

Prevalence of Tobacco Use in Tennessee, 1997-2007

TENNESSEE DEPARTMENT OF HEALTH

OFFICE OF POLICY, PLANNING AND ASSESSMENT
SURVEILLANCE, EPIDEMIOLOGY AND EVALUATION

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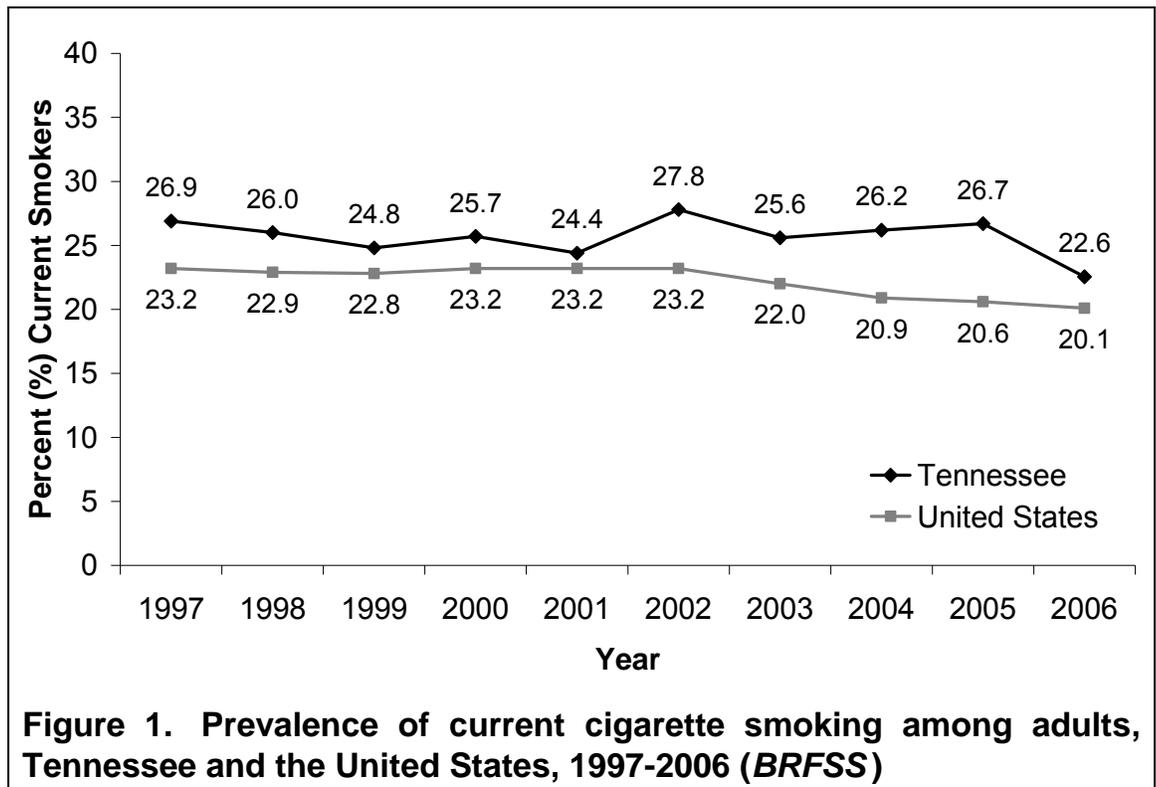
Introduction

Despite declines in tobacco use over the past several decades, approximately one-quarter of Tennessee adults still smoke cigarettes – much higher than the Healthy People 2010 objective of 12%.¹ Tobacco use is the single most preventable cause of disease and death in the U.S.¹ Tobacco related deaths number approximately 438,000 per year, representing 5.5 million years of potential life lost and \$167 billion in health care costs and lost productivity annually.² Smoking is associated with chronic bronchitis, emphysema, heart disease, stroke, cancer, low birth weight and sudden infant death syndrome.^{3,4} Smoking harms more than just the tobacco user – secondhand smoke causes disease and premature death in children and adults who do not smoke.⁵ Reducing the prevalence of tobacco use in the state is critical for increasing the quality and years of healthy life for all Tennesseans.

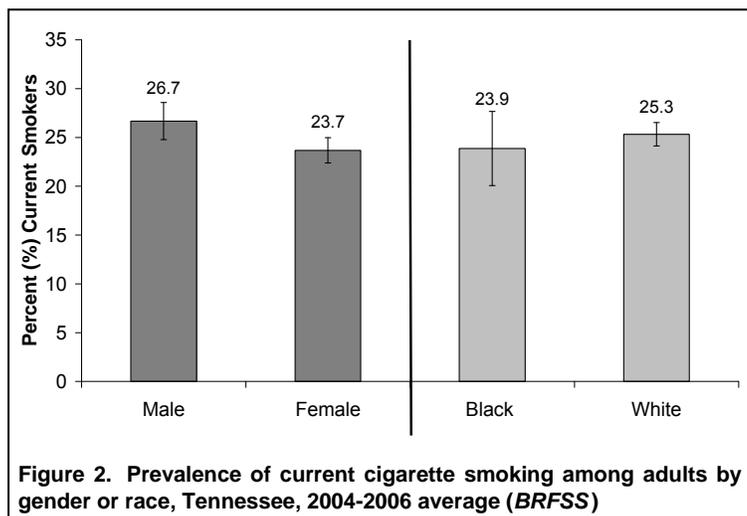
In 2007, Tennessee made important progress in controlling tobacco use. The American Lung Association's 2007 report on the state of tobacco control recognized Tennessee for passing the Non-Smokers Protection Act prohibiting smoking in most public places and workplaces, for increasing its cigarette tax by \$0.42 to \$0.62 per pack and for significantly increasing funding for its tobacco control program.⁶ In addition, the Tennessee Tobacco QuitLine (1-800-QUIT-NOW) continues to offer free, confidential, one-on-one assistance to Tennesseans of all ages who wish to quit using cigarettes and other tobacco products. At this time the effects of the 2007 legislation and tax increase have yet to be seen. However, even with the expected effects of these interventions, it is apparent that efforts to reduce tobacco use in Tennessee must be ongoing and increased.

