)

**Table 25. Attitudes and beliefs about tobacco use, by current smoking status, 2008.**

	Middle School			High School		
	Current smoker	Not current smoker*	Total	Current smoker	Not current smoker*	Total
Do you think young people who smoke cigarettes have more friends?						
Definitely yes	16.6%	1.8%	2.6%	7.6%	3.5%	4.4%
Probably yes	36.4%	7.3%	8.4%	26.3%	9.4%	12.7%
Probably not	42.8%	47.6%	47.3%	54.9%	48.6%	49.7%
Definitely not	4.2%	43.2%	41.7%	11.1%	38.5%	33.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Do you think smoking cigarettes makes young people look cool or fit in?						
Definitely yes	14.5%	3.2%	3.7%	9.0%	3.1%	4.3%
Probably yes	25.8%	4.7%	5.4%	17.7%	5.4%	7.8%
Probably not	33.8%	14.2%	14.9%	36.4%	15.8%	19.9%
Definitely not	25.9%	78.0%	75.9%	36.9%	75.6%	68.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Do you believe that light (low tar) cigarettes are somewhat less risky than regular (full flavor) cigarettes?						
Yes, they are somewhat less risky	42.7%	--	--	20.5%	--	--
No, they pose the same risk	48.3%	--	--	73.1%	--	--
No, they are more risky	9.0%	--	--	6.4%	--	--
Total	100.0%	--	--	100.0%	--	--

\* Have never smoked cigarettes or have not smoked any cigarettes in past 30 days

-- Because of the way question responses were worded, results can only be reported for current smokers.

Source: Minnesota Youth Tobacco and Asthma Survey, 2008

## Light or Low-Tar Cigarettes

Close to half of middle school smokers (42.7%) and one in five high school smokers (20.5%) agree that so-called “light” or “low-tar” cigarettes are less risky than regular or “full-flavor” cigarettes. (Table 25) In the landmark 2006 opinion in the *United States v. Philip Morris* racketeering case, federal District Court Judge Gladys Kessler ruled that the company had deceptively marketed light cigarettes as a more healthy alternative for decades, when it knew there was no evidence to support that claim.<sup>10</sup> The survey shows that some youths are still under this false impression.

## Trends in Attitudes

There has been no significant change since 2000 in the percentage of students who believe that smokers have more friends or look cool. (Table 26) Young people on the whole have been consistent in rejecting the idea that smoking provides these social benefits.

**Table 26. Change in attitudes about the social benefits of smoking, 2000-2008.**

Middle School						
Percent who agree that...	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percentage Point Change 2000-2008	Percentage Point Change 2005-2008
Young people who smoke have more friends	14.8	15.8	12.4	11.0	-26%	-11%
Smoking makes young people look cool or fit in	10.0	11.4	8.3	9.2	-8%	+11%
High School						
Percent who agree that...	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percentage Point Change 2000-2008	Percentage Point Change 2005-2008
Young people who smoke have more friends	21.4	19.8	18.8	17.0	-21%	-10%
Smoking makes young people look cool or fit in	14.0	13.7	13.0	12.1	-14%	-7%

§ Differences between the stated years are statistically significant at  $p < .05$ .

Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

**SECTION 12  
TOBACCO PROMOTIONAL PRODUCTS**

**Receiving or Using Promotional Merchandise – 2008 Results**

The tobacco industry spent an estimated \$238 million to advertise and promote cigarette sales in Minnesota in 2005, the latest year for which figures are available.<sup>11</sup> One of the industry’s strategies is to build interest and loyalty by giving away or selling merchandise with the company name or brand on it. These items can include lighters, t-shirts, hats, and many other items.

Overall, 8.4 percent of middle school students and 17.5 percent of high school students report buying or receiving promotional merchandise in the past 12 months. Slightly larger proportions (12.9 percent middle school; 27.8 percent high school) say they would probably or definitely use such items. Smokers are more receptive to these kinds of promotions. About half of current smokers have received tobacco promotional merchandise, and over half would wear or use such merchandise. (Table 27)

**Table 27. Receipt of and attitudes toward tobacco promotional products, by current smoking status, 2008.**

	Middle School			High School		
	Current smoker	Not current smoker*	Total	Current smoker	Not current smoker*	Total
During the past 12 months, did you buy or receive anything that has a tobacco company name or picture on it?						
Yes	51.3%	6.8%	8.4%	44.5%	11.5%	17.5%
No	48.7%	93.2%	91.6%	55.5%	88.5%	82.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Would you ever use or wear something that has a tobacco company name or picture on it, such as a lighter, t-shirt, hat or sunglasses?						
Definitely yes	22.7%	2.6%	3.3%	26.1%	5.2%	9.3%
Probably yes	36.3%	8.5%	9.6%	32.6%	15.1%	18.5%
Probably not	23.4%	29.1%	28.9%	22.1%	35.0%	32.5%
Definitely not	17.7%	59.8%	58.2%	19.2%	44.7%	39.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

