

Tobacco Use

Definition: Tobacco use includes the intake of tobacco smoke from cigarettes, cigars, and pipes either by the individual smoking or the oral absorption of nicotine and related toxins through smokeless/spit tobacco (chew, dip, or snuff). An adult who has smoked at least 100 cigarettes in his or her lifetime and currently smokes every day or some days is defined as a current smoker. A pregnant woman is classified as a smoker if she smoked at any time during pregnancy. A current youth smoker is an adolescent who has smoked on at least one of the past 30 days.

Summary

Tobacco use is the leading cause of preventable death in the United States. About one in five of all deaths is caused by tobacco use.^{1,2} Cigarette smoking in Washington has declined, but about 17% of Washington adults continue to smoke. Consistent with national patterns, American Indians and Alaska Natives and people with low incomes or less education are more likely to smoke than are other Washingtonians. In 2000, the Washington State Department of Health launched a comprehensive Tobacco Prevention and Control Program to prevent residents from starting to use tobacco, to increase quitting, to reduce exposure to secondhand smoke, and to eliminate tobacco-related disparities. This program includes interventions proven successful in other states, such as a paid media campaign and telephone quit line. In 2005, the voters of Washington State approved one of the most comprehensive indoor smoking laws in the nation.

Washington birth certificates indicate that smoking at any time during pregnancy decreased rapidly from 1990 to 2005. In 2005, 10% of Washington mothers reported smoking during pregnancy. This is similar to the national rate. There are large disparities in rates of smoking during pregnancy related to income. For 2003-2005 combined, 31% of mothers with low incomes smoked during pregnancy. A brief counseling session by a trained health care provider is effective in reducing smoking during pregnancy, but many women who quit during pregnancy begin smoking after pregnancy.³

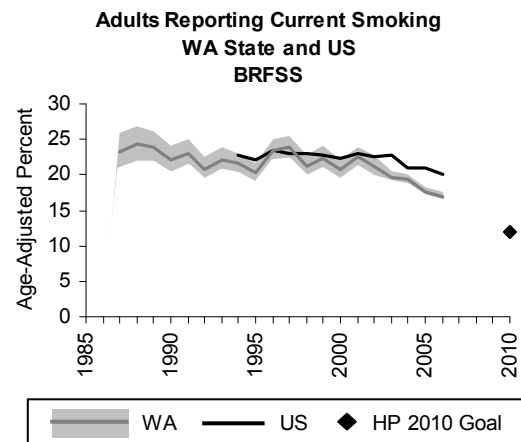
Introduction

Given the importance of tobacco as the leading cause of preventable death, the Washington State Department of Health's major goals for tobacco control are: 1) reduce smoking among adults, 2) prevent smoking initiation among youth, and 3) reduce smoking among pregnant women. The first section of this chapter discusses smoking among adults and youth. The second section focuses on pregnant women.

Adults and Youth

Time Trends

Data from the Behavioral Risk Factor Surveillance System (BRFSS) indicate that the use of cigarettes among Washington adults ages 18 and older remained constant from the late 1980s to 2001. After 2001, the rate of current smoking in Washington decreased significantly, outpacing the national reduction. In 2006, 17.0% ($\pm 0.7\%$) of Washington adults reported current smoking. This is similar to the age-adjusted rate of 16.9 ($\pm 0.8\%$) and significantly lower than the national rate of 20.0% ($\pm 0.3\%$).



Among Washington youth in school, cigarette smoking in the past 30 days increased through the 1990s and peaked in 1998. Subsequently, youth smoking rates decreased rapidly. The Healthy Youth Survey (HYS) shows that in 2006, 15% ($\pm 1\%$) of 10th graders and 20% ($\pm 2\%$) of 12th graders reported current smoking. Declines noted from 1999-2004 seem to be leveling-off. Nationally, the 2005 Youth Risk Behavior Survey found that smoking rates among 10th and 12th graders were higher (21% $\pm 3\%$ and 28% $\pm 4\%$, respectively)⁴ than the rates in Washington.

Year 2010 Goals

National goals. The national *Healthy People 2010* target for adult tobacco use is to reduce current smoking to an age-adjusted prevalence of 12% or less. In 2006, Washington's age-adjusted prevalence of adult smoking was 16.9% ($\pm 0.8\%$). To achieve this *Healthy People 2010* target, Washington needs to increase the rate of decline observed during the past six years.

