

Trends in Youth Tobacco Use in Massachusetts, 1993-2004



TOBACCO CONTROL PROGRAM
BUREAU FOR FAMILY HEALTH

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

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Make Smoking History

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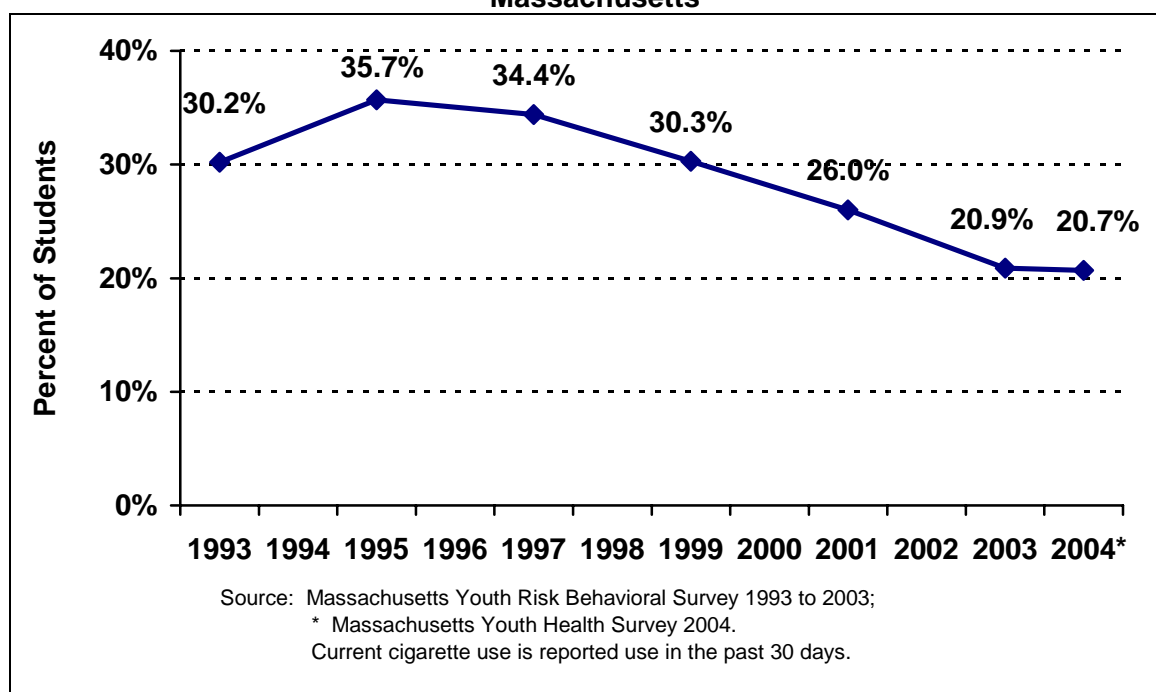
SECTION 1: YOUTH CIGARETTE SMOKING

Eighty-five percent of current adult smokers in Massachusetts had their first cigarette before age 18. Sixty-seven percent were smoking regularly before the age of 18ⁱ. Cigarette smoking causes an estimated 9,000 deaths, or about 1 of every 6 deaths, in Massachusetts each yearⁱⁱ. Tobacco use among young people poses especially serious risks. Research indicates that the earlier young people begin to smoke, the greater their permanent lung damage and the more likely they are to become addicted to cigarettesⁱⁱⁱ.

To assess the health status and risk behaviors of adolescents including tobacco use, two surveys are administered to Massachusetts public school students. The Massachusetts Youth Risk Behavior Survey (YRBS) monitors key health indicators for high school students and is conducted biennially. The Massachusetts Youth Health Survey (YHS) was administered in 2004 to middle school and high school students, and provides additional information on health and behavioral risk areas (see appendix for further information on these surveys).

The percentage of current smoking among high school students in Massachusetts has decreased dramatically from a high of 35.7% in 1995 to 20.7% in 2004, representing a 42% decline. Still, one in five high school students (20.7%) is a current cigarette smoker. The percentage of smokers appears to be leveling off and did not change significantly between 2003 (20.9%) and 2004 (20.7%)^{iv}.

