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Impact of Tobacco in Wyoming

2017 Annual Summary

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Introduction

The Wyoming Tobacco Prevention and Control Program (TPCP) shares four goals with the national tobacco prevention and control program led by the Centers for Disease Control and Prevention (CDC). *The Impact of Tobacco in Wyoming: 2017 Annual Summary* provides data on the prevalence of tobacco use and data associated with these four goals:

- Reduce youth initiation (CDC, 2014b),
- Reduce exposure to secondhand smoke (Starr et al., 2005),
- Promote tobacco cessation (CDC, 2015),
- Minimize disparities in the burden of tobacco use (Starr et al., 2005).

This *Annual Summary* also includes a discussion about the health and economic burdens of tobacco use in Wyoming. In reporting the data, the Wyoming Survey & Analysis Center (WYSAC) at the University of Wyoming uses the data sources' conventions for ascertaining statistical significance and for reporting confidence intervals. Generally using an alpha of .05 for statistical tests or 95% confidence intervals, WYSAC identifies as significant only differences or relationships that have been identified by the data sources as statistically significant or where confidence intervals do not overlap. When differences and relationships are not statistically significant, WYSAC describes the related estimates as similar. The references list at the end includes information for materials cited in this document.

Prevalence of Tobacco Use

Adult Cigarette Smoking

Table 1: About One Fifth of Wyoming Adults Smoke

Regional smoking prevalence rates

	Prevalence
Wyoming	19%
Montana	19%
South Dakota	18%
Nebraska	17%
United States	**17%**
Colorado	16%
Idaho	15%
Utah	9%

Note: Wyoming, South Dakota, Montana, and Nebraska are not statistically different.

Source: BRFSS 2016.

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Current smokers are those who reported smoking at least 100 cigarettes in their lifetime and currently smoke every day or some days. According to the 2016 Behavioral Risk Factor Surveillance System (BRFSS), 19% of Wyoming adults smoke, slightly more than the national median[1] of 17%. Wyoming's smoking rate is similar to most of the region; Wyoming, South Dakota, Montana, and Nebraska are in a statistical tie for the highest smoking rate in the region (Table 1). The smoking rate in Wyoming has declined since 2011, when the smoking rate was 23%.

Adult Use of Other Tobacco and Electronic Nicotine Delivery Systems (ENDS)

Compared to the national median, a greater proportion of Wyoming adults use smokeless tobacco. In 2016, 10% of Wyoming adults reported using chewing tobacco, snuff, or snus every day or some days, compared to 4% of U.S. adults (BRFSS, 2016).

In 2015, 8% of Wyoming adults had used cigars or cigarillos at least once in the past 30 days (WYSAC, 2017a).

Electronic nicotine delivery systems (ENDS; also known as e-cigarettes, e-cigs, or vape pens) are battery powered devices that produce an aerosol by heating a liquid instead of producing smoke from burning tobacco. Contents of the liquid vary across products, and some models allow for customized liquids. Many ENDS liquids contain nicotine. In 2016, 24% of all Wyoming adults had tried ENDS at least once, and 6% of Wyoming adults were current ENDS users (used

[1] The national medians reported in this document are from the 50 states, the District of Columbia, and all U.S. territories. Medians, as reported by BRFSS, do not have confidence intervals to use in comparing national and Wyoming estimates.

ENDS some days or every day). These rates are similar to national estimates: 22% of U.S. adults had tried ENDS, and 5% were current users (BRFSS, 2016).

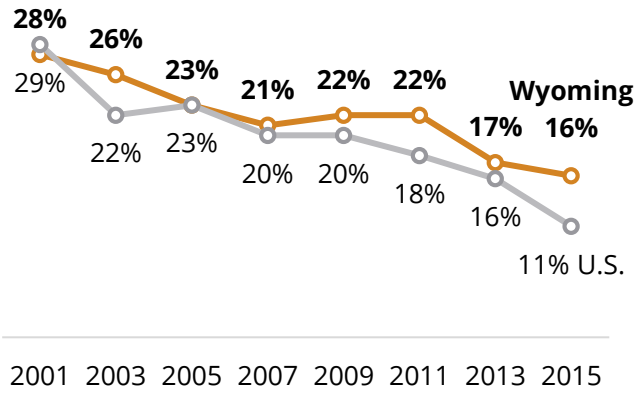
In 2015, the majority (61%) of Wyoming adults who had ever tried ENDS said they tried them out of curiosity. Other common reasons for trying ENDS included using them to cut down or quit cigarette smoking (WYSAC, 2017a). The U.S. Food and Drug Administration (FDA) has not approved any ENDS as a cessation aid (FDA, 2013).

Youth Cigarette Smoking

In Wyoming and in the United States, the cigarette smoking rate among high school students has declined since 2001, based on smoking on one or more of the past 30 days. In each year, the Wyoming and national smoking rates have been similar (Figure 1; Youth Risk Behavior Surveillance System [YRBSS], 2015).

Figure 1: Youth Cigarette Smoking Has Declined

Percentage of high school students who smoked cigarettes



Source: YRBSS, 2015

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Youth Use of Other Tobacco and Electronic Nicotine Delivery Systems (ENDS)

In 2015, 12% of Wyoming high school students used smokeless tobacco in the past 30 days. This rate was significantly higher than the national rate of 7% (YRBSS, 2015).

Similar percentages of Wyoming and U.S. high school students reported using cigars, cigarillos, and little cigars (13% of Wyoming students vs. 10% of U.S. students), based on smoking them on at least one of the past 30 days (YRBSS, 2015).

Overall, 49% of Wyoming high school students had ever used ENDS in 2015, similar to the estimate of 45% nationwide. However, a greater percentage of Wyoming high school students (30%) were current ENDS users when compared to the national estimate (24%).

Youth Initiation

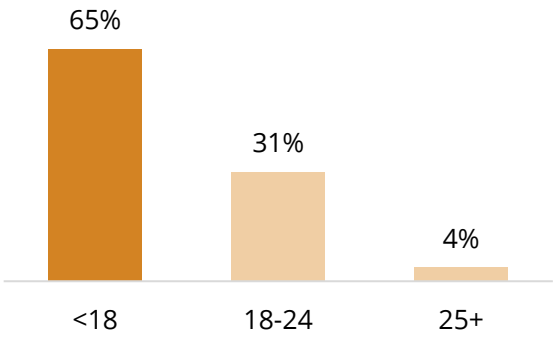
Initiation as Reported by Smokers

Smoking initiation is defined as the age at which a person first smokes one whole cigarette. According to the 2016 Prevention Needs Assessment (PNA), depending on the grade, 3–7% of students in 6th, 8th, 10th, or 12th grades started smoking before turning 11.

Among Wyoming adults, about two-thirds of current, former, and experimental smokers (adults who had smoked fewer than 100 cigarettes in their lifetime but who had smoked a whole cigarette) smoked their first whole cigarette when they were younger than 18 years old. However, there was still a large group that smoked a whole cigarette for the first time while aged 18 to 24 (Figure 2; WYSAC, 2017a).

Figure 2: Most Current, Former, and Experimental Smokers Smoked Their First Whole Cigarette As Minors

Age of smoking first whole cigarette, of those who had smoked a whole cigarette



Source: WYSAC, 2017a.