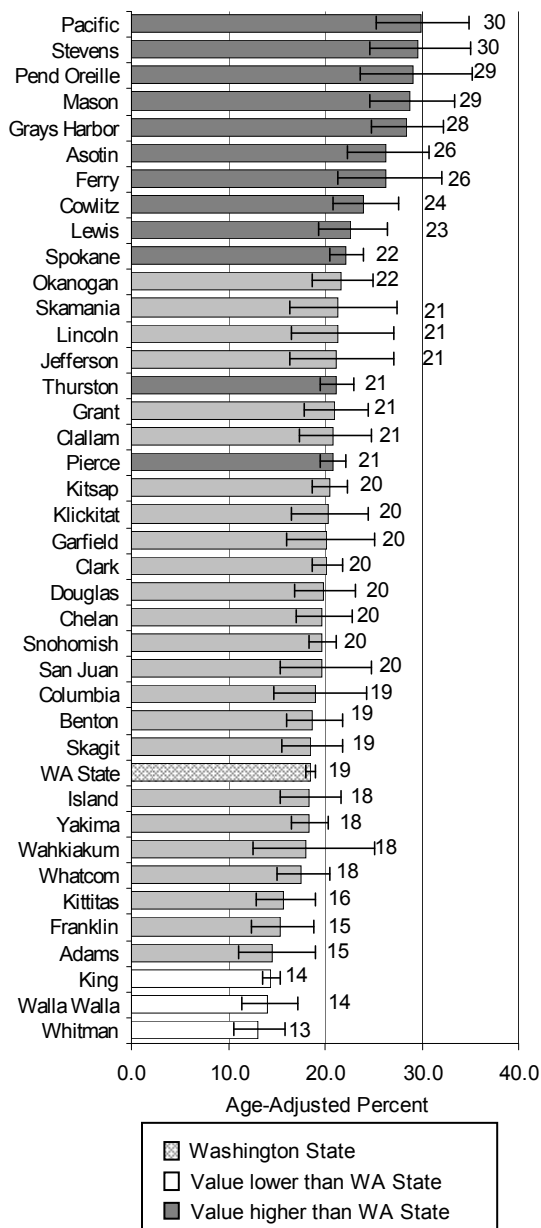
The national target for youth is to reduce current smoking in grades 9-12 to less than 16%. With an estimated 15% (± 1) of Washington youth in these grades reporting current smoking in 2006, Washington has achieved the goal for youth.

Washington State goals. State goals include reducing the proportion of adults who are current smokers to 16.5% or less by 2010 and reducing the proportion 10th grade youth who are current smokers to 10% or less by 2010. The goal for adults is more conservative than the national *Healthy People 2010* goal and is based on the observed success of tobacco control programs in other states. Washington is on track to meet the adult goal, but progress toward the 10th grade youth goal stalled in 2006.

Geographic Variation

County data on current smoking from BRFSS for 2003-2005 combined indicate extensive variation among counties, from an age-adjusted prevalence of about 13% in Whitman County to nearly 30% in Pacific County. Smoking rates are higher in the southwest and northeast regions of the state than in other regions.

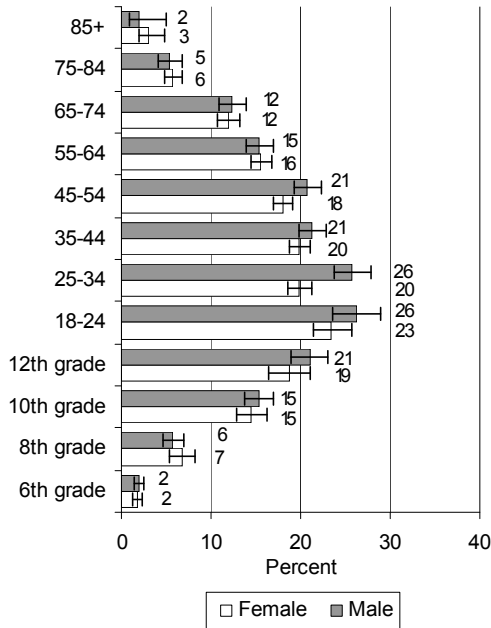
Adult Cigarette Smoking
County Data
WA BRFSS 2003-2005



Age and Gender

Based on the 2004 HYS and the 2003-2005 BRFSS, smoking prevalence increased through age 24 and then generally decreased. The prevalence of current smoking among men ages 25-34 was higher than among women in the same age group, but otherwise, the percent of smokers was similar among men and women.

