

**CALIFORNIA TOBACCO FACTS AND FIGURES:  
A RETROSPECTIVE LOOK AT 2017**

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH  
CALIFORNIA TOBACCO CONTROL PROGRAM

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## INTRODUCTION

Established in 1989 after California voters passed the Tobacco Tax and Health Protection Act (Proposition 99), the California Tobacco Control Program (CTCP) is the longest running comprehensive tobacco control program in the nation. CTCP seeks to change tobacco use norms in the larger physical and social environment and to create an environment in which tobacco becomes less desirable, less acceptable, and less accessible. For many years, CTCP and local health agencies have chipped away at the tobacco use problem. 2016 marks one of the most important and historic years in California's efforts to protect the public's health by preventing and reducing tobacco use:

- The State Legislature passed six tobacco control bills in March 2016, with five of the bills signed by the Governor in May 2016.
  - SBX2-5 (Leno) mandates that electronic smoking devices be regulated as a tobacco product.
  - SBX2-7 (Hernandez) raises the minimum purchase age for tobacco from 18 to 21, except for active duty United States (U.S.) military personnel age 18 or older.
  - ABX2-7 (Stone) extends the workplace-smoking ban and closed loopholes.
  - ABX2-9 (Thurmond) requires school districts, charter schools, and county offices of education receiving funding from the tobacco-use prevention program to adopt and enforce a tobacco-free policy.
  - ABX2-11 (Nazarian) increases the tobacco licensing, distributor, and wholesaler fees.
- After voters overwhelmingly passed Proposition 56 in November 2016, the tax on cigarettes increased by \$2 per pack and by a commensurate amount on other tobacco products and electronic smoking devices. The tax became effective April 2017.

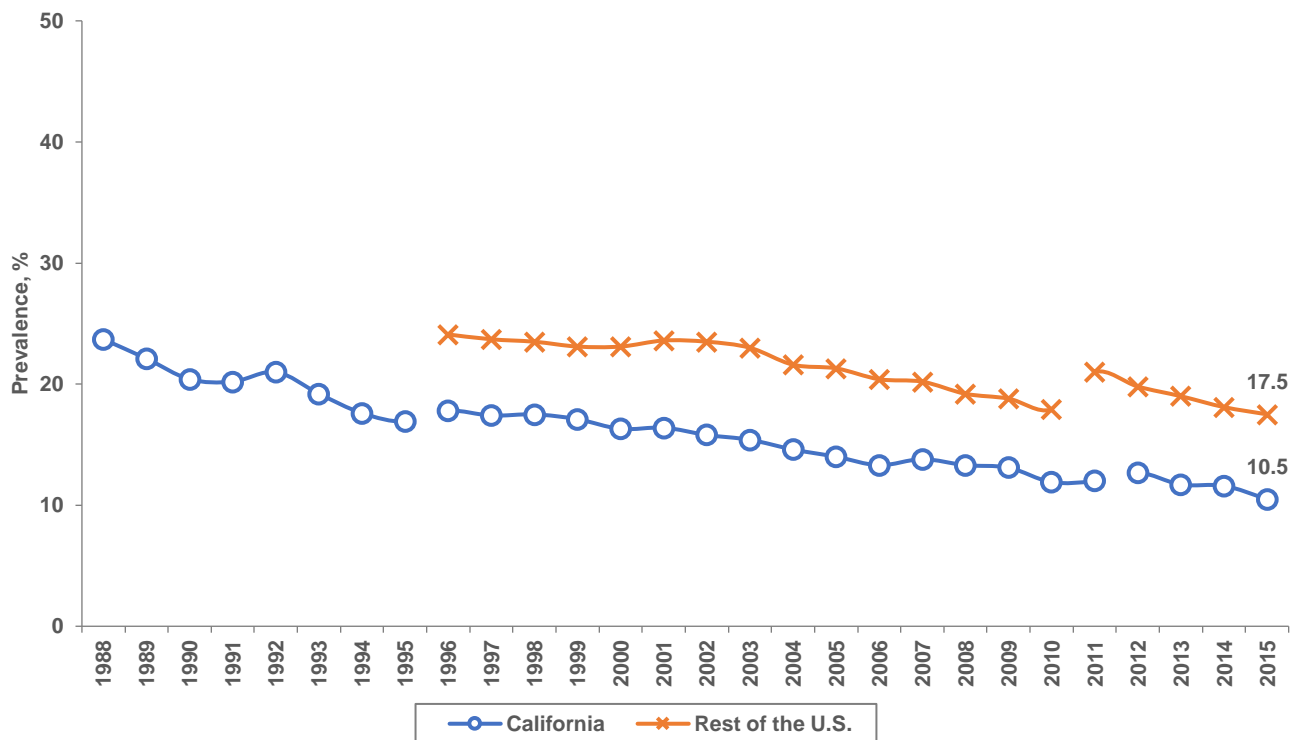
The *California Tobacco Facts and Figures: A Retrospective Look at 2017* serves as a quick reference on the status of tobacco use in California and the progress toward ending the tobacco epidemic in California. This report will highlight the rates of tobacco use, health effects, tobacco industry marketing, and usage of tobacco cessation services.

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## TOBACCO USAGE IN CALIFORNIA

The adult cigarette smoking rates in California has declined since the creation of California’s comprehensive tobacco control program in 1989. Smoking rates declined by 55.7 percent between 1988 and 2015, from 23.7 percent to 10.5 percent (Figure 1). California has the second lowest adult smoking rates among the 50 states plus the District of Columbia, second only to Utah;<sup>1</sup> however, California has the highest number of adult smokers (3.2 million adult smokers) because it is by far the most populous state.

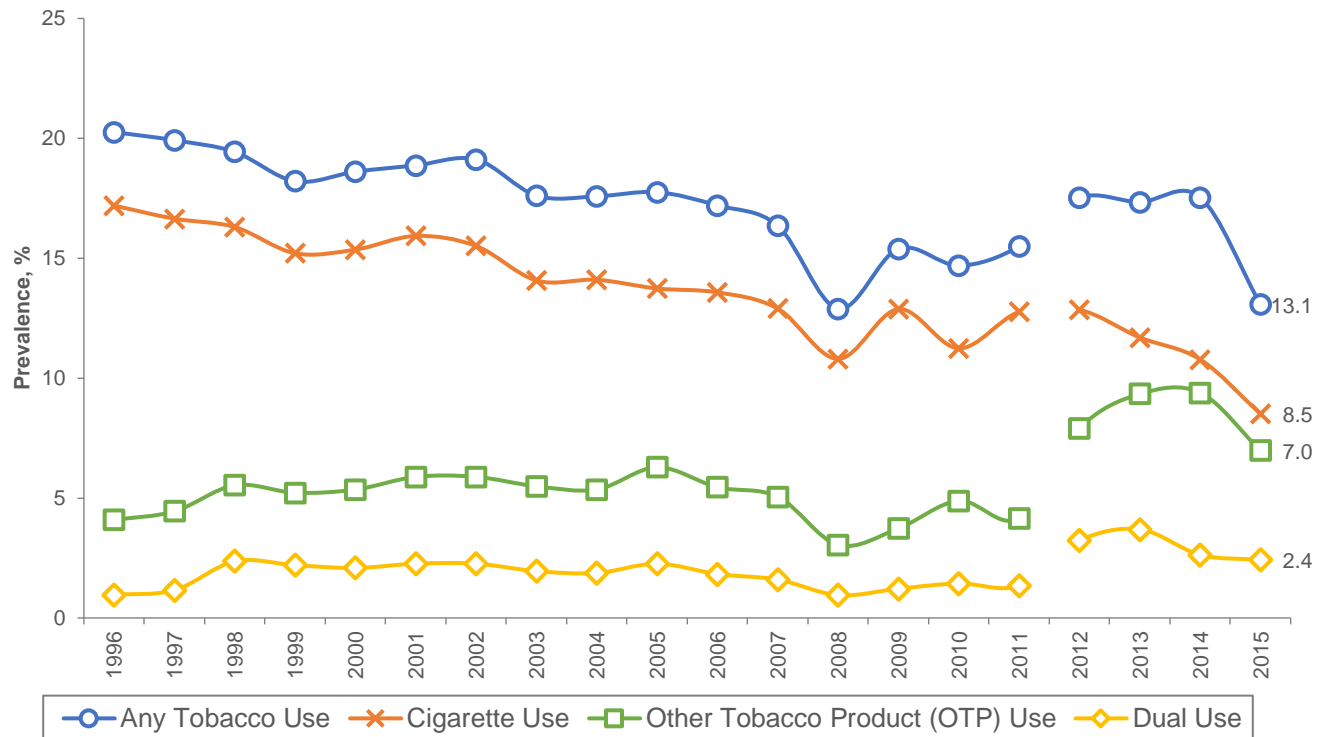
**Figure 1. Adult cigarette smoking prevalence rates in California and the rest of the U.S., 1988 to 2015**



**Note:** Restricted to respondents aged 18 or older. Respondents were asked to report cigarette smoking behavior. An adjustment was made to address the change of smoking definition in 1996 that included more occasional smokers. The weighting methodology changed in 2012 for California but changed for the rest of the U.S. in 2011. Data is weighted to the 2000 California population from 1988-2011 and to the 2010 California population since 2012. **Source:** California Department of Public Health, California Tobacco Control Program. Behavioral Risk Factor Surveillance System, 1988-2015. Sacramento, CA: California Department of Public Health; 2016.

It is important that all tobacco use (e.g. combustible tobacco, smokeless tobacco, electronic smoking devices) be monitored and addressed as any tobacco use is detrimental to health.<sup>2</sup> The adult tobacco use rate is at 13.1 percent in California (Figure 2). Recent estimates show that most adult tobacco users in California smoke cigarettes with 2.4 percent of adults using both cigarettes and at least one other tobacco product.<sup>3</sup>

