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The Commonwealth of Massachusetts

MASSACHUSETTS DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION

March 2, 2010

Dear Colleagues, Parents and Students:

The Massachusetts Departments of Public Health and Elementary and Secondary Education (DPH, ESE) are pleased to present this data brief, *Trends in Youth Tobacco Use in Massachusetts, 1993-2009*. The data are drawn from the Massachusetts Youth Risk Behavior Survey (ESE), and the Massachusetts Youth Health Survey (DPH). The information reflects the trends in youth tobacco-use reported by middle school and high school students in Massachusetts.

Although great strides have been made in reducing smoking among Massachusetts youth, more than 7,000 youth in Massachusetts still become addicted to cigarettes each year. Lately, a dangerous trend has quietly emerged; the data show an increase in young people's use of smokeless tobacco and other tobacco products. There is evidence that youth who use tobacco are more likely to engage in other risky behaviors that affect their health and impede their academic achievement.

This brief provides insight and information regarding tobacco-use trends compromising the health and safety of Massachusetts students. Most adult tobacco-users began before they were 18 years old; therefore, we believe that tobacco prevention must start with young people.

We envision an environment in which all people in Massachusetts can live tobacco-free. We encourage you to support this vision by ensuring that your schools are tobacco-free. For information on school tobacco policies and guidelines, visit www.makesmokinghistory.org/youth/schools.

Thank you for your continued commitment to improving the lives, health, and achievement of youth in Massachusetts.

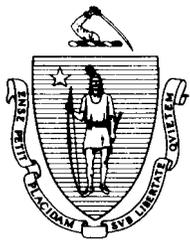
Sincerely,

A handwritten signature in black ink, appearing to read "John Auerbach".

John Auerbach
Commissioner
Department of Public Health

A handwritten signature in black ink, appearing to read "Mitchell D. Chester".

Mitchell D. Chester, Ed.D.
Commissioner
Department of Elementary and Secondary
Education



TRENDS IN YOUTH TOBACCO USE IN MASSACHUSETTS, 1993-2009

March 2010

In 2009, Massachusetts reduced the cigarette smoking rate among high school students to 16%, meeting the *Healthy People 2010* target one year early. The Youth Risk Behavior Survey (YRBS) is the primary source of data used to measure *Healthy People 2010* objectives, an ambitious set of standards set by the federal government to improve the nation's health.

For the first time in Massachusetts, high school students' use of other tobacco products (cigars, smokeless tobacco) in the past 30 days (17.6%) was higher than their rate of cigarette smoking in the past 30 days (16.0%).

The data reported below are drawn from the Massachusetts Department of Elementary and Secondary Education's Youth Risk Behavior Survey (MYRBS) and the Massachusetts Department of Public Health's Youth Health Survey (MYHS).