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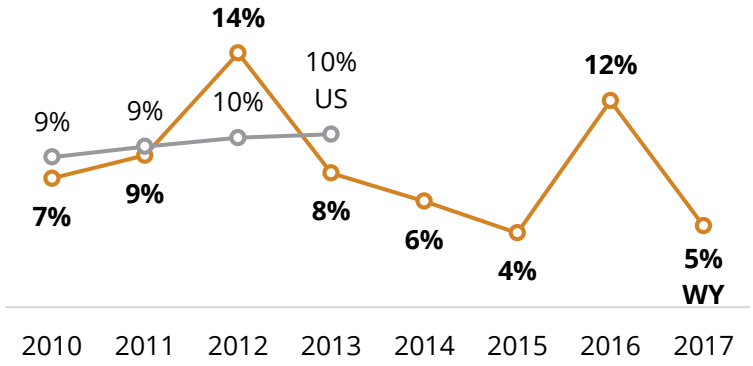
Preventing Youth Access

Part of the approach to preventing youth initiation of tobacco use is to limit access to tobacco products (CDC, 2014b). SAMHSA requires states to complete annual, random, unannounced inspections of tobacco retailers, known as Synar inspections. SAMHSA requires the noncompliance rate for Synar inspections to be below 20% (SAMHSA, 2010).

During Wyoming's Synar inspections, trained 16- and 17-year-olds use standardized protocols to attempt to purchase cigarettes or smokeless tobacco from a sample of Wyoming tobacco retailers accessible to minors. Violations during Synar inspections do not result in actual sales, so citations are not issued.

Wyoming's Synar results have been similar to the national violation rates (Figure 3). In 2012 and 2016, Wyoming's Synar noncompliance rate was unusually high because specific geographic areas had high violation rates. Since 2007, clerks failing to ask inspectors for identification has been the strongest predictor of retailer violations (WYSAC, 2017c).

Figure 3: Synar Weighted Retailer Violation Rates



Note: In 2010 and 2011, youth inspectors included 15-year-olds. Chewing tobacco inspections were about one-fifth of all Wyoming inspections in 2010 and 2011 and one-third from 2012–17. U.S. data are unavailable for 2014 and beyond.

Sources: SAMHSA, 2015; WYSAC, 2017c.

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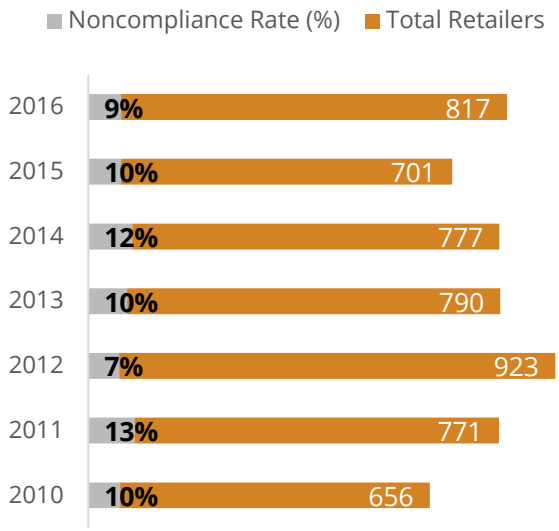
Each year, the Wyoming Association of Sheriffs and Chiefs of Police (WASCOP) conducts additional inspections of tobacco retailers. During WASCOP inspections, adolescent inspectors attempt to purchase cigarettes. Unlike Synar inspections, these compliance checks allow law enforcement officers to issue citations to merchants who sell to minors (WYSAC, 2016). Violation rates are generally slightly higher for WASCOP inspections (Figure 4) than Synar inspections.

Even though Wyoming retailers are generally compliant with laws restricting youth access to tobacco products (WYSAC, 2016; 2017c), data show that underage youth access tobacco despite legal restrictions. Sources include relatives, unrelated adults or minors, buying it themselves, taking it, and other non-specified sources (PNA, 2016 [based on 2014 data as the most recent year the question was asked]; YRBSS, 2015).

Figure 4: WASCOP Retailer Violation Rates

Noncompliance rates and number of retailers checked



Source: WYSAC, 2016.

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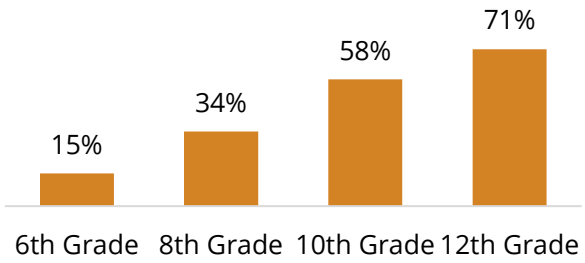
Figure 5: Access to Cigarettes Easier for Older Students

Percentage of students younger than 18 saying access to cigarettes was easy or very easy, by grade



Source: PNA, 2016.

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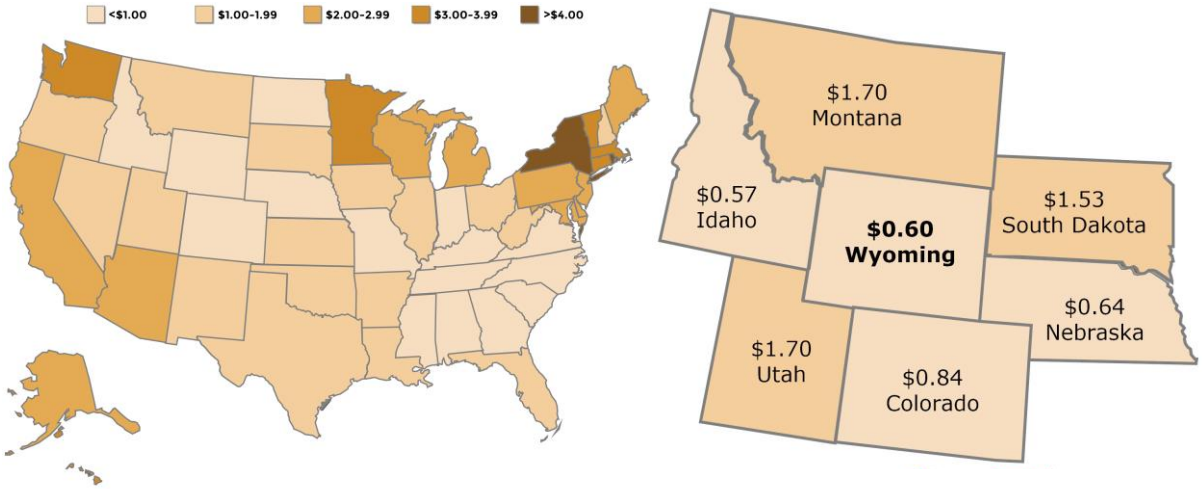
In 2016, 24% of Wyoming middle school students and 61% of Wyoming high school students under the age of 18 said it would be easy (either sort of easy or very easy) to get some cigarettes. Students in higher grades reported easier access to cigarettes than students in lower grades (Figure 5; PNA, 2016). Synar compliance checks in Wyoming have shown that clerks are more likely to sell tobacco to older or older-looking minors (WYSAC, 2017c). Together, these findings suggest that it is easier for youth to purchase or otherwise access cigarettes as they approach the age of 18.

Increasing the price of tobacco products, usually by increasing taxes, is another strategy to reduce youth initiation of tobacco use (CDC, 2014b; Chaloupka, Yurekli, & Fong, 2012; Guide to Community Preventive Services, 2015). State tax rates vary from a low of $0.17 per pack in Missouri to a high of $4.35 per pack in New York (Figure 6). The average state tax rate on cigarettes is $1.72 (not including the federal tax or

Figure 6: Wyoming's Cigarette Tax 8th Lowest Nationally

State cigarette excise tax per pack, as of September 30, 2017



Source: CDC, 2017.