**Adult Current Cigarette Smoking
Age and Gender
WA BRFSS 2003-2005, HYS 2006**

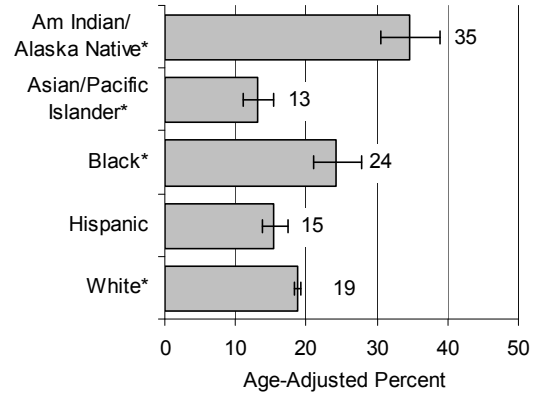


Race and Hispanic Origin

Age-adjusted BRFSS data from 2003-2005 combined indicated that in Washington, American Indians and Alaska Natives had the highest prevalence of cigarette smoking, followed by blacks, then whites. People of Hispanic origin and Asians and Pacific Islanders had the lowest rates. Some of these differences were due to variations in income and education. For example, after accounting for income, education, gender, and age, smoking rates among blacks and whites were similar. Similar findings have been documented nationally.⁵

In addition, the low prevalence of current smoking among Asians and Pacific Islanders can be misleading. There are significant cultural differences in tobacco use among subpopulations within this group, and there are significant gender differences in tobacco use as well. The low overall group prevalence masks high rates of tobacco use among men within specific subgroups. One study in King County found that the prevalence of smoking among Korean and Vietnamese men was about 30%, while smoking among women in these populations was about 4%.⁶

**Adult Current Cigarette Smoking
Race and Hispanic Origin
WA BRFSS 2003-2005**



* Non-Hispanic

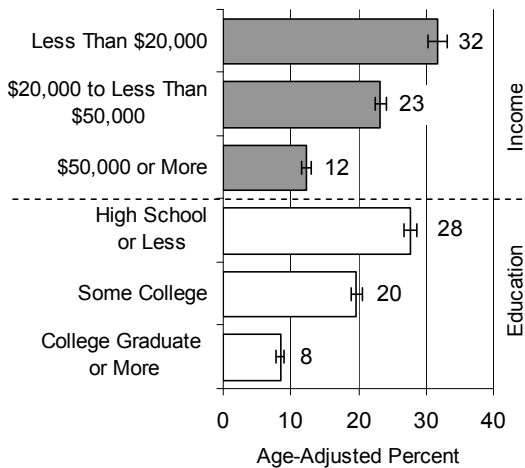
Consistent with adult data, the 2006 HYS indicates that the prevalence of youth smoking is highest among American Indian and Alaska Native youth. Unlike the adult smoking patterns, however, smoking rates are similar among youth of other races and youth of Hispanic origin. For example, among 10th graders, the smoking prevalence was 23% (±4%) for American Indian and Alaska Native, 15% (±2%) for white, 16% (±4%) for black, 13% (±4%) for those of Hispanic origin, and 9% (±3%) for Asian and Pacific Islander youth.

Income and Education

Age-adjusted BRFSS data from 2003-2005 indicated that increasing levels of education and household income were strongly associated with decreases in prevalence of current cigarette smoking. Numerous national studies have documented this relationship and also found higher quitting rates among those with higher levels of education.^{7,8,9}

Washington data describing the relationship of income and education to youth smoking are not currently available.

**Adult Current Cigarette Smoking
Annual Household Income and Education
WA BRFSS 2003-2005**



Health Effects

Cigarette smoking causes heart disease, several kinds of cancer (lung, larynx, esophagus, pharynx, mouth, and bladder), and chronic lung disease. Smoking also contributes to cancers of the pancreas, kidney, cervix, mouth, and throat.¹⁰ As a direct result of tobacco use, more than 400,000 people die annually in the United States and about 8,000 people die in Washington.¹¹ Other tobacco products, such as smokeless tobacco, cigars, pipe tobacco, and novelty tobacco products, such as clove cigarettes (kreteks) and bidis, also pose serious health risks and are not safe alternatives to cigarettes.