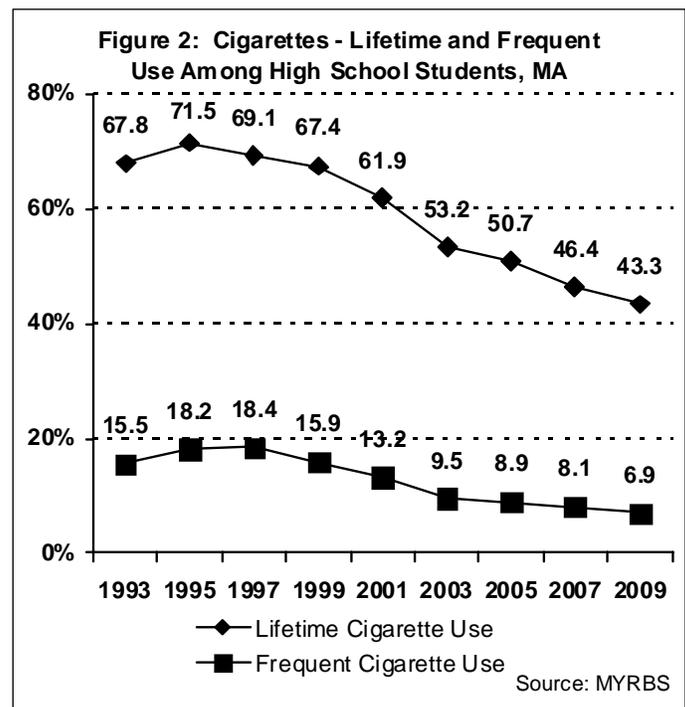
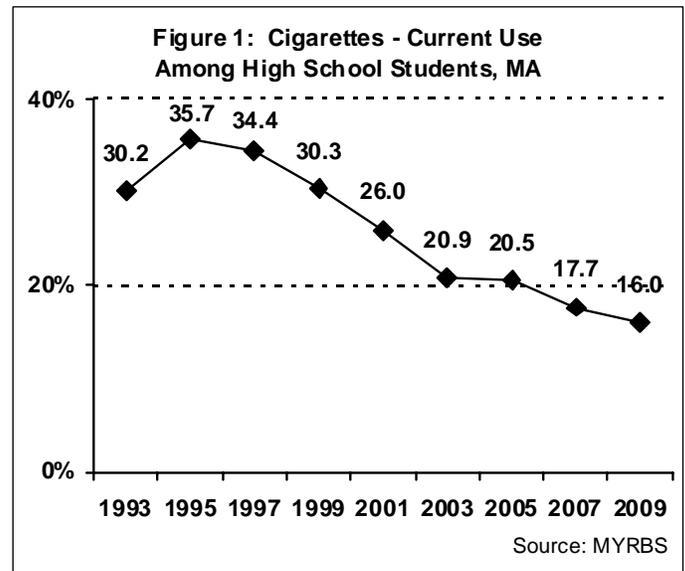
YOUTH CIGARETTE SMOKING

Cigarette smoking causes about 8,000 deaths in Massachusetts each yearⁱ. Eighty-two percent of current adult smokers in Massachusetts had their first cigarette before age 19. Sixty-nine percent were smoking regularly before the age of 19ⁱⁱ. Research indicates that the earlier young people begin to smoke, the more likely they are to become addicted to cigarettesⁱⁱⁱ. Recent studies sponsored by the National Institute on Drug Abuse (NIDA) on brain functioning suggest not only that smoking may be more addictive when initiated during adolescence, but that it may heighten response to other addictive drugs.^{iv}

High School Students

Lifetime, current and frequent cigarette smoking has declined significantly among high school students in Massachusetts.

- Current cigarette smoking (past 30 day use) among high school students was 16.0% in 2009 (Figure 1).
- Since reaching 35.7% in 1995, current smoking has declined by more than 50%.
- The percentage of high school students who have tried smoking cigarettes (lifetime use) was 43.3% in 2009 (Figure 2). From 1995 to 2009, lifetime use of cigarettes among this population decreased by 39%.



TRENDS IN YOUTH TOBACCO USE IN MASSACHUSETTS, 1993-2009

- Frequent cigarette smoking (more than 20 of the last 30 days) among high school students decreased to 6.9% in 2009 (Figure 2). From 1995 to 2009, frequent smoking decreased by 62%.
- The percentage of high school students who smoked a whole cigarette before age 13 was 9.3% in 2009 (Figure 3).
- Among high school students who smoke cigarettes, 42% reported smoking on school property within the past month.

