Tobacco Use

Definition: Tobacco use includes the intake of tobacco smoke from cigarettes, cigars, pipes, and hookahs either by the individual smoking or the oral absorption of nicotine and related toxins through smokeless/spit tobacco (chew, dip, snus, 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 in the three months prior to pregnancy. A current youth smoker is an adolescent who has smoked on at least one of the past 30 days.

Summary

Tobacco use is a leading cause of preventable death in the United States, with about one in five deaths caused by tobacco use.^{1,2} Cigarette smoking in Washington has declined, but about 15% 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. The Centers for Disease Control and Prevention recommends statewide comprehensive implementation of multiple evidence-based strategies that focus on cessation, public education and awareness, and community and school-based programs. Due to recent cuts in funding, many of these approaches are no longer being implemented in Washington.

Pregnancy provides a unique opportunity to promote smoking cessation. About 20% (±2%) of new mothers in 2006–2008 reported smoking just before pregnancy. While half of these women quit by the end of pregnancy, one-third of them relapsed shortly after delivery. Large disparities in smoking before pregnancy are similar to those for all adult smoking. A brief counseling session by a trained healthcare provider is effective in reducing smoking during pregnancy, but relapse prevention strategies have limited success.

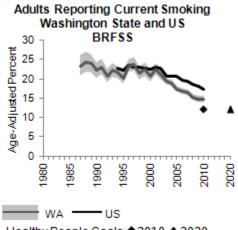
Introduction

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

Adults and Youth

<u> Time Trends</u>

Data from the <u>Behavioral Risk Factor Surveillance</u> <u>System (BRFSS)</u> indicate that smoking among Washington adults ages 18 and older remained stable from the late 1980s to 2001. After 2001, the rate of current smoking in Washington decreased sharply, outpacing the national decline. In 2010, 15% (\pm 1%) of Washington adults reported current smoking. This is similar to the <u>age-adjusted</u> rate of 15% (\pm 1%) and significantly lower than the national rate of 17% (\pm <1%).



Healthy People Goals: ♦2010 ▲2020

Among Washington youth, 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 2010, 13% (\pm 2%) of 10th graders and 20% (\pm 2%) of 12th graders reported current smoking. Declines noted from 1999 to 2004 seem to be leveling off. Nationally, the 2009 Youth Risk Behavior Survey found that smoking rates among 10th and 12th graders were higher (18% \pm 3% and 25% \pm 3%, respectively)³ than the rates in Washington.

2010 and 2020 Goals

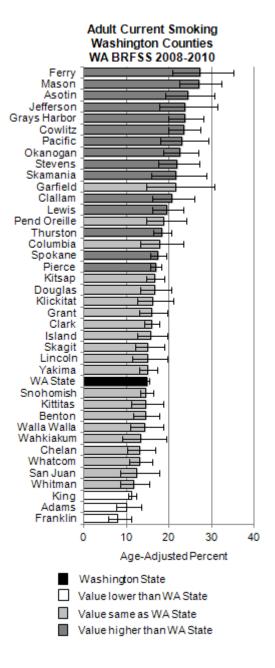
National goals. The national *Healthy People* 2010 target for adult tobacco use was to reduce current smoking to an age-adjusted prevalence of 12% or less. With a 2010 age-adjusted prevalence of 15% (\pm 1%), Washington did not achieve this target. The *Healthy People 2020* target for adult tobacco use is the same as the 2010 target.

The national target for youth in 2020 is the same as the 2010 target to reduce current smoking in grades 9–12 to less than 16%. With an estimated 14% (\pm 1%) of Washington youth in these grades reporting current smoking in 2010, Washington has achieved the goal for youth.

Washington State goals. State goals include reducing the proportion of adults who are current smokers to 14% or less by 2013 and reducing the proportion of 10th grade youth who are current smokers to 10% or less by 2013. The goals for adults and youth are based on a fiveyear program strategic plan for 2009–2013. Washington is on track to meet the adult goal, but progress toward the 10th grade goal has not been made.