\* Have never smoked cigarettes or have not smoked any cigarettes in past 30 days  
Source: Minnesota Youth Tobacco and Asthma Survey, 2008

**Table 28. Change in receipt of and attitudes toward tobacco promotional products, 2000-2008.**

<b>Middle School</b>								
Percent who...	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008		Percent Change 2005-2008	
Bought or received promotional merchandise	22.3	17.1	15.3	8.4	-62%	§	-45%	§
Would use or wear promotional merchandise	20.1	17.6	16.2	12.9	-36%	§	-20%	
<b>High School</b>								
Percent who...	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008		Percent Change 2005-2008	
Bought or received promotional merchandise	27.6	22.7	21.8	17.5	-37%	§	-20%	§
Would use or wear promotional merchandise	39.5	35.0	32.0	27.8	-30%	§	-13%	

§ Differences between the stated years are statistically significant at p<.05.

Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

### **Trends in Tobacco Promotional Merchandise**

Between 2005 and 2008, the percentage of middle school students who bought or received promotional merchandise declined sharply from 15.3 percent to 8.4 percent. The percentage for high school students declined from 21.8 percent to 17.5 percent. Both changes are statistically significant and continue long-term downward trends. The percentage of students who would wear or use promotional items also decreased from 2005 to 2008, but the change did not quite reach statistical significance in either middle school or high school. (Table 28)

The continuation of this trend is another indicator that social norms are changing – fewer young people seem to feel that tobacco industry merchandise is cool or desirable to have and wear.

## SECTION 13 SCHOOL CURRICULUM, COMMUNITY ACTIVITIES, AND MEDIA EXPOSURE

As a general surveillance survey, the Minnesota Youth Tobacco and Asthma Survey contains one or two questions about school health curriculum, community activities, and exposure to health messages in the media. The survey cannot provide much-needed details about these topics, but it can point to areas that might need further investigation.

### **School Health Curriculum**

About two-thirds of middle school students (65.1%) but only one-third of high school students (37.4%) report that they were taught about the dangers of tobacco use during the current school year. High school students usually take just one or two health classes in their four years. Similarly, 43.4 percent of middle school students and only 16.9 percent of high school students report practicing ways to resist pressures or temptations to use tobacco. Attention to these topics appears to be more widespread during the middle school years. (Table 29)

### **Community Activities**

A little over 10 percent of middle school students (10.1%) and high school students (12.1%) report taking part in some kind of community activity aimed at discouraging young people from using tobacco. (Table 29)

### **Media Exposure**

Most students (65.5% middle school; 76.6% high school) report that they saw or heard at least one media message about the dangers of smoking in the past month. Less than half reported seeing such media messages once a week or more often. (Table 29)



**Table 29. School curriculum, community activities, and media exposure, 2008**

	<b>Middle School</b>	<b>High School</b>
During this school year, were you taught in any of your classes about the dangers of tobacco use?		
Yes	65.1%	37.4%
No	20.6%	52.0%
Not sure	14.3%	10.6%
Total	100.0%	100.0%
During this school year, did you practice ways to say NO to tobacco in any of your classes (for example, by role playing)?		
Yes	43.4%	16.9%
No	40.3%	75.0%
Not sure	16.3%	8.1%
Total	100.0%	100.0%
During the past 12 months, have you participated in any community activities to discourage people your age from using cigarettes, chewing tobacco, snuff, dip, or cigars?		
Yes	10.1%	12.1%
No	50.8%	67.4%
No, did not know of any activities	39.1%	20.5%
Total	100.0%	100.0%
During the past 30 days, have you seen or heard commercials on TV, the Internet, or on the radio about the dangers of smoking?		
Not in the past 30 days	34.5%	23.4%
1-3 times in past 30 days	24.3%	28.3%
1-3 times per week	17.2%	20.0%
Daily or almost daily	15.4%	20.1%
More than once a day	8.5%	8.3%
Total	100.0%	100.0%
Percent who saw or heard commercials about dangers of smoking at least once in past 30 days	65.5%	76.6%