**Figure 1. Trend in Current Cigarette Use
Among High School Students:
Massachusetts**



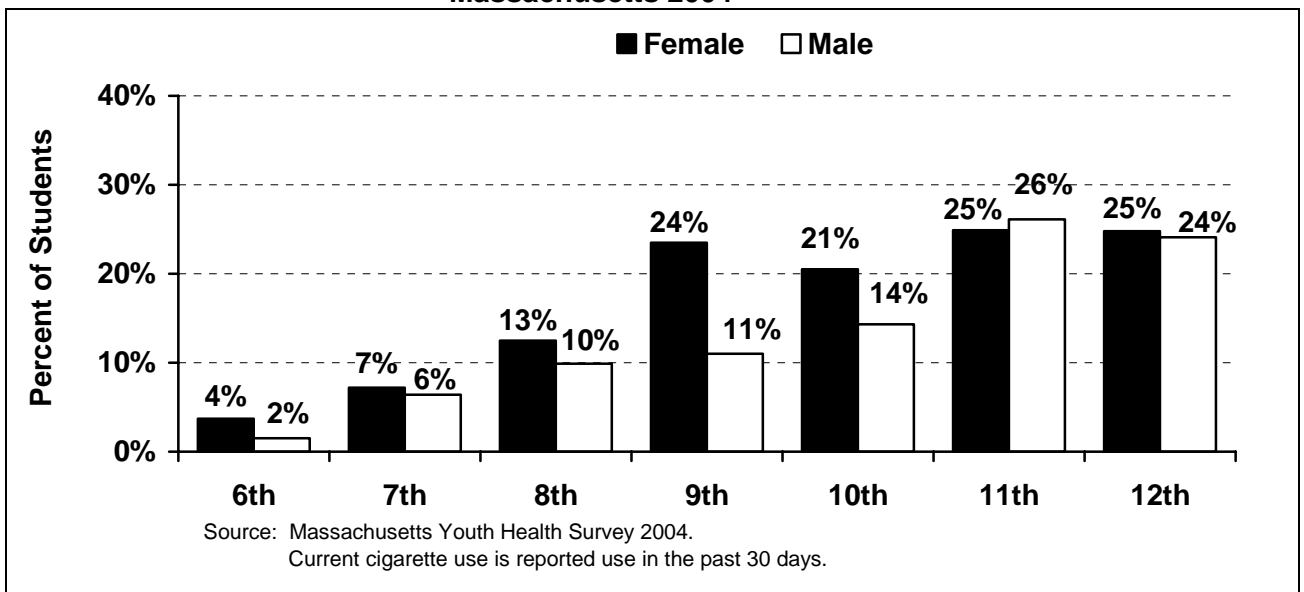
The 2004 Massachusetts Youth Health Survey findings include:

- The percentage of current smoking among middle school students is 7.1%.
- Twenty-one percent of middle school students have tried smoking a cigarette (“lifetime use”), with lifetime cigarette use defined as having ever smoked or puffed on a cigarette.

The percentage of current smoking among high school students is 20.7%.

- A higher percentage of female high school students (23%) are current cigarette smokers than males (18%).
- In 2004, ninth grade females were more than twice as likely as ninth grade males to report smoking cigarettes (24% vs. 11%, respectively).
- By the twelfth grade, however, male and female students are about equally likely to report smoking cigarettes (24% and 25%, respectively).