This report provides an overview of tobacco prevalence in Tennessee by examining tobacco use and cessation among both adults and youth in the state. It contains information for individuals and organizations interested in tobacco control that is critical in order to continue and improve upon current efforts to reduce tobacco use, and to improve the health of the people of Tennessee.

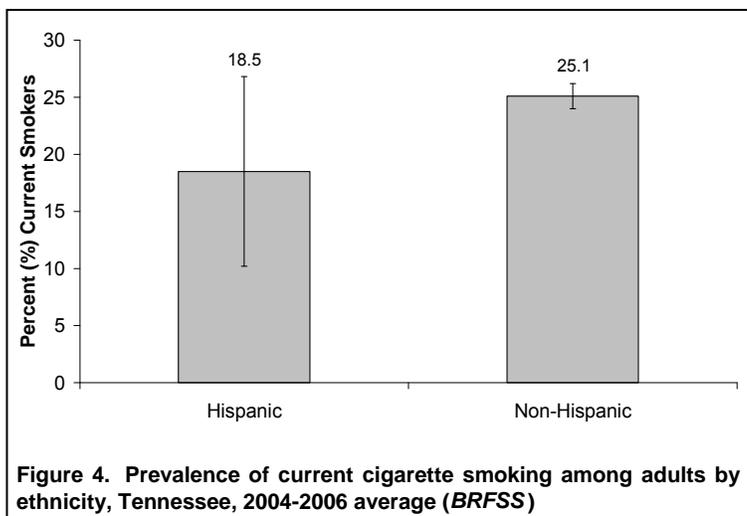
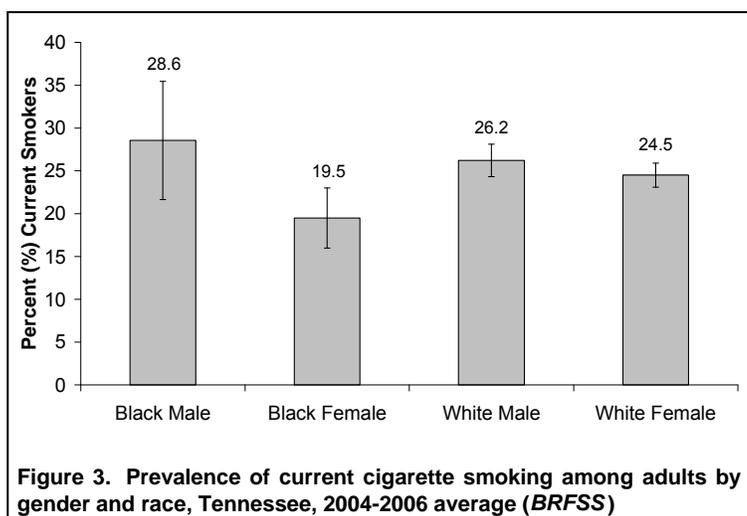
Adult Tobacco Use



- Between 1997 and 2006, the prevalence of cigarette smoking among adults 18 years and older in the United States decreased by 13%.
- Despite a drop from 2005 to 2006, there was no statistically significant decline in smoking prevalence in Tennessee between 1997 and 2006.
- Since 1997, smoking prevalence in Tennessee has been consistently higher than that for the United States as a whole.
- In 2006, 22.6% of adult Tennesseans reported being a current cigarette smoker, compared to 20.1% for the United States.⁷
- In 2006, approximately 1,028,000 adults in Tennessee currently smoked cigarettes.
- Among all 50 states, the percentage of current smokers in 2006 ranged from 9.8% in Utah to 28.5% in Kentucky. Compared to other states, Tennessee had the 11th highest percentage of current smokers.⁷



- Based on 2004-2006 BRFSS data, smoking prevalence was higher among adult males (26.7%) than adult females (23.7%).
- There was no statistically significant difference in current smoking prevalence among whites (25.3%) compared to blacks (23.9%).
- Black females had the lowest prevalence of current smoking at 19.5%.
- Although current smoking prevalence was higher among non-Hispanics than among Hispanics (25.1% vs. 18.5%), this difference was *not* statistically significant.



Adult Tobacco Use

- The prevalence of smoking generally decreased with increasing age. However, there were no significant differences in prevalence among the 18-24, 25-34, 35-44 and 45-54 years old age groups.
- Smoking prevalence was highest among adults aged 18-54 years (29.2%) and lowest among those 65 years and older (11.4%)
- The prevalence of smoking decreased with increasing education and income.
- Smoking prevalence was highest among those with less than a high school education (39.1%) and lowest among college graduates (11.7%).
- Adults with less than a high school education were over three times as likely to smoke cigarettes as those with a college degree.
- Smoking prevalence was highest among those with a household income of less than \$25,000 (35.8%) and lowest among those earning \$75,000 or more (13.3%).
- Adults with a household income of less than \$25,000 were over two-and-a-half times as likely as those earning \$75,000 or more to smoke cigarettes.