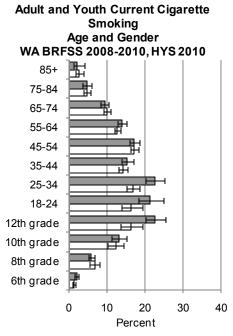
Geographic Variation

County data on current smoking from BRFSS for 2008–2010 combined indicate extensive variation among counties, from an age-adjusted prevalence of about 8% (\pm 3%) in Franklin County to 27% (\pm 7%) in Ferry County. Smoking rates are higher in the southwest and northeast areas of the state than in other areas. This is consistent with some counties in these areas having high levels of poverty or low proportions of the population with college degrees.



Age and Gender

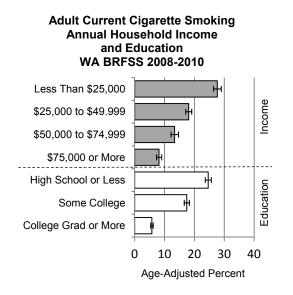
Based on the 2010 HYS and the 2008–2010 BRFSS, smoking prevalence peaked from late adolescence through age 34. The prevalence of current smoking among males in 12th grade and males ages 18–34 was higher than among females in the same age groups. Otherwise, the percentage of smokers was similar among males and females.



■Male □Female

Economic Factors and Education

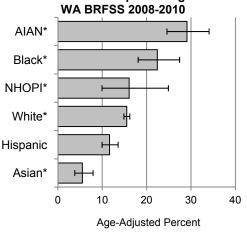
Age-adjusted BRFSS data for 2008–2010 showed that the prevalence of current smoking decreased as levels of education and household income increased. Numerous studies have documented this relationship and also found higher quitting rates among those with higher levels of education.^{4,5,6,7}



Race and Hispanic Origin

Based on age-adjusted BRFSS data for 2008–2010 combined, higher proportions of American Indians and Alaska Natives and blacks reported smoking cigarettes than did whites, Hispanics and Asians. Smoking rates for Asians were lower than rates for all other groups. 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. Comparable findings have been documented nationally.^{8,9}

Lower smoking prevalence among Washington's Hispanic residents is due to very low smoking rates among Latina women who answer BRFSS in Spanish. In 2010, only 1% (\pm <1%) of these women reported smoking. The percentages of smoking among Latino men irrespective of language and Latina women who answered BRFSS in English were the same as in the state as a whole. The higher percentages of smokers among Latinas who are more proficient in English is well documented and attributed to more smoking among Latinas who are more acculturated.^{10,11,12,13,14}



Adult Current Cigarette Smoking

Race and Hispanic Origin

* Non-Hispanic

AIAN: American Indian/Alaska Native NHOPI: Native Hawaiian/Other Pacific Islander

The low prevalence of current smoking among Asians can be misleading due to significant cultural differences in tobacco use among subpopulations within this group, as well as significant gender differences. For example, the low overall group prevalence masks high rates of tobacco use among Korean and Vietnamese men. Based on 2003–2010 BRFSS data, 22% (\pm 10%) Korean and Vietnamese men reported smoking compared to 6% (\pm 3%) for women. Based on the HYS, patterns among youth are similar to those of adults: American Indian and Alaska Native and black youth are most likely to report and Asian youth are least likely to report smoking. Large margins of error, however, make it difficult to determine whether the percent of black youth who report smoking differs from that of most other groups. For example, among 10th graders, the smoking prevalence was 21% (\pm 7%) for American Indian and Alaska Native, 18% (\pm 6%) for black, 12% (\pm 5%) for Native Hawaiian and other Pacific Islander, 12% (\pm 2%) for white, 12% (\pm 3%) for Hispanic, and 5% (\pm 2%) for Asian youth.

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.¹⁵ As a direct result of tobacco use, more than 440,000 people die annually in the United States and about 8,000 people die in Washington.¹⁶ Other tobacco products also pose serious health risks and are not safe alternatives to cigarettes. These products include smokeless tobacco, cigars, pipe tobacco and novelty tobacco products, such as clove cigarettes (kreteks), hookah (flavored tobacco smoked in a water pipe) and bidis (flavored Indian cigarette).