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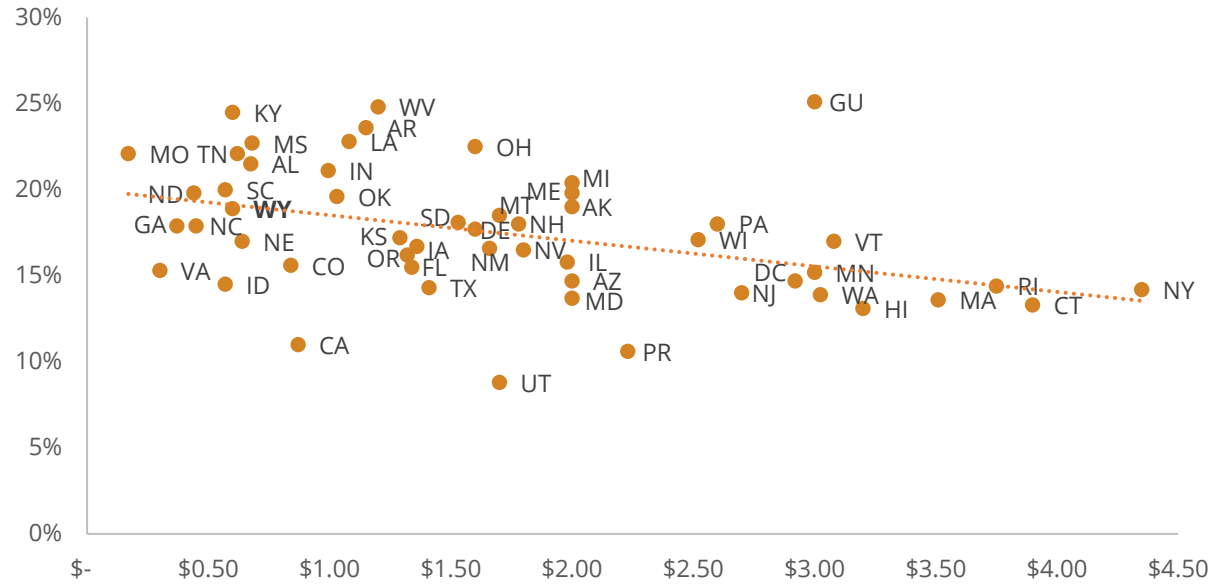
territories). Wyoming's tax is the eighth lowest in the nation, tied with the tobacco-producing state of Kentucky (CDC, 2017).

Consistent with CDC's approach to prevention (CDC, 2015), states that have low cigarette prevalence rates tend to have relatively high excise tax rates (Figure 7).

Consistent with every state that has implemented a significant cigarette tax increase (Farrelly

Figure 7: Higher Excise Taxes Are Generally Associated with Lower Adult Smoking Rates.

2016 excise taxes and 2016 adult smoking rates



Sources: BRFSS, 2016 (adult smoking prevalence); CDC, 2017 (2016 excise tax rates).

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Nimsch, & James, 2003), Wyoming experienced a decrease in cigarette consumption and an increase in tax revenue when it last raised its cigarette excise tax on July 1, 2003. Cigarette tax revenue increased from $6.6 million (in 2014 dollars)[2] in the fiscal year before the tax increase took effect to $19.1 million in fiscal year 2014 (Wyoming Department of Revenue [WYDOR], ca. 2014). WYSAC generated a statistical model based on data from 1996 through 2014 that predicts that an additional $1.00 tax increase per pack could generate a total tax revenue of $48.3 million during the first year (equivalent to $50.0 million in 2017 dollars; WYSAC, 2014).

[2] Equivalent to $5.1 million in 2003, but adjusted for inflation to allow direct comparison to the 2014 amount.

Exposure to Secondhand Smoke

Wyoming adults generally recognize the overall risk of breathing secondhand smoke; 97% think breathing secondhand smoke is very (63%) or somewhat (34%) harmful to one's health (WYSAC, 2017a). Smokefree indoor air policies and laws have demonstrated effectiveness in reducing youth initiation, reducing exposure to secondhand smoke, and increasing cessation of tobacco use (Guide to Community Preventive Services, 2015).

In 2014, 71% of Wyoming's registered voters supported the idea of a comprehensive statewide smokefree indoor air law.

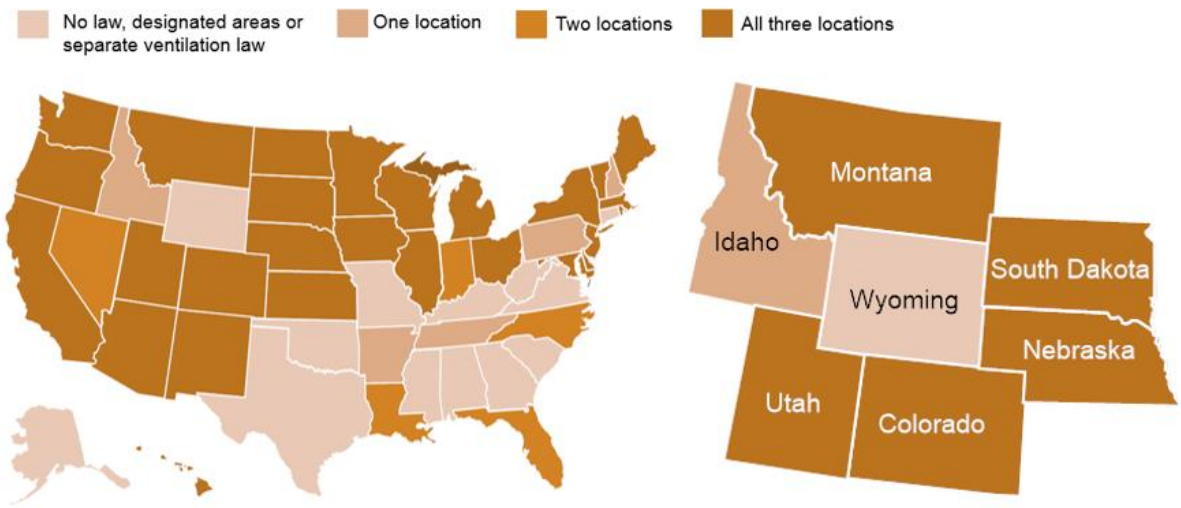
--WYSAC, 2015

Smokefree Indoor Air Laws: Wyoming and the Nation

Wyoming does not have a statewide smokefree indoor air law. However, every one of the six states bordering Wyoming has some sort of statewide smokefree indoor air law (Figure 8). Five of the six bordering states have a

Figure 8: Wyoming Is the Only State in the Region Without a Statewide Smokefree Indoor Air Law

Smokefree indoor air laws across the nation



Note: Locations are private workplaces, restaurants, and bars.

Source: CDC, 2017.