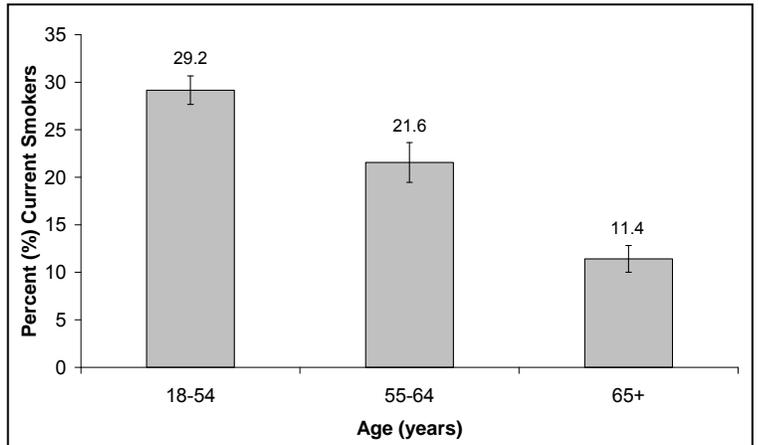


Figure 5. Prevalence of current cigarette smoking among adults by age, Tennessee, 2004-2006 average (BRFSS)

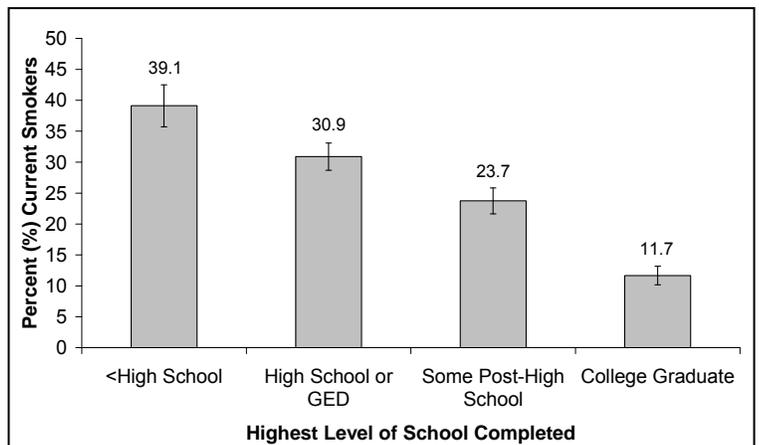


Figure 6. Prevalence of current cigarette smoking among adults by education, Tennessee, 2004-2006 average (BRFSS)

