

TOBACCO FACTS



Washington State 2015 Update



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Introduction

In 2014, approximately 15 percent of Washington adults smoked cigarettes, or about 835,000 adults.

The Washington State Tobacco Facts is designed as a quick reference for the most current state-level data on tobacco use and its impact. This report was prepared by the Washington State Department of Health Tobacco Prevention and Control Program (TPCP) to help with ongoing program planning and public education about the importance of tobacco control.

Washington State benefitted greatly from its significant ten-year investment in tobacco prevention and control. During the time of heaviest investment, smoking prevalence dropped 23 percent. This outpaced national reductions in smoking. However, in Washington, as in the rest of the nation, the burden of tobacco use is not evenly distributed throughout the population. American Indians/Alaska Natives, people of multiple race, people who identify as lesbian, gay or bisexual, as well as people with low incomes and less education tend to have higher rates of smoking.

- From 2012–2014, the adult smoking rate was 16 percent.
- In 2014, the smoking rate among 10th grade students was 8 percent. However, 20 percent of 10th graders smoked cigarettes, used smokeless tobacco or used electronic cigarettes.
- 18 percent of women who recently gave birth report smoking three months prior to pregnancy.

Declining smoking rates have contributed to reduced tobacco-related health care costs. An economic evaluation in 2012 found that for every dollar invested in the state Tobacco Prevention and Control Program, the investment actually saved the state \$5 in tobacco-related hospitalizations.¹ The state's investment in TPCP was dramatically reduced starting in 2011. Since 2012, the state's investment in the TPCP has been approximately \$1.5 million per biennium from the Youth Tobacco Prevention Account.

Although cigarette smoking is no longer as prevalent, other types of tobacco use are increasing. The use of e-cigarettes and vaping devices has grown rapidly in recent years. Additionally, many people who smoke cigarettes are now using multiple tobacco products. The public health consequences of these shifts in tobacco use are mostly unknown at this time.

¹ Dilley, J.A., Harris, J.R., Boysun, M.J., Reid, T.R., 2012. Program, policy, and price interventions for tobacco control: quantifying the return on investment of a state tobacco control program. *American Journal of Public Health* 102, e22-28.

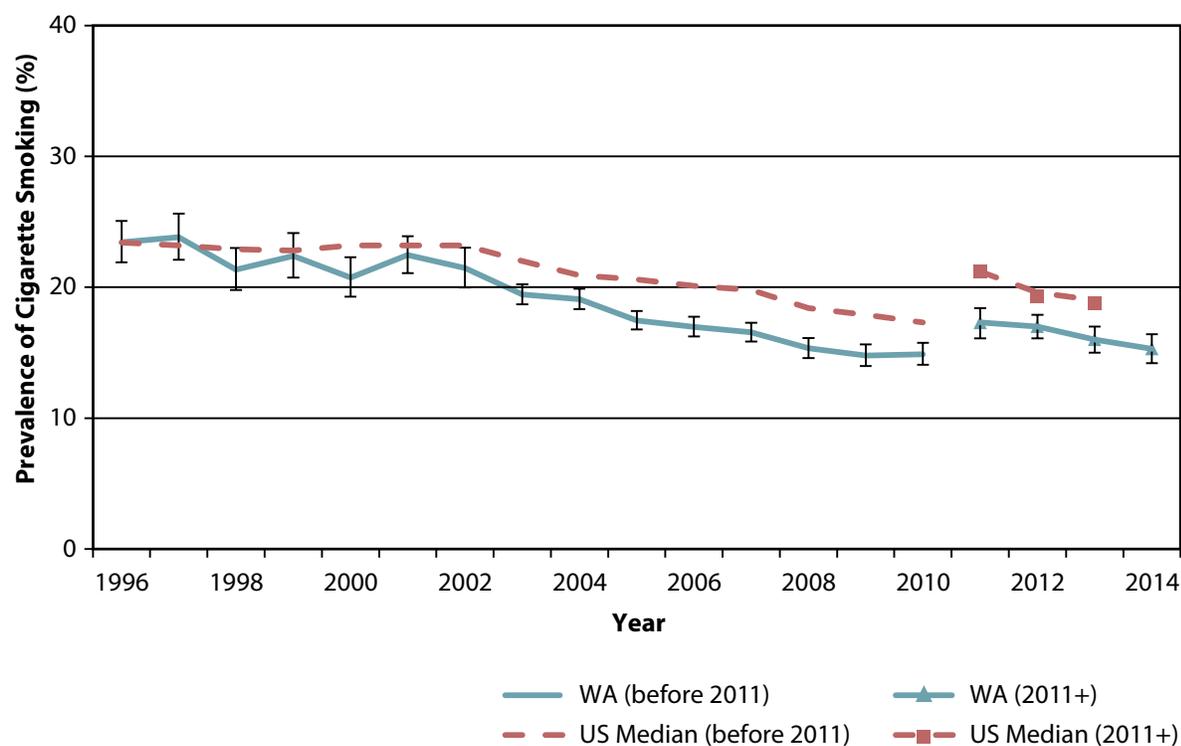
Adult Tobacco Use



The Washington State Behavioral Risk Factor Surveillance System (BRFSS) is the primary surveillance tool for assessing risk factor behaviors among Washington State adults. The BRFSS is an annual random-digit-dial telephone survey that represents all non-institutionalized Washington State adults. Survey methodology for BRFSS changed in 2011 to better represent the entire state adult population. In particular, the survey began to include cell phone users. Due to this and other technical changes, we cannot directly compare survey estimates for 2011 with those from previous years. This is reflected in Figure 1 by a break in both the national median and Washington State current smoking trend lines.

Cigarette smoking

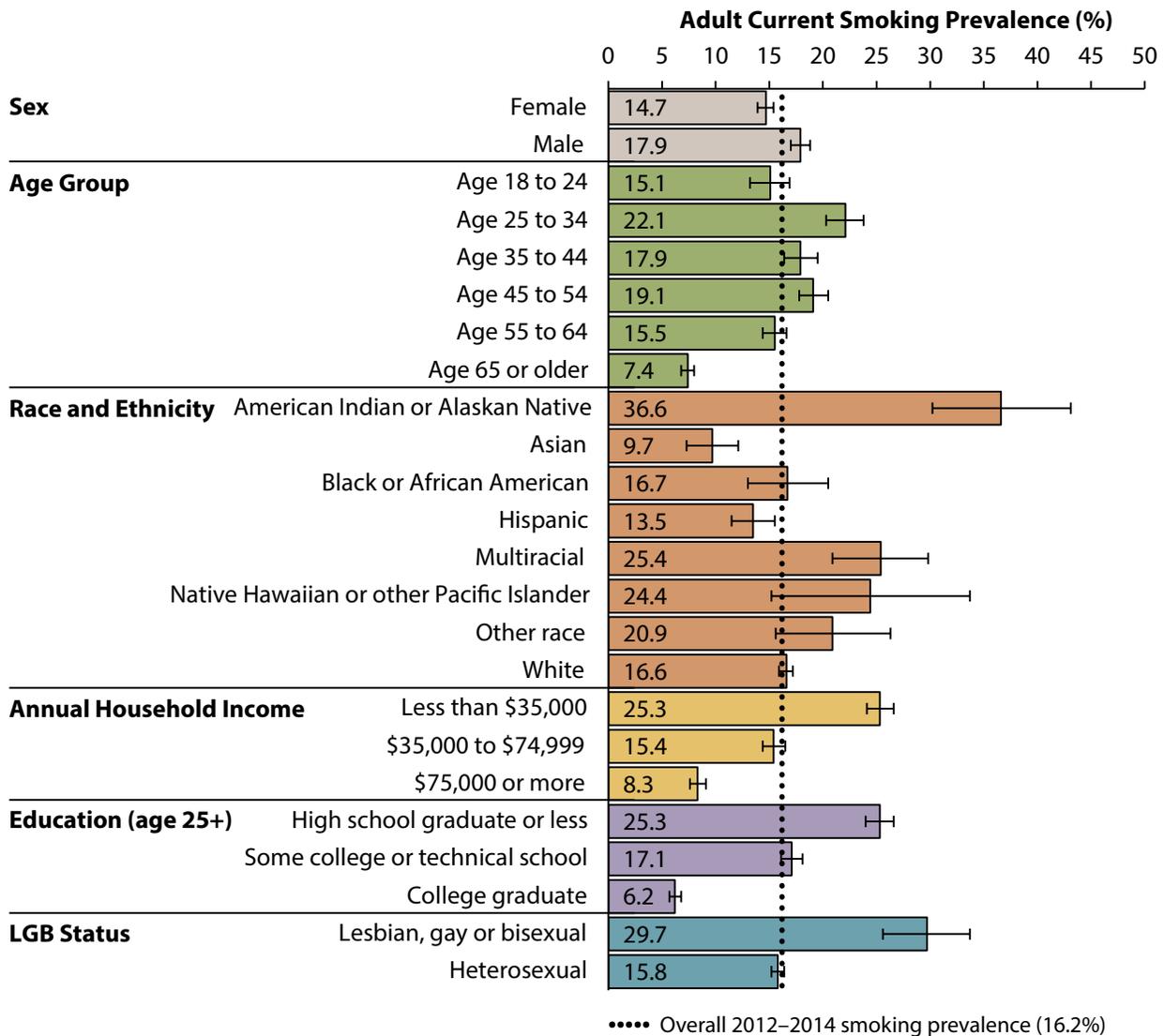
Figure 1. Current cigarette smoking prevalence among United States (state median) and Washington State adults, BRFSS, 1996–2014.