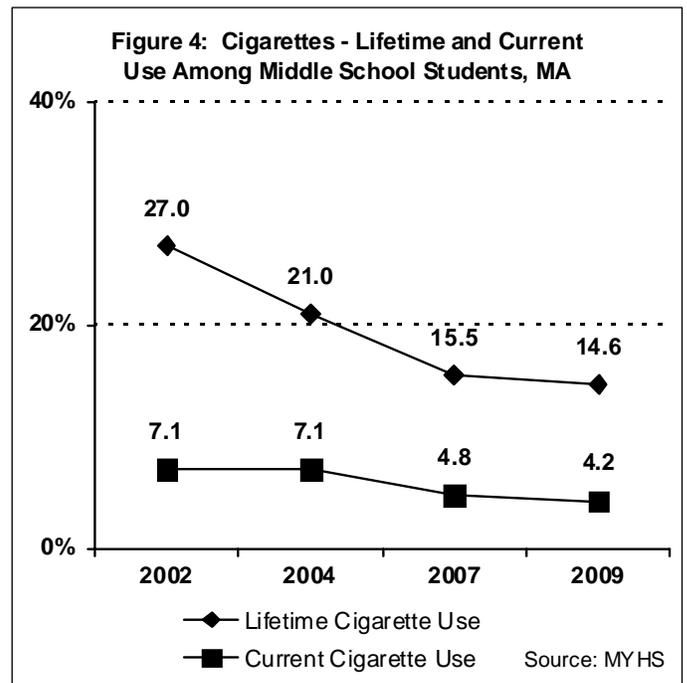
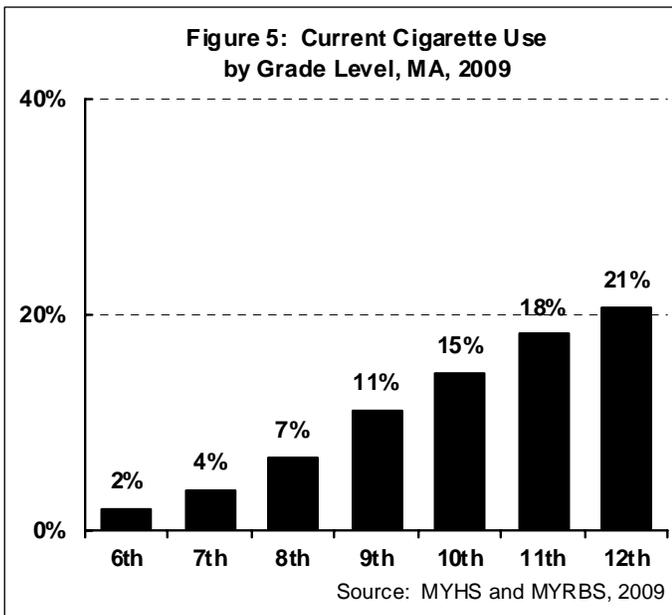
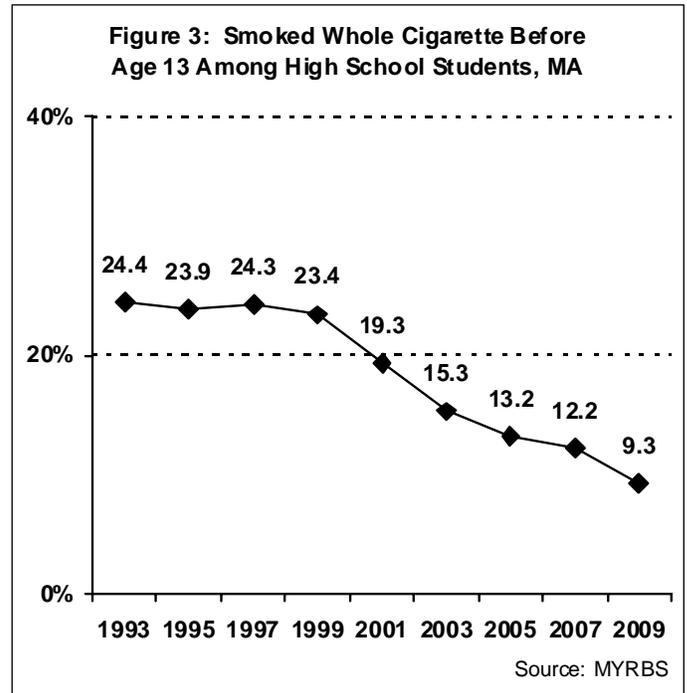
Middle School Students

Lifetime and current cigarette smoking has decreased among middle school students (6th, 7th, and 8th graders) in Massachusetts.