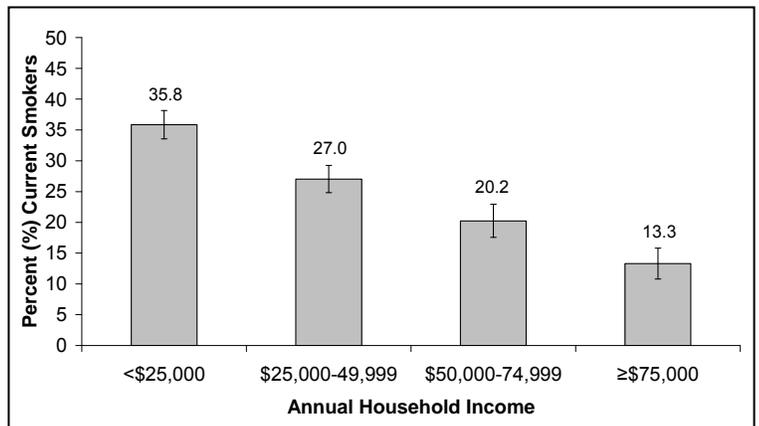
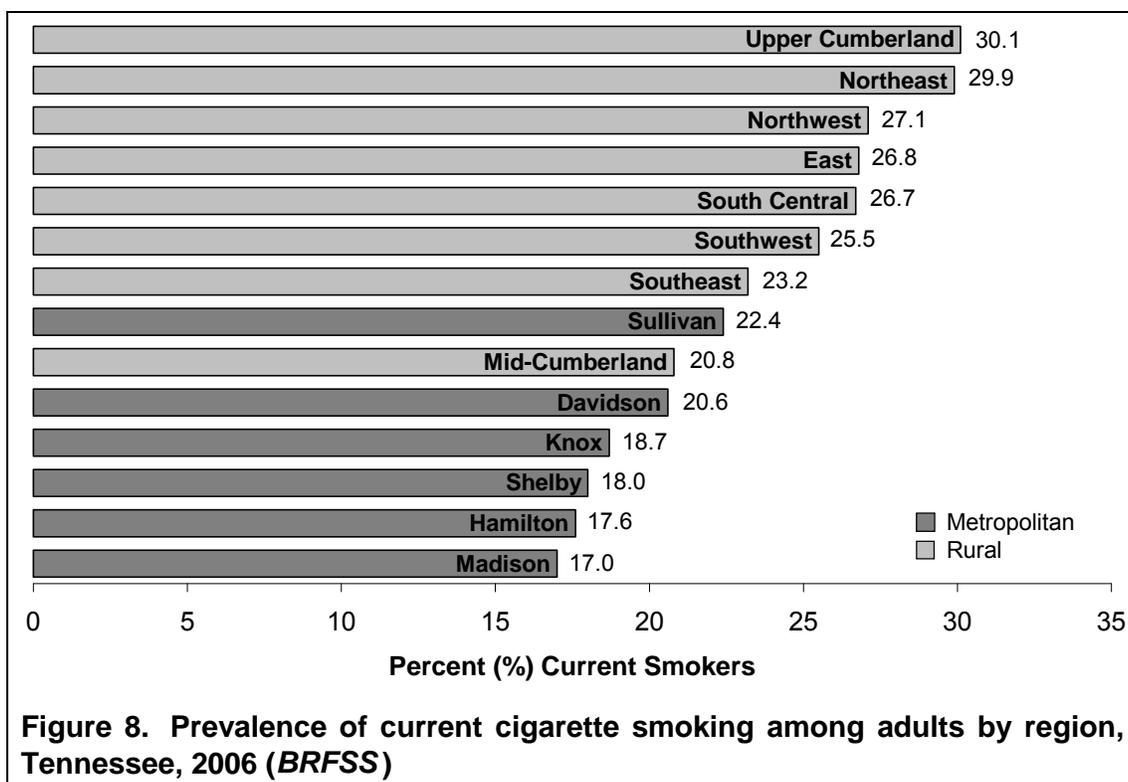
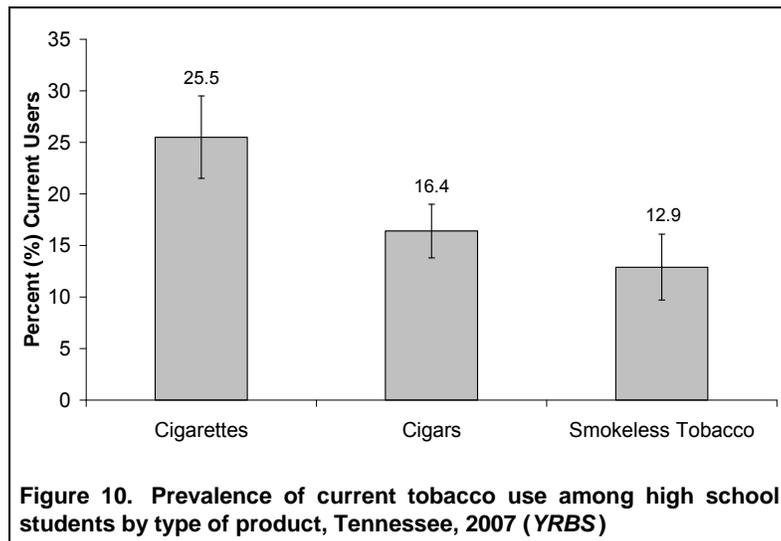
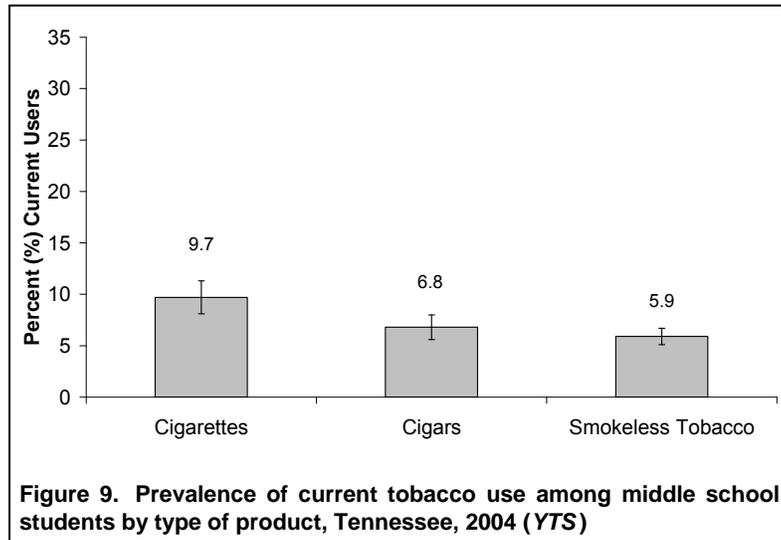


Figure 7. Prevalence of current cigarette smoking among adults by income, Tennessee, 2004-2006 average (BRFSS)

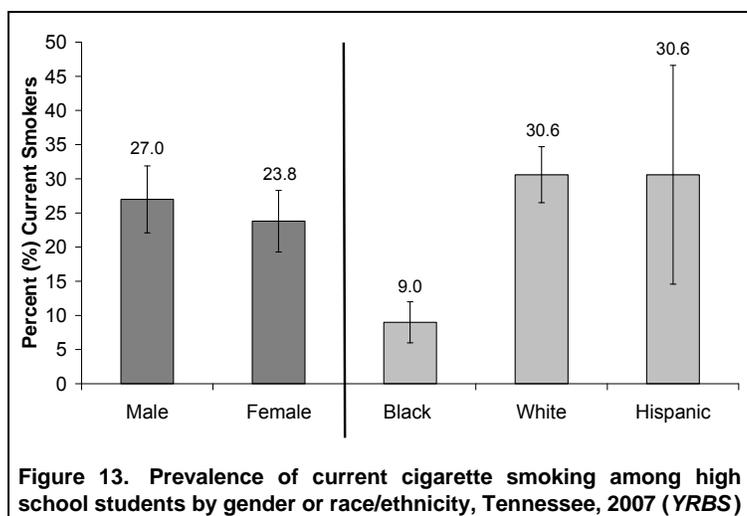
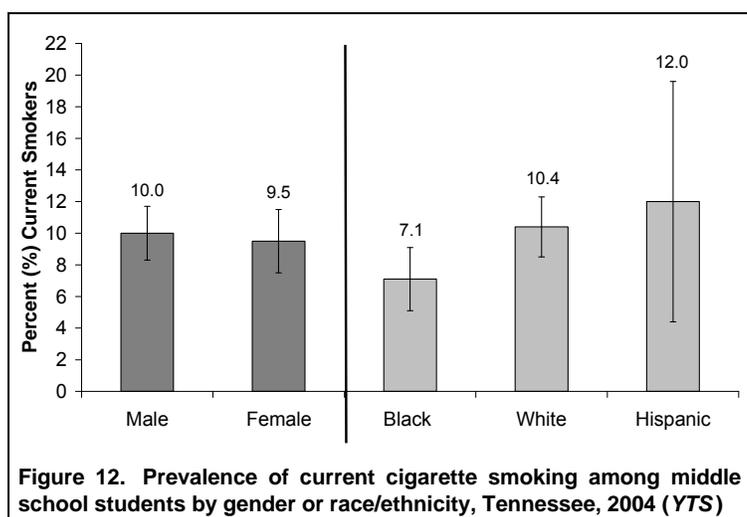
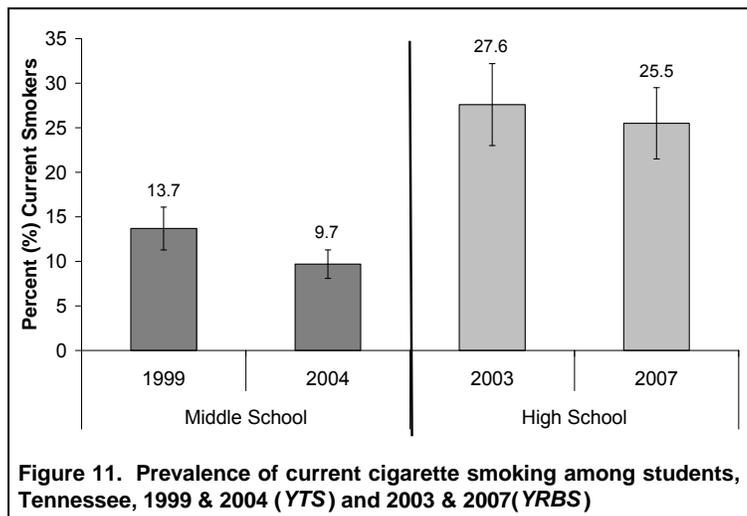