Immediate health consequences for youth who use tobacco include impaired lung growth and function, increased respiratory illness, and poorer overall health. Early initiation of smoking has also been associated with increased risk of subsequent drug use and might be a marker for underlying mental health problems, such as depression.¹²

Nationally, exposure to secondhand smoke contributes to the deaths of about 38,000 nonsmokers from heart disease and lung cancer each year. Children exposed to secondhand smoke are at increased risk for SIDS, acute respiratory infections, ear problems, and severe asthma. Parental smoking causes respiratory symptoms and impairs lung growth in their children.¹³

Barriers and Motivations

In the 2005 BRFSS, about half of current smokers in Washington reported making a serious attempt to quit during the past year, and nearly 80% of all current smokers said they wanted to quit.

Youth are at increased risk for initiation of tobacco use because of complex social, environmental, and personal factors. Social and environmental factors include availability of tobacco products, tobacco industry promotion practices, the price of tobacco products, perceptions that tobacco use is normal, peers' and siblings' use and approval, and lack of parental involvement. Personal risk factors include low self-image and low self-esteem, the belief that tobacco use provides some benefit, and a lack of skills to refuse offers of tobacco.¹²

Promotional efforts of the tobacco industry pose significant barriers to efforts to reduce tobacco use. National marketing expenditures by the tobacco industry increased 125% to \$15.2 billion from 1998 to 2003.^{14,15}

Other Measures of Impact and Burden

Smokeless tobacco. In the 2005 BRFSS, 3% ($\pm 1\%$) of Washington adults reported using smokeless tobacco in the past month. Among adult men ages 18 and older, the prevalence of smokeless tobacco use was 5% ($\pm 1\%$), while among women, the prevalence of smokeless tobacco use was less than 1%. On the 2006 HYS, 10% ($\pm 2\%$) of boys in 10th grade and 15% ($\pm 3\%$) in 12th grade reported using smokeless tobacco in the past 30 days.

Cigars. In the 2005 BRFSS, 6% ($\pm 1\%$) of all Washingtonians ages 18 and older reported smoking cigars in the past month. HYS data indicated that the prevalence of youth cigar smoking in 2006 was 17% ($\pm 2\%$) among 10th graders and 24% ($\pm 3\%$) among 12th graders.

High Risk Populations

Lower income and education levels are important risk factors for tobacco use. In addition, American Indians and Alaska Natives and men from several specific ethnic and cultural backgrounds are more likely to smoke than other individuals. For example, data from several studies show that Korean and Vietnamese men who are less acculturated to U.S. society have smoking rates of 30% or higher.^{16,17,18} In these studies, the relationship between smoking and acculturation remained after accounting for education¹⁸ or education and income.^{16,17}

Washington adults with disabilities also have higher rates of tobacco use, about 23% compared to 17%.¹⁹ Youth are at high risk for initiating tobacco use. Among adults who currently smoke in Washington, the average age of smoking initiation was about 15, and about three-fourths began smoking while younger than 18.²⁰

Intervention Strategies

The Washington State Department of Health launched a statewide comprehensive tobacco prevention and control program in 2000, using funding from the national Master Settlement Agreement between states and the tobacco industry. The program was based on best practices from other states²¹ and advice of a statewide tobacco council. Research regarding interventions for tobacco prevention and control support the program's design.^{22,23,23}

Cessation programs. A multi-component telephone counseling service has been effective in helping adult tobacco users to quit, significantly improving their success rate compared to quitting without this support.²² Training health care providers to give smokers strong messages to quit, to refer smokers to other services such as quit lines, and to establish provider reminder systems is also an effective strategy to reduce smoking.²²

Public education and awareness. Media campaigns targeted to high-risk youth can reduce smoking initiation among youth.²² Successful campaigns contain carefully developed themes that resonate with target audiences. Mass media strategies and targeted education and awareness campaigns using print and other media are also effective in reducing tobacco use among those who already smoke.²²

Community-based programs. The U.S. Centers for Disease Control and Prevention recommends community-based programs as an important element of comprehensive state tobacco prevention and control programs.²¹ Implementing smoking bans and restrictions and increasing taxes on cigarettes have been successful in reducing tobacco use.²²