**Figure 2. Adult tobacco use prevalence rates in California, 1996 to 2015**

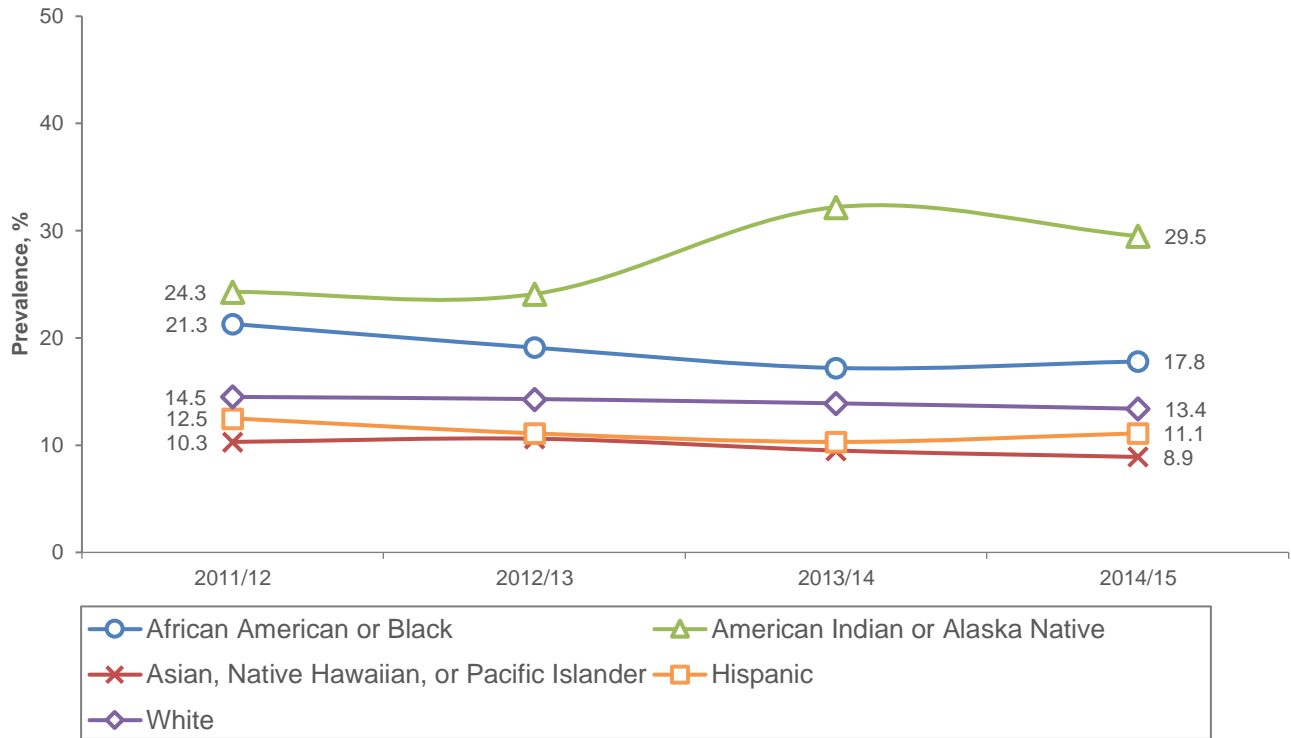


**Note:** Restricted to respondents aged 18 or older in the "Tobacco Track" (Track 3). Respondents were asked to report cigarette smoking and other tobacco use behavior. Other tobacco includes cigar, cigarillo, small cigar, pipe, chew, snuff, snus, hookah pipe, and electronic cigarettes. Prior to 2012, hookah pipe and electronic cigarettes were not included in the tobacco definition. Dual use is current use of cigarettes and one or more other tobacco product. Data is weighted to the 2010 California population. **Source:** California Department of Public Health, California Tobacco Control Program. Behavioral Risk Factor Surveillance System, 1996-2015. Sacramento, CA: California Department of Public Health; 2016.

## PRIORITY POPULATION AND OTHER SUBPOPULATION

Subpopulation analyses were conducted using California Health Interview Survey (CHIS) data. With the exception of the American Indian population, adult cigarette smoking rates declined in all other racial/ethnic groups (Figure 3). Some racial/ethnic groups exhibited a greater rate of decline than others did. Additionally, there continue to be substantial differences in smoking rates by gender among the African American population in California (males, 21.6 percent; females, 14.5 percent).<sup>4</sup> Stark gender differences were also observed among California’s Asian and Hispanic populations, with exceptionally low smoking rates observed in Asian and Hispanic women.<sup>4</sup>

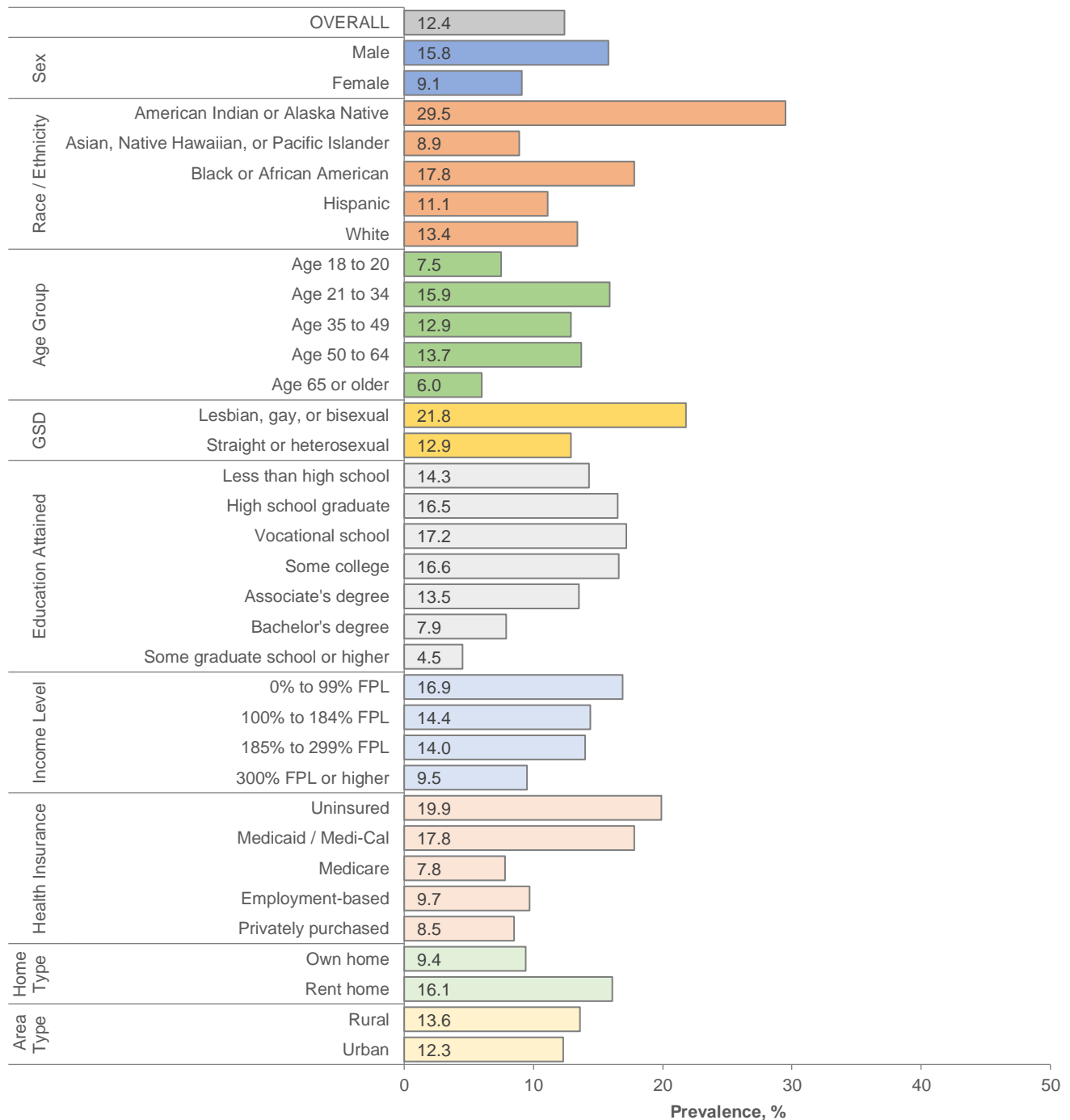
**Figure 3. Adult cigarette smoking prevalence rates in California by race/ethnicity, 2011-12 to 2014-15**



**Note:** Restricted to respondents aged 18 or older. Respondents were asked to report cigarette smoking behavior. Negative percentage indicates decrease in prevalence rates. Race or ethnicity categories are non-Hispanic unless otherwise noted. Data from CHIS were pooled together. **Source:** UCLA Center for Health Policy Research. AskCHIS 2011-2012, AskCHIS 2012-2013, AskCHIS 2013-2014, and AskCHIS 2014-2015: Current Smoking Status for Adults Age 18 or Older by Select Demographics. <http://ask.chis.ucla.edu/>. Accessed December 5, 2017.

Figure 4 also displays additional adult cigarette smoking rates for certain groups using pooled CHIS 2014-15. Consistent with national data,<sup>2,5</sup> smoking rates in California is significantly higher in men than women, and smoking rates decreases with higher levels of income and education completed.<sup>4</sup> In addition to the impact of high smoking rates, it is also important to look at the impact from groups that account for a significant portion of the overall number of smokers in California. For example, as shown in Figure 5, the American Indian population has a smoking rate at 29.5 percent, but the population only makes up a small portion of the overall 3.2 million smokers in California;<sup>4</sup> conversely, the Hispanic population has a lower smoking rate at 11.1 percent but accounts for approximately 1.1 million Hispanic smokers in California.<sup>4</sup>

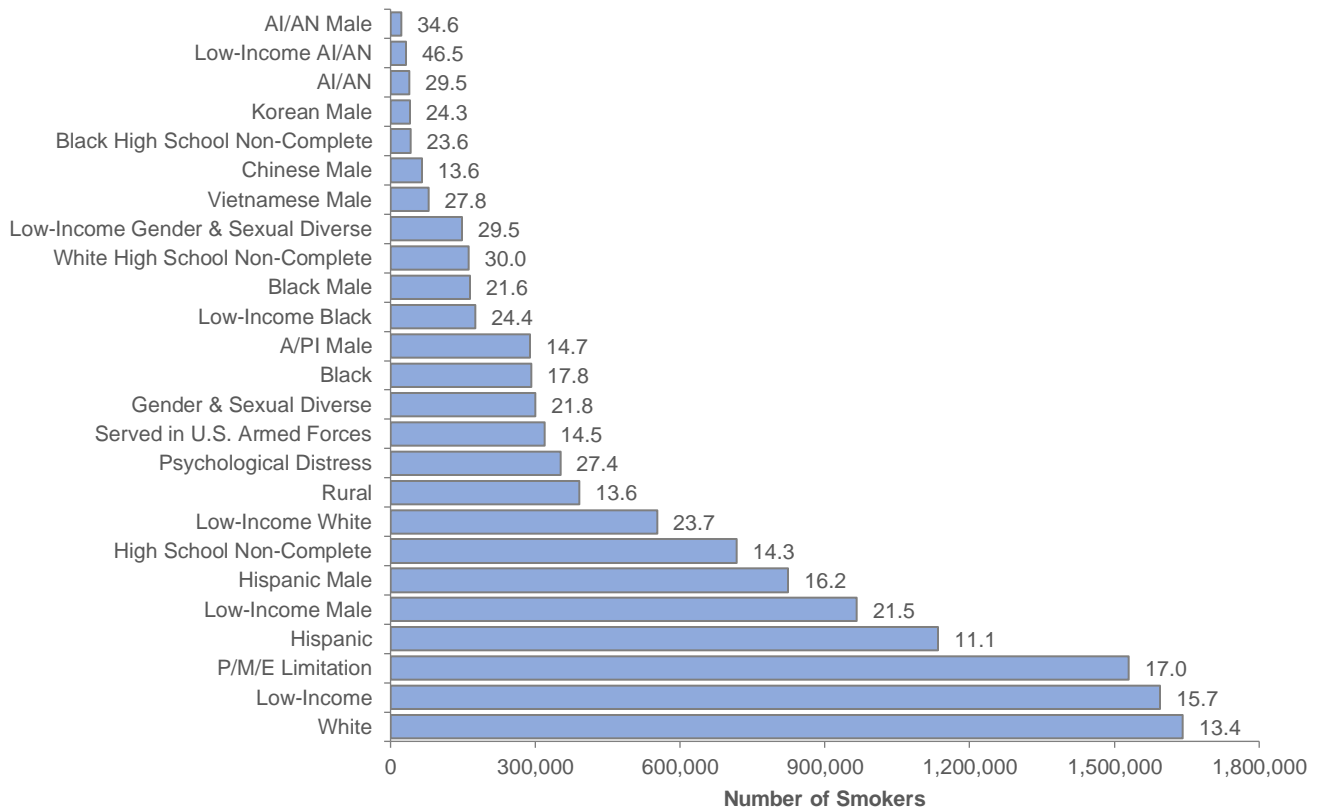
**Figure 4. Adult cigarette smoking prevalence rates in California by demographics, 2014-15**



**Note:** Restricted to respondents aged 18 or older. Respondents were asked to report cigarette smoking behavior. Race or ethnicity categories are non-Hispanic unless otherwise noted. GSD stands for gender and sexual diversity and FPL stands for federal poverty level. Rural and urban areas are based on definition from the Nielsen Consumer Activation, with rural areas having a population density fewer than 1,000 persons per square mile while urban areas having a population density of 1,000 persons or higher per square mile. Data from CHIS 2014 and CHIS 2015 were pooled together. **Source:** UCLA Center for Health Policy Research. AskCHIS 2014-2015: Current Smoking Status for Adults Age 18 or Older by Select Demographics. <http://ask.chis.ucla.edu/>. Accessed August 18, 2017.