- Among Tennessee’s fourteen health department regions, the prevalence of current cigarette smoking in 2006 ranged from 17.0% in Madison to 30.1% in Upper Cumberland.
- Metropolitan regions tended to have lower smoking prevalence rates compared to rural regions.
- The five lowest prevalence rates were all in metropolitan regions (Madison, Hamilton, Shelby, Knox and Davidson).

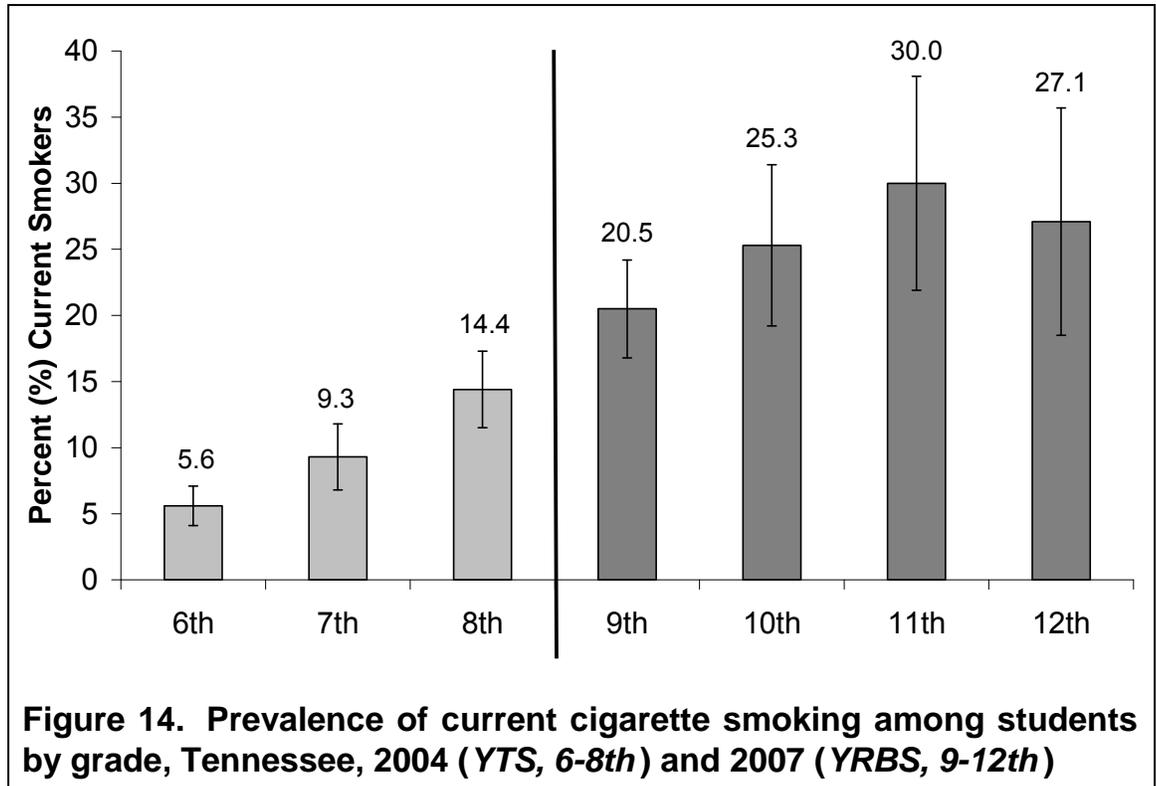
Youth Tobacco Use



- Cigarettes were the most frequently used tobacco product by both middle school and high school students in Tennessee.
- In 2004, 9.7% of middle school students currently used cigarettes, compared to 6.8% who used cigars, cigarillos and/or little cigars and 5.9% who used smokeless tobacco (chew, snuff and/or dip).
- In 2007, 25.5% of high school students currently used cigarettes, compared to 16.4% who used cigars, cigarillos and/or little cigars and 12.9% who used smokeless tobacco (chew, snuff and/or dip).
- Prevalence of all three types of tobacco products among high school students was over twice as high as among middle school students.