Figures 2 and 3 present current smoking prevalence among Washington state subpopulations between 2012 and 2014. The prevalence of cigarette smoking varied significantly within all of these groups.

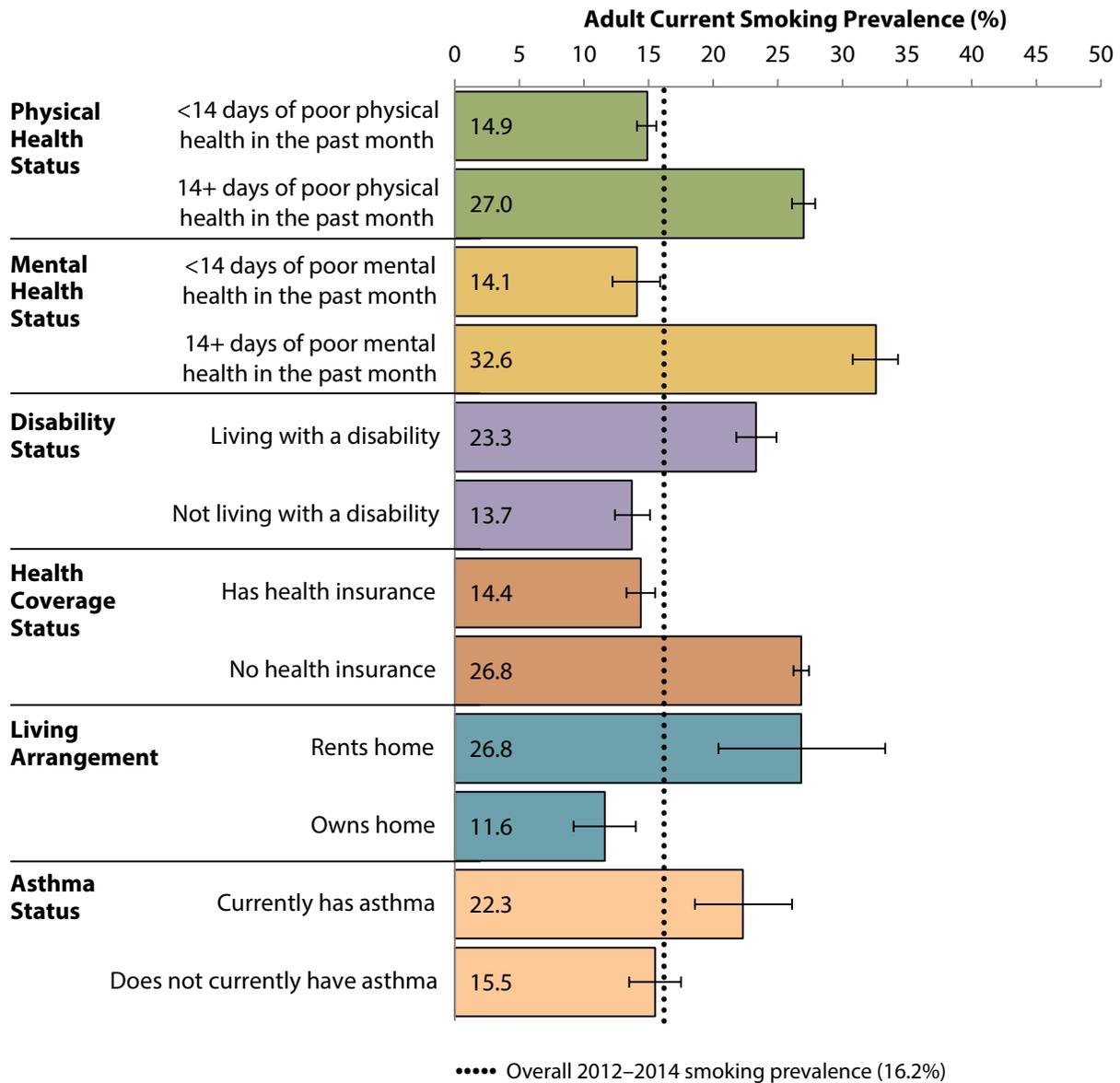
Female adults had a lower prevalence of current cigarette smoking than male adults. Adults age 25–34 had a significantly higher prevalence of current cigarette smoking than adults 55 years old or older. Adults who identified as non-Hispanic American Indian or Alaska Native had twice the prevalence of current cigarette smoking as non-Hispanic white adults.

Figure 2. Current cigarette smoking prevalence among Washington State adult subpopulations, WA BRFSS, 2012-2014.



Note: Race/ethnicity categories are non-Hispanic except for “Hispanic” group, which includes all race groups.

Figure 3. Current cigarette smoking prevalence among Washington State adult subpopulations, WA BRFSS, 2012–2014.



Smokeless tobacco use

Smokeless tobacco includes chew, dip and snuff. Smokeless tobacco use has not changed dramatically since 2011. In 2014, 3.5 percent of adults used smokeless tobacco, most of whom were men. The prevalence of smokeless tobacco use among men (6.2%, 95% CI: 5.1–7.3%) was six times that of women (<1%) in 2014. Between 2012 and 2014, higher rates of smokeless tobacco use were also reported by adults who identified as non-Hispanic American Indian or Alaska Natives (8.7%, 95% CI: 4.8–12.7%) than by adults who identified as non-Hispanic white.

During the same time period, the use of smokeless tobacco also varied by level of education. Adults who have never attended college had a smokeless tobacco use prevalence of 4.8 percent (95% CI: 4.2–5.5%) whereas adults who have graduated college had a smokeless tobacco use prevalence of 1.8 percent (95% CI: 1.5–2.1%).