**Figure 5. Adult cigarette smoking prevalence rates and number of smokers in California by demographics, 2014-15**

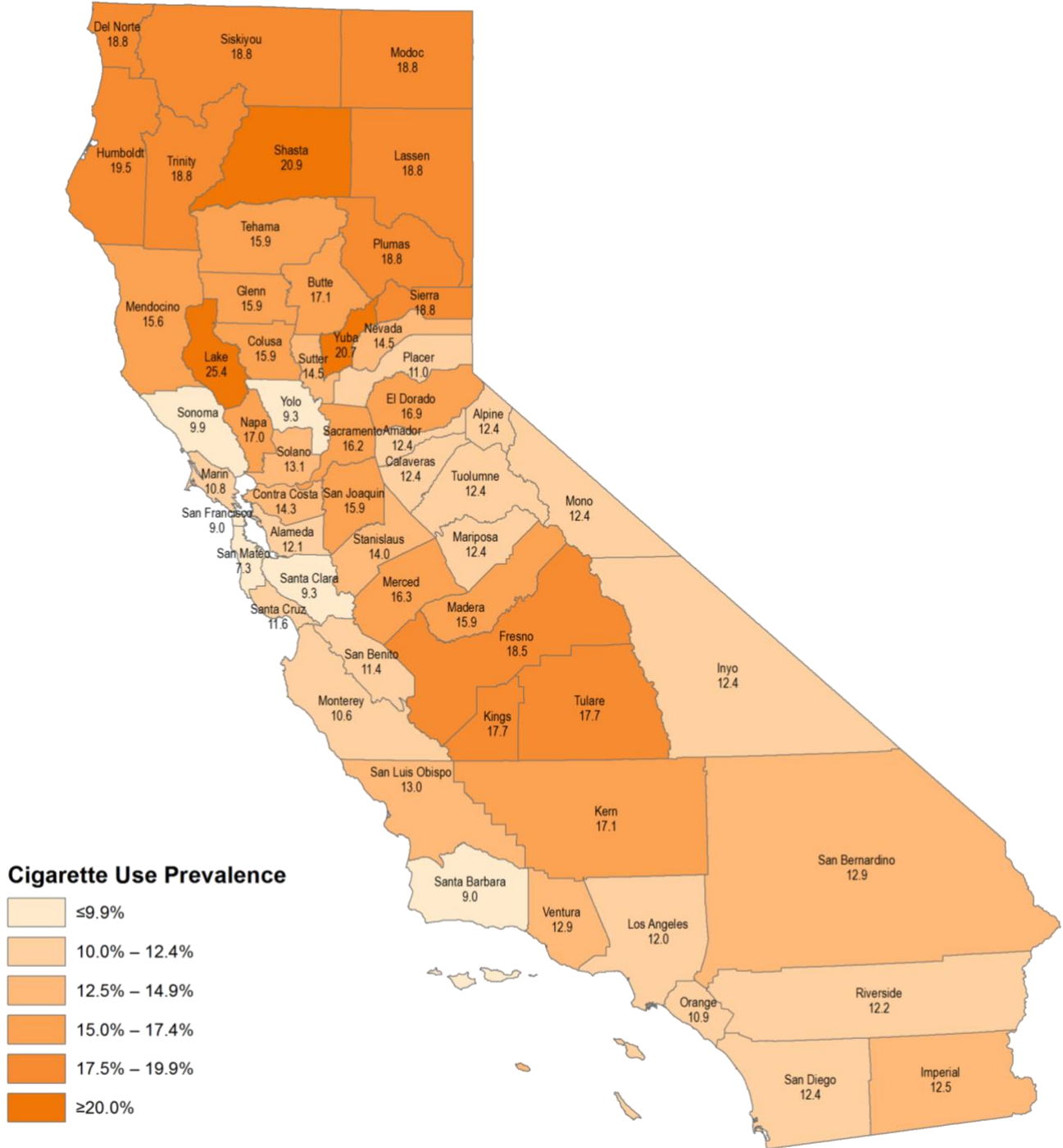


**Note:** Restricted to respondents aged 18 or older. Respondents were asked to report cigarette smoking behavior. Race or ethnicity categories are non-Hispanic unless otherwise noted. AI/AN stands for American Indian or Alaska Native, A/PI stands for Asian or Pacific Islander, P/M/E stands for physical, mental, or emotional. A/PI population includes Native Hawaiian. Gender & sexual diverse population includes only the lesbian, gay, or bisexual (LGB) population due to survey limitation. Low-income is defined as below 185 percent of the federal poverty level. Rural is based on definition from the Nielsen Consumer Activation, where the population density is fewer than 1,000 persons per square mile. Psychological distress is defined as experiencing psychological distress in the past month based on the Kessler 6 scale. P/M/E limitation is defined as a disability due to physical, emotional, or mental limitations. Data from CHIS 2014 and CHIS 2015 were pooled together. **Source:** UCLA Center for Health Policy Research. AskCHIS 2014-2015: Current Smoking Status for Adults Age 18 or Older by Select Demographics. <http://ask.chis.ucla.edu/>. Accessed August 18, 2017.

## GEOGRAPHICAL PATTERNS

California’s adult cigarette smoking rates varies by population density, with higher rates predominantly in rural counties. Figure 6 displays the adult smoking rates by county using data from pooled CHIS 2013-15 to provide statistically stable rates for all California counties, with the statewide smoking rate for the combined three-year at 12.6 percent.<sup>6</sup> The Northern and Sierra California counties had some of the highest rates, with Lake County at 25.4 percent.<sup>6</sup> In contrast to the rural regions, many counties containing urban areas have a smoking rate below the statewide level; important exceptions are San Joaquin, Sacramento, and Fresno counties. Out of the ten counties with the lowest smoking rates, half are in the San Francisco Bay Area.<sup>6</sup>

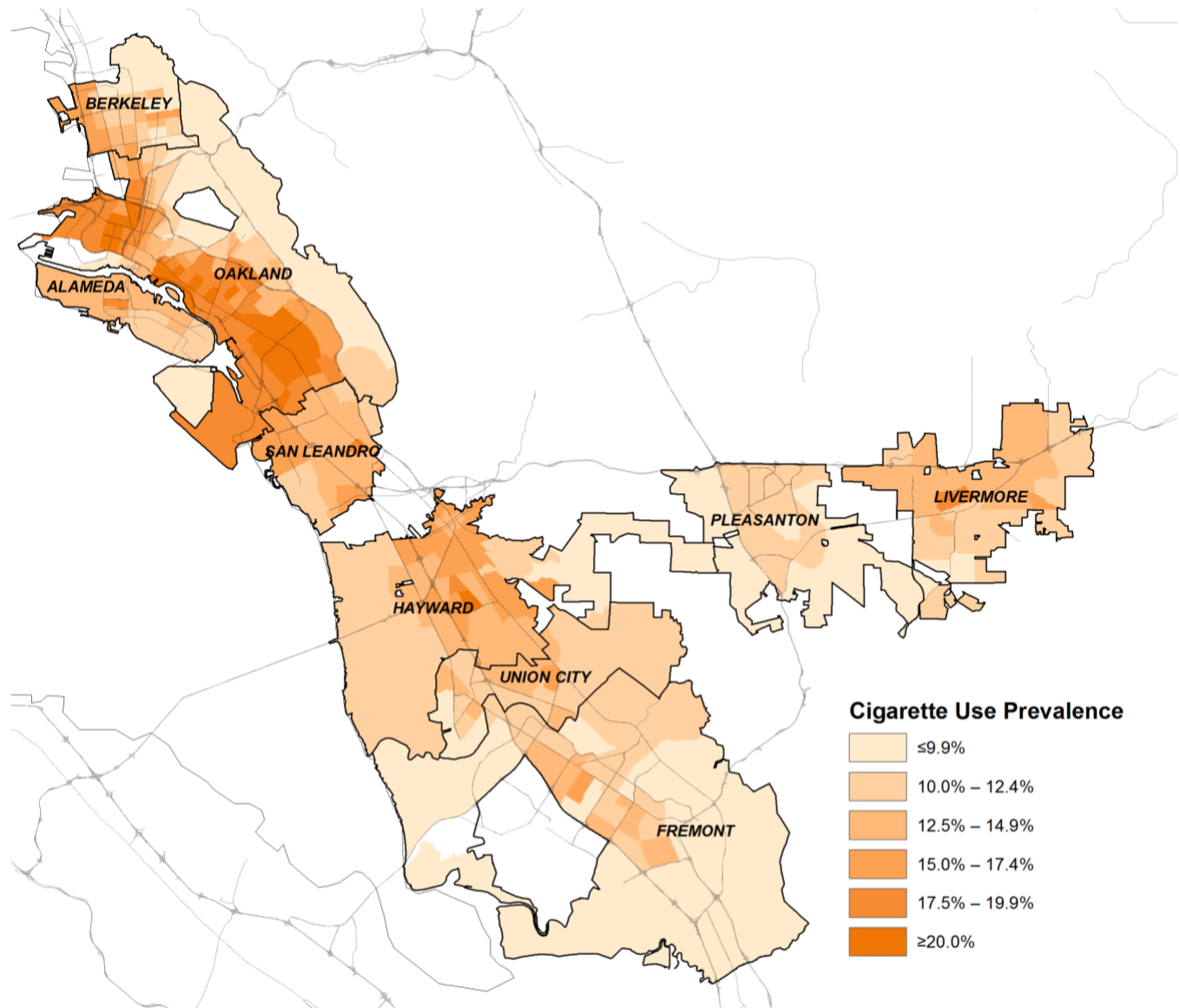
**Figure 6. Adult cigarette smoking prevalence rates in California by county, 2013-15**



**Note:** Restricted to respondents aged 18 or older. Respondents were asked to report cigarette smoking behavior. Data from CHIS 2013, CHIS 2014, and CHIS 2015 were pooled together. Caution should be used when interpreting the data for Yolo County as the relative standard error is between 30 and 50 percent. **Source:** UCLA Center for Health Policy Research. AskCHIS 2013-2015: Current Smoking Status for Adults Age 18 or Older by County. <http://ask.chis.ucla.edu/>. Accessed August 18, 2017.