- Between 1999 and 2004 there was a statistically significant decrease in the percentage of middle school students who were current cigarette smokers, from 13.7% to 9.7%.
- Between 2003 and 2007, the percentage of high school students who were current cigarette smokers decreased slightly, but the difference was not statistically significant.
- There were no statistically significant gender differences in the prevalence of cigarette smoking among middle school or high school students.
- The prevalence of cigarette smoking was higher among white students compared to black students in both middle school and high school.
- The prevalence of cigarette smoking among white and Hispanic students was similar in both middle school and high school.



- The prevalence of current cigarette smoking increased with increasing grade level, from 5.6% among 6th graders to 27.1% among 12th graders. Although the data from middle school and high school students were from different survey years (2004 and 2007, respectively), it should be noted that there was no statistically significant change in smoking prevalence among high school students between 2003 and 2007.
- In previous YRBS surveys (2001, 2003 and 2005), prevalence of cigarette smoking was always highest among 12th graders. It is unclear why this was not the case in 2007. However, given the wide confidence intervals surrounding the 2007 prevalence estimates, these results should be interpreted with caution.

Smoking during Pregnancy

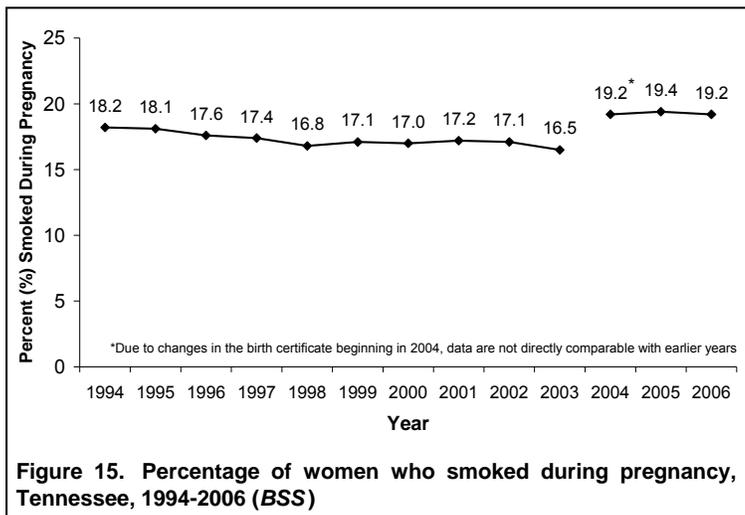


Figure 15. Percentage of women who smoked during pregnancy, Tennessee, 1994-2006 (BSS)

- Based on 2004-2006 BRFSS data, 17.6% [95% CI 7.3-26.1] of pregnant women reported that they were current cigarette smokers.
- Based on 2006 birth certificate data, 19.2% of women giving birth in Tennessee smoked cigarettes during their pregnancies.

- Between 1994 and 2003, the percentage of women who smoked during pregnancy decreased by 9%.
- It is not possible to say if this downward trend continued after 2003. The wording of the smoking questions changed starting with the 2004 birth certificate. Thus, the later data on tobacco use are not directly comparable with earlier years.
- In 2006, the percentage of women who smoked during pregnancy ranged from 5.4% in Williamson County to 46.2% in Hancock County.
- In 62 of Tennessee's 95 counties the percentage of women who smoked during pregnancy was greater than 25%.

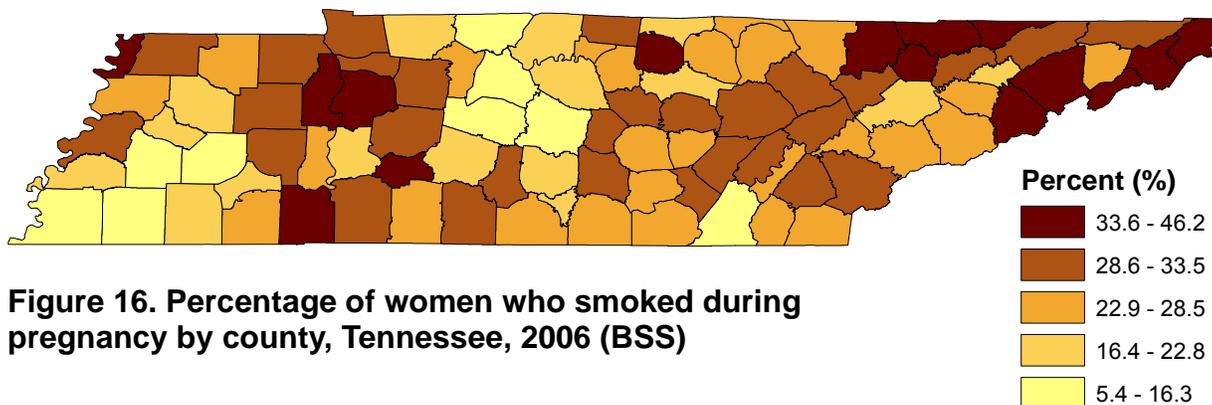


Figure 16. Percentage of women who smoked during pregnancy by county, Tennessee, 2006 (BSS)