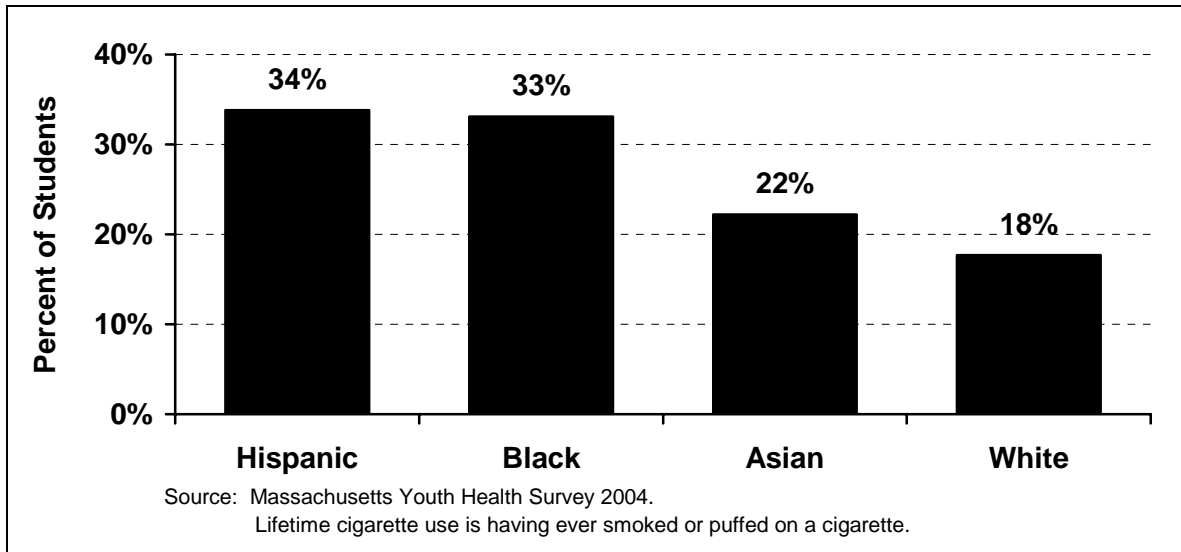
**Figure 2. Current Cigarette Use by Grade and Gender:
Massachusetts 2004**



SECTION 2: CIGARETTE SMOKING BY RACE/ETHNICITY

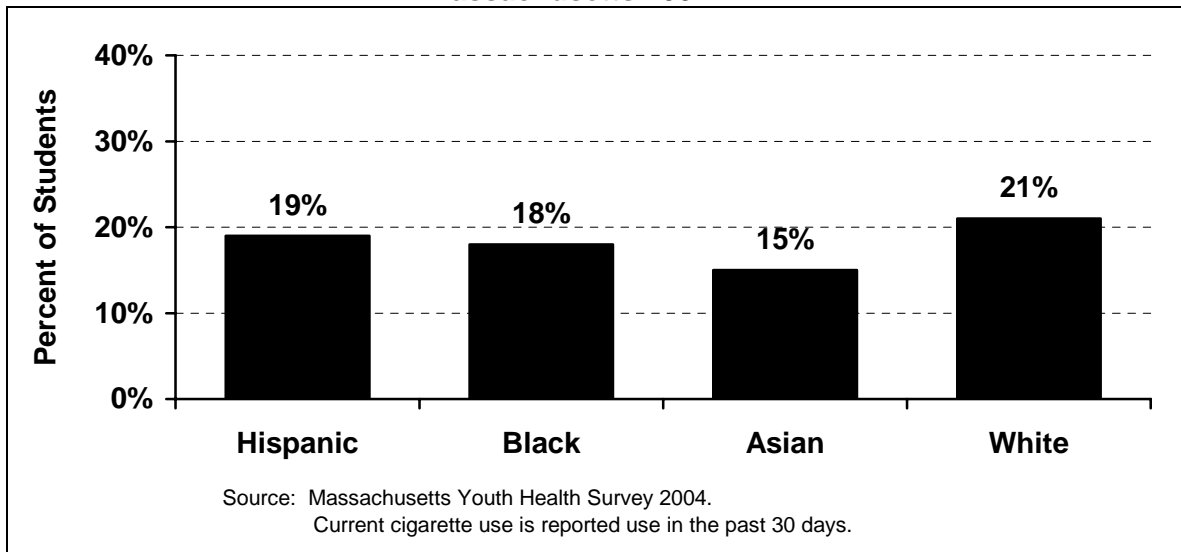
Among middle school students, lifetime cigarette use among black, non-Hispanic (33%) and Hispanic students (34%) is nearly twice that of white, non-Hispanics (18%).

Figure 3. Lifetime Cigarette Use Among Middle School Students By Race/Ethnicity: Massachusetts 2004



Twenty-one percent of white high school students report are current cigarette smokers compared to 19% of Hispanic high school students, 18% of black, non-Hispanic high school students, and 15% of Asian high school students.