Source: Minnesota Youth Tobacco and Asthma Survey, 2008

### **Trends in School Curriculum, Community Activities and Media Exposure**

For high school, between 2005 and 2008 there were large and statistically significant decreases in exposure to tobacco prevention training at school. Only 37.4 percent of high school students report being taught about the dangers of tobacco use, compared to 60.3 percent in 2005. Only 16.9 percent of high school students report practicing ways to resist pressures to use tobacco, compared to 24.5 percent in 2005. There were no significant changes among middle school students. (Table 30)

**Table 30. Change in school curriculum, community activities and media exposure, 2000-2008**

<b>Middle School</b>						
Percent of students who...	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008	Percent Change 2005-2008
Were taught in school about dangers of tobacco	N/A	72.6	71.0	65.1	N/A	-8%
Practiced ways in school to say NO to tobacco use	44.1	51.5	46.0	43.4	-2%	-6%
Participated in community anti-tobacco activities	15.2	15.2	11.7	10.1	-34% §	-14%
Saw or heard commercials about dangers of smoking in past 30 days	81.0	81.2	75.1	65.5	-19% §	-13% §
<b>High School</b>						
Percent of students who...	2000 (percent)	2002 (percent)	2005 (percent)	2008 (percent)	Percent Change 2000-2008	Percent Change 2005-2008
Were taught in school about dangers of tobacco	N/A	55.6	60.3	37.4	N/A	-38% §
Practiced ways in school to say NO to tobacco use	16.1	22.3	24.5	16.9	+5%	-31% §
Participated in community anti-tobacco activities	12.5	12.7	11.8	12.1	-3%	+3%
Saw or heard commercials about dangers of smoking in past 30 days	86.0	87.4	81.7	76.6	-11% §	-6% §

§ Differences between the stated years are statistically significant at p<.05.

N/A: This question was not asked in 2000.

Source: Minnesota Youth Tobacco Surveys, 2000 through 2008

Exposure to any anti-smoking media messages in the past 30 days declined from 75.1 percent in 2005 to 65.5 percent in 2008 for middle school students, and from 81.7 percent to 76.6 percent for high school students. Both changes are statistically significant. (Table 30)

## SECTION 14 TOBACCO USE, SECONDHAND SMOKE, AND ASTHMA

Asthma is a chronic disease of the lungs and respiratory system characterized by episodes of wheezing, coughing and difficulty in breathing. These effects occur when the muscles around the airways in the lungs tighten and the bronchial tubes swell and become inflamed. Asthma affects children and adults, and can range from mild to severe. The impacts of asthma can include missing school or work, disrupted sleep, emergency room visits, and limits on physical activity.<sup>12</sup> Asthma attacks can be fatal in some cases, with most deaths occurring among adults 65 years old or older.

Tobacco smoke contributes to the long-term development of asthma and triggers asthma attacks. The Surgeon General has concluded that secondhand smoke causes the onset of wheeze illness in early childhood and is a causal factor in the development of asthma among school-age children. Secondhand smoke exposure also increases the severity of asthma symptoms in those who have the illness.<sup>13</sup> Furthermore, the Surgeon General also concluded that smoking by a child or adolescent causes asthma-related symptoms such as wheezing, and that smoking worsens the prognosis of asthma in children.<sup>14</sup>

Because of this documented relationship between tobacco use and asthma, the Department of Health added several questions on asthma to the 2008 youth tobacco survey, which was renamed the Minnesota Youth Tobacco and Asthma Survey. Much of this data will appear in Department of Health publications about asthma. In this report, we will examine the association between tobacco use, secondhand smoke, and asthma.

### **Current Asthma**

In the tables that follow, a student is defined as having current asthma if he or she has ever been diagnosed with asthma *and* has had asthma-like symptoms in the past 12 months. Overall, 11.4 percent of middle school students and 16.6 percent of high school students meet the criteria for current asthma. Males are more likely than females to report current asthma in middle school, while females have higher rates than males in high school. (Table 31)

**Table 31. Percent of students with current asthma, by gender, 2008**

	Middle School			High School		
	Female	Male	Total	Female	Male	Total
Percent with current asthma – has been diagnosed in lifetime and reports symptoms in past 12 months*	9.8%	12.9%	11.4%	18.5%	14.8%	16.6%

\* The survey questions are: “Has a doctor or nurse ever told you or your parents that you have asthma?” (Yes/No), and “During the past 12 months, have you had wheezing, tightness in your chest, or other symptoms of asthma?” (Yes/No).