Health impacts 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.¹⁷

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 sudden infant death syndrome (SIDS), acute respiratory infections, ear problems and severe asthma. Parental smoking causes respiratory symptoms and impairs lung growth in their children.¹⁸

Barriers and Motivations for Change

In the 2010 BRFSS, nearly 60% of current smokers in Washington reported making a serious attempt to quit during the past year, and about 70% of all current smokers said they wanted to quit.

Youth are at increased risk for starting 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, peer use of marijuana and other drugs,¹⁹ and lack of parental involvement. Personal risk factors include low selfimage and low self-esteem, the belief that tobacco use provides some benefit, and a lack of skills to refuse offers of tobacco.¹⁷

Promotional efforts of the tobacco industry pose significant barriers to reducing tobacco use. National marketing expenditures by the tobacco industry were \$10.5 billion in 2008, compared to \$551 million spent on tobacco control in the same year.^{20,21}

Other Measures of Impact and Burden

Smokeless tobacco. In the 2010 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 6% (\pm 1%), while among women it was less than 1%. On the 2010 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 2010 BRFSS, 5% (\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 2010 was 9% (\pm 1%) among 10th graders and 17% (\pm 3%) among 12th graders.

Hookah and other flavored tobacco. Only youth data are available for the use of hookah and other flavored tobaccos. In the 2008 HYS, 10% (\pm 1%) of 10th graders smoked tobacco from a hookah. In 2010 HYS, 11% (\pm 1%) of 10th graders reported using some type of tobacco made to taste like candy, fruit or alcohol.

Secondhand smoke. In the 2010 BRFSS, 7% $(\pm 1\%)$ of all Washingtonians ages 18 and older reported smoking occurring in their home in the past 30 days. This is a drop from 10% $(\pm 1\%)$ in 2005. More data on secondhand smoke exposure among adults and youth are discussed in the chapter, Indoor Air Quality.

High-Risk Populations

Several groups are at high risk for tobacco use in addition to those with lower incomes and lower levels of formal education, and those from specific racial groups discussed previously. Several studies show that Korean and Vietnamese men who are less acculturated to U.S. society have smoking rates of 30% or higher.^{22,23,24} In these studies, the relationship between smoking and acculturation remained after accounting for education or education together with income.

Increasing evidence indicates smoking rates are high among sexual minorities.^{25,26,27} In Washington, 2008–2010 BRFSS data show the smoking rates among gay or bisexual men and lesbian or bisexual women were 28% (\pm 6%) and 26% (\pm 5%) respectively.

Washington 2008–2010 BRFSS data indicate adults with disabilities also have higher rates of tobacco use, about 21% (\pm 1%) compared to 13% (\pm 1%).

Those using other substances are also more likely to use tobacco. In Washington, more than two-thirds of adults enrolled in chemical dependency treatment also smoke.²⁸

Youth are at high risk for initiating tobacco use. Among adults who smoke, 80% started when they were younger than 18.^{17,29}

Intervention Strategies

The Washington State Department of Health implemented a statewide comprehensive tobacco prevention and control program from 2000 to 2011. The program was funded from a portion of a cigarette tax, tobacco retailer licensing fees and a portion of the national Master Settlement Agreement between states and the tobacco industry. The program was based on best practices from the Centers for Disease Control and Prevention (CDC)³⁰ and advice of a program design and evaluation advisory group. Research regarding interventions for tobacco prevention and control supported the program's design. Due to budget cuts in 2011, the department currently implements a limited program focused on preventing secondhand smoke exposure and some cessation interventions including a tobacco guit line. A comprehensive listing of evidenced-based and best practices follows.