Figure 4. Current Cigarette Use Among High School Students By Race/Ethnicity: Massachusetts 2004

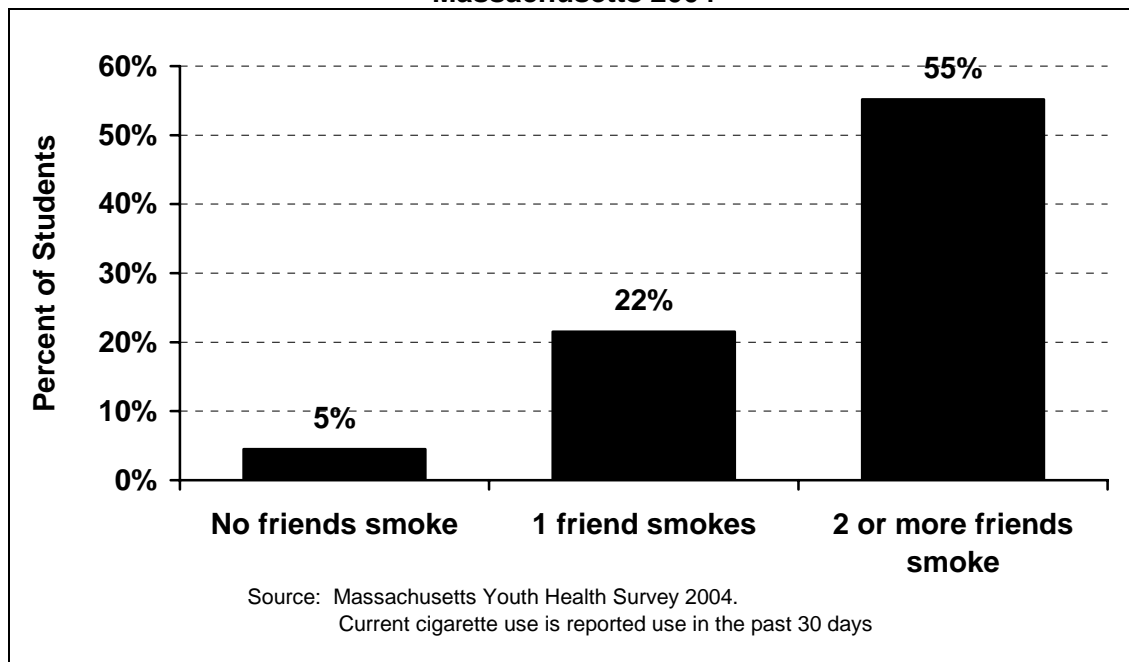


SECTION 3: YOUTH AT-RISK OF CIGARETTE SMOKING

High school students who are more likely to be current cigarette smokers (compared to the overall rate of 21%) include students who:

- have two or more friends who smoke (55%)¹,
- live at home with a smoker (31%),
- feel depressed (30%), or seriously considered suicide (40%),
- receive academic grades of mostly C's (30%), D's (41%) or F's (55%),
- perceive themselves as very overweight (31%),
- report being unable to talk to parents or family about important things (31%),
- report a physically disability or long-term health problem (31%),
- report a long-term emotional problem or learning disability (34%).