Smoking during Pregnancy

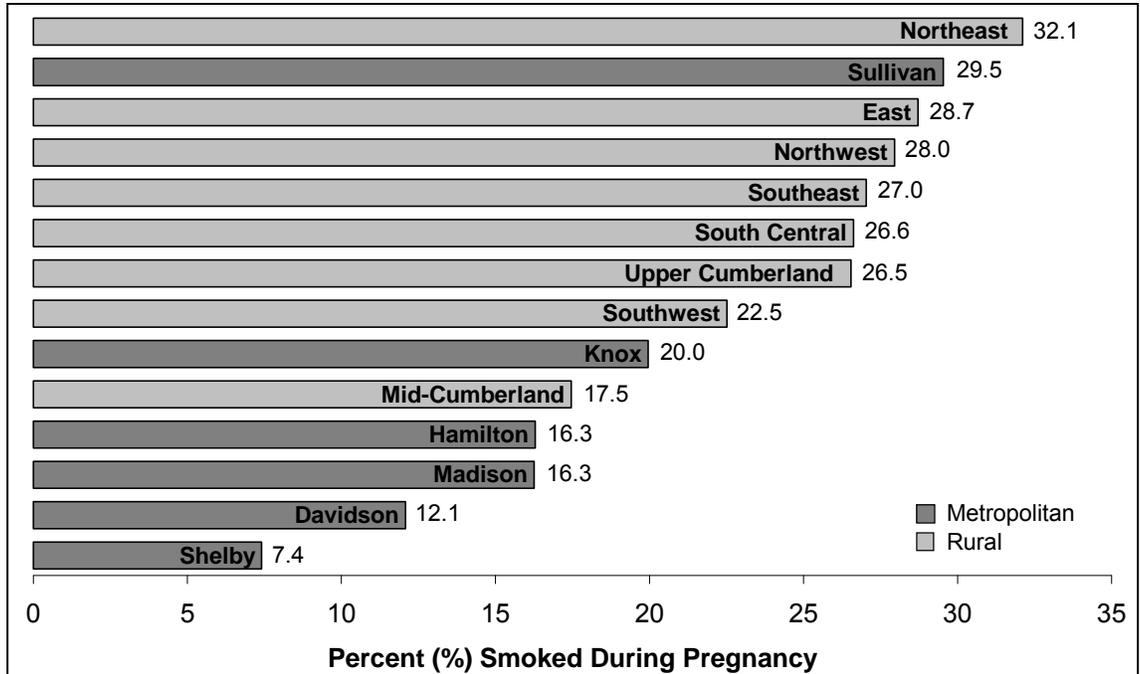
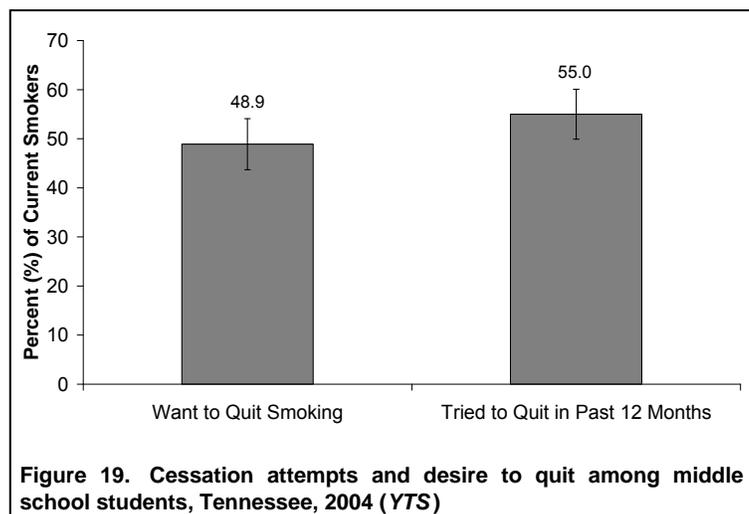
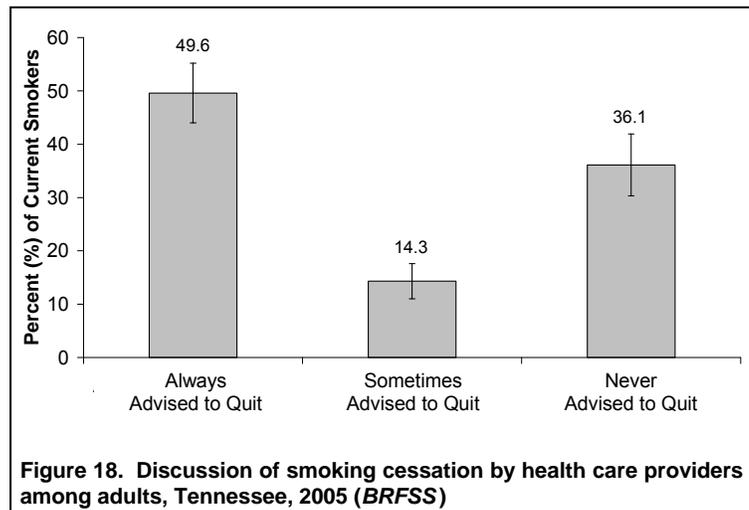


Figure 17. Percentage of women who smoked during pregnancy by region, Tennessee, 2006 (BSS)

- Among Tennessee’s fourteen health department regions, the percentage of women who smoked during pregnancy in 2006 ranged from 7.4% in Shelby to 32.1% in Northeast.
- With the exception of Sullivan, metropolitan regions tended to have lower percentages of women who smoked during pregnancy than did rural regions.
- The four lowest prevalence rates of smoking during pregnancy were all in metropolitan regions (Shelby, Davidson, Madison and Hamilton).
- In 2002, 11.4% of women giving birth in the United States smoked during pregnancy, and among 49 states (California not included), the percentage of women who smoked during pregnancy ranged from 6.3% in Texas to 26.2% in West Virginia. Compared to other states, Tennessee had the 14th highest percentage of women who smoked during pregnancy (tied with Maine at 17.1%).⁸

Tobacco Cessation



- Based on 2004-2006 BRFSS data, 55.0% [95% CI 52.4-57.7] of current adult smokers reported that they stopped smoking for at least one day or longer during the past 12 months because they were trying to quit smoking.
- Among adult smokers who had seen a health care professional in the past 12 months, 49.6% reported being advised to quit at every health care encounter. 14.3% reported being advised to quit at some, but not all, health care encounters and 36.1% reported never being advised to quit.
- Among middle school students who currently smoked cigarettes, 48.9% said they wanted to quit smoking, and 55.0% said they had tried to quit during the past 12 months.
- Among high school students who currently smoked cigarettes in 2007, 50.4% [95% CI 45.3-55.6] said they had tried to quit in the past 12 months.