Source: 2008 Minnesota Youth Tobacco and Asthma Survey

### Tobacco Use and Current Asthma

At the high school level, tobacco use is associated with current asthma. Nearly one-fourth of students with current asthma (23.4%) smoked cigarettes in the past 30 days, compared to 15.5% of students who do not have current asthma. Students with current asthma are also significantly more likely to report overall tobacco use in the past 30 days, and are slightly more likely to use cigars and smokeless tobacco. (Table 32) At the middle school level, tobacco use is low, and there are no clear differences between students with and without current asthma.

**Table 32. Tobacco use and current asthma status, 2008.**

	Middle School		High School		
	Does student meet criteria for current asthma?		Does student meet criteria for current asthma?		
	Yes	No	Yes	No	
Percent who have smoked cigarettes in the past 30 days	3.6%	3.1%	23.4%	15.5%	§
Percent who have smoked cigars or little cigars in the past 30 days	3.3%	2.3%	13.0%	10.5%	
Percent who have used smokeless tobacco in the past 30 days	3.6%	1.7%	10.1%	7.1%	§
Percent who have used any tobacco product in the past 30 days	8.5%	6.2%	30.4%	22.4%	§

§ Differences between students with asthma and those who do not have asthma are statistically significant at  $p < .05$ .

Source: 2008 Minnesota Youth Tobacco and Asthma Survey

**Table 33. Living with a smoker, secondhand smoke exposure, and current asthma status, 2008.**

	<b>Middle School</b>		<b>High School</b>		
	Does student meet criteria for current asthma?		Does student meet criteria for current asthma?		
	Yes	No	Yes	No	
Percent who lives with someone who smokes cigarettes	36.7%	31.6%	44.7%	37.2%	§
Any exposure to second-hand smoke in past 7 days*	48.6%	38.3%	55.7%	54.6%	§
Repeated exposure to secondhand smoke in past 7 days**	23.6%	21.2%	35.0%	31.1%	

\* Exposed in a room or a car or at work on at least one day in the past 7 days

\*\*Exposed in room on at least 3 days or in car on at least 3 days or at work on at least 4 days in past 7 days

Source: 2008 Minnesota Youth Tobacco and Asthma Survey

### **Home Environment, Secondhand Smoke, and Current Asthma**

Current asthma is more common among students who live with someone who smokes. In high school, 44.7 percent of students with current asthma live with another person who smokes, compared to 37.2 percent of students who do not have current asthma. This difference is large enough to be statistically significant. (Table 33)

Exposure to secondhand smoke is associated with greater risk of current asthma among middle school students. Nearly half of students with current asthma (48.6%) reported being exposed to secondhand smoke in the past 7 days, while 38.3 percent of students with no asthma were exposed to secondhand smoke. This difference is statistically significant. Among high school students there is little association between current asthma and recent secondhand smoke exposure. (Table 33)

### **Summary**

Smoking in the past 30 days and living with someone who smokes are associated with current asthma among high school students, while secondhand smoke exposure is associated with current asthma among middle school students. These findings attest to the link between tobacco smoke and asthma, but it is remarkable that this survey would

find any association at all. For children who have been diagnosed with asthma and are experiencing asthma-like symptoms, doctors commonly recommend that tobacco smoke and other asthma triggers be removed from the child's environment. Yet, students with asthma still appear to be frequently exposed to tobacco smoke. Further education for parents, students and the entire community is needed to re-emphasize the importance of banishing tobacco smoke from the air that young people with asthma breathe.

## SECTION 15 DISCUSSION AND IMPLICATIONS

The continuation of the downward trend in youth tobacco use and cigarette smoking, as documented by the Minnesota Youth Tobacco and Asthma Survey, is welcome news for everyone interested in reducing the harm caused by tobacco use. While both middle school and high school students have shared in this long-term success, the rate of decline for high school students slowed a bit between 2005 and 2008 and was not statistically significant.

It is worth remembering that tobacco use trends can be volatile. During the 1990's, the smoking rate for Minnesota teens increased sharply, reaching alarming levels. Smoking rates only began to come down after the state's settlement of its historic lawsuit against the tobacco industry in 1998.<sup>15</sup> The settlement made cigarettes more expensive (tobacco companies raised prices in order to pay for the settlement), and it provided substantial funding for an aggressive youth prevention strategy called the Minnesota Youth Tobacco Prevention Initiative, which got under way in 2000.