**Figure 5. Current Cigarette Use
By Number of Friends Who Smoke:
Massachusetts 2004**

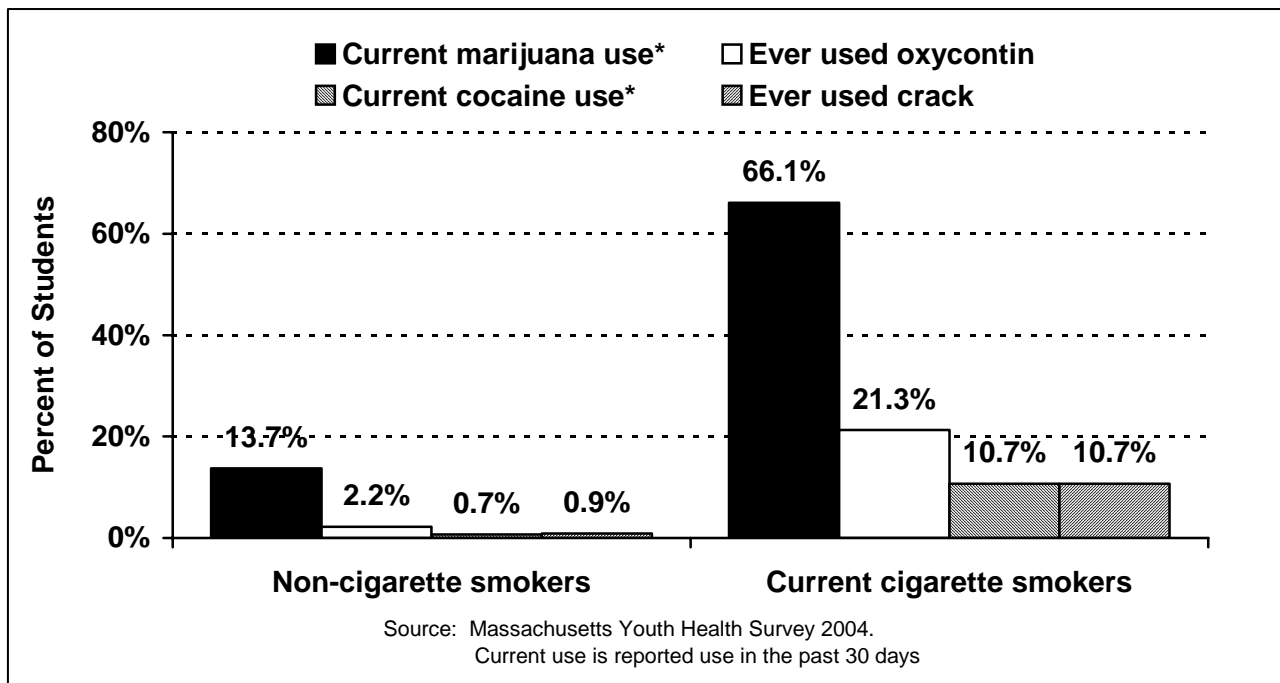


¹ In other words, 55% of respondents who have two or more friends who smoke are current smokers themselves.

SECTION 4: MARIJUANA AND OTHER DRUG USE AMONG CIGARETTE SMOKERS

High school students who smoke are also more likely to engage in other risky behaviors such as substance abuse. Students who were current cigarette smokers were nearly 5 times more likely to report marijuana use, 10 times more likely to have tried oxycontin, 15 times more likely to report cocaine use, and 11 times more likely to report crack cocaine use compared to high school students who did not smoke (see Figure 6).

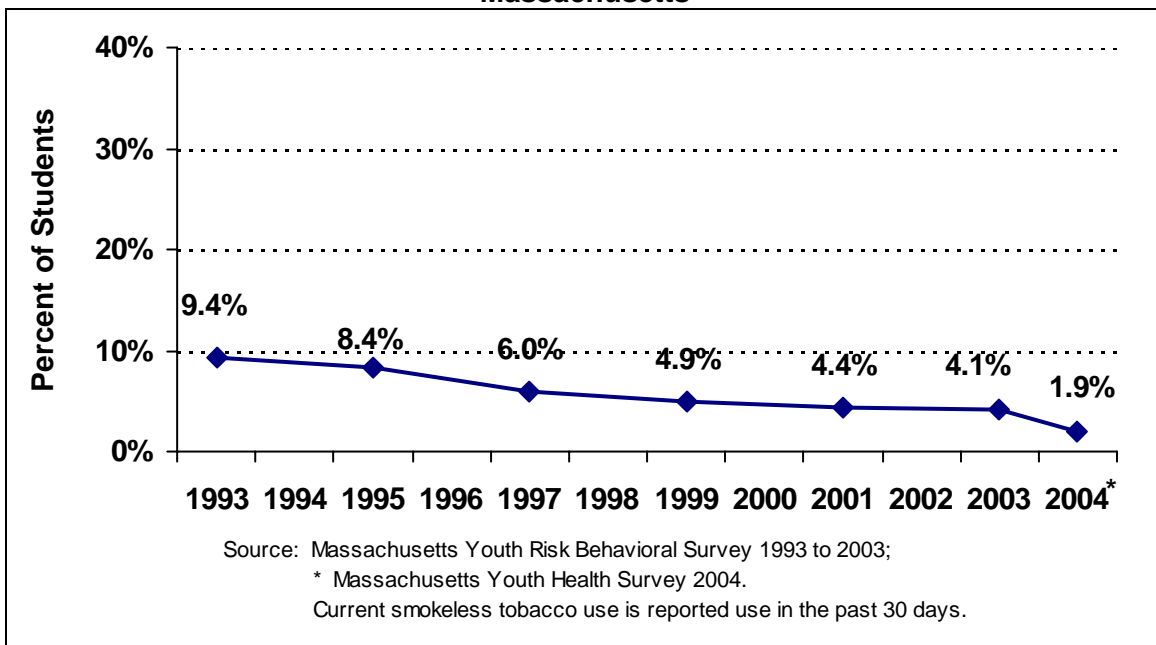
Figure 6. Cigarette Smoking Status and Drug Use Among High School Students: Massachusetts 2004