Summary

Between 1999 and 2004, the prevalence of cigarette smoking among Tennessee middle school students decreased by approximately 30%. This is encouraging given that nearly all first use of tobacco occurs during adolescence.⁹ However, a similar decrease was not observed among high school students or adults. Approximately one-quarter of Tennessee adults (over one million people) currently smoke cigarettes and smoking prevalence among adults has not decreased significantly since 1997. In addition, almost 20% of Tennessee women giving birth reported smoking during their pregnancies. Over 50% of current adult and youth smokers reported attempting to quit during the past 12 months. In other words, over one-half of smokers had been unsuccessful in their past attempts to quit. These findings indicate that continued tobacco control efforts, including measures to help smokers to quit and to stay tobacco free, are needed.

The mission of the Tennessee Tobacco Use Prevention and Control Program is to improve the quality of life for all Tennesseans by preventing and reducing disease, disability, and death caused by tobacco use. The program provides the citizens of Tennessee with information, assistance and community interventions for tobacco use prevention through both community based and statewide programs that seek to prevent people from beginning to use tobacco, encourage people to stop tobacco use, eliminate exposure of non-tobacco users to secondhand smoke and identify and eliminate tobacco related health disparities.

Tennessee is committed to reducing the prevalence of tobacco use in the state. Recent efforts such as the Non-Smokers Protection Act, increased cigarette taxes and increased funding for tobacco control programs, as well as the continued availability of the Tennessee Tobacco QuitLine, are important steps towards reaching this goal. These efforts, as well as the ongoing work of individuals and organizations interested in tobacco control and the health of the people of Tennessee are critical for ensuring fewer lives are adversely affected by tobacco.

Technical Notes

Data Sources

Behavioral Risk Factor Surveillance System (BRFSS): The BRFSS is an annual, CDC-funded, state-administered, random-digit-dialed telephone survey of the U.S. non-institutionalized population, 18 years of age and older, which gathers self-reported data on certain health conditions and behavioral risk factors. For BRFSS data, the terms “white” and “black” refer to persons of non-Hispanic origin only, and the terms “Hispanic” and “non-Hispanic” refer to ethnicity regardless of race. The BRFSS defines current smoking as individuals who have smoked at least 100 cigarettes in their lifetime and who now smoke everyday or some days. Time trends in prevalence rates were analyzed using linear regression and two-way comparisons of prevalence rates (e.g. male vs. female) were tested for significance using a chi-square test. *P*-values of less than 0.05 were considered significant. Unless otherwise indicated, trends and differences noted in the text were statistically significant. Ninety-five percent confidence intervals are provided in the graphs.

Youth Tobacco Survey (YTS): The Tennessee YTS collects self-reported data on tobacco use, attitudes and related behaviors among Tennessee public middle school students (grades 6 through 8). A detailed description of the survey and additional survey results can be found in the *2004 Tennessee Youth Tobacco Survey Summary* (<http://hit.state.tn.us/Reports.aspx>). For YTS data, the terms “white” and “black” refer to persons of non-Hispanic origin, and the term “Hispanic” refers to ethnicity regardless of race. The YTS defines current smoking as having smoked on one or more of the 30 days preceding the survey. Two-way comparisons of prevalence rates (e.g. male vs. female) were tested for statistical significance using a chi-square test. *P*-values of less than 0.05 were considered significant. Unless otherwise indicated differences noted in the text were statistically significant. Ninety-five percent confidence intervals are provided in the graphs.

Youth Risk Behavior Survey (YRBS): The Tennessee YRBS collects self-reported data on tobacco use and other behaviors related to leading causes of morbidity and mortality among Tennessee public high school students (grades 9 through 12). A detailed description of the survey and additional survey results can be found at <http://www.k-12.state.tn.us/yrbs/> and at <http://www.cdc.gov/HealthyYouth/yrbs/index.htm>. For YRBS data, the terms “white” and “black” refer to persons of non-Hispanic origin, and the term “Hispanic” refers to ethnicity regardless of race. The YRBS defines current smoking as having smoked on one or more of the 30 days preceding the survey. Two-way comparisons of prevalence rates (e.g. male vs. female) were tested for statistical significance using a chi-square test. *P*-values of less than 0.05 were considered significant. Unless otherwise indicated differences noted in the text were statistically significant. Ninety-five percent confidence intervals are provided in the graphs.

Birth Statistical System (BSS): The BSS is an annual state-based compilation of birth certificate data. All data are for resident births that occurred in and out of state. Data were collected on the 1989 Revision of the Tennessee version of the U.S. Standard Certificate of Live Birth for 2003 and earlier. Beginning in 2004, data were collected on the 2003 revision of the Tennessee version of the U.S. Standard Certificate of Live Birth. The questions used to obtain mother’s smoking status in 2004 and after were modified from the questions used to gather the same information in 2003 and earlier. Therefore data from these two time periods are not comparable. Time trends in rates were analyzed using linear regression with *p*-values of less than 0.05 considered significant.

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