School-based programs. Comprehensive school-based tobacco prevention programs that include curriculum, policy, staff training, coordination with community programs, intervention services for youth, and parent

involvement have been successful in reducing rates of smoking among youth.²⁴

Pregnant Women

Time Trends

Data from Washington birth certificates indicate that smoking at any time during pregnancy decreased rapidly from 1990 to 2005. In 2005, 10% of Washington mothers reported smoking during pregnancy, similar to the most recent national rate of 10% in 2004.²⁵

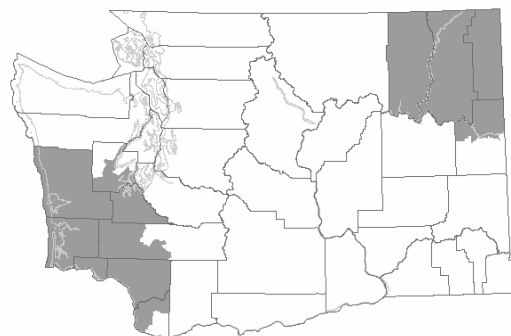
Year 2010 Goals

National goals. *Healthy People 2010* includes a goal of increasing smoking cessation among pregnant women to 30%. Based on birth certificate data for 2005, 19% of Washington women who reported smoking before pregnancy also reported that they did not smoke in the first trimester, possibly indicating early cessation. The birth certificate does not ask specifically about quitting smoking, however. Thus, the Washington measure might not be useful in assessing progress toward the national goal.

Washington State goals. State goals for tobacco control include reducing the proportion of mothers who smoke during pregnancy so that the 2010 birth certificates show a prevalence of 8% or less. Washington is on track to meet this goal.

Geographic Variation

Smoking During Pregnancy
2001-2005
Washington State Birth Certificate



Shading shows areas with high relative risk for smoking during pregnancy.

Birth certificate data from 2001-2005 indicated that smoking rates among pregnant mothers were about two times higher in the northeastern and southwestern regions of Washington compared to the rest of the state. This pattern is similar to

regional variation in all adult smoking and is consistent with more smoking among people with less formal education and lower incomes. Most of the counties included in these regions have relatively low median household incomes and relatively small proportions of college graduates.

Age

Birth certificate data from 2003-2005 indicate that the prevalence of smoking during pregnancy is highest among young mothers. Nineteen percent of mothers younger than 20 smoked during pregnancy, as had 17% of mothers ages 20-24. In contrast, less than 6% of mothers 30 years and older smoked during pregnancy.

The overall pattern of a marked decrease in smoking during pregnancy with increasing age does not hold for everyone. Among American Indians and Alaska Natives, younger mothers are only slightly more likely to smoke than older mothers. Younger low-income mothers on Medicaid are not more likely to smoke than older mothers, except for Asian and Pacific Islander mothers. Women who receive cash assistance in addition to Medicaid have very high smoking rates that also do not vary by age. These women have very low family incomes, generally below 50% of the federal poverty level.

Race and Hispanic Origin

Birth certificate data from 2003-2005 indicate that smoking during pregnancy is highest among American Indians and Alaska Natives (22%), followed by whites (13%) and blacks (10%). Smoking during pregnancy is lowest among Asians and Pacific Islanders (3%) and women of Hispanic origin (3%). Some of these differences appear to be related to socioeconomic position. For example, among Washington mothers who receive Medicaid and cash assistance, whites have the highest levels of smoking. Among mothers who receive Medicaid but no cash assistance, rates of smoking are similar among whites and American Indians and Alaska Natives.

Income

Washington State data show the same association for smoking and income among pregnant women as observed among all adults when Medicaid coverage is used as a proxy for income. In 2003-2005, 31% of low-income mothers receiving Medicaid and cash assistance

smoked during pregnancy. Among mothers who received Medicaid but no cash assistance, 15% smoked. These women have family incomes below 185% of the federal poverty level. Only 4% of mothers who did not receive Medicaid smoked during pregnancy. The pattern is different for low-income, non-citizens who had Medicaid-paid deliveries. These women are predominantly of Hispanic origin and often have family incomes less than women receiving cash assistance. Only 1% of these women smoked during pregnancy.