Electronic cigarettes

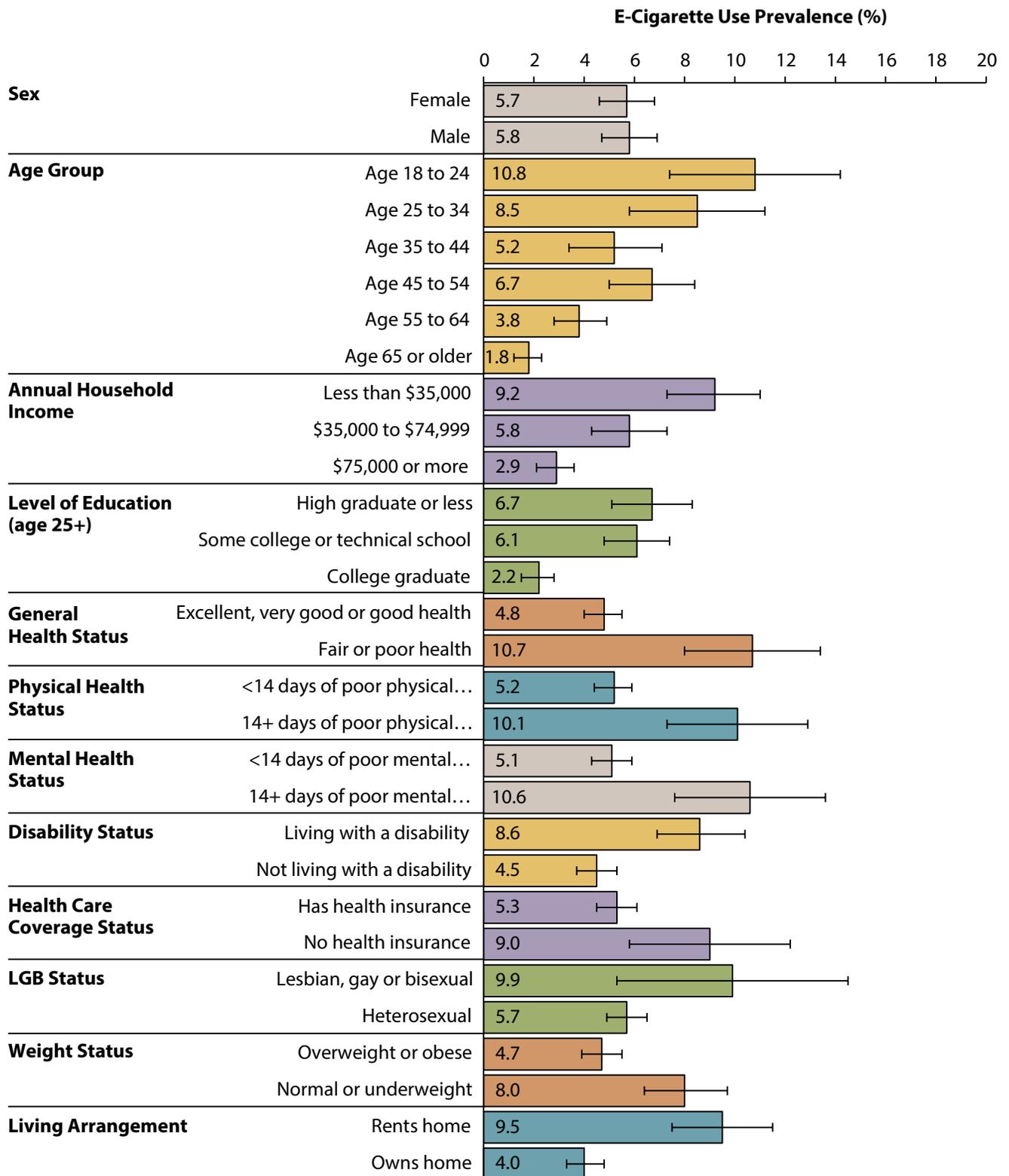
In 2014, Washington State adults were asked on how many days in the past 30 days they had used electronic cigarettes. Overall, 5.7 percent (95% CI: 5.0–6.5%) of Washington State adults had used electronic cigarettes in the past 30 days in 2014. Electronic cigarette use did not vary significantly by gender, but did vary by age, annual household income, education, health status, sexual orientation and other characteristics (Figure 4).

The prevalence of electronic cigarette use was higher among younger (age 18–24) adults than older (age 55+) adults. It was also higher among adults with lower annual household incomes and less education. Adults with poor general, physical and mental health had higher prevalence of electronic cigarette use than those with better health status. Estimates of electronic cigarette use by race and ethnicity are not presented due to insufficient sample size.

There is a high level of dual use of electronic cigarettes and combustible cigarettes. In 2014, two out of three (67.2%, 95% CI: 60.5–73.8%) electronic cigarette users were also current smokers compared to only 12.3 percent (95% CI: 11.3–13.4%) of non-electronic cigarette users smoking cigarettes. Conversely, one out of four (25%, 95% CI: 21.4–28.6%) current cigarette smokers also used electronic cigarettes compared to only 2.2 percent (95% CI: 1.7–2.8%) of non-smokers using electronic cigarettes.

The BRFSS is a cross-sectional survey, so it cannot be used to demonstrate transitions from one product to another. This precludes using BRFSS data to make assertions about one product “leading to” the use or cessation of another product.

Figure 4. Past 30-day use of electronic cigarettes among Washington State adult subpopulations, WA BRFSS, 2014.





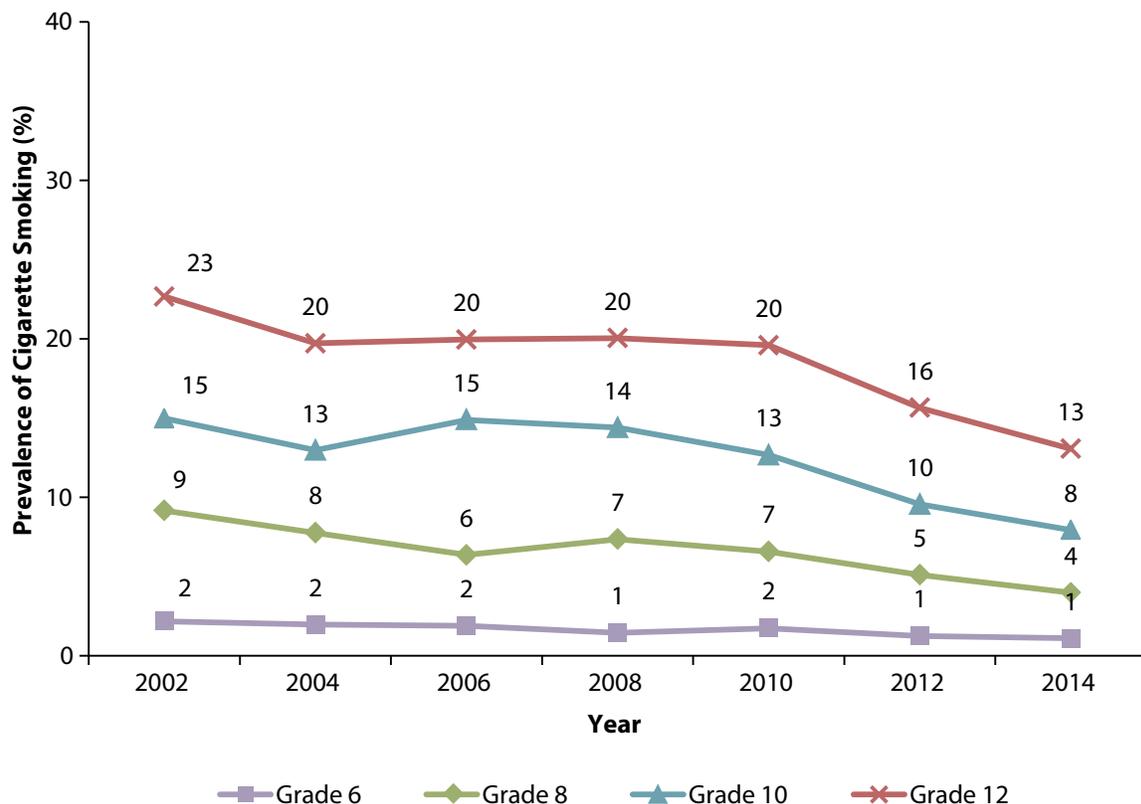
Adolescent Tobacco Use

The Healthy Youth Survey (HYS) is a school-based paper and pencil survey of Washington 6th, 8th, 10th and 12th grade students that is implemented every two years. The HYS collects information on a variety of topics in addition to tobacco. Unfortunately the HYS has not consistently asked about less common types of tobacco use, such as pipe tobacco or cigars, so it is difficult to talk about changes in overall tobacco use.