Although urban counties may have adult smoking rate below the statewide level, it is important to recognize that there are cities and neighborhoods within a county where there may be a high smoking rate. For example, in Alameda County, there are numerous census tracts where the adult smoking rate is estimated to exceed 20.0 percent based on modeling from the 500 Cities Project (Figure 7).<sup>7</sup>

**Figure 7. Modeled-based adult cigarette smoking prevalence rates in Alameda County by census tract, 2014**



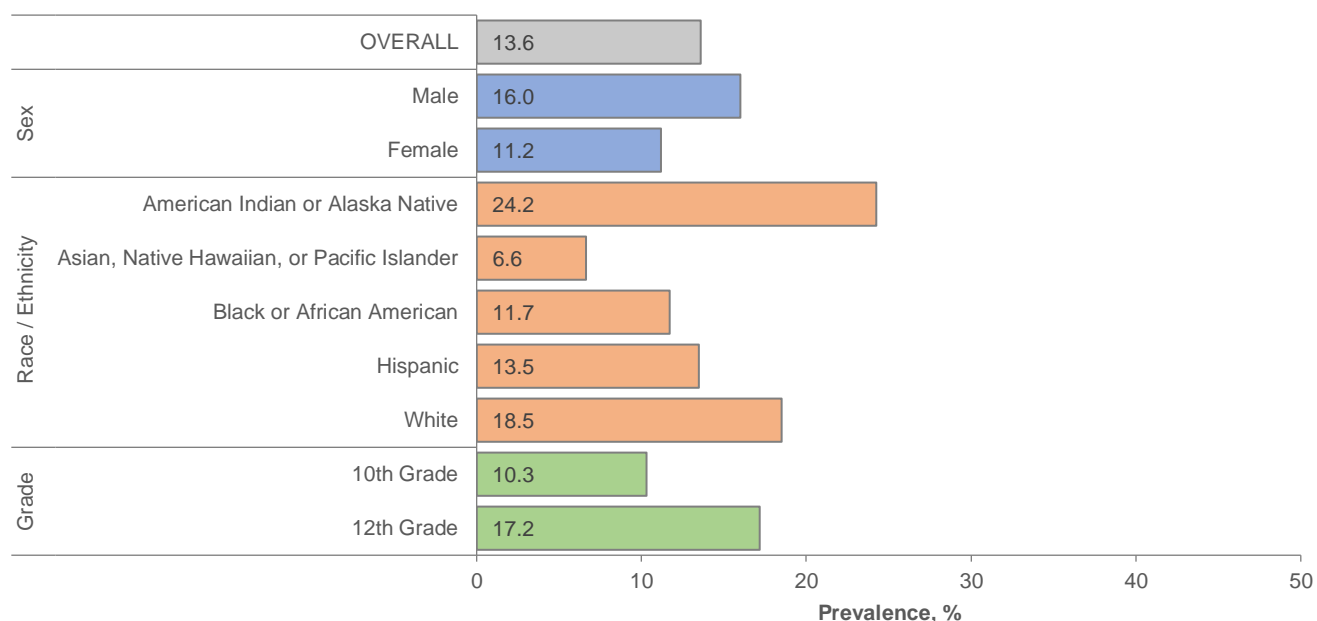
**Note:** Prevalence estimates were modeled based on Behavioral Risk Factor Surveillance System, Census Bureau population, and American Community Survey. This figure only includes census tracts from the following cities in Alameda County: Alameda, Berkeley, Fremont, Hayward, Livermore, Oakland, Pleasanton, San Leandro, and Union City. Data for census tracts with population less than 50 were suppressed. **Source:** Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. 500 Cities: Local Data for Better Health. Atlanta, GA: Centers for Disease Control and Prevention; 2016.

## TOBACCO USE AMONG CALIFORNIA'S YOUTH

Nationally, 86.9 percent of ever adult daily cigarette smokers reported trying cigarettes by the age of 18.<sup>2</sup> In California, 67.1 percent of current cigarette smokers start by the age of 18 and 96.8 percent start by the age of 26.<sup>3</sup> Reducing the initiation rate within young adults could be a highly effective and efficient method of reducing long-term smoking rates in the state.<sup>8</sup>

Overall tobacco use rate is at 13.6 percent among California high school students (Figure 8), or approximately 278,000 California high school students. Consistent with national trends,<sup>9,10</sup> male and older youths also use tobacco at a higher rate compared to female and younger youths.

**Figure 8. Youth tobacco use prevalence rates among high school students in California, 2016**

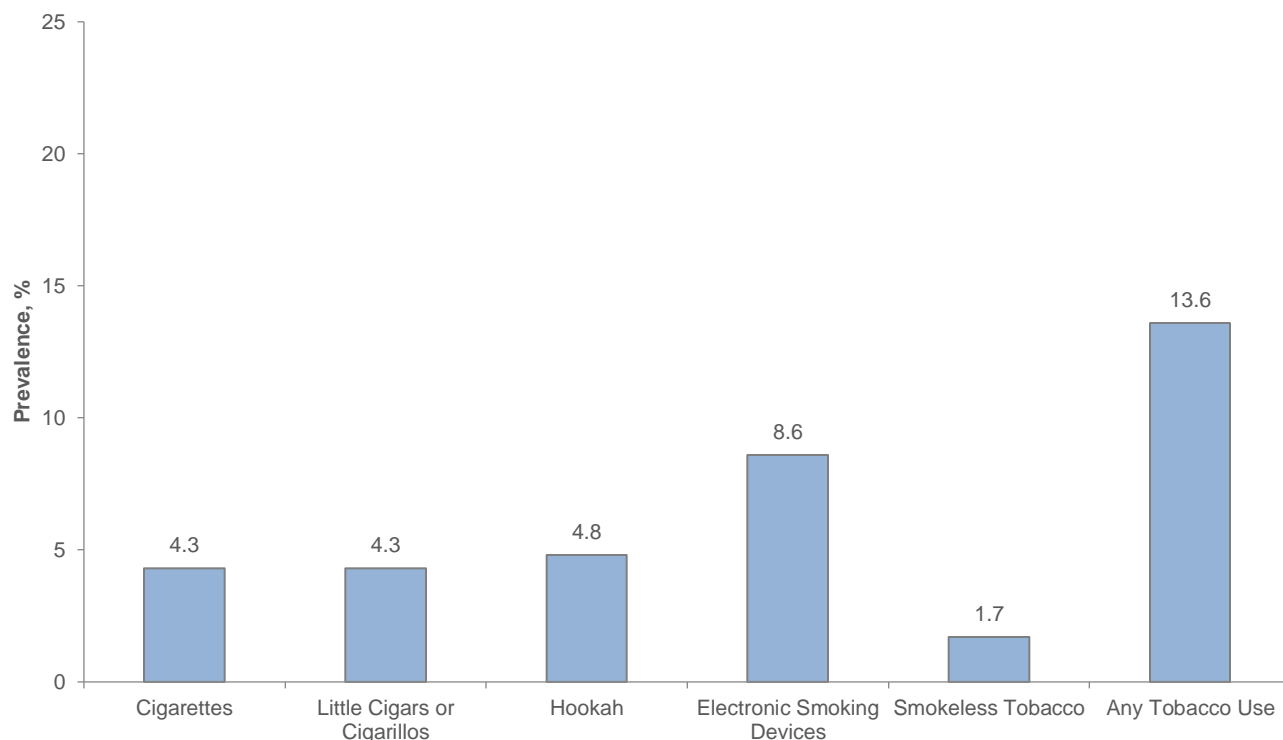


**Note:** Restricted to respondents in high schools. Respondents were asked to report cigarette smoking and other tobacco use behavior. Other tobacco includes big cigar, little cigars or cigarillo, hookah, smokeless tobacco (e.g. chew, dip, snuff, snus), and electronic cigarettes. Race or ethnicity categories are non-Hispanic unless otherwise noted. **Source:** California Department of Public Health, California Tobacco Control Program. California Student Tobacco Survey, 2015-2016. Sacramento, CA: California Department of Public Health; 2016.

Tobacco use remains a challenge as youths are gravitating towards electronic smoking devices over traditional cigarettes as exhibited in Figure 9. Youth are using electronic smoking devices who would otherwise not have smoked cigarettes or use other tobacco products.<sup>11</sup> Adolescent electronic smoking device users are also more likely to start smoking traditional cigarettes versus non-electronic smoking device users.<sup>12-14</sup> Nationwide, middle and high school electronic smoking device use rate is at 4.3 and 11.3 percent, respectively, and is the most common tobacco product used according to the 2016 National Youth Tobacco Survey.<sup>9</sup>

Youth cigarette smoking rate among high school students in California fluctuated between 13.0 and 16.0 percent between 2002 through 2010.<sup>15</sup> The decline in smoking among California students from 2010 through 2012 coincides with the passage of the Family Smoking Prevention and Tobacco Control Act in 2009 that banned marketing of flavored cigarettes, restricted marketing, and enhanced enforcement. The most recent estimate is 4.3 percent in 2016 (Figure 9), with the decline in smoking rate being consistent with national trends.<sup>10,16</sup>

**Figure 9. Youth tobacco use prevalence rates among high school students in California by product type, 2016**



**Note:** Restricted to respondents in high schools. Respondents were asked to report cigarette smoking and other tobacco use behavior.  
**Source:** California Department of Public Health, California Tobacco Control Program. California Student Tobacco Survey, 2015-2016. Sacramento, CA: California Department of Public Health; 2016.

## MENTHOL CIGARETTES AND FLAVORED TOBACCO

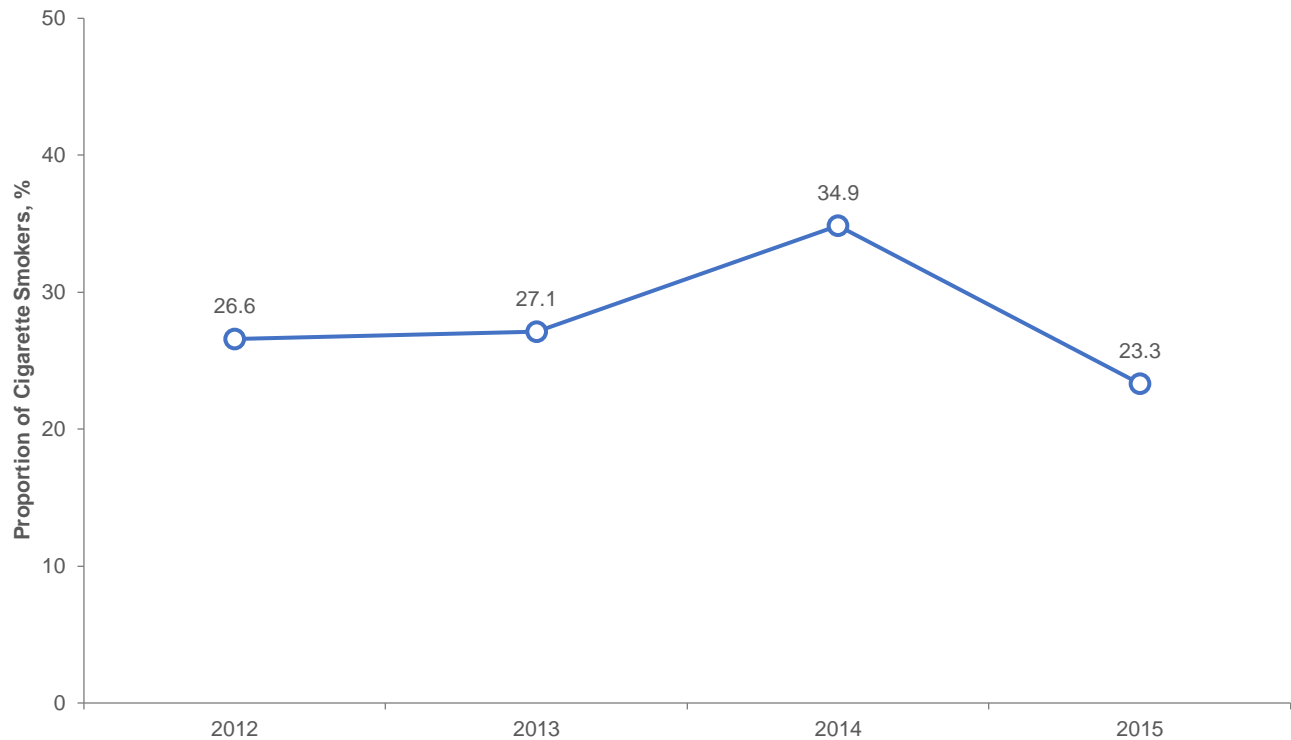
The use of menthol and flavor additives in tobacco products have long been a popular industry strategy to mask the harshness and taste of tobacco.<sup>17</sup> In 2009, the Family Smoking Prevention and Tobacco Control Act required the U.S. Food and Drug Administration (FDA) to end the manufacture, marketing, and sale of cigarettes that contained characterizing flavors other than that of tobacco and menthol. This ban went into effect in September 2009.<sup>18</sup> However, this ban only applied to cigarettes that contained any artificial or natural characterizing flavor. It did not apply to other tobacco products such as little cigars, hookah, smokeless tobacco or electronic smoking devices. Flavored tobacco products are a gateway for many children and young adults to become regular smokers.<sup>18</sup>