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.^{31,32,33} Training healthcare 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.³⁴ Smoking rates are especially high among people seeking substance abuse or mental health counseling. Having tobacco-free clinics and making sure every client is screened for tobacco use and offered cessation services can be an effective way to help people quit.³⁵

Public education and awareness. Media campaigns targeted to high-risk youth can reduce smoking initiation among youth. 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.³⁰ When funding is not available to purchase advertising, news stories and articles in trade journals can be used to publicize health messages and galvanize public perception on tobacco's health impacts.^{30,36,37}

Community-based programs. The CDC recommends community-based programs as an important element of comprehensive state tobacco prevention and control programs. Programs that engage community partners and stakeholders to propose, implement and enforce tobacco-free environments and that increase tobacco taxes produce long-lasting changes in social norms with the greatest population impact.^{38,39,40,41,42}

School-based programs. Comprehensive schoolbased tobacco prevention programs that include curriculum, policy, staff training, coordination with community programs, intervention services for youth, and parent involvement have shown some short-term success in reducing rates of smoking among youth.^{43,44} These programs result in larger and sustained impact when combined with mass media campaigns, family programs, and state and community programs.¹⁷

Pregnant Women

Smoking during pregnancy can impact fetal development and growth.⁴⁵ Because women are often unaware that they are pregnant for several weeks, measurement has focused on smoking in the three months before pregnancy. In addition,

pregnancy provides a unique opportunity to promote smoking cessation. Most women have multiple healthcare visits for prenatal care and are concerned about providing a safe and healthy environment for their child. For 2006-2008 combined, $20\% (\pm 2\%)$ of new mothers reported they smoked in the three months before pregnancy, according to Washington data from the Pregnancy Risk Assessment Monitoring System (PRAMS). PRAMS data from 2006–2008 showed that about half of women smokers guit during pregnancy, but over a third of those who guit begin smoking again. Percentages of Washington women smoking in the three months before pregnancy, during pregnancy, and after delivery are somewhat lower than the most recently reported PRAMS data for 2005 from 26 states combined. Complete national data are not available for comparison.46

Time Trends

PRAMS data show that rates of smoking before and after pregnancy decreased moderately from 1996 to 2008. In contrast, smoking rates during pregnancy did not change. In 2009, the PRAMS tobacco questions changed and the new data are not comparable to earlier years.

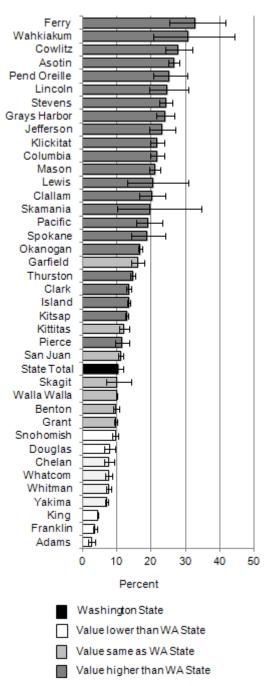
2010 and 2020 Goals

National goals. *Healthy People 2010* and *Healthy People 2020* include a goal of increasing smoking cessation among pregnant women to 30%. With 2006–2008 PRAMS data showing about half of Washington women who smoked before pregnancy quitting during pregnancy, Washington has achieved this goal.

Geographic Variation

PRAMS does not provide rates by county, but birth certificate data from 2006–2008 indicated that smoking rates among pregnant mothers were higher in the northeastern and southwestern areas of Washington compared to the rest of the state. Rates of smoking during pregnancy vary tenfold across counties, from $3\% (\pm 1\%)$ in Adams County to $33\% (\pm 9\%)$ in Ferry County.

Smoking in Pregnancy by County Washington Birth Certificate Data 2006-2008



Age

PRAMS data for 2006–2008 combined indicate that rates of smoking before and during pregnancy are highest among young mothers. Thirty-five percent $(\pm 7\%)$ of mothers younger than 20 smoked in the three months before pregnancy, as had 31% $(\pm 4\%)$ of mothers ages 20–24. In contrast, 9% $(\pm 4\%)$ of

mothers 35 years or older smoked during the three months before pregnancy.

The overall pattern of a marked decrease in smoking during pregnancy with increasing age does not hold for all groups. Among American Indians and Alaska Natives, as well as among Native Hawaiians and other Pacific Islanders, rates of smoking before pregnancy do not differ by age. 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.