SECTION 5: YOUTH SMOKELESS TOBACCO USE

There has been a steady and significant decline among high school students in the use of smokeless tobacco from 1993 (9.4%) to 2003 (4.1%). This change represents a 56% decline in the use of smokeless tobacco among high school students. The 2004 Youth Health Survey found that the percentage of high school students who reported using chewing tobacco or snuff is 1.9%^v.

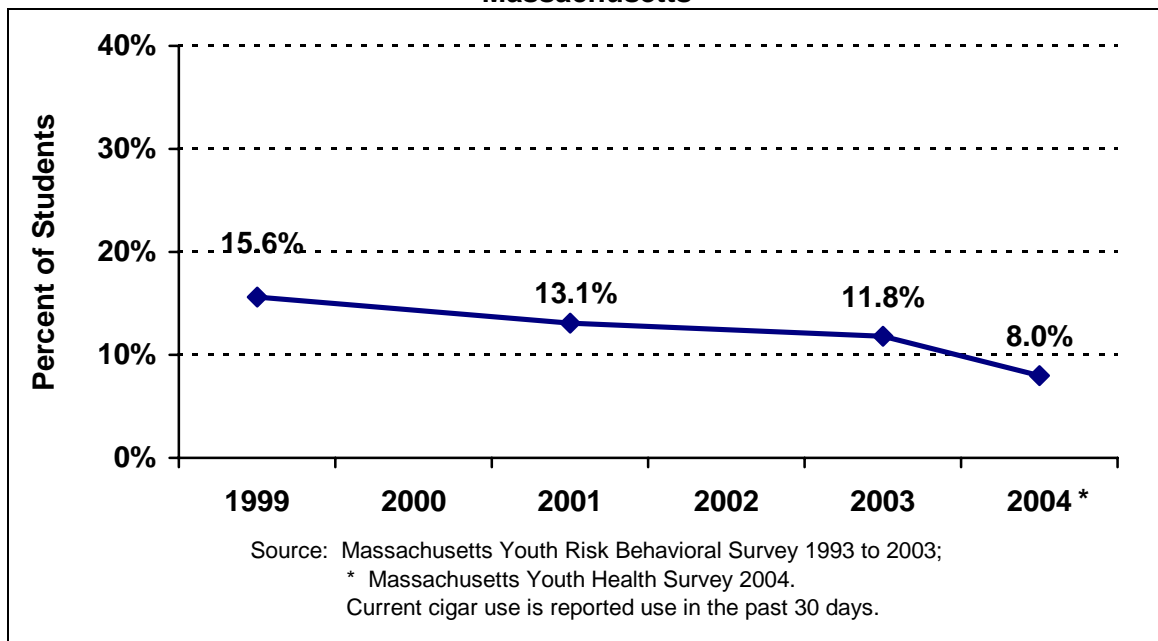
**Figure 7. Trend in Current Smokeless Tobacco Use
Among High School Students:
Massachusetts**



SECTION 6: YOUTH CIGAR USE

Current cigar use among high school students declined from a high of 15.6% in 1999 (the first year data was collected on the YRBS) to 11.8% in 2003. The 2004 Youth Health Survey found that the percentage of high school students who reported using cigars is 8.0%^{vi}.