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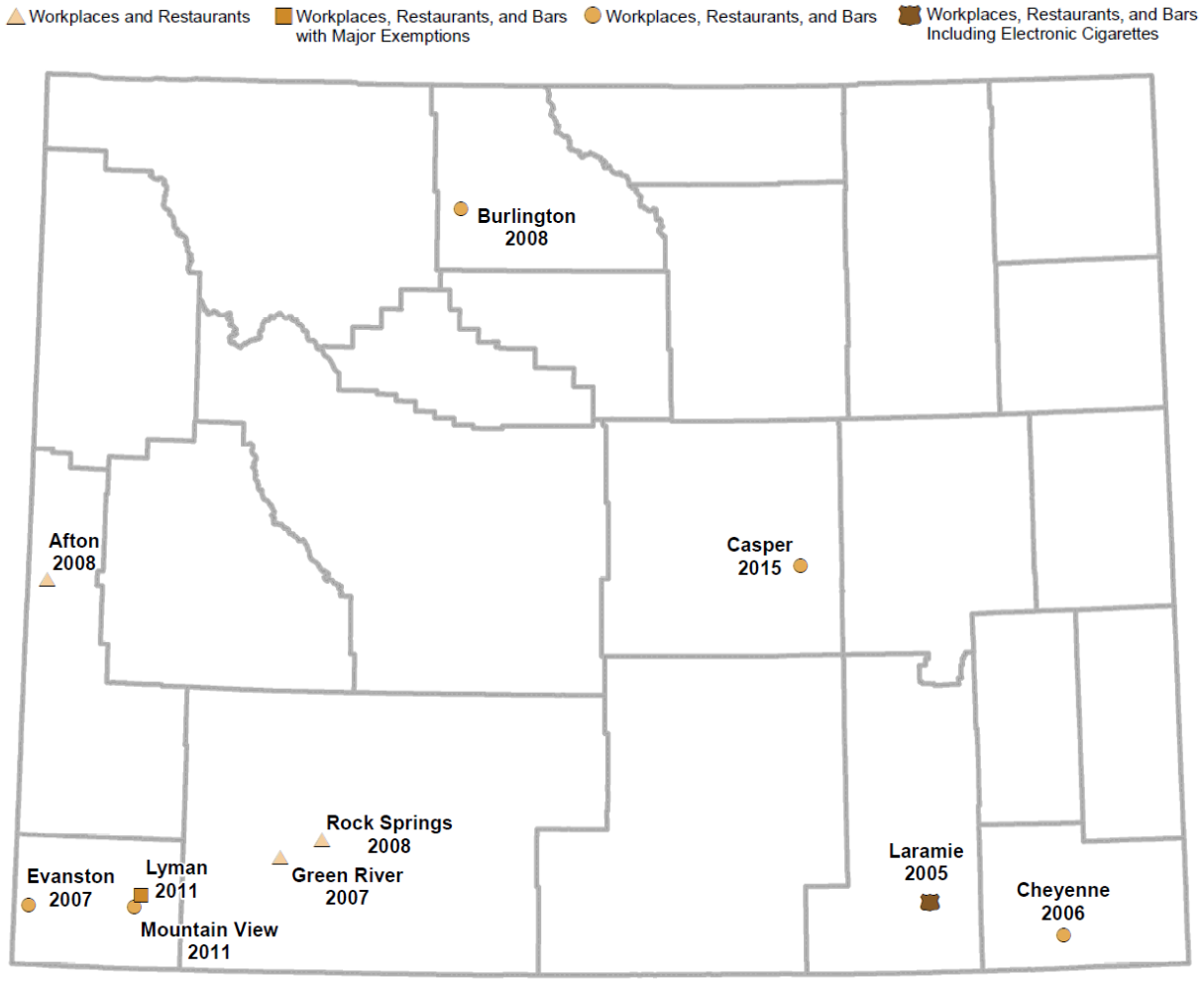
comprehensive smokefree indoor air law that covers private workplaces, restaurants, and bars. Idaho's law covers restaurants (CDC, 2016).

In the absence of a statewide smokefree indoor air law, Wyoming municipalities have enacted local laws (Figure 9). Laramie enacted Wyoming's first smokefree indoor air law in 2005. Since then, nine other municipalities have enacted smokefree indoor air laws. In total, these 10 laws cover 35% of the state's population (based on estimates from U.S. Census Bureau, ca. 2014). Currently, six cities in Wyoming have comprehensive smokefree indoor air laws that include indoor workplaces, indoor areas of restaurants, and indoor areas of bars. These comprehensive

Figure 9: Wyoming's Smokefree Indoor Air Laws

Towns in Wyoming with smokefree indoor air laws, areas covered by each law, and date of enactment



Sources: Municipal Codes of Afton, 2008; Burlington, 2008; Casper, 2015; Cheyenne, 2006; Evanston, 2007; Green River, 2007; Laramie, 2005; Lyman, 2011; Mountain View, 2011; Rock Springs, 2008.

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laws cover 29% of Wyoming residents. A law in Lyman includes a clause that allows business owners to opt out by prominently displaying signs identifying the business as a smoking establishment (Lyman Municipal Code, 2011). Because WYSAC does not have data about the decisions of all individual business owners in Lyman, WYSAC does not include Lyman residents as covered by a smokefree indoor air law.

Smokefree Policies

Voluntary smokefree policies in restaurants, bars, and other businesses also provide some protection from secondhand smoke (Guide to Community Preventive Services, 2015). In 2016, about half (51%) of Wyoming dining businesses (including bars) had a written policy about smoking or vaping. Written policies prohibiting smoking and vaping for all indoor areas (labeled Clean Air in Table 2) were most common among fast food restaurants. Full service restaurants were more likely to have clean air policies than full service restaurants with attached bars. Bars, taverns, and saloons (as a single category) were the least likely business type to have clean air policies (Table 2; WYSAC, 2017b).

Table 2: Healthier Indoor Air Policies Most Common in Fast Food Restaurants

Percentage of businesses with written indoor dining area policies by type of business

	Respondents	Smokefree	Vape-Free	Clean Air
Full service restaurant	99	59%	50%	50%
Bar/tavern/saloon	47	15%	2%	2%
Full service restaurant with bar	19	53%	53%	53%
Fast food restaurant	56	82%	73%	73%
Limited food service (coffee shop, gas station/convenience store, etc.)	21	43%	38%	38%
Overall	263	55%	46%	46%

Note: WYSAC does not present detailed results for unidentified venues (7 respondents), special events facilities (5 respondents), catering (5 respondents), private clubs (3 respondents), or other (1 respondent) businesses because of the low number of respondents in each category. They are included in the overall row.

Source: WYSAC, 2017b.

In 2016, the prevalence of clean air policies differed across lodging business type. Indoor clean air policies were most common in multi-use businesses (e.g., a business that is both a motel and campground). Motels were the least likely to have smokefree and vape-free policies (WYSAC, 2017b; Table 3).

Table 3: Multi-Use Lodging Most Likely to Have Healthier Indoor Air Policies

Percentage of businesses with healthier indoor air policies by business type

	Respondents	Smokefree	Vape-Free	Clean Air
Multi-use	6	80%	80%	80%
Bed-and-breakfast	12	75%	67%	67%
Hotel	44	70%	44%	42%
Resort/dude ranch	22	55%	55%	55%
Campground/RV park	13	46%	46%	46%
Motel	59	33%	33%	31%
Overall	156	52%	44%	42%

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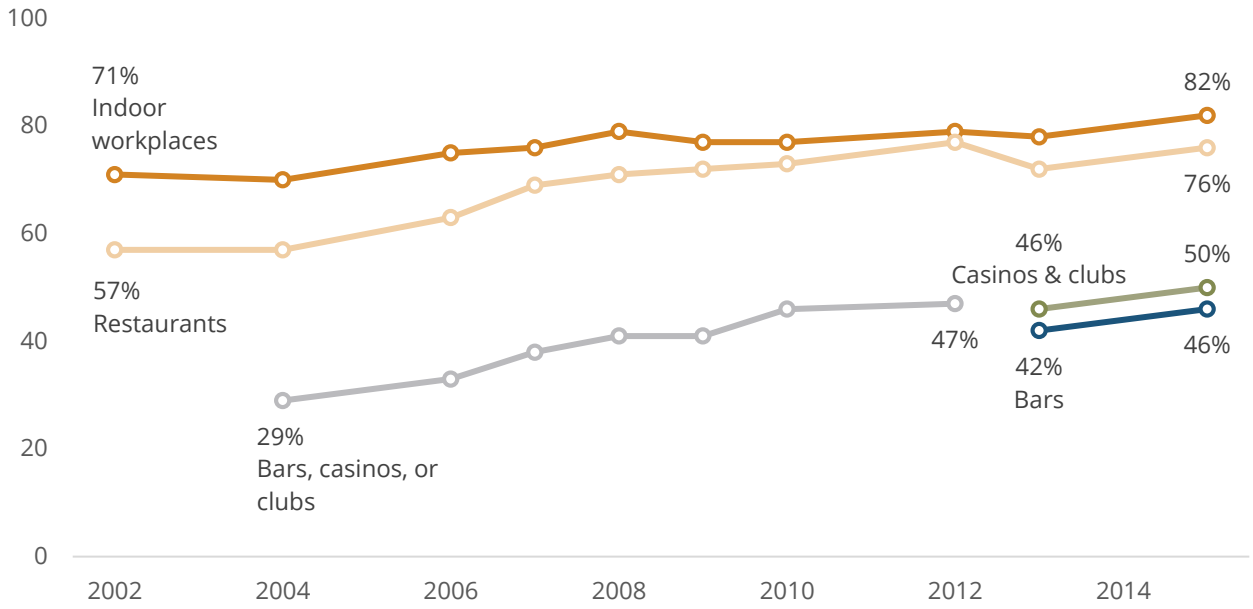
Support for smokefree policies in indoor workplaces has steadily increased from 71% in 2002 to 82% in 2015. Support for smokefree policies in restaurants has also steadily increased from 57% in 2002 to 76% in 2015. More Wyoming adults stated that smoking should never be allowed in casinos, clubs or bars in 2015 than in 2013, but support for smokefree bars was lower than for other venues (Figure 10; WYSAC, 2017a). Recent national data are not available for comparison.