Cigarette smoking

Cigarette smoking has been declining among adolescents since 2002 and is now at a new low. Among adolescents, cigarette smoking does not vary meaningfully by sex. Past 30-day cigarette smoking prevalence does, however, increase predictably with grade level. In 2014, the prevalence of cigarette smoking was approximately 1 percent among 6th grade students and 13 percent among 12th grade students.

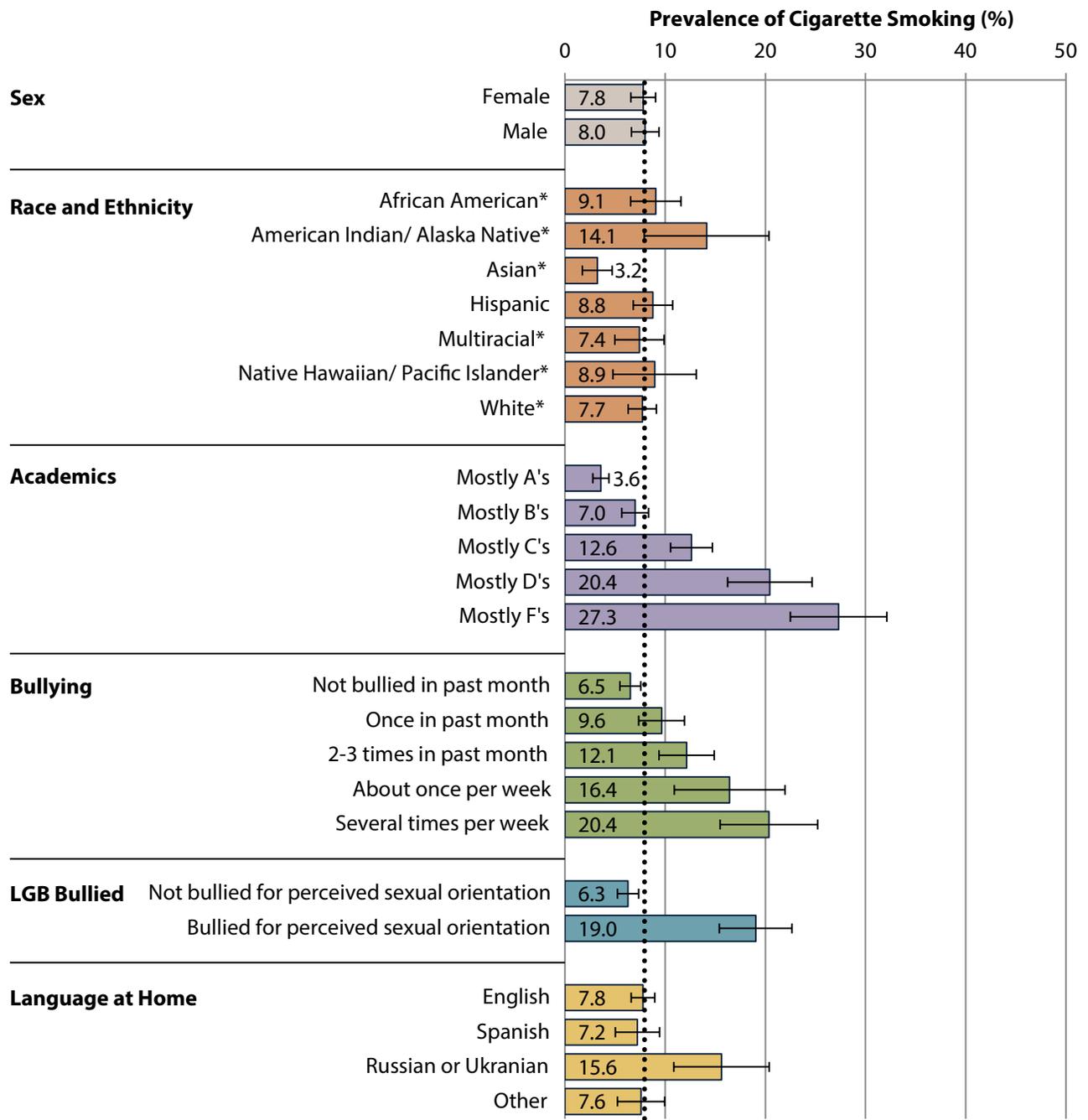
Figure 5. Adolescent cigarette smoking in the past 30 days by grade and year, WA HYS, 2002–2014.



In Washington State, youth health risk indicators are often reported among 10th grade students because they have sufficiently high levels of risk factors to allow for breakdowns as well as high response rates. Figure 6 describes past 30-day smoking prevalence among 10th grade subpopulations in 2014.

Smoking prevalence varies significantly by race/ethnicity, academic achievement, the frequency of being bullied and the language spoken at home. Students who are bullied or performing poorly academically have a higher prevalence of smoking than students who are bullied less or perform better academically. Non-Hispanic American Indian/Alaska Native students have a higher prevalence of past 30-day smoking than non-Hispanic Asian students.

Figure 6. Past 30-day cigarette smoking among 10th grade subpopulations, WA HYS, 2014.



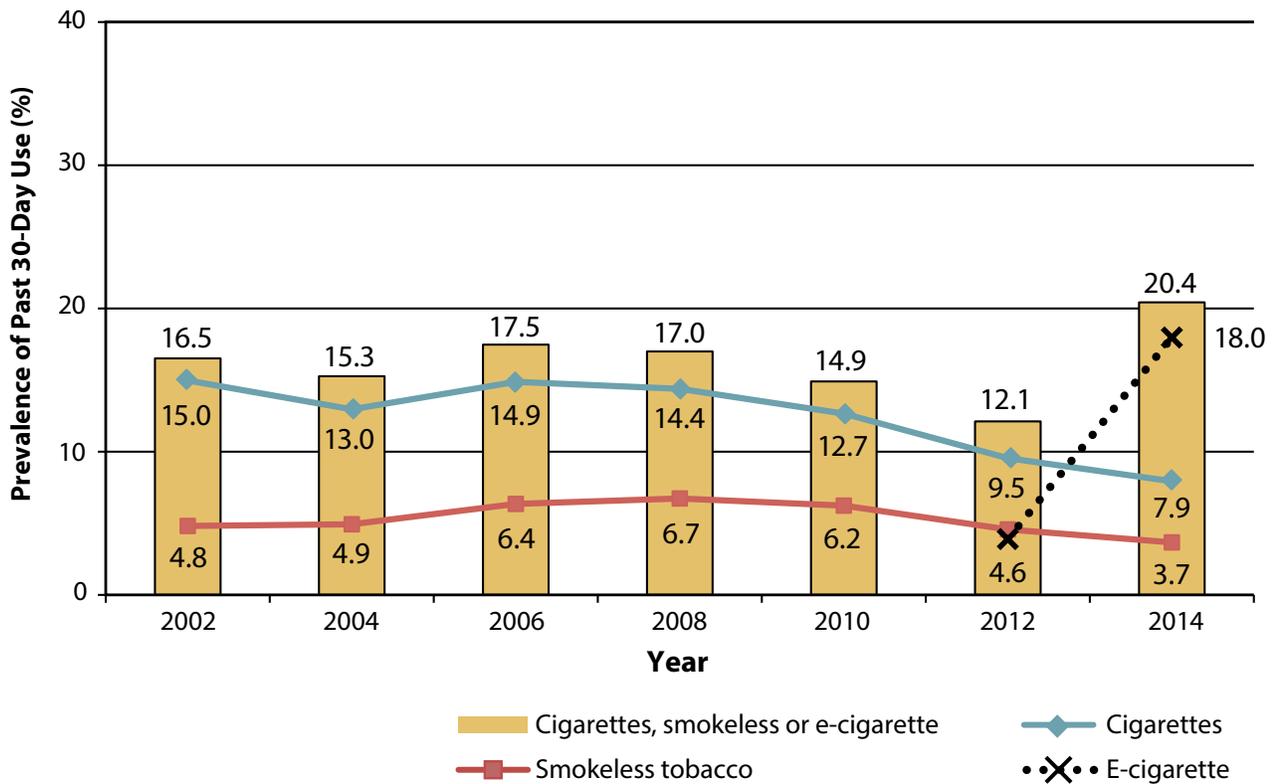
*Non-Hispanic

..... Overall 10th grade smoking prevalence (7.9%)