Another important development revealed by the survey is the solid and broad-based decline between 2005 and 2008 in the percentage of both middle and high school youth who are exposed to secondhand smoke, continuing a trend that can be traced back at least to 2000. The overwhelming support of young people for smoke-free rules in public places and in their own homes and vehicles is further evidence that smoking is becoming less attractive and acceptable.

Between 2005 and 2008, several public policy changes took place that may have contributed to these positive developments identified by the survey. In 2005 and 2006, many communities – including Hennepin, Ramsey and McLeod counties, and the cities of Minneapolis, St. Paul and Mankato – banned smoking in public places, including restaurants and, in many cases, bars. (Table 34) Smoke-free policies not only protect people from secondhand smoke, but strong community support for such policies also gets across the message that smoking is becoming less acceptable and that people are taking action to do something about it. On August 1, 2005, the Health Impact Fee went into effect, raising combined taxes and fees on cigarettes by 75 cents per pack. Research has shown that increasing the price of cigarettes reduces the amount of smoking, especially among young people and other price-sensitive groups.<sup>16</sup> Finally, on October 1, 2007, the Freedom to Breathe law went into effect banning smoking statewide in restaurants, bars, bowling alleys, clubs and public places in general. All of these public policy changes took place before data were collected for the 2008 youth tobacco survey.

**Table 34. Major policy developments between the 2005 and 2008 youth tobacco surveys**

Jan.-Mar. 2005	Youth Tobacco Survey conducted in schools
Mar. 31, 2005	Smoke-free ordinances implemented in Hennepin and Ramsey counties, and cities of Minneapolis and Golden Valley. Bloomington expands its ban to include bars.
Aug. 1, 2005	Health Impact Fee goes into effect, raising cigarette taxes and fees by 75 cents per pack
Jan.-Aug., 2006	Smoke-free ordinances implemented in cities of St. Paul and Mankato, and in McLeod county
Oct. 1, 2007	Statewide smoke-free law goes into effect
Jan.-Mar. 2008	Youth Tobacco and Asthma Survey conducted in schools

Minnesota’s comprehensive tobacco control program, which represents the combined efforts of the Minnesota Department of Health (MDH), ClearWay Minnesota, Blue Cross and Blue Shield of Minnesota, and other organizations, was also active during the period between 2005 and 2008. During this period, MDH provided over \$3 million per year in funding through the Tobacco-Free Communities grants program, which supports local work to reduce youth exposure to tobacco influences and to create tobacco-free environments. Both ClearWay and Blue Cross supported local efforts to raise awareness about secondhand smoke and to enact protections against secondhand smoke in public places. ClearWay’s statewide media campaign about the harm caused by secondhand smoke (“Are you OK with that?”) has reached teens as well as adults.

Taken together, these public policy developments and program and media activities most likely contributed to the declines in tobacco use and secondhand smoke exposure observed between 2005 and 2008. The survey did not ask questions that could be used to single out any one policy or activity as the driving force behind change.

Despite laudable progress in reducing tobacco use, the 2008 survey identifies several areas of concern that tobacco prevention programs and public officials should monitor and address.

First, while cigarette smoking and overall tobacco use have declined significantly for female high school students since 2005, they have not changed at all for males. Between 2000 and 2005, males and females had similar smoking rates and similar declines in smoking, but now a gap between male and female students has emerged. The most recent national data shows a similar, though less dramatic, pattern.<sup>17</sup> This development should be monitored carefully to see if it persists.



Second, while cigarette smoking has steadily declined since 2000, there has been no real decline in the use of cigars and smokeless tobacco. Among male high school students, the percentage smoking cigars or using smokeless tobacco in the past 30 days is not much lower than the percentage smoking cigarettes. Minnesota is not alone; similar patterns appear in the national youth data.<sup>18</sup> Total sales of cigars have been growing nationally, led by rapid growth in sales of little cigars,<sup>19</sup> which are made to look like and smoke like regular cigarettes.<sup>20</sup> More attention needs to be devoted to understanding why use of cigars and smokeless tobacco by young people has persisted over time.

Third, use of menthol cigarettes has increased sharply; 40 percent of high school smokers and over half of middle school smokers now usually smoke menthols. Derived from peppermint or other mint oils, menthol has been added to cigarettes for decades. The tobacco industry has known for many years that menthol serves to mask the harshness and irritation that new or younger smokers may feel when they inhale cigarette smoke, thus making it easier to start and continue smoking. The industry has devoted much research to finding the right amount of menthol that is attractive to young smokers and other segments of their market.<sup>21</sup> In their review of industry documents, Kreslake et al conclude: *“For new and younger smokers, the primary advantage of smoking a menthol cigarette is that the menthol masks the harshness and discomfort of inhaling smoke enough to allow delivery of an effective dose of nicotine.....Although menthol is not addictive, it may contribute to tobacco addiction by promoting initiation and facilitating inhalation of smoke.”*<sup>22</sup> The R. J. Reynolds Tobacco Company has introduced a new cigarette brand that can be smoked either as a regular or a menthol cigarette and is promoted heavily on internet social networking sites. Measures should be considered that would restrict the use of menthol to make cigarettes more attractive.