Figure 10: Support for Smokefree Indoor Air Policies Increases for All Venues

Percentage of Wyoming adults who support smokefree indoor areas in…



Source: WYSAC, 2017a.

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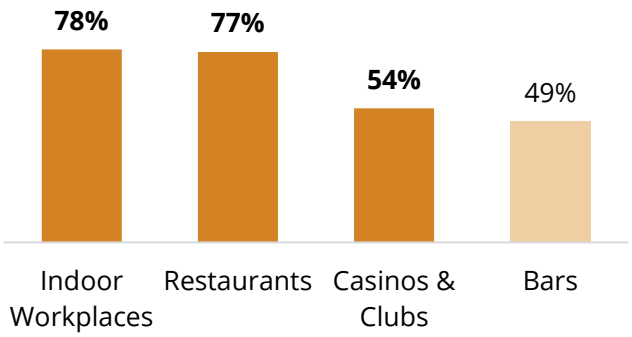
In 2015, most Wyoming adults reported they would support individual laws making indoor workplaces, indoor areas of restaurants, or indoor areas of casinos and clubs smokefree. Almost half of Wyoming adults would support a law making bars smokefree (Figure 11; WYSAC, 2017a). In 2014, 71% of Wyoming's registered voters said they would support a comprehensive statewide smokefree indoor air law applying to all these venues (WYSAC, 2015).

Figure 11: The Majority of Adults Support Statewide Smokefree Indoor Air Laws for Workplaces, Restaurants, and Casinos/Clubs

Percentage of adults who responded that they support a statewide law that makes each location smokefree indoors



Source: WYSAC, 2017a

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Most Wyoming adults who work primarily indoors are covered by policies prohibiting smoking in the indoor areas of their workplaces. However, these policies do not completely protect Wyoming workers from secondhand smoke because 22% reported breathing secondhand smoke at work in the past week (Table 4; WYSAC, 2017a).

Table 4: Most Indoor Workers Covered by Smokefree Air Policies

Percentage of adult, indoor workers who…

Reported that smoking in **indoor areas** of their workplace was **never allowed**	91%
Reported that smoking in **outdoor areas** of their workplace was **never allowed**	25%
Had **breathed smoke from someone smoking**, either indoors or outdoors, at their workplace in the past seven days	22%

Source: WYSAC, 2017a.

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Between 2002 and 2015, the percentage of Wyoming adults who did not allow smoking inside their homes increased from 72% to 87% (WYSAC, 2017a).

According to the *Wyoming 2016 School Health Profiles Report: Trend Analysis Report* (2017), schools qualify as tobacco-free when there is a policy that specifically prohibits the use of *all types of tobacco* (including cigarettes, smokeless tobacco, cigars, and pipes, but not necessarily ENDS) *by all people* (all students, faculty/staff, and visitors) *at all times* (including during non-school hours) *and in all places* (including school-sponsored events held off campus). In 2016, 40% of Wyoming schools had tobacco-free policies, a statistically significant decrease from 50% in 2014.

Tobacco Cessation

Benefits of Cessation

Smoking cessation has short- and long-term health benefits (Table 5). Some health effects of smoking cessation (e.g., increased lung functioning) are evident within a few weeks or months of quitting, suggesting that relatively brief periods of abstinence have health benefits. Others (e.g., reduced risk of stroke) are not fully evident for five years or longer, reflecting the long-term benefits of successful smoking cessation (as compiled by the American Cancer Society [ACS], 2015). Smoking cessation stops pathogenic processes which lead to cancer (CDC, 2010).

Table 5: Health Benefits of Cessation over Time

Time Since Last Cigarette	Benefit
SHORT-TERM BENEFITS	
20 minutes	Heart rate and blood pressure drop.
12 hours	Carbon monoxide level in blood returns to normal.
INTERMEDIATE BENEFITS	
2 weeks to 3 months	Circulation improves and lung function increases.
1 to 9 months	Coughing and shortness of breath decrease. Cilia in lungs regain normal function, increasing ability to handle mucus, clean lungs and reduce risk of infection.
1 year	Excess risk of coronary heart disease is half that of a continuing smoker.
LONG-TERM BENEFITS	
5 years	Risks of mouth, throat, esophagus and bladder cancers cut in half. Cervical cancer and stroke risk falls to that of a nonsmoker.
10 years	Lung cancer death rate is about half of a continuing smoker. Risk of larynx and pancreas cancer decreases.
15 years	Risk of coronary heart disease is the same as a nonsmoker.

Source: American Cancer Society (ACS), 2015.

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Cessation among Wyoming Smokers

In 2015, most (86%) adults in Wyoming who smoked every day or some days had stopped smoking for at least one day in their lifetime because they were trying to quit smoking for good. This statistic has remained fairly steady since 2010. Of those smokers who had tried to quit in their lifetime, over half tried to quit smoking at least once in the past year. The most popular cessation aid in Wyoming is nicotine replacement therapy (NRT): 28% of current smokers who had made a quit attempt within the previous year used NRT (WYSAC, 2017a).

The Wyoming Quit Tobacco Program (WQTP)

The WQTP assists Wyoming residents who want to quit using tobacco by offering them telephone-based cessation coaching and NRTs or prescription medications. In addition, the WQTP offers online, texting, and email support services. National Jewish Health has been the WQTP service provider since 2013.

In 2015, 67% of Wyoming adults reported having heard of the "Wyoming Quit Tobacco Program or WQTP." The most well-known WQTP services were telephone coaching and NRTs (Table 6; Tobacco Media Evaluation, 2015).

WYSAC conducts monthly surveys of WQTP enrollees seven months after their enrollment. Every six months, WYSAC generates a report primarily based on this follow-up survey. In this *Annual Summary*, WYSAC presents stable patterns in the results from those surveys.

Table 6: Telephone Coaching Most Recognized WQTP Service

Of the 67% adults having heard of the WQTP, percentage who had also heard of…

Telephone coaching	27%
Free nicotine replacement therapies	25%
Online services	11%
Prescription medication coupons	11%
Non-specific services or services not offered by the WQTP	6%

Source: Tobacco Media Evaluation, 2015.

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The majority of people who enroll in the WQTP do so to get help quitting cigarettes, though some seek help quitting smokeless tobacco, ENDS, and/or other tobacco (e.g., cigars, cigarillos, little cigars, hookah, and pipes). Seven months after enrollment, about one fourth to one third of WQTP survey respondents have succeeded in quitting tobacco use. Quitting is defined as not having used tobacco in the 30 days prior to completing the survey. Enrollees who use coaching and medication often see the greatest success rates, including a substantial improvement over using coaching alone (currently, enrollees must use coaching to obtain medications). The most recent version of WYSAC's WQTP report is here: https://wysac.uwyo.edu/wyomingtobacco/2017/12/18/wyoming-quit-tobacco-program-follow-up-survey-5/.