- The percentage of middle school students who have tried cigarette smoking (lifetime use) was 14.6% in 2009 (Figure 4).
- Current cigarette use (past 30 day use) among 6th to 8th grade students was 4.2% in 2009 (Figure 4).

Cigarette Use by Grade and Gender

- The percentage of current smokers increases as grade level increases. Among twelfth grade students, current cigarette use was 21% in 2009 (Figure 5).
- Current cigarette smoking among female high school students was 13.9% compared to 18.0% for male students.



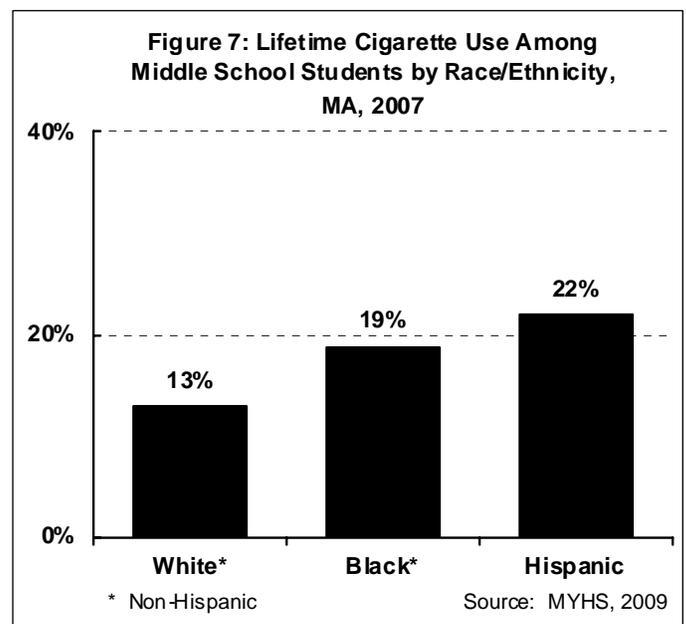
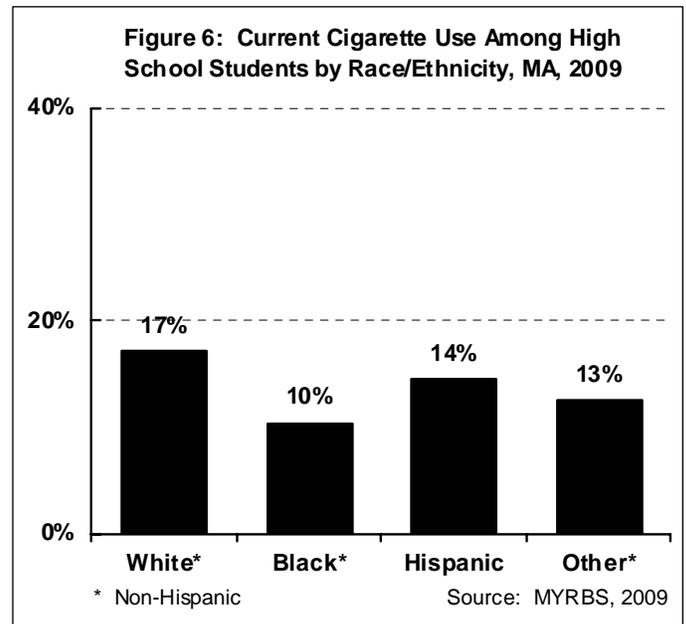
Cigarette Use by Race/Ethnicity

- Seventeen percent of white high school students reported that they are current cigarette smokers compared to 14% of Hispanic students, and 10% of black students (Figure 6).
- Among middle school students, lifetime cigarette use among Black students (19%) and Hispanic students (22%) is higher than for White, non-Hispanics (13%) (Figure 7)^v.