**Figure 8. Trend in Current Cigar Use
Among High School Students:
Massachusetts**



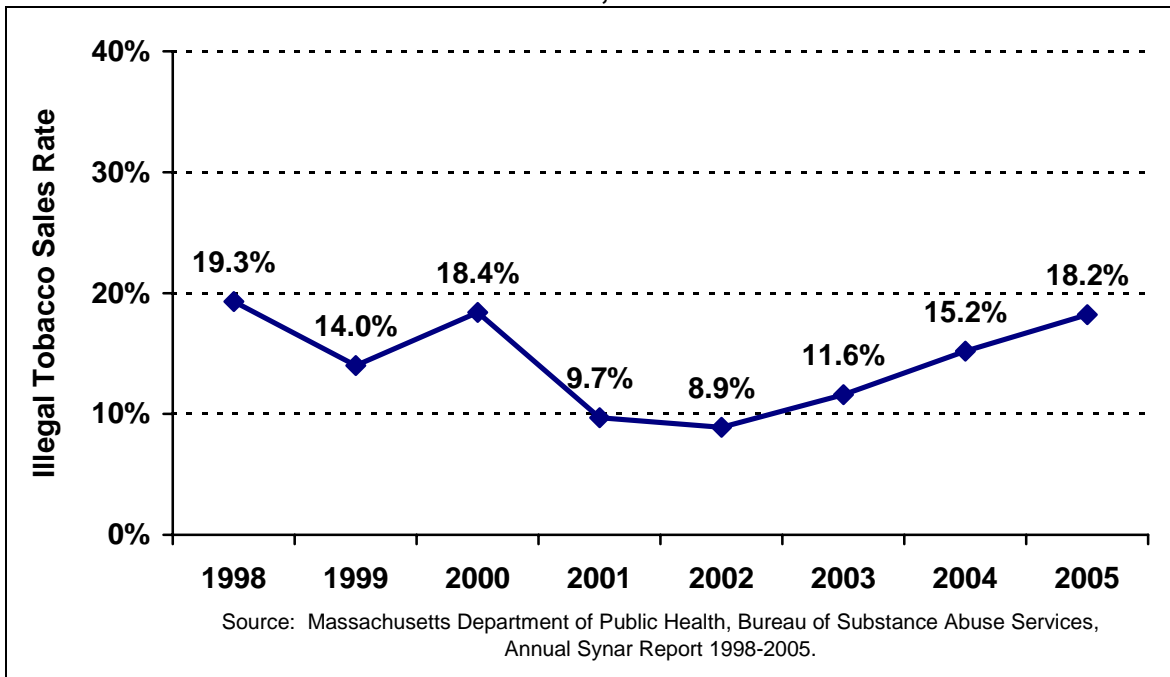
SECTION 7: TOBACCO SALES TO MINORS

In Massachusetts, many state and local laws deal with the sale of tobacco products. The primary purpose of these laws is to prevent the sale of tobacco products to minors (persons under 18 years of age). State law prohibits sales of any tobacco products to persons under the age of 18.

In 1992, the U.S. Congress enacted legislation, referred to as the Synar Amendment, to conduct random inspections of retail outlets to measure compliance with laws that prohibit tobacco sales to minors. Under the supervision of an investigator, an underage youth attempts to purchase a tobacco product from an over-the-counter cigarette retailer. Calculation of the percentage of illegal tobacco sales to minors is based on data collected using a stratified random sample methodology and is reported annually to the U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

The rate of illegal sales of tobacco to minors declined in Massachusetts from 19.3% of underage youth attempts in 1998 to 9.7% in 2001. This represents a 50% decline. After reaching a low of 8.9% in 2002, the percentage of illegal sales to minors has increased in successive years. The most recent rate of illegal sales to minors is 18.2% for 2005.

**Figure 9. Trend in Illegal Tobacco Sales to Minors:
Massachusetts, 1998 to 2005**



APPENDIX

BRIEF DESCRIPTION OF YOUTH SURVEY INSTRUMENTS

Massachusetts Youth Risk Behavior Survey

The Massachusetts Youth Risk Behavior Survey (MYRBS) is conducted every two years by the Massachusetts Department of Education with funding from the United States Centers for Disease Control and Prevention (CDC). The survey monitors adolescent risk behaviors related to the leading causes of morbidity and mortality among youth and adults. These behaviors include tobacco, alcohol, and other drug use; behaviors related to intentional and unintentional injuries; high-risk sexual behaviors; poor dietary patterns; and lack of physical activity. The 2003 MYRBS was conducted in the spring of 2003 in 50 randomly selected public high schools across the Commonwealth. In total, 3,624 students in grades 9 through 12 participated in this voluntary and anonymous survey. Because of the high student and school response rates, the results of this survey can be generalized to apply to all public high schools across Massachusetts.