## MENTHOL CIGARETTES

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Menthol cigarettes are disproportionately smoked by the African American population, the gender and sexual diverse population, and the youth population.<sup>19,20</sup> Approximately 25 to 30 percent of cigarette smokers in the U.S. smoke menthol cigarettes.<sup>21,22</sup> Similar rates have been found in adult California smokers (Figure 10). For California high school students, in 2016, the percentage of smokers who usually smoke menthol-flavored cigarettes was 43.6 percent.<sup>23</sup>

**Figure 10. Menthol usage among adult cigarette smokers in California, 2012 to 2015**



**Note:** Restricted to respondents aged 18 or older and current smokers in the "Tobacco Track" (Track 3). Respondents were asked if they usually smoke menthol cigarettes. Data is weighted to the 2010 California population. **Source:** California Department of Public Health, California Tobacco Control Program. Behavioral Risk Factor Surveillance System, 2012-2015. Sacramento, CA: California Department of Public Health; 2016.

## FLAVORED TOBACCO

Nationally, 70 to 80 percent of middle and high school tobacco users have used at least one flavored tobacco product in the past 30 days.<sup>24,25</sup> Among adult other tobacco product (cigars, little cigars, cigarillos, snus, hookah, and electronic smoking devices) users, 70.3 percent reported using flavored products (Table 1). In addition, eight out of ten young adults 18 to 24 that currently use other tobacco products reported flavor usage.

**Table 1. Flavored use among California adults who use other tobacco products by select demographics, 2013-15**

Demographics	Cigar, Little Cigar, or Cigarillo Users	Electronic Smoking Device Users	Overall Other Tobacco Product Users
<b>Sex:</b>			
Male .....	47.3%	84.7%	<b>74.3%</b>
Female .....	--	62.8%	<b>61.1%</b>
<b>Age group:</b>			
Age 18 to 24.....	--	86.6%	<b>86.4%</b>
Age 25 to 44.....	51.5%	86.6%	<b>78.9%</b>
Age 45 to 64.....	22.7%	52.0%	<b>44.8%</b>
Age 65 or older .....	--	--	<b>34.2%</b>
<b>Race/ethnicity:</b>			
Hispanic .....	--	--	<b>75.0%</b>
Non-Hispanic .....	43.6%	77.5%	<b>68.6%</b>
<b>OVERALL</b>	<b>45.0%</b>	<b>77.6%</b>	<b>70.3%</b>

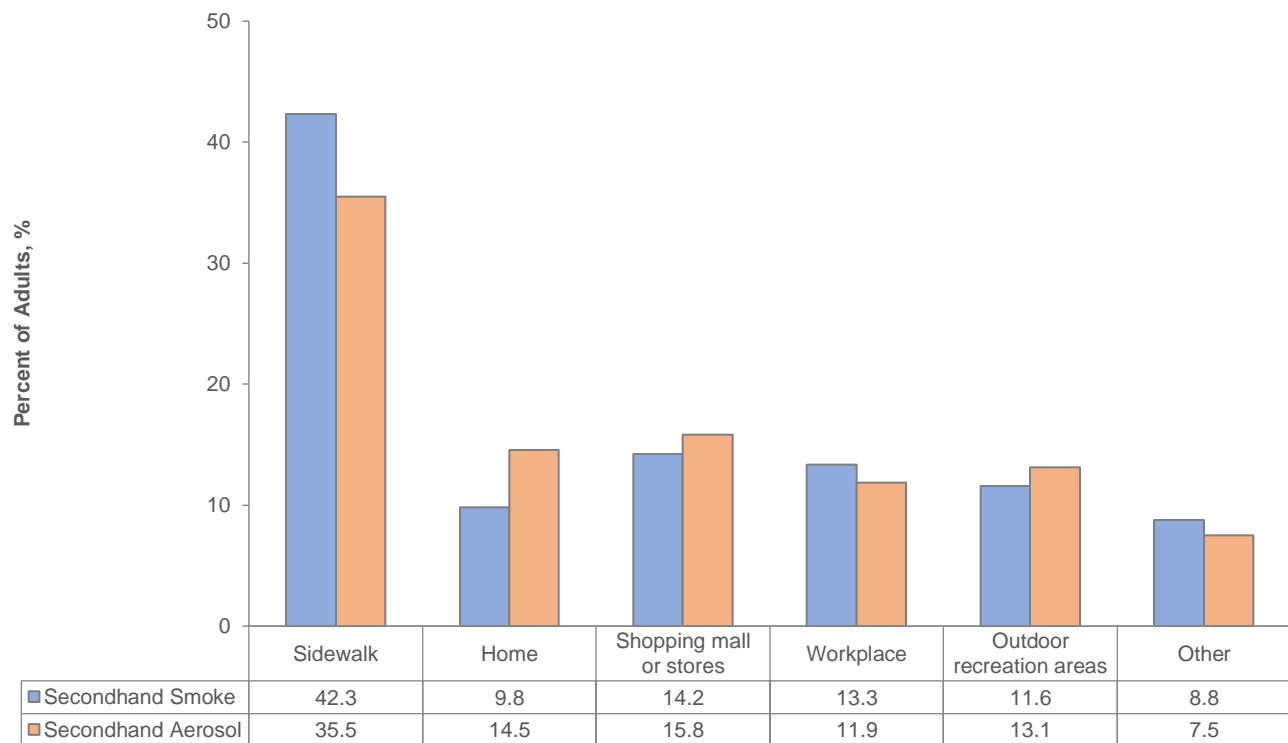
**Note:** Restricted to respondents aged 18 or older in the "Tobacco Track" (Track 3). Respondents were asked current use of the following tobacco products: cigar, little cigar, cigarillos, snus, hookah, and electronic smoking device. Flavored use percentage is based on the same product type (e.g. current users of electronic smoking devices who reported flavored use of electronic smoking devices). Data from BRFSS 2013, BRFSS 2014, and BRFSS 2015 were pooled together. An asterisk (\*) indicates caution should be used when interpreting the data as the relative standard error is between 30 and 50 percent. A double dash (--) indicates data is suppressed as the relative standard error is larger than 50 percent or the analytic sample size was less than 50. **Source:** California Department of Public Health, California Tobacco Control Program. Behavioral Risk Factor Surveillance System, 2013-2015. Sacramento, CA: California Department of Public Health; 2016.

One of the probable reasons for the high rate of flavored use among young adults is due to the popularity of electronic smoking devices (e.g. e-cigarettes, vape pens, tanks, mods) among the young adult population.<sup>26</sup> Electronic smoking devices are used in conjunction with a liquid solution (commonly, e-liquid or e-juice) that is heated into an aerosol and inhaled. The e-liquid is often flavored, with more than 7,700 unique flavors in existence.<sup>27</sup> In California, data from the Online California Adult Tobacco Survey (Online CATS) indicates that the electronic smoking device rate is at 10.3 percent for young adults age 18 to 24 in 2017.<sup>28</sup>

## EXPOSURE TO SECONDHAND SMOKE AND AEROSOL

According to the Online CATS 2017, an overwhelming majority of adults agree that secondhand smoke causes cancer. In addition, 82.1 percent of Californians agree that aerosol and vapor from electronic smoking devices are harmful. While California adults agree that exposure to secondhand smoke and aerosol are harmful to health, 54.4 percent of California adults aged 18 to 64 reported being exposed to secondhand smoke recently, and 25.5 percent reported being exposed to secondhand aerosol. The most commonly cited location for the most recent exposure to secondhand smoke and aerosol exposure are sidewalks (Figure 11).

**Figure 11. Location of most recent secondhand smoke or secondhand aerosol exposure among adults aged 18 to 64 in California, 2017**



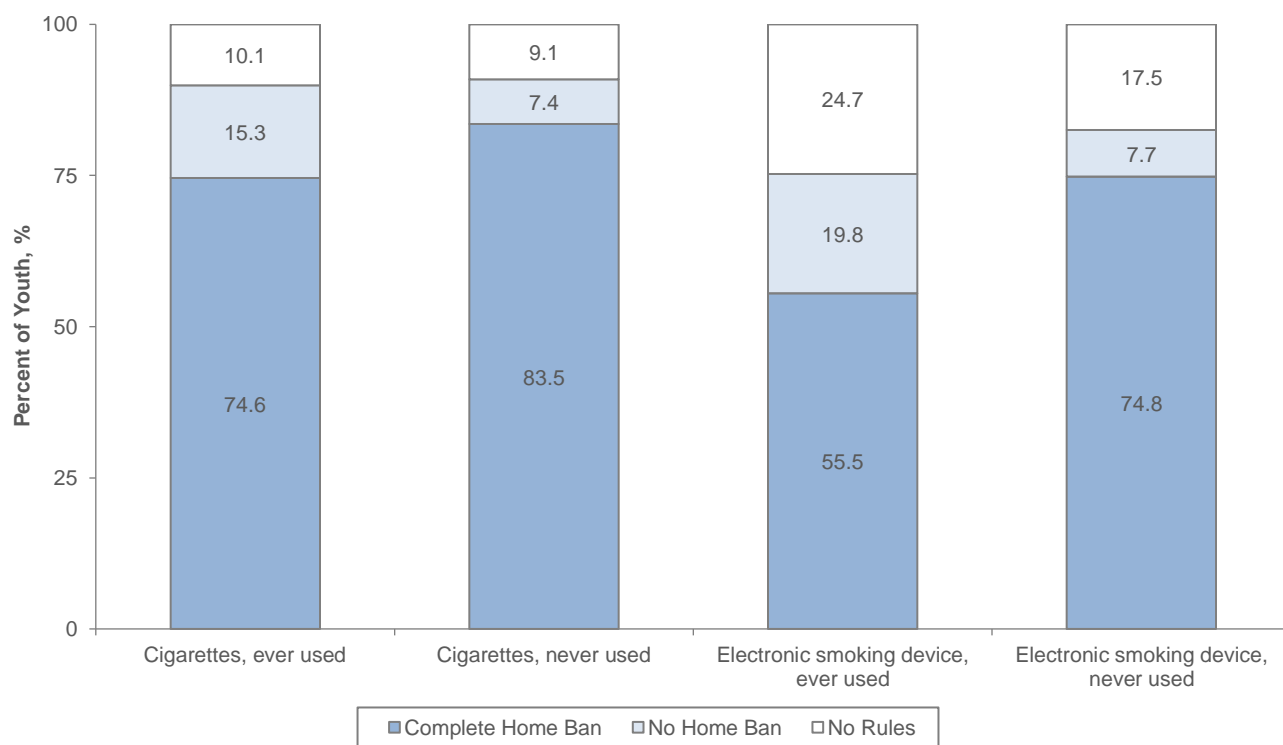
**Note:** Restricted to respondents aged 18 to 64. Respondents were asked whether they were exposed to secondhand smoke or aerosol within the past two weeks and to report location of the most recent exposure to secondhand smoke or aerosol. **Source:** California Department of Public Health, California Tobacco Control Program. Online California Adult Tobacco Survey, 2017. Sacramento, CA: California Department of Public Health; 2017.