Fourth, well under half of students report that they were asked by a doctor, dentist or nurse if they smoke (19% MS; 40% HS) or were advised not to smoke (32% MS; 31% HS) in the past 12 months. It is difficult to interpret these raw numbers -- some unknown percentage of students probably answered “no” because they did not see a health professional at all during the last year. Newly updated clinical guidelines for treating tobacco use include the following recommendation: *“Clinicians should ask pediatric and adolescent patients about tobacco use and provide a strong message regarding the importance of totally abstaining from tobacco use.”*<sup>23</sup> Progress has been made in recent years in implementing these practices for adults.<sup>24</sup> Even though an unknown proportion of teens do not come in contact with health professionals in the course of a year, it is likely that health professionals could reach more young people by fully adopting these ask and advise practices in their patient visits.

Fifth, many young smokers still believe that light or low-tar cigarettes are less risky than regular cigarettes. In the landmark 2006 opinion in the *United States v. Philip Morris* racketeering case, federal District Court Judge Gladys Kessler ruled that the company has deceptively marketed light cigarettes as a more healthy alternative for decades, when they knew there was no scientific evidence to support that claim.<sup>25</sup> The fact that many youth still hold this belief has grave consequences for their health. A new generation of young people needs to learn how the tobacco companies have used light cigarettes and other strategies to deceive and manipulate them into becoming and remaining tobacco users.

Sixth, fewer high school students report that they are being taught about the dangers of tobacco or about ways to resist pressures to use tobacco. There are concerns that health education in general may be losing ground. The state requires high school students to take only one health course in four years, and there are no state standards regarding what is to be taught. Local districts determine the content and length of the course and can decide whether or not it is required for graduation. In addition, local districts may be feeling pressure to put less emphasis on health curricula and more emphasis on subjects on which students will be tested to meet state and federal No Child Left Behind requirements. The role of effective tobacco education in schools needs to be re-emphasized.

## **APPENDIX A DESCRIPTION OF SURVEY METHODS**

### **Survey Questions**

The Minnesota youth tobacco surveys have always been built around a core set of questions and procedures developed by the Centers for Disease Control and Prevention (CDC) for use in state surveys on adolescent tobacco use. Since the late 1990's, over 40 states have used CDC's questions and procedures for their own youth tobacco surveys.

The core set of questions remained stable through 2005. Each of the Minnesota surveys conducted in 2000, 2002 and 2005 contained 62 core questions with identical wording in all three years. Prior to the 2008 Minnesota survey, CDC overhauled the core questions for the first time. The number of core questions was much reduced, new questions were added, and some questions were removed from the core and placed in an optional set that states could draw from as they wished. The 2008 Minnesota survey contains 6 demographic or background questions and 56 tobacco questions. Eight questions on asthma were added, and the survey was renamed the Minnesota Youth Tobacco and Asthma Survey (MYTAS). Forty-eight of the demographic and tobacco questions on the 2008 survey are the same as those asked in previous surveys.

### **Sample**

Students were selected for the survey in two stages. First, 48 public middle schools (grades 6-8) and 51 public high schools (grades 9-12) were randomly selected, with probability of selection based on size of enrollment. Alternative schools and charter schools were included. The sample schools were randomly chosen by CDC using enrollment data provided by the Minnesota Department of Health. Next, three or four classrooms within each participating school were randomly selected, and all students in these classrooms were invited to participate. The number of schools and classrooms selected was reduced substantially in 2008 in order to reduce the burden on schools. The sample size is still adequate to provide reasonable statewide estimates.

### **Notification and Confidentiality**

Parents were informed by letter about the survey and could notify the school if they did not want their student to participate. Students were also informed that the survey was voluntary on their part and that they could decide not to participate or not to answer specific questions. Students were assured that their answers would be anonymous and

confidential and were reminded not to write their name, ID number or any other identifying information on the answer sheet.

### **Timing**

As in previous survey years, the 2008 survey was administered in January, February and March. The exact survey date was set by each school.