Youth Who Are More Likely to Smoke Cigarettes

High school students are more likely to be current cigarette smokers^{vi} if they :

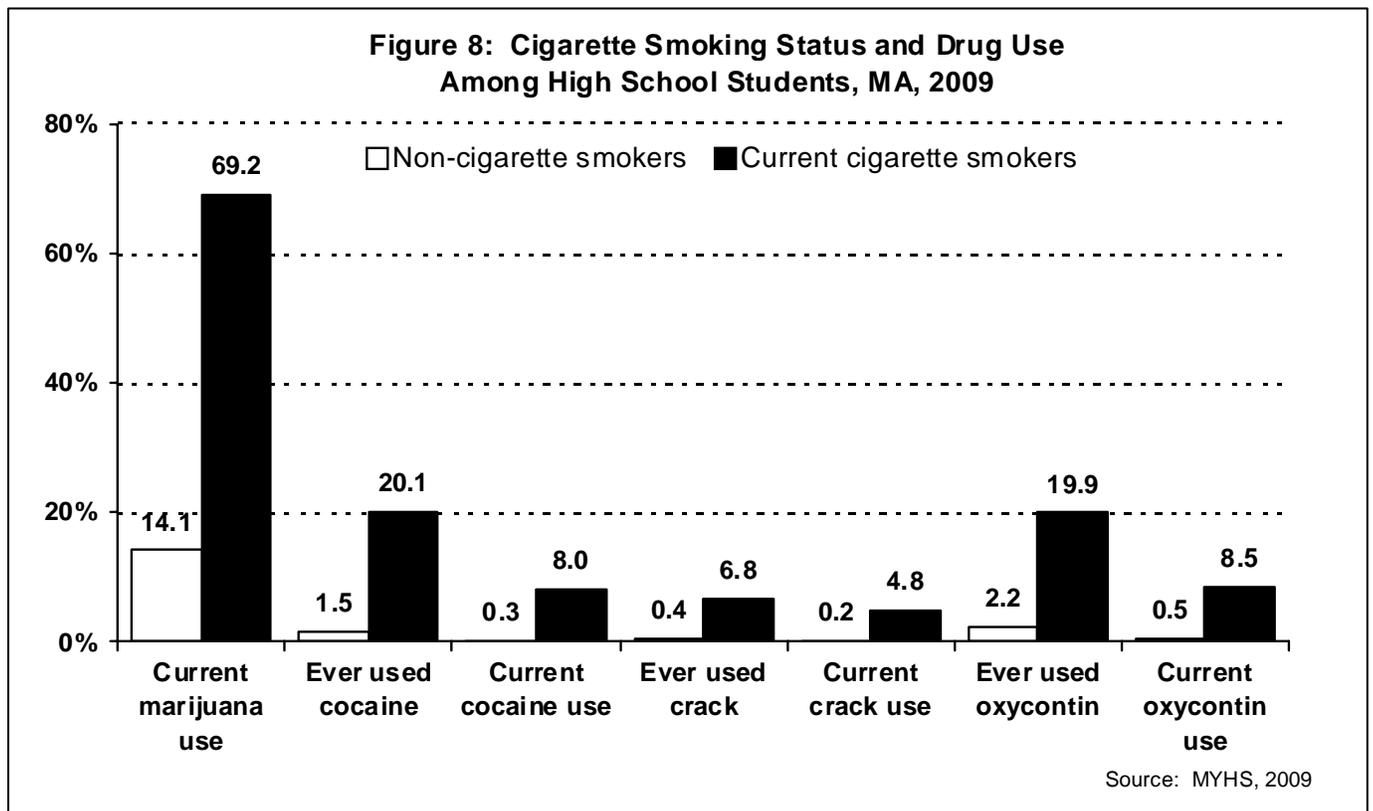
- live with a smoker (26%),
- believe that most people their age smoke (21%),
- felt sad or hopeless (25%), or considered suicide (34%),
- received academic grades of mostly C's, D's or F's (28%),
- have a long-term emotional problem or learning disability (33%),
- self-identify as gay, lesbian, or bisexual (45%),
- used alcohol in the past 30 days (34%).