Other tobacco use

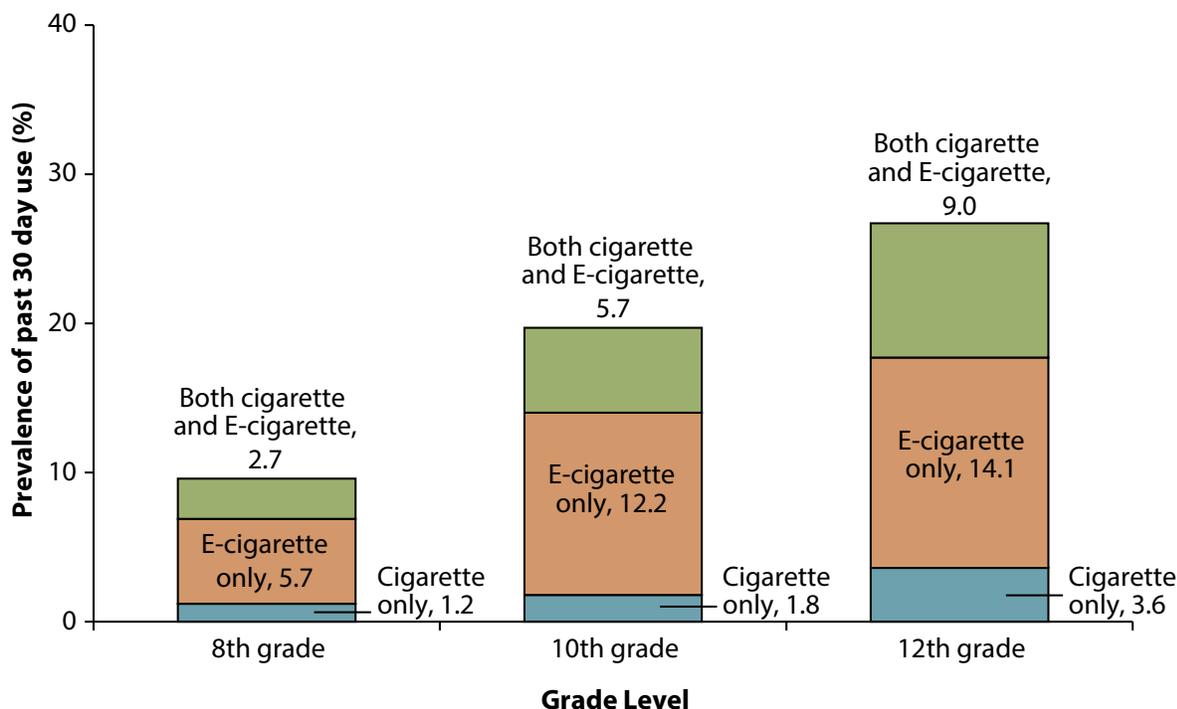
The percent of youth smoking cigarettes in Washington State is at a new low, but overall tobacco use has maintained or increased (Figure 7). The increase in overall tobacco use is largely due to the growing popularity of electronic cigarettes. The percent of 10th grade students who used electronic cigarettes quadrupled from 3.9 percent in 2012 to 18 percent in 2014. The percent of 10th grade students who used cigarettes, smokeless tobacco or e-cigarettes increased from 12.1 percent in 2012 to 20.4 percent in 2014.

Figure 7. Percent of 10th grade students who used tobacco (cigarettes, smokeless tobacco or e-cigarettes) in the past 30 days, HYS 2002–2014.



There has always been some degree of poly tobacco use among users (i.e., people use more than one product concurrently), but electronic cigarettes are particularly associated with poly tobacco use. One can estimate from Figure 8 that three out of four (76%)² 10th grade students who smoke cigarettes also use electronic cigarettes. Conversely, about one out of three (32%)³ 10th grade students who use electronic cigarettes also smoke cigarettes.

Figure 8. Prevalence of past 30 day e-cigarette, cigarette and use of both among youth by grade, 2014 HYS (Form B).



Other types of tobacco use are asked about irregularly on the Healthy Youth Survey. In 2014, the prevalence of using other types of tobacco products among 10th grade student was as follows.

- 3.7 percent of 10th grade students used smokeless tobacco on one or more of the past 30 days in 2014.
- 5.1 percent of 10th grade students smoked cigars on one or more of the past 30 days in 2014.
- 10 percent of 10th grade students smoked from a hookah on one or more of the past 30 days in 2014.

² $5.7 / (5.7 + 1.8) = 0.76$, or 76 percent. Estimates from Figure 7 may not match estimates found elsewhere in this report because of rounding and the calculation of dual use being limited to Form B of the Healthy Youth Survey.

³ $5.7 / (12.2 + 5.7) = 0.32$, or 32 percent. Estimates from Figure 7 may not match estimates found elsewhere in this report because of rounding and the calculation of dual use being limited to Form B of the Healthy Youth Survey.



Pregnant Women

Maternal prenatal smoking causes preterm delivery, fetal growth restriction, placenta previa, placental abruption, sudden infant death syndrome (SIDS), some congenital anomalies and ectopic pregnancy. Maternal prenatal smoking has also been associated with stillbirth and spontaneous abortion.⁴ The Washington Pregnancy Risk Assessment Monitoring Survey (PRAMS) surveys mothers two to six months postpartum to assess maternal attitudes and experiences before, during and shortly after pregnancy.

The most recent PRAMS data (2012) indicate that 18 percent (95% CI: 15–21%) of new mothers smoked in the three months before pregnancy, eight percent (95% CI: 5–11%) smoked during the last three months of pregnancy and nearly 12 percent (95% CI: 9–15%) smoked after giving birth. Notable differences in smoking related to maternal race/ ethnicity and age are shown in Figure 10. Nearly half of American Indian or Alaska Native mothers report smoking cigarettes before pregnancy. Many women quit or reduce smoking during pregnancy, but many of these rebound and continue smoking after giving birth.

Another source of information on smoking during pregnancy is the birth certificate, where healthcare providers can document the mother's smoking status. Smoking status estimates from birth certificates are generally lower than what is found in PRAMS. There is substantial geographic variation in smoking during pregnancy according to birth certificates (Figure 9). Between 2012 and 2014, smoking during pregnancy (during the third trimester) varied nearly 10-fold across counties. Franklin County had the lower prevalence of maternal smoking (2.3%) while Pend Oreille had the highest (21.9%). The state prevalence of smoking during the third trimester from birth certificates during this time was 6.8 percent.

⁴ U.S. Department of Health and Human Services. *The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Printed with corrections, January 2014.

Figure 9. Smoking during 3rd trimester of pregnancy by county, Washington State birth certificate data, 2012–2014.