California was the first state to prohibit smoking in public buildings in 1995; however, the law had numerous exemptions that permitted smoking at certain workplaces. Many of these workplace exemptions were closed because of new laws that went into effect on June 9, 2016. Unfortunately, 17.2 percent of California workers reported being recently exposed to secondhand smoke or secondhand aerosol in their work area.<sup>28</sup>



Children are especially vulnerable to the health effects of secondhand smoke, with those living in lower income households significantly more exposed to secondhand smoke.<sup>29,30</sup> The main place where children are exposed to secondhand smoke is at home. Holtby et al. (2011) reported that more than 200,000 children in California live in homes where smoking is allowed and 742,000 children are at risk of exposure by living in homes with a person who is a smoker.<sup>31</sup> Students who had never used cigarettes or electronic smoking devices live in households with smoke-free policies at a higher percentage than students who had used these products (Figure 12). Home smoking bans also reinforce societal norms against smoking, increasing the likelihood that smokers in the household will attempt to quit and ultimately quit successfully.<sup>32,33</sup> This in turn decreases the likelihood that children in these households become smokers.

**Figure 12. Percent of youth in California living in household with smoke-free policies by ever use, 2016**



**Note:** Respondents were asked to report ever use of cigarettes and electronic smoking devices, along with household policies. **Source:** California Department of Public Health, California Tobacco Control Program. California Student Tobacco Survey, 2015-2016. Sacramento, CA: California Department of Public Health; 2016.

## HEALTH EFFECTS OF TOBACCO USAGE AND EXPOSURE

Tobacco use is considered a risk factor for numerous chronic diseases, including but not limited to cancer, cardiovascular disease, emphysema, chronic obstructive pulmonary disease, pneumonia, diabetes, and rheumatoid arthritis.<sup>2</sup> Exposure to tobacco smoke also poses risk factor for chronic diseases and is considered a human carcinogen.<sup>30</sup> Acute effects of secondhand smoke are serious and include increased frequency and severity of asthma attacks, the initiation of asthma, respiratory symptoms such as coughing and shortness of breath, and respiratory infections such as bronchitis and pneumonia. In addition, using or being exposed to tobacco during pregnancy is detrimental in fetal development and increases the risk of sudden infant death syndrome.<sup>30</sup>

Currently, there is limited research on the long-term health effects from either using electronic smoking devices or being exposed to secondhand aerosol. Yu et al. (2016) found that vaporized e-liquid induces cell damages that would generate genetic mutation and alterations that can lead to cancer.<sup>34</sup> In addition, studies have shown that aerosol exposure from electronic smoking devices is detrimental to indoor air quality due to increases in fine and ultrafine particulate matter,<sup>35,36</sup> where frequent low exposure can increase the risk of cardiovascular and respiratory diseases.<sup>37</sup>

In 2015, it is estimated that 34,000 California individuals aged 35 or older died from cancer, cardiovascular disease, or respiratory disease attributed to smoking as shown in Table 2. Another model conducted by the Centers for Disease Control and Prevention (CDC) estimates over 40,000 annual deaths in California is attributable to smoking and 440,600 youths under age 18 in California will ultimately die prematurely from smoking.<sup>38</sup>

## ASTHMA

Asthma is a chronic disease that causes inflammation of the airways in the lungs. Extensive data has established an association between secondhand smoke exposure with earlier onset and exacerbation of asthma.<sup>30</sup> In 2014, 13.8 percent of California adults had been diagnosed with asthma at some point and 8.4 percent still have asthma or have had symptoms in the past year.<sup>39</sup> CDC recommends that people with asthma reduce their exposure or avoid asthma triggers, which includes tobacco smoke.<sup>40</sup> However, for the 547,000 California adults with asthma who live in multi-unit housing, it is difficult to follow this advice, as tobacco smoke may pass from unit to unit through shared ventilation systems, electrical outlets, plumbing lines, or open windows.<sup>41</sup>

**Table 2. Smoking-attributable mortality among adults aged 35 and over in California, 2015**

Disease	Relative Risk				Attributable Risk		Total Deaths		Smoking-Attributable Mortality			
	Former Smokers		Current Smokers		Male	Female	Male	Female	Male	Female	Total	
	Male	Female	Male	Female								
<b>Cancer:</b>												
Lip, oral cavity, pharynx.....	3.40	2.29	10.89	5.08	69.2%	37.6%	760	302	526	113	639	
Esophagus .....	4.46	2.79	6.76	7.75	64.9%	48.4%	1,064	280	691	135	826	
Stomach .....	1.47	1.32	1.96	1.36	21.9%	8.1%	927	684	203	56	259	
Pancreas .....	1.15	1.55	2.31	2.25	20.3%	17.4%	2,165	2,067	439	360	799	
Larynx .....	6.34	5.16	14.60	13.02	78.4%	64.7%	220	55	172	36	208	
Trachea, lung, bronchus.....	8.70	4.53	23.26	12.69	85.0%	62.9%	6,502	5,861	5,527	3,687	9,214	
Cervix, uterus .....	n/a	1.14	n/a	1.59	n/a	7.3%	n/a	465	n/a	34	34	
Urinary bladder.....	2.09	1.89	3.27	2.22	39.7%	21.1%	1,166	443	463	93	556	
Kidney, other urinary .....	1.73	1.05	2.72	1.29	32.1%	3.4%	958	443	308	15	323	
Acute Myeloid Leukemia .....	1.33	1.38	1.86	1.13	18.5%	7.2%	546	417	101	30	131	
<b>Cardiovascular disease:</b>												
Hypertension .....	1.32	1.16	1.85	1.69	18.3%	8.4%	4,946	5,487	903	461	1,364	
Ischemic heart disease, age 35 to 64.....	1.64	1.32	2.80	3.08	33.1%	22.0%	5,100	1,718	1,690	378	2,068	
Ischemic heart disease, age 65 or older.....	1.21	1.20	1.51	1.60	12.7%	8.7%	16,760	14,858	2,132	1,293	3,425	
Other heart disease.....	1.22	1.14	1.78	1.49	15.7%	6.5%	8,069	9,005	1,263	587	1,850	
Cerebrovascular disease, age 35 to 64.....	1.04	1.30	3.27	4.00	29.7%	27.5%	1,196	825	355	227	582	
Cerebrovascular disease, age 65 or older.....	1.04	1.03	1.63	1.49	6.5%	3.5%	5,100	7,830	333	277	610	
Atherosclerosis.....	1.33	1.00	2.44	1.83	24.4%	7.2%	323	471	79	34	113	
Aortic aneurysm .....	3.07	2.07	6.21	7.07	58.3%	42.8%	516	350	301	150	451	
Other arterial disease.....	1.01	1.12	2.07	2.17	15.1%	11.5%	351	416	53	48	101	
<b>Respiratory disease:</b>												
Respiratory tuberculosis.....	1.56	1.38	1.99	2.18	23.6%	14.9%	52	31	12	5	17	
Pneumonia, influenza.....	1.36	1.10	1.75	2.17	17.9%	11.2%	2,953	3,158	527	354	881	
Bronchitis, emphysema.....	15.64	11.77	17.10	12.04	86.6%	74.2%	348	344	301	256	557	
Asthma.....	1.56	1.38	1.99	2.18	23.6%	14.9%	117	227	28	34	62	
Chronic airway obstruction.....	6.80	6.78	10.58	13.08	75.6%	67.9%	5,800	6,589	4,383	4,477	8,860	

**Note:** Attributable risk was calculated for each gender using the following formula:  $AR = [p_c(RR_c - 1) + p_f(RR_f - 1)] / [1 + p_c(RR_c - 1) + p_f(RR_f - 1)]$ , where  $p_c$  is the proportion of the population who currently smokes,  $p_f$  is the proportion of the population who are former smokers,  $RR_c$  is the relative risk for current smokers, and  $RR_f$  is the relative risk for former smokers. **Source:** (1) 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. (2) UCLA Center for Health Policy Research. AskCHIS 2015: Current and Former Smoking Status for Adults Age 18 or Older. <http://ask.chis.ucla.edu/>. Accessed August 18, 2017. (3) Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database. 2016; <http://wonder.cdc.gov/ucd-icd10.html>

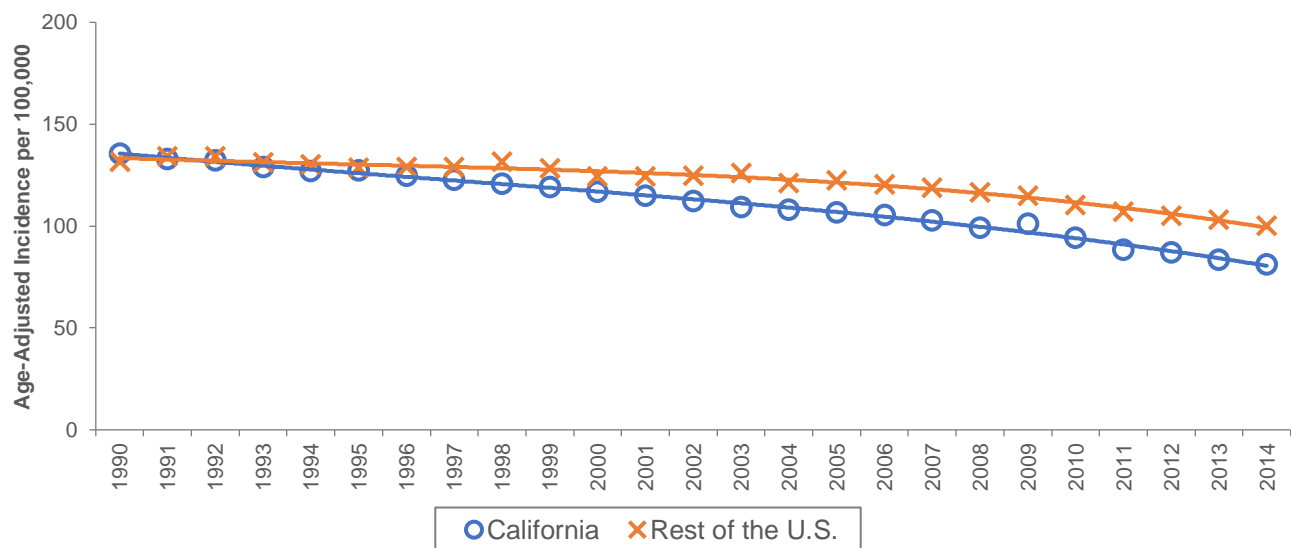
## CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Chronic obstructive pulmonary disease, or COPD, is a lung disease caused by chronic obstruction of airflow with emphysema and chronic bronchitis being the most common conditions. Cigarette smoking, either through use or secondhand exposure, is the principal cause.<sup>2</sup> In 2015, the rate of COPD in California is significantly higher among current cigarette smokers (13.8 percent) compared to former and never smokers (3.5 percent); overall rate among adults in California is at 4.5 percent.<sup>3</sup>

## LUNG AND BRONCHUS CANCER

Long-term program success is measured by monitoring lung and bronchus cancer rates, as 80 to 90 percent of lung cancers deaths are attributable to smoking.<sup>2</sup> In 2014, there were 16,863 new cases of lung and bronchus cancer in California.<sup>42</sup> Lung and bronchus cancer incidence have remained consistently better in California compared to the rest of the U.S. (Figure 13). Specifically, California has reduced the incidence rates of lung and bronchus cancers twice as fast as the rest of the U.S.