MARIJUANA AND OTHER DRUG USE AMONG CIGARETTE SMOKERS

High school students who smoke are more likely to engage in other risky behaviors such as substance abuse. Compared to high school students who did not smoke cigarettes, current cigarette smokers were:

- about 5 times more likely to report current marijuana use (Figure 8),
- about 13 times more likely to report ever using cocaine,
- 26 times more likely to report current cocaine use,
- 17 times more likely to report ever using crack cocaine,
- 24 times more likely to report current crack use,
- 9 times more likely to have ever tried oxycontin without a prescription, and
- 17 times more likely to report current oxycontin use.

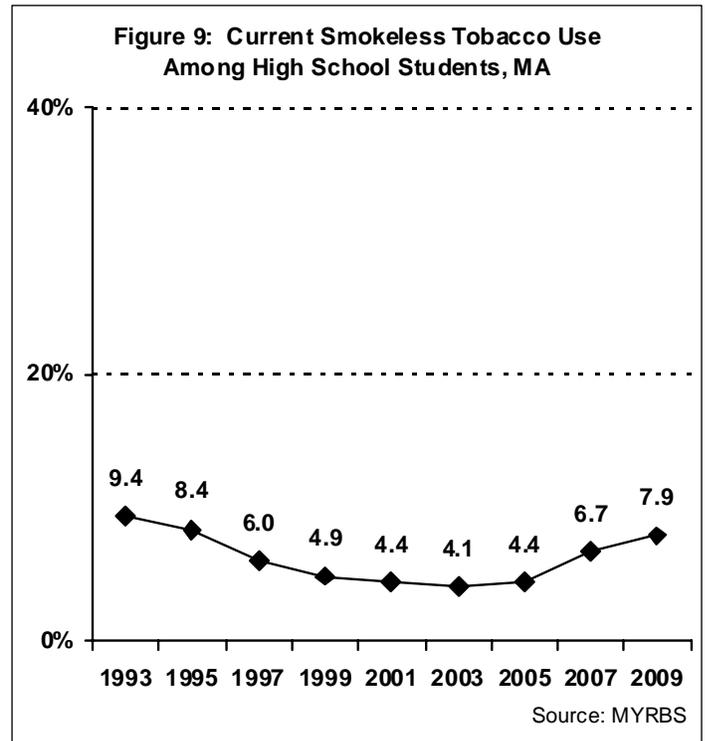


OTHER YOUTH TOBACCO USE

Smokeless Tobacco Use

Smokeless tobacco use (defined as chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen) declined from 1993 to 2003. A trend analysis on 2003 to 2009 data shows that smokeless tobacco use has increased by 7% per year.^{vii}

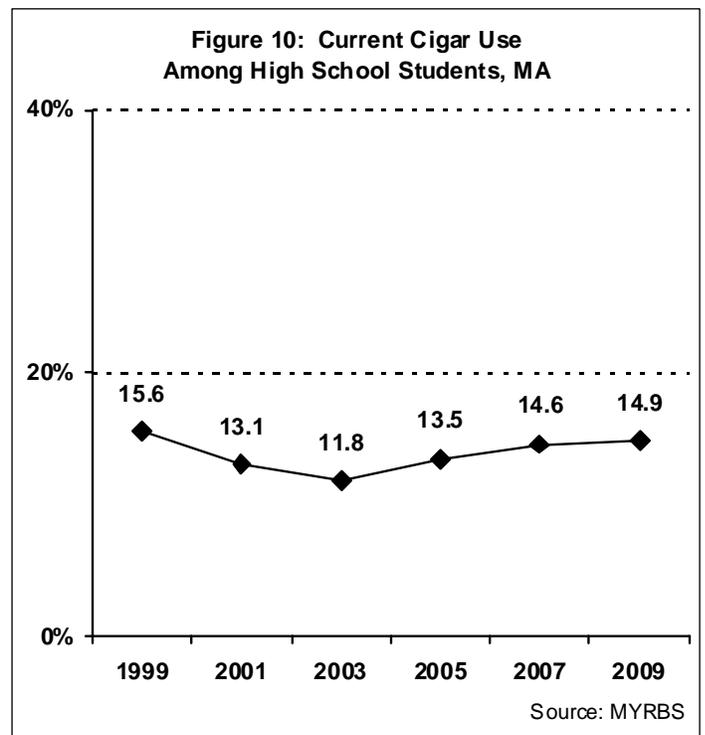
- Current use of smokeless tobacco among high school students was 7.9% in 2009 (Figure 9).
- Among male high school students, current smokeless tobacco use was 13.9% in 2009.
- Lifetime use of smokeless tobacco among middle school students was 2.2% in 2009.