### **Analysis**

Once completed surveys were received by the Department of Health, they were reviewed and prepared for scanning. About 30 surveys (less than one percent) were removed for obvious patterns of distortion. These were not considered usable surveys. CDC scanned the surveys and created the initial weighted dataset. The Minnesota Department of Health analyzed the data using SPSS and SPSS Complex Samples software.

### **Participation Rates**

In 2008, 75 percent of the sampled middle schools and 63 percent of the sampled high schools agreed to participate. Among the schools that did participate, 90 percent of middle school students and 74 percent of high school students enrolled in selected classrooms provided usable surveys. (Table A-1) The main reasons why students do not participate are that they are absent from class (due to illness, truancy, make-up tests, field trips, or other activities) or they decide not to take the survey.

At the high school level, school participation is relatively low, but the schools participating still appear to be representative of the state. This was determined by examining 2007 Minnesota Student Survey (MSS) data. The MSS is available to all school districts, and all 6<sup>th</sup>, 9<sup>th</sup> and 12<sup>th</sup> grade students are eligible. Over 90 percent of school districts participate in the MSS. Within the MSS dataset, the subset of schools that participated in the 2008 MYTAS produced 9<sup>th</sup> and 12<sup>th</sup> grade cigarette smoking rates identical to the rates produced by the entire MSS census, indicating that these MYTAS schools are representative of all public high schools in the state.

**Table A-1. Survey participation statistics for youth tobacco surveys**

Year	Number of schools selected	Number of schools participating	School participation rate	Student participation rate*	Total surveys
<b>2000</b>					
Middle school	58	46	79.3%	87.9%	4,751
High school	77	57	74.0%	84.6%	7,625
<b>2002</b>					
Middle school	58	51	87.9%	85.6%	4,751
High school	77	50	64.9%	83.2%	6,806
<b>2005</b>					
Middle school	57	39	68.4%	88.3%	4,119
High school	77	60	77.9%	81.4%	6,562
<b>2008</b>					
Middle school	48	36	75.0%	90.0%	2,322
High school	51	32	62.7%	74.3%	2,267

\* Percentage of enrolled students in selected classrooms of participating schools who took the survey and provided usable surveys.

## Limitations

The Minnesota Youth Tobacco and Asthma Survey is a survey of public school students. The most obvious limitation of the survey is that it does not represent all young people. Private schools, juvenile correctional facilities, and treatment centers are not included in the study. Teens who have dropped out of school are not represented, and students who frequently miss school due to truancy, illness or other reasons are under-represented. Another limitation is the content of the survey. The MYTAS focuses on tobacco use and does not provide information on social, cultural and behavioral factors that have been linked to tobacco use. Finally, the survey is a fixed-choice survey and it provides no opportunity for youth to write more detailed responses in their own words.