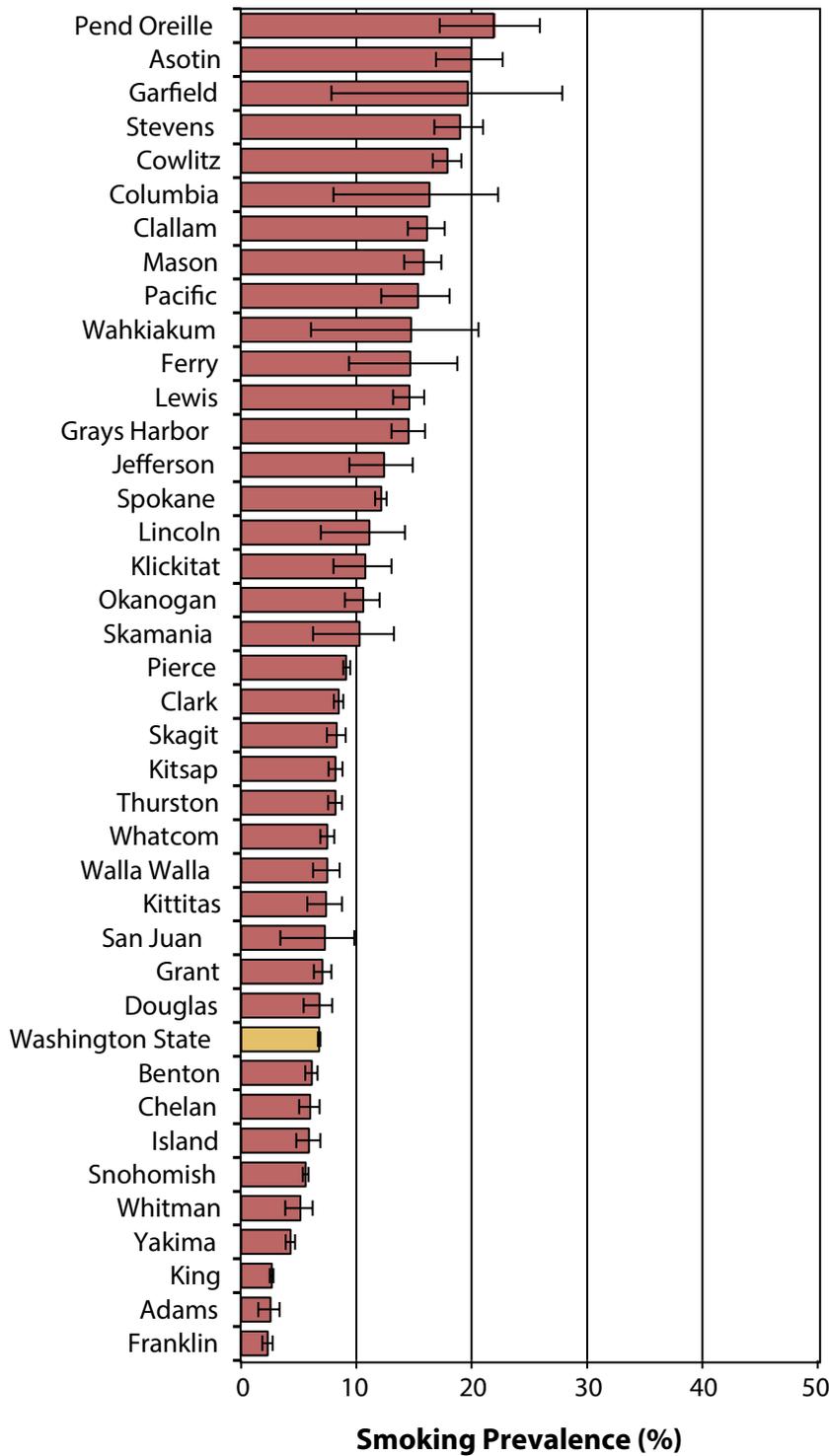
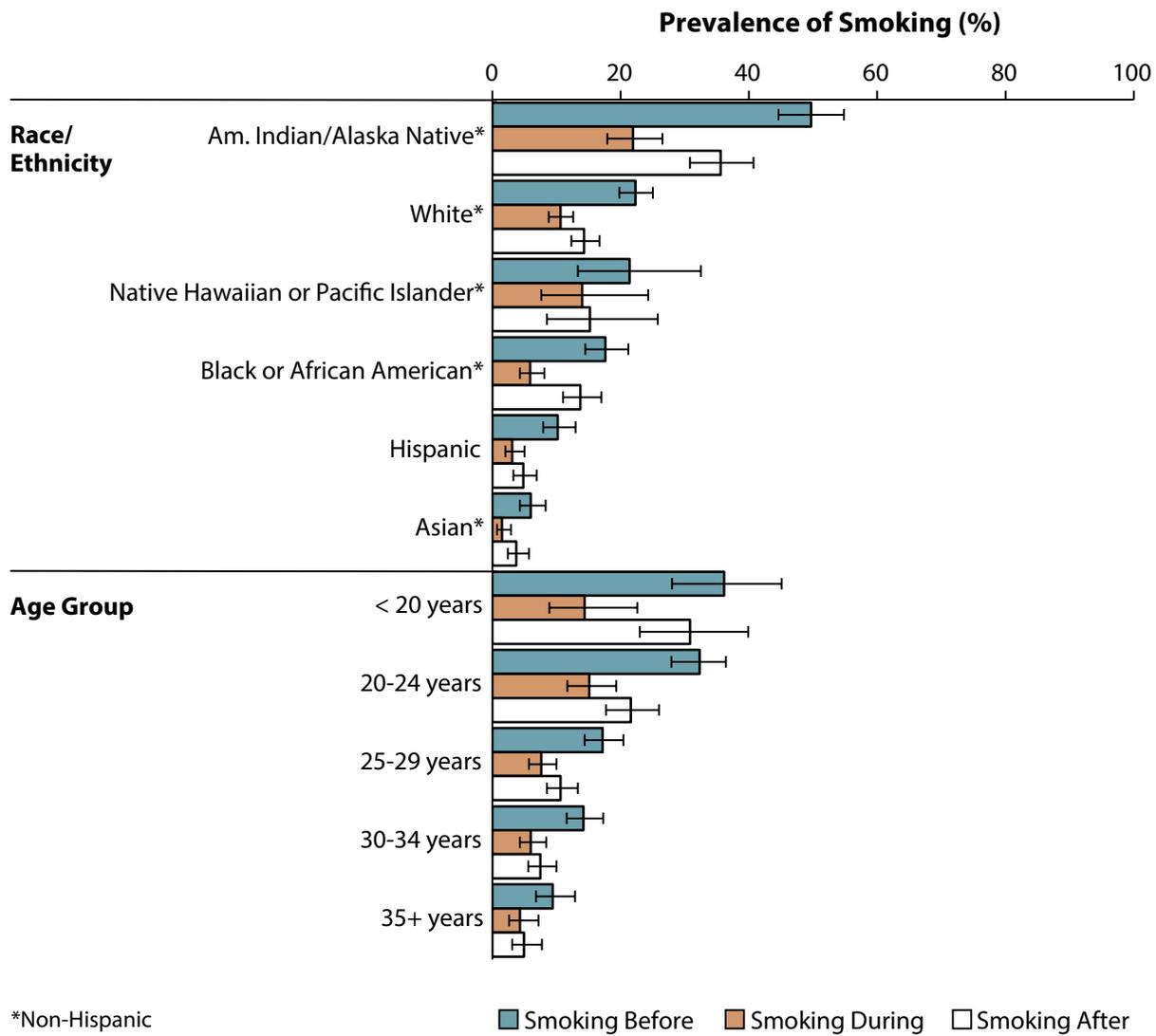


Figure 10. Smoking before, during and after pregnancy, WA PRAMS, 2010–2012.