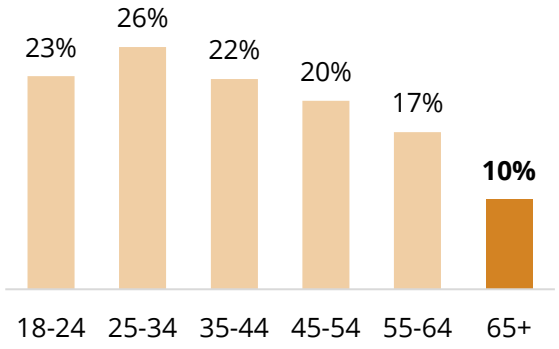
Tobacco-Related Disparities

Smoking

Within age and education, two demographic groups stand out as having low smoking rates: adults 65 years of age and older (Figure 12) and adults with a college degree (Figure 13). The 2016 BRFSS did not report a smoking prevalence for Black, Non-Hispanic people. The smoking prevalence rates were statistically similar for the available racial or ethnic groups: White, Non-Hispanic (18%); multiracial, Non-Hispanic (27%); Hispanic (20%); and other, Non-Hispanic (28%).

Figure 12: Smoking Lowest among Adults 65 and Older

Percentage of Wyoming adults who currently smoke by age



Source: BRFSS, 2016.

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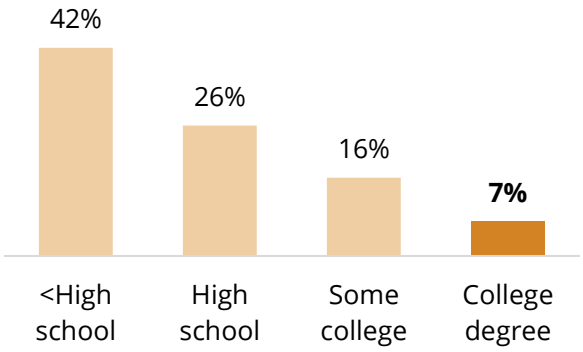
Figure 13: Smoking Lowest among Adults with a College Degree

Percentage of Wyoming adults who currently smoke by education



Source: BRFSS, 2016

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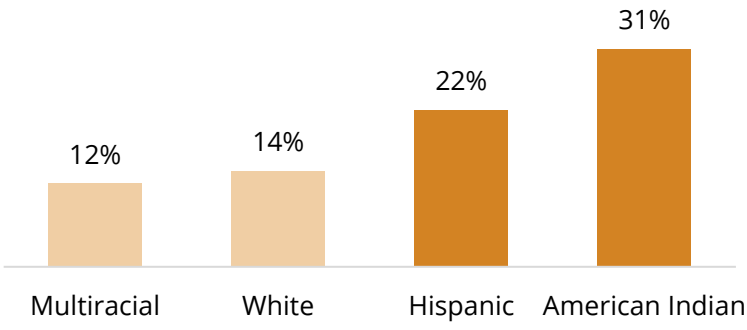
Young men and young women in high school smoke at about the same rate, but we do see a disparity when it comes to race and ethnicity. American Indian and Hispanic students smoke at higher rates than their counterparts do (Figure 14, YRBSS, 2015).

Figure 14: High School Smoking Was High among American Indian and Hispanic Students

Percentage of Wyoming high school students who currently smoke by race/ethnicity



Source: YRBSS, 2015.

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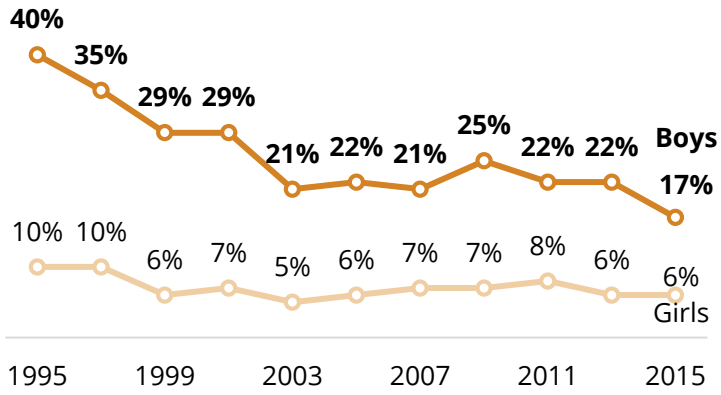
Smokeless Tobacco

Adult men (16%) are more likely than adult women (2%) to use smokeless tobacco (BRFSS, 2016).

This difference is also true for high school students. In each iteration of the YRBSS (2015), high school boys in Wyoming have used smokeless tobacco at a significantly higher rate than high school girls. For boys and girls, the use of smokeless tobacco has significantly declined since 1995 (Figure 15).

Figure 15: Smokeless Tobacco Use Highest among High School Boys

Percentage of Wyoming students who use smokeless tobacco



Source: YRBSS, 2015.

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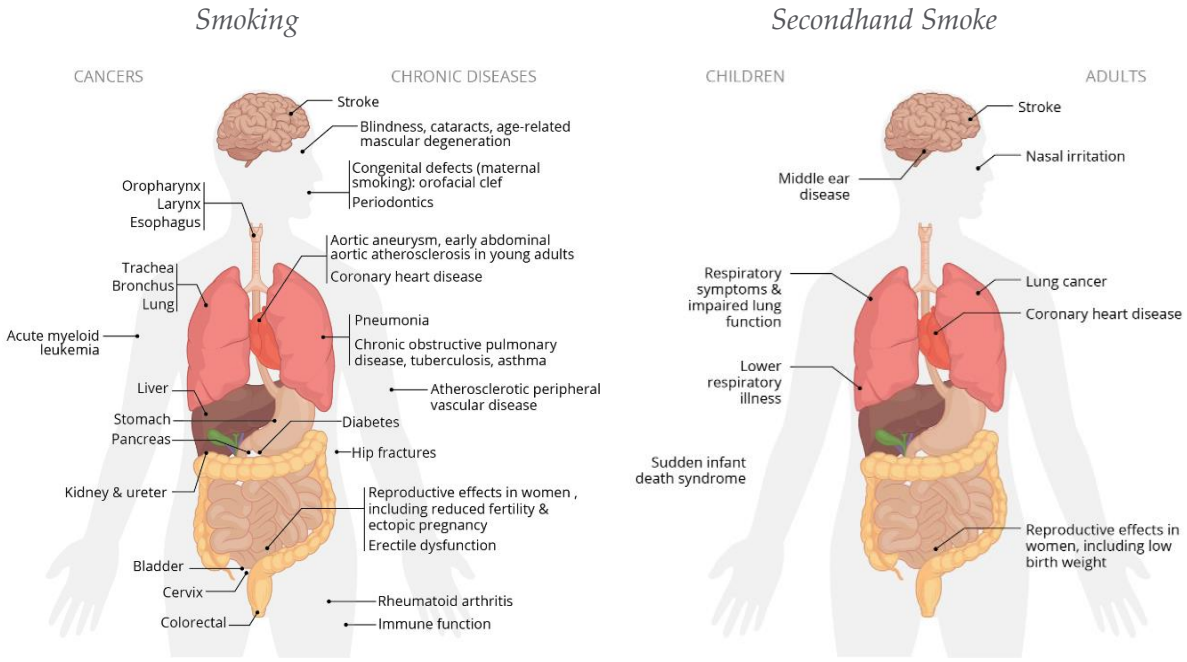
Burdens of Tobacco Use

Health Burdens

Chronic diseases are leading causes of death and sickness in the United States and Wyoming (CDC, National Center for Health Statistics, 2015). Smoking is the leading preventable cause of chronic disease and death in the United States (USDHHS, 2010). Although there is no safe level of exposure to tobacco smoke, greater exposure increases the risk for and severity of chronic disease. Cigarette smoke contains cancer-causing agents and chemicals linked to biological mechanisms that cause cardiovascular diseases, pulmonary diseases, respiratory diseases, and contribute to poor reproductive and dental health. More than 7,000 toxic chemicals comprise cigarette smoke, including ammonia, tar, and carbon monoxide. These chemicals increase the risk for developing several preventable chronic diseases for smokers and those who breathe secondhand smoke (Figure 16; USDHHS, 2014).