The report "2003 Youth Risk Behavior Survey Results" issued by the Massachusetts Department of Education provides the survey instrument, findings, and a description of the methodology^{vii}.

Massachusetts Youth Health Survey

The Massachusetts Youth Health Survey (YHS) is the Massachusetts Department of Public Health's (MDPH) surveillance project to assess the health of youth and young adults in grades 6-12. It is conducted by the MDPH Center for Community Health in collaboration with the Massachusetts Department of Education (MDOE). The survey contains health status questions in addition to questions about risk behaviors and protective factors. The survey project was initiated in 1984 as the Triennial School Survey (TSS), assessing alcohol, tobacco and other drug use in grades 7-12. Grade six was added in 1996. The TSS instrument was last used in 1999.

A full report on survey findings, methodology, and instrument will be available soon to be issued by the Massachusetts Department of Public Health. Information for this report was taken from a draft version. The report will be available on the Massachusetts Department of Public Health website at www.mass.gov/dph/.

ENDNOTES

ⁱ Massachusetts Department of Public Health, 2002 Massachusetts Behavioral Risk Factor Surveillance System (BRFSS).

ⁱⁱ Massachusetts Department of Public Health, Smoking-Attributable Mortality, Morbidity, and Economic Costs (SAMMEC), October 2004. Data based on Massachusetts Deaths in 2001.

ⁱⁱⁱ Public Health Service. (1994). *Preventing tobacco use among young people: A report of the Surgeon General*. (DHHS Publication No. 0455-B-02). Washington, DC: U.S. Government Printing Office.

^{iv} 2004 figures are based on findings from the Massachusetts Youth Health Survey (YHS), while 2003 and earlier figures are based on the Massachusetts Youth Risk Behavioral Survey (YRBS). Comparisons should be made with caution. Both the MA YRBS and the MA YHS used a multi-stage cluster sampling design to select schools and classrooms within schools. For the question on current cigarette use, the question wording is identical (YRBS – q37; YHS – q85):

During the past 30 days, on how many days did you smoke cigarettes?

- 0 days
- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days

The difference in current smoking rate among high school students in 2003 (20.9%) is not statistically significant from 2004 (20.7%). The current smoking percentage in 2004 of 20.7% has a 95% confidence interval of 19.1% (lower limit) and 22.3% (upper limit).

^v See note 4 concerning the survey methodologies. The question wording on smokeless tobacco use is slightly different so comparisons should be made with caution. The 2004 Youth Health Survey question is:

96b. In the past 30 days, have you used chewing tobacco or snuff?

- Yes
- No

The YRBS question is:

42. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?

- 0 days
- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days

Current smokeless tobacco use is a response of “Yes” on the YHS survey. On the YRBS survey, a response of “1 or 2 days” or more days is coded as current smokeless tobacco use.

^{vi} See note 4 concerning the survey methodologies. The question wording on smokeless tobacco use is again slightly different so comparisons should be made with caution. The 2004 Youth Health Survey question is:

97b. In the past 30 days, have you smoked a cigar?

- Yes*
- No*

The YRBS question is:

44. During the past 30 days, on how many days did you smoke cigars, cigarillos, or little cigars?

- 0 days*
- 1 or 2 days*
- 3 to 5 days*
- 6 to 9 days*
- 10 to 19 days*
- 20 to 29 days*
- All 30 days*

Current cigar use is a response of “Yes” on the YHS survey. On the YRBS survey, a response of “1 or 2 days” or more days is coded as current cigar use.

^{vii} Massachusetts Department of Education. 2003 Youth Risk Behavior Survey Results (July 2004). Accessed on the web at <http://www.doe.mass.edu/cnp/hprograms/yrbs/03/080904letter.html>. (web page updated August 9, 2004)