Cessation



Every year about three out of five (59.7 percent in 2014) adult cigarette smokers stop smoking for one day or longer because they are trying to quit smoking cigarettes. Unlike cigarette smoking, the prevalence of having made such a cessation attempt does not vary substantially by demographic characteristics such as gender, education, sexual orientation or health-related quality of life. The desire to quit smoking is, seemingly, universal.

Services

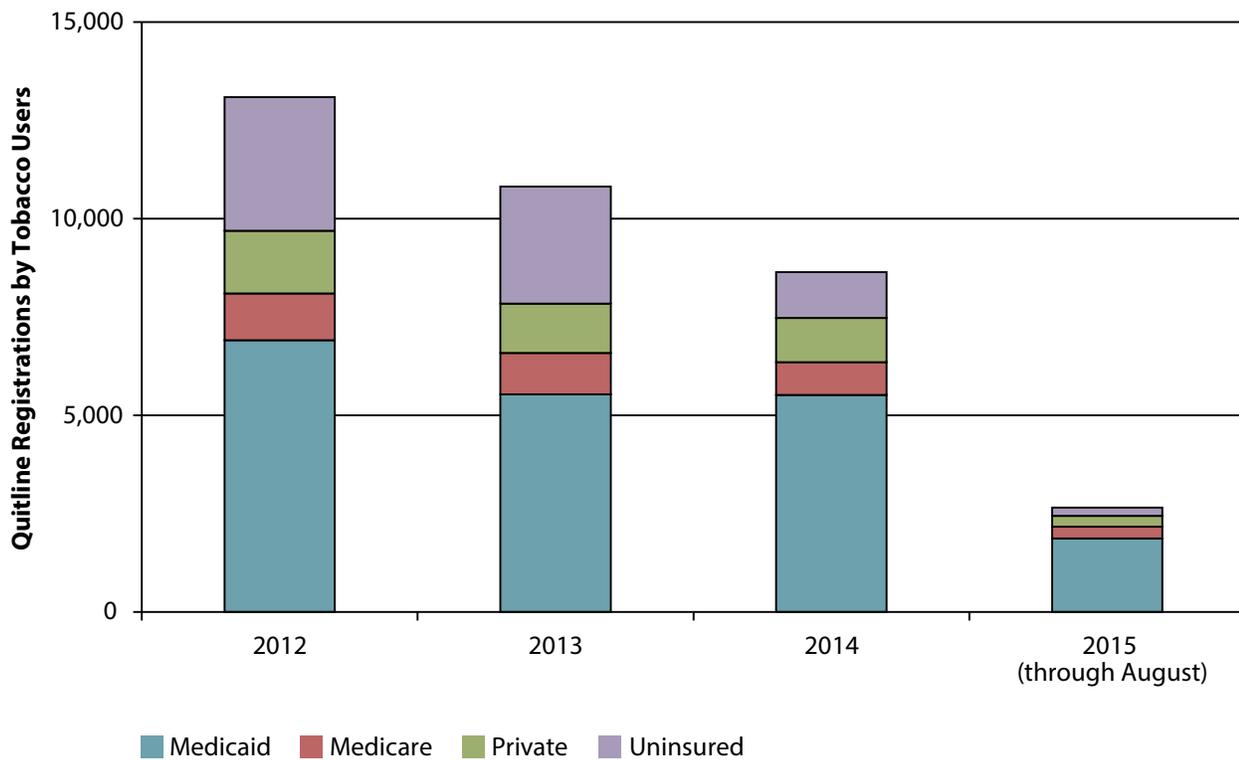
SmartQuit™: The Department of Health launched its first ever smart phone app called SmartQuit in February 2015. The app is open to all residents regardless of insurance coverage. SmartQuit follows the Acceptance and Commitment Therapy (ACT) behavior change model to teach users how to accept and master nicotine cravings. The program can be completed in less than two weeks and remains active for up to six months. Between February and July, 2015, there were 503 SmartQuit program activations, or about 84 per month. As of July, 86 percent of participants had completed their quit plan.

Quitline: Washington offers 1-800 QUIT-NOW, a phone-based counseling resource for those that are ready to quit tobacco or have already quit. The call center is supported by a variety of funders and is open to underinsured, uninsured, Medicaid-insured and callers with Quit for Life®, a private insurer benefit. While many people have health insurance, not all plans cover tobacco cessation counseling and medication. Telephone-based counseling is a CDC Best Practice and is a U.S. Preventative Service Task Force Grade “A” recommendation.⁵ The Office of the Insurance Commissioner benchmark health plan⁶ does not require coverage for telephone-based counseling services. Callers with private insurance not contracted with the Quitline are transferred to their insurance information line or asked to contact their human resource office.

⁵ [1] USPSTF A and B Recommendations. U.S. Preventive Services Task Force. October 2015. <http://www.uspreventiveservicestaskforce.org/Page/Name/uspstf-a-and-b-recommendations/>.

⁶ <http://www.insurance.wa.gov/laws-rules/legislation-rules/recently-adopted-rules/2015-01/>, retrieved October 22, 2015.

Figure 11. Number of Washington State Quitline registrations by tobacco users by insurance type, January 2012 to August 2015.



Note: Excludes Indian Health Service and Veterans Administration due to low number of responses.

Quitline utilization

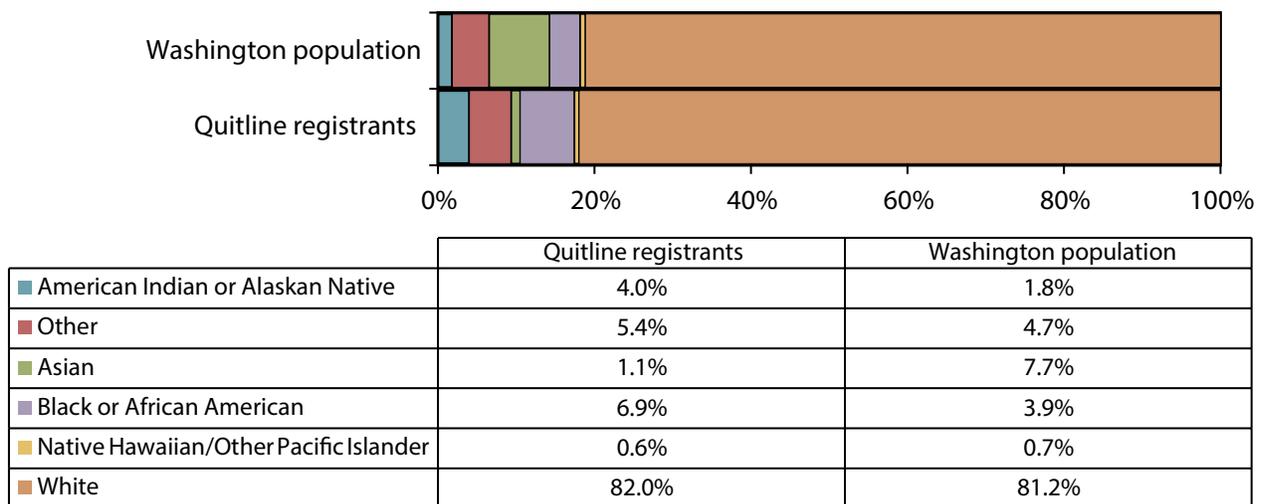
Utilization of the Washington State Quitline is heavily influenced by intermittent promotional and outreach activities and by the type of services offered. Call volume increases substantially, for instance, when the Quitline is funded to offer free nicotine replacement therapy (NRT) patch or gum to callers or a national anti-smoking campaign is running (e.g., CDC TIPS From Former Smokers). The average monthly number of tobacco users who register with the Quitline has been decreasing. There are many possible reasons for the overall decline. One factor includes the transition to a one-call counseling program due to reduced funding. Another is reduced contracting with the Quitline by private companies for cessation services.