Health Effects

Smoking during pregnancy is associated with miscarriages, premature births, low birthweight, and sudden infant death syndrome (SIDS).^{10,26}

Intervention Strategies

Pregnant women can be especially motivated to quit.²⁷ A brief counseling session by an appropriately trained health care provider has been shown to be effective.³ But data have also shown that 70% of women who quit smoking during pregnancy relapse in the first year after pregnancy. While several interventions have attempted to address the high rate of smoking relapse, no interventions have consistently shown success.^{28,29}

See Related Chapters: [Indoor Air Quality](#), [Coronary Heart Disease](#), [Lung Cancer](#), [Dental X-ray and Mammography Safety](#), [Infant Mortality](#), [Singleton Low Birth Weight](#), [People with Disabilities](#), and [Asthma](#)

Data Sources (For additional detail, see [Appendix B](#) .)

Washington State Behavioral Risk Factor Surveillance System (BRFSS) Data: 1987-2006, 2003-2006 data weighted to reflect county over-samples. November 2006 & June 2007.

United States Behavioral Risk Factor Surveillance System Data: 1994-2005, downloaded from http://www.cdc.gov/brfss/technical_infodata/surveydata.htm, August 2006

Washington State Birth Certificate Data: Washington State Department of Health, Vital Registration System Annual Statistical Files, Births 1980-2005, released December 2006

Washington Healthy Youth Survey: Office of Superintendent of Public Instruction, Washington State Departments of Health, Social and Health Services, and Community, Trade, and Economic Development, and the Family Policy Council, 2002, 2004, 2006.

For More Information

Washington State Department of Health, Tobacco Prevention and Control Program,
<http://www.doh.wa.gov/tobacco/> (360) 236-3665

U.S. Centers for Disease Control and Prevention, Office on Smoking and Health,
<http://www.cdc.gov/tobacco/>

The Guide to Community Preventive Services: a comprehensive review of published community-based interventions to reduce tobacco use,
<http://www.thecommunityguide.org/tobacco/default.htm>

U.S. Centers for Disease Control and Prevention, State Tobacco Activities Tracking and Evaluation System,
http://www.cdc.gov/tobacco/tobacco_control_programs/stateandcommunity/index.htm

Endnotes

¹ U.S. Centers for Disease Control and Prevention. (2002, April 12). Annual smoking-attributable mortality, years of potential life lost, and economic costs—United States, 1995–1999. *Morbidity & Mortality Weekly Report*, 51(14), 300-303.

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¹⁰ U.S. Department of Health and Human Services. (2004). *The Health Consequences of Smoking: A Report of the Surgeon General*. Atlanta, GA.

¹¹ Washington State Department of Health, Office of Community Wellness and Prevention. (2000). *Tobacco and Health in*

Washington State: County Profiles of Tobacco Use (DOH Publication No. 345-150). Olympia, WA.

¹² U.S. Department of Health and Human Services. (1994). *Preventing Tobacco Use Among Young People: A Report of the Surgeon General*. Atlanta, GA.

¹³ U.S. Department of Health and Human Services. (2006). *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. Atlanta, GA.

¹⁴ Federal Trade Commission. (1999). *Cigarette Report for 1999*. Washington, DC.

¹⁵ Federal Trade Commission. (2003). *Cigarette Report for 2003*. Washington, DC.

¹⁶ Tang, H., Shimizu, R., & Chen, M.S., Jr. (2005, December 15). English language proficiency and smoking prevalence among California's Asian Americans. *Cancer*, 104(Suppl. 12), 2982-2988.

¹⁷ Rahman, M. M., Luong, N. T., Divan, H. A., Jessor, C., Golz, S. D., Thirumalai, K., et al. (2005, February). Prevalence and predictors of smoking behavior among Vietnamese men living in California. *Nicotine Tobacco Research*, 7(1), 103-109.

¹⁸ Hofstetter, C. R., Hovell, M. F., Lee, J., Zakarian, J., Park, H., Paik, H. Y., & Irvin, V. (2004, June). Tobacco use and acculturation among Californians of Korean descent: a behavioral epidemiological analysis. *Nicotine Tobacco Research*, 6(3), 481-489.

¹⁹ Washington State Department of Health, Office of Community Wellness and Prevention. (2007). *Adult Smoking Rates in Washington: A Report on Current Disparities* (DOH Publication No. 345-309). Olympia, WA.

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