Economic Factors

When Medicaid coverage is used as an indicator of income, Washington State data show the same association for smoking and income among pregnant women as observed among all adults. PRAMS data for 2006-2008 combined show 52% (±6%) of low-income mothers receiving Medicaid and cash assistance smoked before pregnancy. Among low-income mothers with somewhat higher family incomes-who received Medicaid but no cash assistance-29% (±5%) smoked. These women have family incomes at or below 185% of the federal poverty level. Thirteen percent (±2%) of mothers who did not receive Medicaid smoked before pregnancy. Most of these women had family incomes too high to qualify for Medicaid. The pattern is dramatically different for low-income, undocumented women who had publicly-funded deliveries. These women are mostly of Hispanic origin and often have family incomes less than women receiving cash assistance. Only 2% (±1%) of these women smoked before pregnancy.

Race and Hispanic Origin

PRAMS data for 2006–2008 combined indicate that smoking before pregnancy is highest among American Indians and Alaska Natives (41% \pm 5%), followed by whites (25% \pm 3%) and blacks (18% \pm 3%). Smoking before pregnancy is lowest among Asians (6% \pm 2%) and women of Hispanic origin (10% \pm 2%). Rates for Native Hawaiians and other Pacific Islanders (NHOPI) are higher than rates among Asians and Hispanics, but wide margins of error for this group make it difficult to tell whether rates for NHOPIs are the same or different from AIANs, blacks and whites. 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.

Health Effects

Smoking during pregnancy causes miscarriage, premature birth, fetal growth restriction, low birth weight, infant death and sudden infant death syndrome (SIDS).^{45,47} Recent research indicates increased risk of oral clefts and congenital heart defects in babies whose mothers smoked during the first trimester.^{45,48} Research also indicates maternal smoking during pregnancy impacts infant and child verbal skill development.⁴⁵ Secondhand smoke exposure during pregnancy also increases risk of low birth weight.⁴⁵

Intervention Strategies

During implementation of comprehensive tobacco control efforts in Washington from 2000 to 2011, the department implemented several programs aimed at cessation among pregnant women with varying levels of success. Pregnant women can be especially motivated to guit.⁴⁹ A brief counseling session by an appropriately trained healthcare provider has been shown to be effective, as has providing a financial incentive for biochemically confirmed quitting.⁵⁰ In the first year after pregnancy, many women who quit during pregnancy start smoking again. Evidence for strategies to help women remain tobacco-free has been weak,⁵¹ but two interventions reported recently show promise. These studies used motivational interviewing and counseling, or counseling with diaper vouchers provided monthly following biochemical confirmation of guit status.^{52,53} In states with Medicaid coverage for prenatal smoking interventions, guit rates during pregnancy and maintenance of cessation after delivery were higher than in states without Medicaid coverage.⁵⁴ The Affordable Care Act of 2010 requires health plans to cover smoking cessation counseling for everyone.

See Related Chapters: Indoor Air Quality, Coronary Heart Disease, Lung Cancer, Infant Mortality, Singleton Low Birth Weight, and Asthma

Data Sources (For additional detail, see <u>Appendix B</u>) Washington State Behavioral Risk Factor Surveillance System (BRFSS) 1987-2010, Washington State Department of Health, collected under federal cooperative agreement numbers: U58/CCU002118 (1987-2003), U58/CCU022819 (2004-2008), and U58/DP001996 (2009-2010); data prepared by Washington State Department of Health Office of Healthy Communities. 2008-2010 data weighted to reflect county over-samples. August 2011.

United States Behavioral Risk Factor Surveillance System: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, 1994–2010, downloaded from

http://www.cdc.gov/brfss/technical_infodata/surveydata.htm , August 2011; data prepared by Washington State Department of Health Office of Healthy Communities.

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For More Information

Washington State Department of Health, Tobacco Prevention and Control Program, http://www.doh.wa.gov/YouandYourFamily/IllnessandDisea se/TobaccoRelated.aspx (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.thecommunityquide.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/stat eandcommunity/index.htm

Acknowledgments

Unless otherwise noted, authors and reviewers are with the Washington State Department of Health.

Authors: Mike Boysun, MPH Cathy Wasserman, PhD

Reviewers: David P. Hopkins, MD, MPH Centers for Disease Control and Prevention Jeffrey R. Harris, MD, MPH, MBA University of Washington

Laurie Cawthon, MD, MPH Washington State Department of Social and Health Services

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