In 2012 there was an average of 1,170 monthly registrations by tobacco users. In 2013 there was an average of 980; in 2014 there was an average of 788; and in 2015 there has been an average of 358 monthly registrations by tobacco users (through August).

The average age of a Quitline caller is 44 and about 58 percent are female. Between January 2012 and August 2015, about 29 percent of Quitline registrants did not report a race or ethnicity. Of those who did, about five percent reported being Hispanic or Latino. The Washington State Office of Financial Management estimates that about 12 percent of the state is Hispanic or Latino, so five percent would imply Hispanic and Latino tobacco users are underrepresented on the Quitline. Similarly, Asians appear to be underrepresented, while American Indian or Alaska Natives are overrepresented in the Quitline. This may partially be due to Asians generally having the lowest prevalence of cigarette smoking and American Indians or Alaska Natives having the highest prevalence of smoking.

Health professionals are the primary drivers of Quitline call volume. About one in four (26%) Washington Tobacco Quitline registrants heard about the Quitline from a health professional. An additional 17 percent heard about the Quitline from a family member or friend, 14 percent heard about it from television or a commercial and nearly eight percent heard about the Quitline from a brochure, newsletter or flyer.

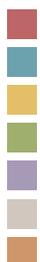
Figure 12. Distribution of Washington State Quitline registrants (January 2012 to August 2015) and the Washington State population (2014 Census) by race.





Secondhand Smoke Exposure

In 2014, seven percent of Washington State adults reported that anyone, including themselves, smoked inside their home in the past 30 days. Similar to smoking prevalence, smoking in the home among adults varied significantly by annual household income (χ^2 $p < 0.0001$) and education (χ^2 $p < 0.0001$) reflecting higher prevalence of smoking in the home among those with lower socioeconomic status. Among 10th grade students in 2014, 28 percent reported being in the same room with someone who was smoking cigarettes and 18 percent reported riding in a car with someone who was smoking cigarettes.



The Health Burden of Tobacco Use



The true health burden of tobacco use is not known. Most estimates, including those in this report, are limited to the burden of death and disease caused by cigarette smoking. Cigarettes are, historically, the most common tobacco product used in the United States. The smoke from cigars, pipe tobacco and hookah, however, is just as toxic as cigarettes and is generally unaccounted for in estimates of tobacco-attributable death and disease. There is evidence that the population that uses tobacco is transitioning from being dominated by cigarettes to using multiple types of products. Electronic cigarette use, for instance, is associated with cigarette smoking and there is recent evidence that electronic cigarette use increases the risk of youth becoming a cigarette smoker.⁷ The long-term health impact of a cultural shift toward using multiple tobacco products is unknown.

The public health burden of cigarette smoking has been measured in a number of different ways, including attributable healthcare spending, lost productivity and death. The total annual healthcare cost in Washington State directly caused by cigarette smoking is estimated to be \$2.8 billion.⁸ The Surgeon General's 2014 report, *The Health Consequences of Smoking – 50 Years of Progress*, provides several updates on the diseases caused by smoking as well as the total burden of these diseases that is attributable to cigarette smoking.⁹ In this report, deaths “attributable” to smoking means they were caused by smoking. Smoking, for instance, causes lung cancer deaths, but not all lung cancer deaths are attributable (caused by) cigarette smoking. Some lung cancer deaths are attributable to other factors.

⁷ Leventhal, A.M., Strong, D.R., Kirkpatrick, M.G., Unger, J.B., Sussman, S., Riggs, N.R., Stone, M.D., Khoddam, R., Samet, J.M., Audrain-McGovern, J., 2015. Association of Electronic Cigarette Use With Initiation of Combustible Tobacco Product Smoking in Early Adolescence. *Journal of the American Medical Association (JAMA)* 314, 700-707.

⁸ Centers for Disease Control and Prevention. Best Practices for Comprehensive Tobacco Control Programs—2014. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.

⁹ U.S. Department of Health and Human Services. The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.

Table 1. Washington State leading causes of death for residents, 2014.¹⁰

Smoking-Attributable	Rank	Causes of Deaths	Number	Percent*
		All causes	52,028	100.0
YES	1	Malignant neoplasms	12,186	23.4
YES	2	Diseases of the heart	10,673	20.5
	3	Alzheimer's disease	3,342	6.4
	4	Unintentional injury (accident)	2,985	5.7
YES	5	Chronic lower respiratory diseases	2,907	5.6
YES	6	Cerebrovascular diseases	2,644	5.1
YES	7	Diabetes mellitus	1,667	3.2
	8	Intentional self-harm (suicide)	1,113	2.1
	9	Chronic liver disease and cirrhosis	903	1.7
YES	10	Influenza and pneumonia	716	1.4
		All other causes	12,892	24.8

* Percents may not add to 100 percent due to rounding.

In the United States cigarette smoking caused an average of 480,000 deaths each year between 2005–2009, including deaths from residential fires and secondhand smoke exposure. This assumes cigarette smoking is accountable for 82 percent of lung cancer deaths, 79 percent of chronic obstructive pulmonary disease deaths and 24 percent of coronary heart disease deaths, among others.

¹⁰ Source: Center for Health Statistics, Washington State Department of Health, 07/2015.

Table 2. Smoking attributable fraction of deaths for adults 35 years of age and older, United States, 2005–2009.

Cause of Death	Smoking Attributable Fraction
Malignant Neoplasms	
Lung cancer	82%
Other cancers	20%
Cardiovascular Diseases	
Coronary heart disease	24%
Other heart disease	15%
Cerebrovascular disease	11%
Other vascular disease	38%
Diabetes mellitus	13%
Pulmonary Diseases	
Influenza, pneumonia, tuberculosis	22%
Chronic obstructive pulmonary disease	79%
Perinatal Conditions*	
Prenatal conditions	6%
Sudden infant death syndrome	17%
Secondhand Smoke	
Lung cancer	5%
Coronary heart disease	8%

*Applies to all ages.

Note: Adapted from U.S. Department of Health and Human Services. The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Table 12.4. Printed with corrections, January 2014.

The Centers for Disease Control and Prevention estimate that cigarette smoking kills approximately 8,300 adults each year in Washington. This is an underestimate of the burden of tobacco, however, as it excludes deaths attributable to secondhand smoke and burns, in addition to deaths attributable to other tobacco products. Using the attributable fractions for secondhand smoke in Table 2, the burden of cigarette smoking deaths in Washington is closer to 8,700. Between 2005 and 2009 there was an average of 47,100 deaths in Washington each year. This means cigarette smoking accounts for nearly one in five (17–19%) Washington State deaths each year.





Hispanic origin and race

Throughout this report, persons of Hispanic origin are treated as a separate race except when discussing Quitline data, where ethnicity is discussed separately. Specifically, Figure 12 race groupings include both Hispanic and non-Hispanic respondents. In contrast, charts describing Behavioral Risk Factor Surveillance System (BRFSS) and Healthy Youth Survey (HYS) treat Hispanic ethnicity as a race—other race groups in the same figure are non-Hispanic.

Confidence intervals

Most of the estimates provided in this report come with some intrinsic level of uncertainty due to the random nature of the data. Statistical uncertainty can be summarized with a 95 percent confidence interval, also called the margin of error. A level of 95 percent confidence means that, if the survey were repeated in exactly the same way with a different random sample of people from the same population, the new estimate would fall within the confidence interval 95 percent of the time. Confidence intervals are represented on graphs by whisker bars above and below the estimate. This report interprets confidence intervals as statistical tests—estimates with confidence intervals that overlap are interpreted as not significantly different from each other and estimates with non-overlapping confidence intervals are interpreted as being significantly different from each other. Using confidence intervals in this way produces more conservative interpretations than formal statistical tests, such as a t-test.

Unreliable data

Estimates based on too few respondents are considered to be unreliable, and may constitute a breach of confidentiality in some circumstances. In this report data with a relative standard error >30 percent are not reported.





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