Cigar Use

Among high school students, cigar use (cigars, cigarillos or little cigars) did not significantly change from 1999 to 2009.

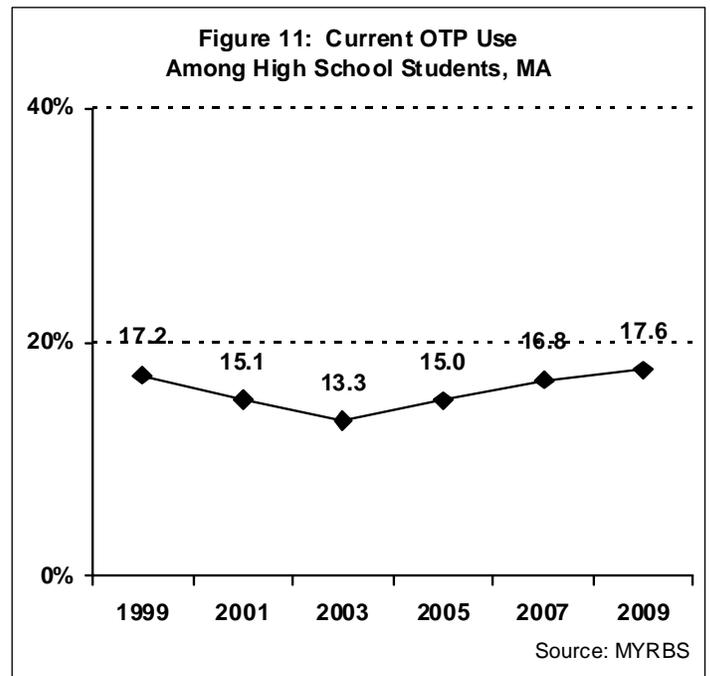
- Current cigar use among high school students was 14.9% in 2009 (Figure 10).
- Among male high school students, current cigar use was 22.0% in 2009.
- Lifetime use of cigars among middle school students was 7.8% in 2009.



Other Tobacco Product (OTP) Use

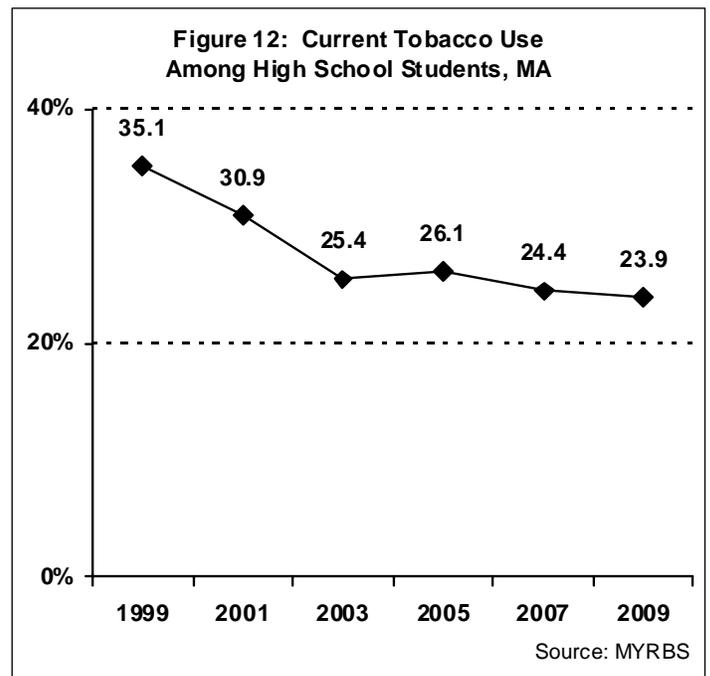
Current use of other tobacco products (use of cigars or smokeless tobacco in the past 30 days) was 17.6% in 2009, the highest level on record (Figure 11).