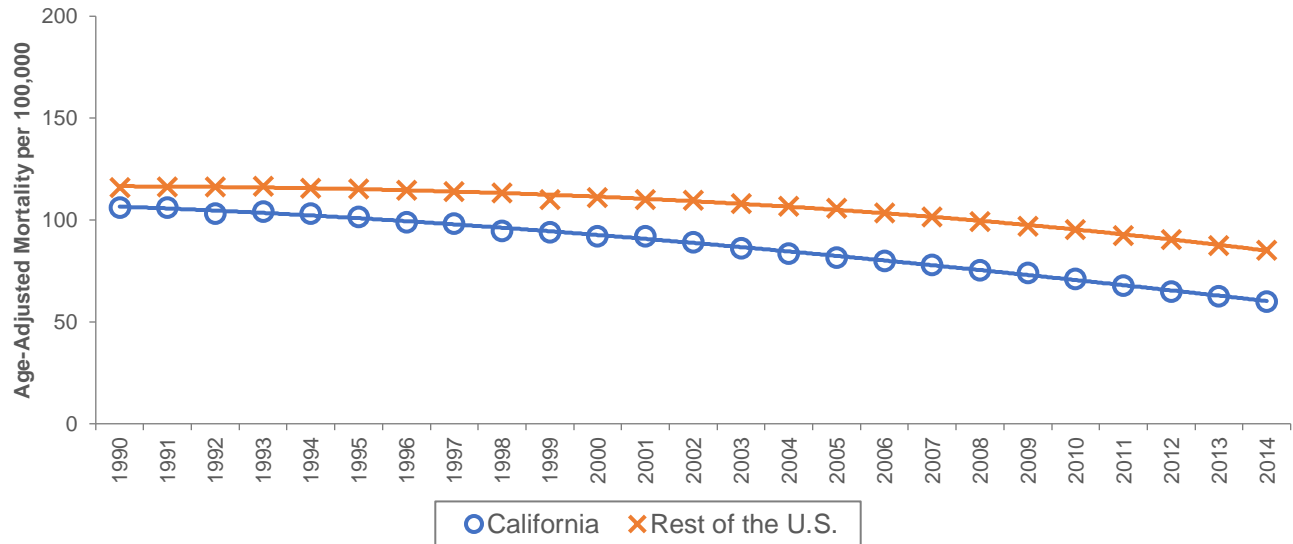
**Figure 13. Age-adjusted incidence of lung and bronchus cancer among adults aged 35 or older in California and the rest of the U.S., 1990 to 2014**



**Note:** Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population (19 age groups - Census P25-1130) standard. **Source:** California Cancer Registry. Sacramento, CA: California Department of Public Health; 2017.

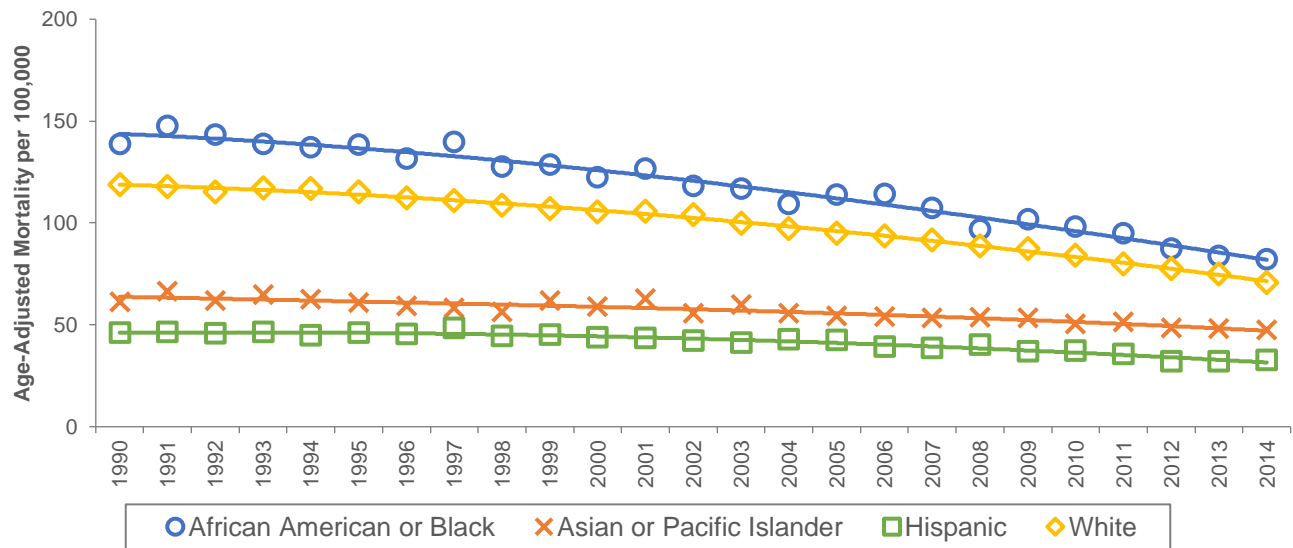
Lung and bronchus cancer mortality rates have continued to decline since the mid- to late-1980s (Figure 14). Although the mortality rates declined for all races and ethnicities, it remains the highest in the White and African American population (Figure 15). California has a similar story for lung and bronchus cancer mortality broken down by gender (Figure 16). Lung and bronchus cancer mortality in California males declined faster than the rest of the U.S.

**Figure 14. Age-adjusted mortality of lung and bronchus cancer among adults aged 35 or older in California and the rest of the U.S., 1990 to 2014**



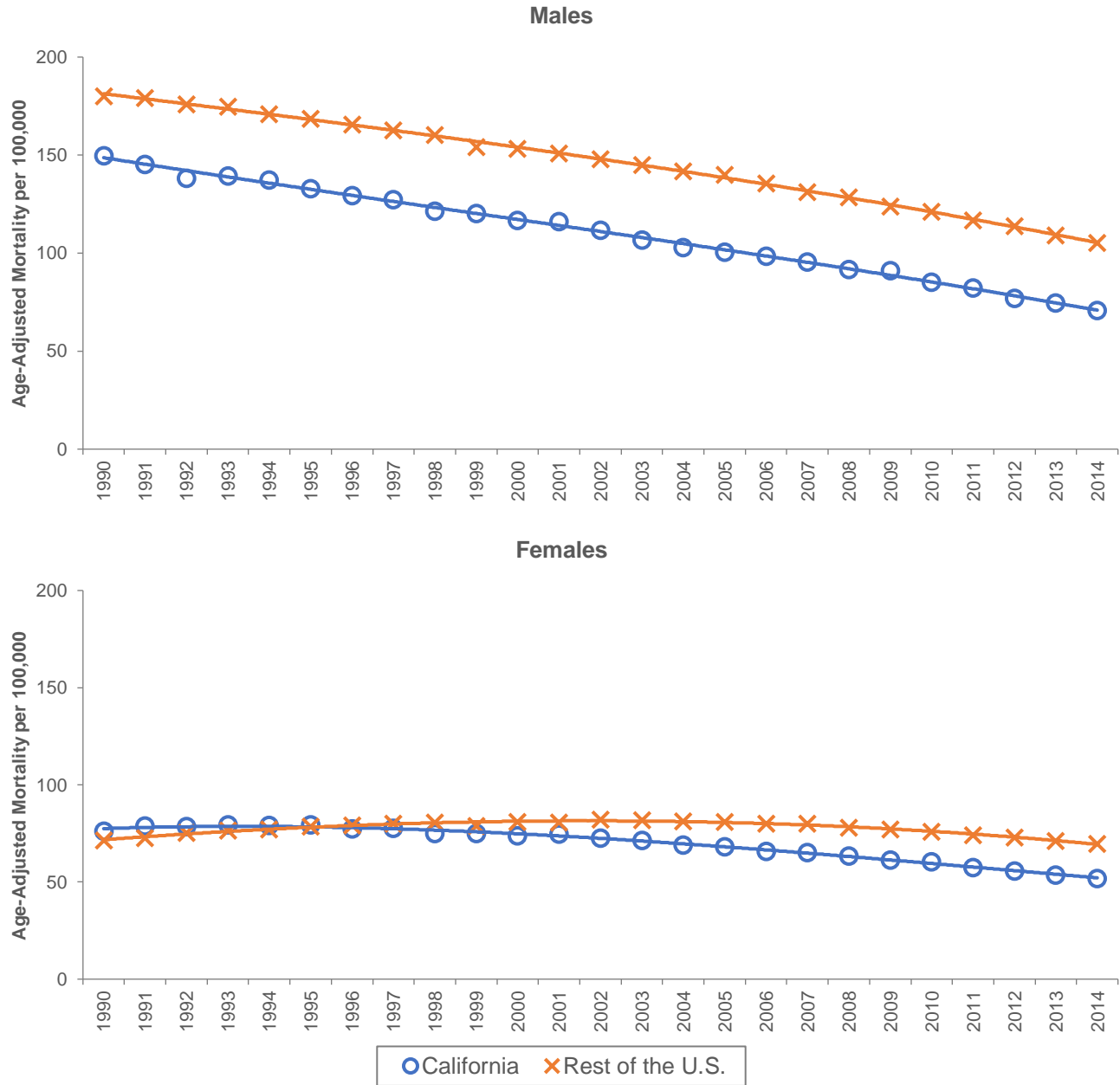
**Note:** Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population (19 age groups - Census P25-1130) standard. **Source:** California Cancer Registry. Sacramento, CA: California Department of Public Health; 2017.

**Figure 15. Age-adjusted mortality of lung and bronchus cancer among adults aged 35 or older in California by race/ethnicity, 1990 to 2014**



**Note:** Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population (19 age groups - Census P25-1130) standard. Race or ethnicity categories are non-Hispanic unless otherwise noted. **Source:** California Cancer Registry. Sacramento, CA: California Department of Public Health; 2017.

**Figure 16. Age-adjusted mortality of lung and bronchus cancer among adults aged 35 or older in California and the rest of the U.S. by gender, 1990 to 2014**



**Note:** Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population (19 age groups - Census P25-1130) standard. **Source:** California Cancer Registry. Sacramento, CA: California Department of Public Health; 2017.

## ECONOMICS OF TOBACCO

The first tax on tobacco in California was passed by the State Legislature in 1959. The tax increased to \$0.35 per pack of cigarette and a proportional tax increase to other tobacco products when 58.2 percent of California voters approved Proposition 99 in 1988. Proposition 99 was a landmark initiative as it established the first and largest tobacco control program in the U.S. in 1989.<sup>43</sup> In 1998, California voters approved Proposition 10 that set the state tax at \$0.87 per pack of cigarette.