## NOTES

---

- <sup>1</sup> Minnesota Department of Health, *Smoking-Attributable Mortality and Economic Costs in Minnesota*. Fact Sheet. February 28, 2002. Available at <http://www.health.state.mn.us/divs/hpcd/tpc/sammec.pdf>. More detailed calculations can be seen at CDC's web site: <http://apps.nccd.cdc.gov/sammec>.
- <sup>2</sup> Blue Cross and Blue Shield of Minnesota. *Health Care Costs and Smoking: The Bottom Line*. St. Paul, MN: Center for Prevention, Blue Cross and Blue Shield of Minnesota; 2005.
- <sup>3</sup> *Creating a Healthier Minnesota: Progress in Reducing Tobacco Use*. Minneapolis, MN: Clearway Minnesota, Blue Cross and Blue Shield of Minnesota, and Minnesota Department of Health; September 2008: page 2-33. Available at <http://www.mnadulttobaccosurvey.org>.
- <sup>4</sup> *Ibid*, page A-1. Minnesota adult smokers who are 25 or older average nearly 15 cigarettes per day.
- <sup>5</sup> Kreslake JM, Wayne GF, Alpert HR, Koh HK, and Connolly GN. Tobacco Industry Control of Menthol in Cigarettes and Targeting of Adolescents and Young Adults. *American Journal of Public Health*. September 2008; 98(9): 1685-1692.
- <sup>6</sup> The Minnesota Department of Human Services (DHS) conducts annual random compliance checks of several hundred retail establishments licensed to sell tobacco. These are called SYNAR compliance checks, after the Congressman who initiated this reporting requirement. The more recent annual reports are available on the DHS web site. Go to <http://www.dhs.state.mn.us> and type SYNAR in the search window.
- <sup>7</sup> Fiore MC, Jaén CR, Baker TB, et al. *Treating Tobacco Use and Dependence: 2008 Update*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. May 2008. Available at <http://www.ahrq.gov/path/tobacco.htm>.
- <sup>8</sup> U.S. Department of Health and Human Services. *Preventing Tobacco Use Among Young People: A Report of the Surgeon General*. Atlanta, GA. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 1994, pages 129-131. Nichter M, Nichter M, Vuckovic N, Quintero G, Ritenbaugh C. Smoking experimentation and initiation among adolescent girls: qualitative and quantitative findings. *Tobacco Control*. 1997; 6: 285-295. Mayhew KP, Flay BR, Mott JA. Stages in the development of adolescent smoking. *Drug and Alcohol Dependence*. 2000; 59 Suppl. 1: S61-S81.
- <sup>9</sup> U.S. Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. Atlanta, GA. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 2006. California Environmental Protection Agency. *Proposed Identification of Environmental Tobacco Smoke as a Toxic Air Contaminant. Part B: Health Effects*. Sacramento CA. 2005.
- <sup>10</sup> Tobacco Control Legal Consortium. *The Verdict Is In: Findings from United States v. Philip Morris, Light Cigarettes*. St. Paul, MN; 2006.
- <sup>11</sup> Campaign for Tobacco-Free Kids. *State Specific Tobacco Marketing Expenditures, 1998 through 2005*. On web at <http://www.tobaccofreekids.org/research/factsheets/pdf/0271.pdf>.
- <sup>12</sup> Minnesota Department of Health Fact Sheet. *Asthma in Minnesota*. April, 2007. On the web at <http://www.health.state.mn.us/divs/hpcd/cdee/asthma/Research.html>.
- <sup>13</sup> U.S. Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. Atlanta, GA. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 2006.
- <sup>14</sup> U.S. Department of Health and Human Services. *The health consequences of smoking: A report of the Surgeon General*. Atlanta, GA. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Office on Smoking and Health, 2004.
- <sup>15</sup> Minnesota Departments of Education, Health, Human Services, and Public Safety. *Minnesota Student Survey 1992-2007 Trends*. St. Paul, MN. January, 2008

---

<sup>16</sup> Ross H, Chaloupka FJ. *The effect of public policy and prices on youth smoking*. ImpacTeen Research Paper Series #8. University of Illinois at Chicago. February, 2001.

<sup>17</sup> In the National Youth Risk Behavior Survey, smoking rates for male and female high school students were identical in 2003 and 2005. But between 2005 and 2007, the smoking rate for females fell 4.3 percentage points (23.0% to 18.7%) while the smoking rate for males fell by 1.6 percentage points (22.9% to 21.3%). Data available at <http://www.cdc.gov/yrbs>.

<sup>18</sup> To see national trend data, go to <http://www.cdc.gov/yrbs> and click on the “Youth Online” button.

<sup>19</sup> Campaign for Tobacco-Free Kids. *The Rise of Cigars and Cigar-smoking Harms*. Fact Sheet. April 9, 2008. Available at [www.tobaccofreekids.org](http://www.tobaccofreekids.org).

<sup>20</sup> Delnevo CD, and Hrywna M. “A Whole ‘Nother Smoke” or a Cigarette in Disguise: How RJ Reynolds Reframed the Image of Little Cigars. *American Journal of Public Health*. August 2007; 97(8): 1368-1375.

<sup>21</sup> Kreslake JM, Wayne GF, Alpert HR, Koh HK, and Connolly GN. Tobacco Industry Control of Menthol in Cigarettes and Targeting of Adolescents and Young Adults. *American Journal of Public Health*. September 2008; 98(9): 1685-1692.

<sup>22</sup> *Ibid*, p. 1689.

<sup>23</sup> Fiore MC, Jaén CR, Baker TB, et al. *Treating Tobacco Use and Dependence: 2008 Update*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. May 2008. Available at <http://www.ahrq.gov/path/tobacco.htm>.

<sup>24</sup> *Creating a Healthier Minnesota: Progress in Reducing Tobacco Use*. Minneapolis, MN: Clearway Minnesota, Blue Cross and Blue Shield of Minnesota, and Minnesota Department of Health; September 2008: pages 3-41 to 3-44. Available at <http://www.mnadulttobaccosurvey.org>.

<sup>25</sup> Tobacco Control Legal Consortium. *The Verdict Is In: Findings from United States v. Philip Morris, Light Cigarettes*. St. Paul, MN; 2006.