The preponderance of other tobacco products, such as Black & Milds, Snus, dissolvable nicotine, and other new products that do not fit neatly into a category may result in an underestimate of high school students' use of other tobacco products. To address these limitations, the Massachusetts Tobacco Cessation and Prevention Program (MTCP) conducts surveillance on tobacco products by monitoring retail establishments. For more information about these emerging tobacco products and MTCP's efforts to monitor them, visit www.makesmokinghistory.org.



Any Tobacco Use

Current use of any type of tobacco (cigarettes, cigars, or smokeless tobacco) declined from 1999 to 2003 (Figure 12). From 2003 to 2009, the use of tobacco did not change significantly because declines in cigarette smoking were offset by increases in smokeless tobacco use and cigar smoking.



BRIEF DESCRIPTION OF YOUTH SURVEY INSTRUMENTS

Massachusetts Youth Risk Behavior Survey

The Massachusetts Youth Risk Behavior Survey (MYRBS) is a high school survey which has been conducted every two years since 1993 by the Massachusetts Department of Elementary and Secondary 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.

Information on the YRBS survey instrument and methodology is available from the Massachusetts Department of Elementary and Secondary Education.

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 public school students in grades 6 through 12. It is conducted by the MDPH in collaboration with the Massachusetts Department of Elementary and Secondary Education. 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. The Youth Health Survey was administered in 2002, 2004, 2007, and 2009. The YHS survey instrument and methodology is available from the Massachusetts Department of Public Health.

ACKNOWLEDGEMENTS

This report was prepared by Mark Paskowsky, Thomas Land, and Lois Keithly of the Massachusetts Tobacco Cessation and Prevention Program, Massachusetts Department of Public Health, in collaboration with Monika Mitra and Bob Leibowitz of the Massachusetts Department of Public Health, and Carol Goodenow, Amy O'Neil, and Chiniqua Milligan of the Massachusetts Department of Elementary and Secondary Education. Special thanks to Anthony Roman, Center for Survey Research, University of Massachusetts at Boston, for his expertise on survey methodology and administering the surveys.

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ENDNOTES

ⁱ Massachusetts Department of Public Health, Tobacco Cessation and Prevention Program. Smoking-Attributable Mortality, Morbidity, and Economic Costs: Massachusetts 2006. Accessed 1/15/2010 at http://www.mass.gov/Eeohhs2/docs/dph/tobacco_control/sammec_2006.pdf.

ⁱⁱ Massachusetts Department of Public Health, 2007 Massachusetts Behavioral Risk Factor Surveillance System (BRFSS).

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} Interview of Nora Volkow, M.D., Director of the National Institute of Drugs. Accessed 1/25/10 at http://www.thechallenge.org/14_3_interview.html.

^v The percentage of lifetime cigarette use among white, non-Hispanics is statistically significant from that of Black, non-Hispanic and Hispanic students (based on 95% confidence intervals).

^{vi} Massachusetts Department of Public Health, 2009 Youth Health Survey. For each of the current cigarette smoking estimates among subgroups, the rate is statistically significant at the 95% level.

^{vii} Using the joinpoint statistical software developed by the National Cancer Institute to analyze trends, the analysis shows that the trend changed from a statistically significant ($p < 0.05$) downward trend from 1995 to 2003 to a statistically significant ($p < 0.05$) increasing trend from 2003 to 2009 with an estimated annual increase of 7% per year.