Figure 16: Health Burdens Causally Linked to Smoking and Secondhand Smoke



Source: U.S. Department of Health and Human Services (USDHHS), 2014.

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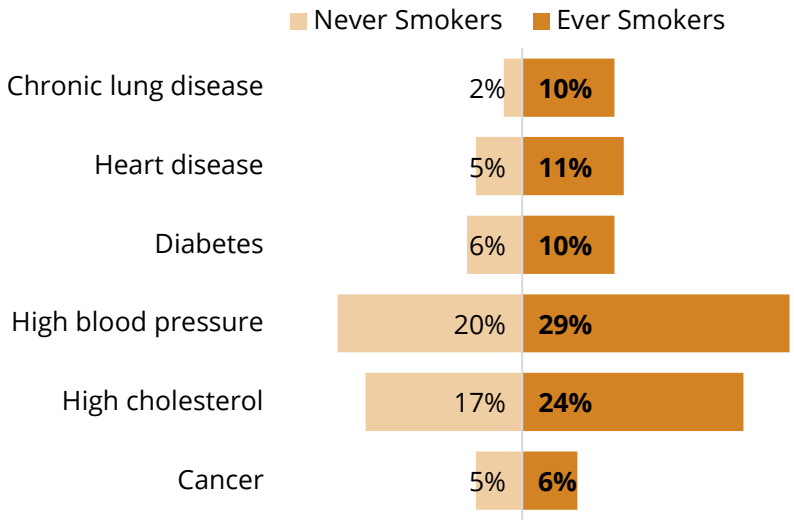
Compared to Wyoming nonsmokers, current and former smokers were 5.0 times more likely to have been diagnosed with chronic lung disease, 2.2 times more likely to have heart disease, 1.7 times more likely to have diabetes, 1.5 times more likely to have high blood pressure, 1.4 times more likely to have high cholesterol, and 1.2 times more likely to have cancer (Figure 17; WYSAC, 2017a).

Figure 17: Chronic Diseases More Common in Individuals Who Have Smoked

Percentage of nonsmokers versus current and former smokers who were told by a healthcare professional they had…



Note: Never smokers are those who have smoked fewer than 100 cigarettes in their lifetime. Ever smokers are those who have smoked at least 100 cigarettes in their lifetimes. Chronic lung disease does not include asthma; cancer does not include skin cancer.

Source: WYSAC, 2017a

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ENDS are a new tobacco-related product, so research on the contents of their liquid, aerosol, and health effects is limited. Research does show that vaping (the use of ENDS) negatively affects lung function (Cressey, 2014).

Early studies about the contents of the liquid and vapor show the presence of varying levels of nicotine as well as cancer-causing chemicals such as formaldehyde (American Lung Association, 2016). Overdoses have been reported, including among children, from drinking the nicotine liquid or spilling the liquid on their skin (CDC, 2014a). Many of the liquids also contain other chemicals for flavoring, which could be harmful when aerosolized and inhaled.

Economic Burdens

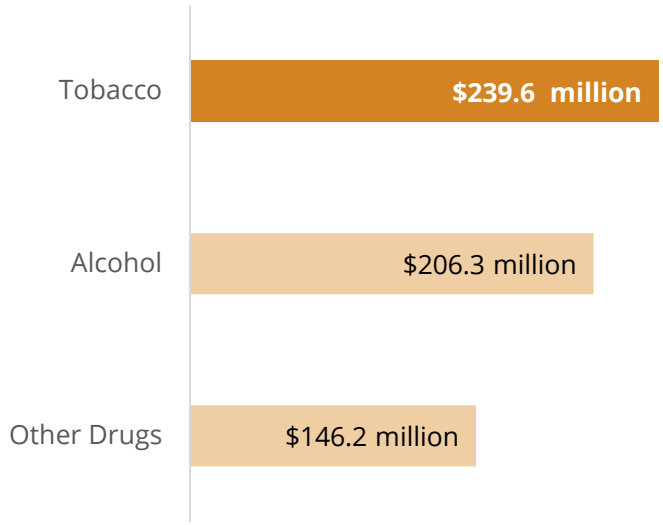
In 2010, tobacco-related healthcare cost Wyoming nearly $240 million, including private and public costs, more than alcohol and other drugs (Figure 18; WYSAC, 2012).

Smoking is associated with lost productivity nationally (USDHHS, 2015) and in Wyoming. Tobacco cost the state of Wyoming nearly $450 million in total productivity losses in 2010 (Table 7; WYSAC, 2012).

Smoking workers are generally less healthy and more costly for employers. Employing smokers is also associated with increased property loss and occupational disease (USDHHS, 2015). Berman, Crane, and Munur (2013) estimated that, on average, a U.S. smoker costs $5,816 more annually than a nonsmoker to employ. Smokers are more likely to be injured at work than nonsmokers (Craig et al. 2006; USDHHS, 2015).

Figure 18: Total Tobacco-Related Healthcare Costs Greater than Alcohol or Other Drugs

Wyoming's annual substance abuse-related total healthcare costs as of 2010



Source: WYSAC, 2012.

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Table 7: Smoking Associated with Nearly $450 Million in Productivity Losses in 2010

Loss of productivity costs associated with substance abuse in Wyoming, in millions of dollars

	Impaired Productivity	Hospitalization	Mortality	Total
Alcohol	$358.0	$0.8	$188.7	$547.5
Tobacco	$234.6	$0.9	$214.4	$449.9
Other drugs	$68.8	$0.4	$78.8	$148.0

Source: WYSAC, 2012.

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References

Afton, Wyoming, Municipal Code §6-8-04 (2008).

American Cancer Society. (2015). *Benefits of quitting smoking over time*. Retrieved April 18, 2016, from http://www.cancer.org/healthy/stayawayfromtobacco/benefits-of-quitting-smoking-over-time

American Lung Association. (2016). *E-cigarettes and lung health*. Retrieved July 27, 2017, from http://www.lung.org/stop-smoking/smoking-facts/e-cigarettes-and-lung-health.html?referrer=https://www.google.com/

Behavioral Risk Factor Surveillance System [Data file 1994-2016]. (2016). Atlanta, GA: Centers for Disease Control and Prevention. Retrieved October 23, 2017, from https://www.cdc.gov/brfss/brfssprevalence/index.html

Berman, M., Crane, R., Seiber, E., & Munur, M. (2013). Estimating the cost of a smoking employee. *Tobacco Control, 23*, 428-433. doi 10.1136/tobaccocontrol-2012-050888

Burlington, Wyoming, Municipal Code §8-64-40 (2008).

Casper, Wyoming, Municipal Code §8-16 (2015).

Centers for Disease Control and Prevention. (2010). *How tobacco smoke causes disease: The biology and behavioral basis for smoking-attributable disease–2010*. 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. Retrieved May 15, 2015, from http://www.ncbi.nlm.nih.gov/books/NBK53017/

Centers for Disease Control and Prevention. (2014a). Notes from the field: Calls to poison centers for exposures to electronic cigarettes—United States, September 2010–February 2014. *MMWR, 63*, 292–293.

Centers for Disease Control and Prevention. (2014b). *Preventing initiation of tobacco use: Outcome indicators for comprehensive tobacco control programs–2014*. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. Retrieved October 23, 2017, from https://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/preventing_initiation/pdfs/preventing_initiation.pdf

Centers for Disease Control and Prevention. (2015). *Promoting quitting among adults and young people: outcome indicators for comprehensive tobacco control programs—2015.* Atlanta, GA: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. Retrieved October 23, 2017, from https://www.cdc.gov/tobacco/stateandcommunity/tobacco_control_programs/surveillance_evaluation/key-outcome-2015/pdfs/KOI_Goal3_Update_12_28_15.pdf

Centers for Disease Control and Prevention. (2017). *State tobacco activities tracking and evaluation (STATE) system.* Retrieved October 23, 2017, from https://www.cdc.gov/statesystem/index.html

Centers for Disease Control and Prevention, National Center for Health Statistics [Data File 1999- 2015]. (2015). *Underlying Cause of Death 1999-2015.* Retrieved July 19, 2017, from http://wonder.cdc.gov/ucd-icd10.html

Chaloupka, F. J., Yurekli, A., Fong, G. T. (2012). *Tobacco taxes as a tobacco control strategy. Tobacco Control, 21*, 172-180. doi: 10.1136/tobaccocontrol-2011-050417

Cheyenne, Wyoming, Municipal Code §8-64-040 (2006).

Craig, C. N., Congleton, J. J., Kerk, C.J., Amendola, A.A., & Gaines, W. G. (2006). Personal and non-occupational risk factors and occupational injury/illness. *American Journal of Industrial Medicine, 49*, 249-206. doi: 10.1002/ajim.20290

Cressey, D. (2014). E-cigarettes: The lingering questions. *Nature, 513,* 24-26. Retrieved October 31, 2017, from http://www.nature.com/news/e-cigarettes-the-lingering-questions-1.15762

Evanston, Wyoming, Municipal Code §10-4 (2007).

Farrelly, M. C., Nimsch, C. T., & James, J. (2003). *State cigarette excise taxes: Implications for revenue and tax evasion*. Retrieved November 9, 2016, from http://www.rti.org/sites/default/files/resources/8742_Excise_Taxes_FR_5-03.pdf

Green River, Wyoming, Municipal Code §18-93 (2007).

Guide to Community Preventive Services. (2015). Reducing tobacco use and secondhand smoke exposure. Retrieved July 27, 2017, from https://www.thecommunityguide.org/sites/default/files/assets/What-Works-Tobacco-factsheet-and-insert.pdf

Laramie, Wyoming, Municipal Code §8-56-030 (2005).

Lyman, Wyoming, Municipal Code §4-4-5 (2011).

Mountain View, Wyoming, Municipal Code § 4-6-5 (2011).

Prevention Needs Assessment [Data File 2001-2016]. (2016). Laramie, WY: Wyoming Survey & Analysis Center, University of Wyoming.

Rock Springs, Wyoming, Municipal Code §4-1604 (2008).

Starr, G., Rogers, T., Schooley, M., Porter, S., Wiesen, E., & Jamison, N. (2005). *Key outcome indicators for evaluating comprehensive tobacco control programs.* Atlanta, GA: Centers for Disease Control and Prevention.

Substance Abuse and Mental Health Services Administration. (2015). FFY 2014 Annual Synar Reports: Tobacco sales to youth. Retrieved October 20, 2017, from https://store.samhsa.gov/shin/content/SYNAR-15/SYNAR-15.pdf

Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention. (2010). Implementing the Synar regulation: Tobacco outlet inspection. Retrieved October 1, 2010, from CSAP's State Online Resource Center (SORCE) http://sorce.e-prevention.org

Tobacco media evaluation [Data File]. (2015). Laramie, WY: Wyoming Survey & Analysis Center, University of Wyoming.

U.S. Census Bureau. [ca. 2014]. *American Fact Finder* [user interface tool]. Retrieved April 11, 2016, from http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

U.S. Department of Health and Human Services. (2010). *How tobacco smoke causes disease: The biology and behavioral basis for smoking-attributable disease: 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. Retrieved from http://www.ncbi.nlm.nih.gov/books/NBK53017/

U.S. Department of Health and Human Services. (2014). *The health consequences of smoking – 50 years of progress: A report of the Surgeon General*. Retrieved January 21, 2014, from http://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/index.htm

U.S. Department of Health and Human Services. (2015). *Promoting health and preventing disease and injury through workplace tobacco policie*s. Atlanta, GA. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. Retrieved from http://www.cdc.gov/niosh/docs/2015-113/pdfs/cib-67_2015-113_v5.pdf

U.S. Food and Drug Administration. (2013). FDA warns of health risks posed by e-cigarettes. Retrieved Sept 5, 2016, from http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm173401.htm

Wyoming 2016 School Health Profiles report: Trend analysis report. (2017). Retrieved December 18, 2017, from https://1ddlxtt2jowkvs672myo6z14-wpengine.netdna-ssl.com/wp-content/uploads/2015/11/2016WY-Trend-Report.pdf

Wyoming Department of Revenue. [ca. 2014]. *Cigarette tax distribution, by year*. Retrieved April 7, 2014, from http://revenue.wyo.gov/tax-distribution-reports/cigarette-tax-distribution-by-uear

WYSAC. (2012). *Cost of substance abuse in Wyoming 2010*, by N. M. Nelson, M. Kato, & H. Costello. (WYSAC Technical Report No. DER-1250). Laramie, WY: Wyoming Survey & Analysis Center, University of Wyoming.

WYSAC. (2014*). Tax revenue and cigarette consumption in Wyoming: May 1996 – April 2014*, by N. M. Nelson & M. Kato. (WYSAC Technical Report No. DER-1211). Laramie, WY: Wyoming Survey & Analysis Center, University of Wyoming.

WYSAC. (2015). *WYSAC fact sheet: 2014 election survey*. (WYSAC Fact Sheet No. CHES-1503). Laramie, WY: Wyoming Survey & Analysis Center, University of Wyoming.

WYSAC. (2016) *Wyoming Alcohol and Tobacco Sales Compliance Checks, 2016*, by Holder, W. T. (WYSAC Technical Report No. SRC-1609). Laramie, WY: Wyoming Survey & Analysis Center, University of Wyoming

WYSAC. (2017a). *2015 Wyoming Adult Tobacco Survey: Wyoming adults' attitudes about and use of tobacco products* by M. Kato, T. C. Cook, L. Todd, & L. H. Despain. (WYSAC Technical Report No. CHES-1702). Laramie, WY: Wyoming Survey & Analysis Center, University of Wyoming

WYSAC. (2017b). *2016 Hospitality Survey: Smoke- and vape-free policies in Wyoming's dining, drinking, and lodging establishments*, by L. Wimbish & L. H. Despain. (WYSAC Technical Report No. CHES-1660). Laramie, WY: Wyoming Survey & Analysis Center, University of Wyoming.

WYSAC. (2017c). *Synar 2017 (FFY 2018) report: Synar Inspection Study and Electronic Nicotine Delivery System (ENDS) Pilot Study*, by L. H. Despain & J. Penner. (WYSAC Technical Report No. CHES-1736). Laramie, WY: Wyoming Survey & Analysis Center, University of Wyoming.

Youth Risk Behavior Surveillance System [Data File 1991–2015]. (2015). Atlanta, GA: Centers for Disease Control and Prevention. Retrieved October 31, 2017, from http://www.cdc.gov/healthyyouth/yrbs/index.htm