The state tax remained at \$0.87 per pack of cigarette for nearly two decades and was ranked 37<sup>th</sup> in the U.S. in tobacco taxation until California voters approved Proposition 56 in 2016.<sup>44</sup> Proposition 56 was overwhelmingly passed and increased the tobacco tax by \$2 per pack of cigarette, bringing the tobacco tax in California to \$2.87 per pack of cigarette. The California State Board of Equalization, which has since been restructured as the California Department of Taxes and Fees Administration, set the proportional tax rate for other tobacco product at 65.08 percent of the wholesale cost for fiscal year 2017-2018.<sup>45</sup> Between the passage of Proposition 10 in 1998 and Proposition 56 in 2016, two other tobacco tax initiatives were defeated by voters: Proposition 86 in 2006 and Proposition 29 in 2012.

Based on studies about the impact of tobacco taxes,<sup>46,47</sup> Proposition 56 is estimated to save billions of dollars in future health care expenditures due to a reduced cigarette smoking rate, less smoking-caused mortality, and a decrease in exposure to secondhand smoke. The most recent estimate of the economic burden of smoking in California is approximately \$18.1 billion in 2009.<sup>48</sup> It is estimated that the savings in health care expenditure due to Proposition 56 will be \$4.1 billion by 2020.<sup>46</sup>

## TOBACCO INDUSTRY AND TOBACCO CONTROL EXPENDITURES

The tobacco industry has consistently outspent tobacco control efforts since CTCP was established. Industry efforts have included marketing, lobbying state and local legislators, funding community programs and scholarships, and relying on California's renowned entertainment industry. This makes it difficult to maintain a social norm in which tobacco is less desirable, less acceptable, and less accessible.

### TOBACCO INDUSTRY EXPENDITURES

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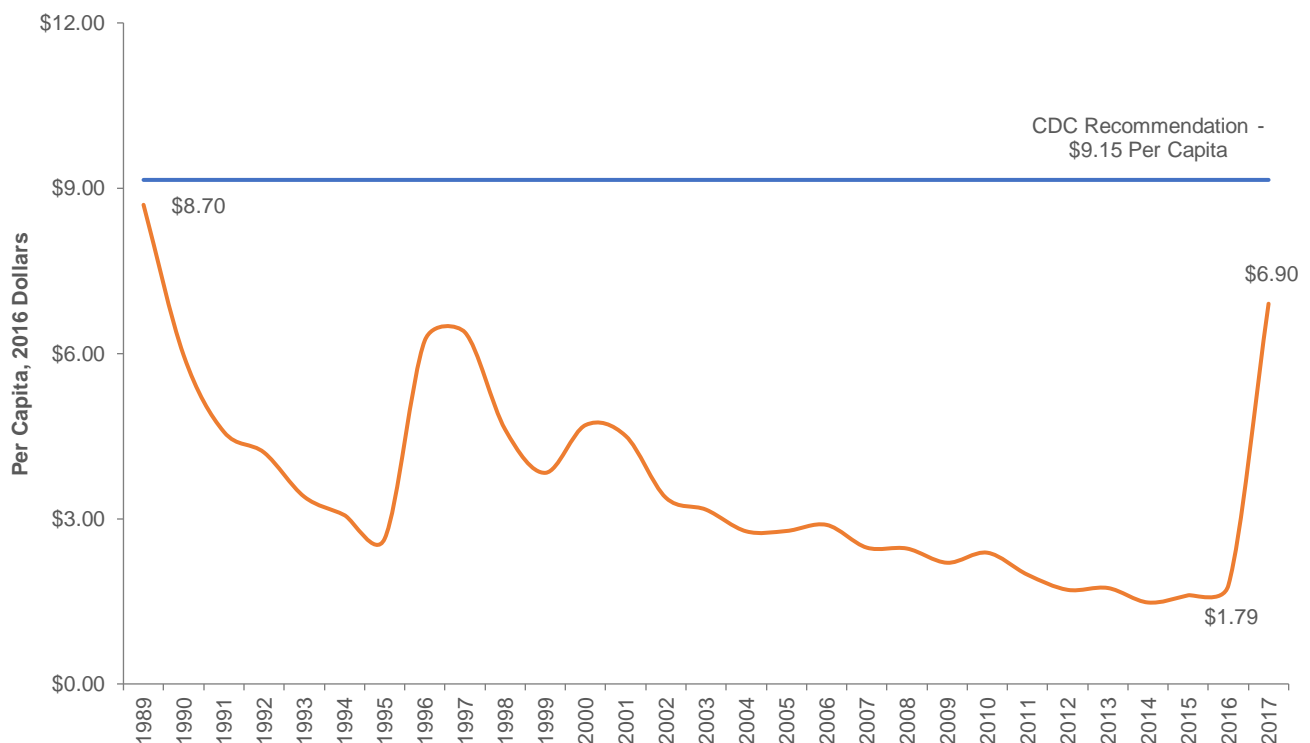
The tobacco industry spends more of their marketing dollars for in-store marketing than any other industry. In-store marketing materials are a factor in smoking initiation as they are visible to everyone and serve a point of contact between non-smokers and the tobacco industry. Nationally in 2014, the tobacco industry spent \$9.1 billion on cigarette and smokeless tobacco advertising and promotional expenditures.<sup>49,50</sup> Advertising expenditures for e-cigarettes is \$115.3 million.<sup>51</sup>

Overall decreases in expenditures on marketing coincide with an increase in lobbying expenditures by the tobacco industry; for example, to provide opposition of Proposition 56 in 2016. Opponents of Proposition 56 contributed approximately \$71.0 million, with \$69.3 million coming from the two largest cigarette manufacturers and their affiliates.<sup>52</sup> The tobacco industry also provided direct contributions to state legislators, constitutional officers, and candidates.<sup>53</sup>

## CALIFORNIA TOBACCO CONTROL EXPENDITURES

In fiscal year 1989-1990, CTCP was allotted \$95.3 million (\$6.31 per capita in 2016 dollars) and the California Department of Education was allotted \$36.0 million (\$2.38 per capita in 2016 dollars) for tobacco control. In fiscal year 2017-2018, the overall tobacco control allocation is \$270.9 million (\$6.90 per capita in 2016 dollars).<sup>54</sup> Despite the increase in funding for tobacco control, California’s tobacco control funding is still below the CDC recommended level of \$9.15 per capita for funding an effective statewide tobacco control program (Figure 17).<sup>38</sup>

**Figure 17. Per capita expenditure for tobacco control in California, 1989 to 2017**



**Note:** Tobacco control expenditures are expenditures from the Health Education Account for the California Tobacco Control Program and California Department of Education, standardized to the U.S. 2016 dollar based on the Consumer Price Index. **Source:** (1) Health Education Account. Sacramento, CA: California Department of Public Health; 2016. (2) California’s 2017-18 State Budget. 2017; <http://www.ebudget.ca.gov/budget/2017-18en/#/home>. Accessed October 23, 2017. (3) Centers for Disease Control and Prevention. Best Practices for Comprehensive Tobacco Control Programs - 2014. 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.



## THE TOBACCO RETAIL ENVIRONMENT

There are over 33,000 tobacco retailers located in California.<sup>55</sup> Limiting the number of retailers is important in de-normalizing tobacco use.<sup>56</sup> Two areas that are commonly highlighted in reducing tobacco retailer density include reducing the number of retail pharmacies, including supermarket or grocery stores with a pharmacy counter, that sell tobacco and reducing the number of tobacco retailers near youth-sensitive areas.<sup>56-58</sup> In California, 32.5 percent of California retail pharmacies continue to sell tobacco products.<sup>55,59</sup> The Stanford Prevention Research Center approximates that 23.2 percent of California public schools are within 500 feet of a tobacco retailer.<sup>60</sup>

## PRODUCT AVAILABILITY AND RETAIL MARKETING

The Healthy Stores for a Healthy Community (HSHC) campaign is used to assess retail marketing of tobacco and other products in every California county. The availability of both menthol cigarettes and flavored other tobacco product remains an issue as a majority of California retailers continue to sell flavored products, with 92.2 percent of retailers selling menthol cigarettes and 81.8 percent of retailers selling flavored other tobacco products.<sup>61</sup> Table 3 displays product type availability at tobacco retailers from the HSHC campaign for 2013 and 2016.

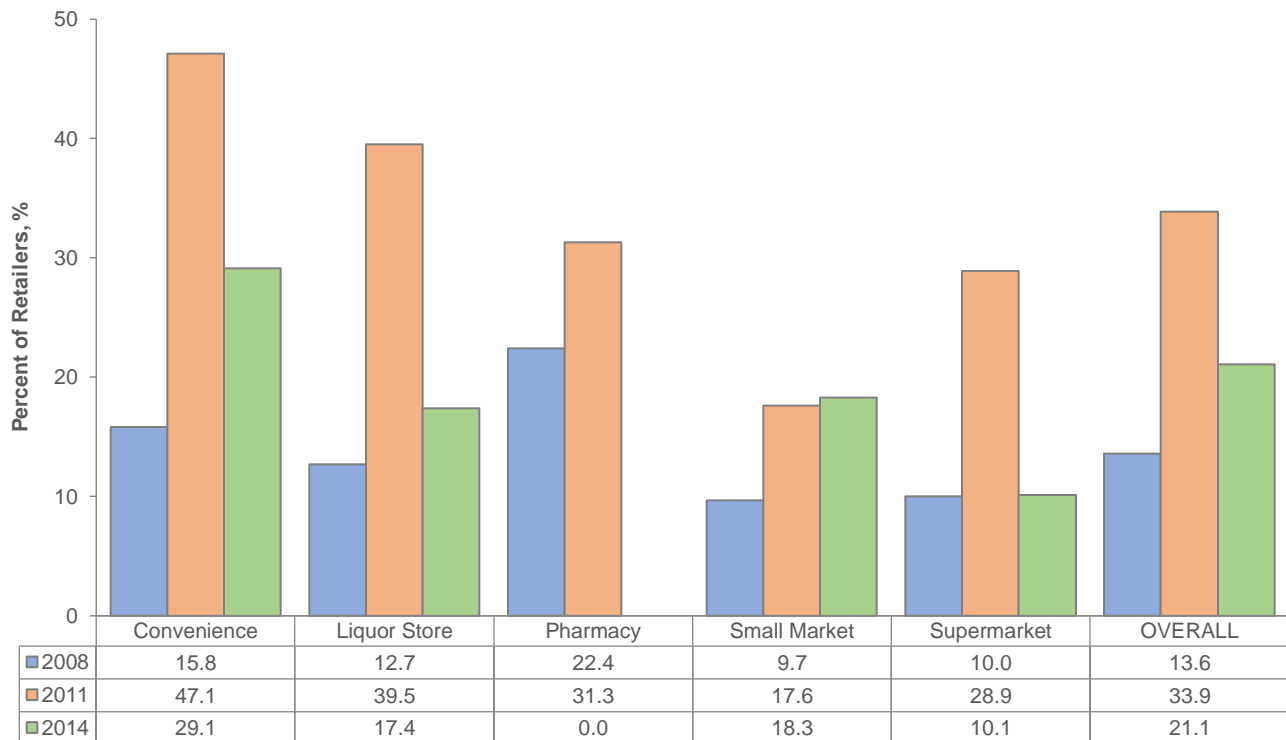
**Table 3. Product type availability at tobacco retailers in California, 2013 to 2016**

Product Type	2013	2016
<b>Combustible tobacco:</b>		
Cigarettes.....	98.2%	95.7%
Little cigars or cigarillos .....	84.4%	78.0%
Large cigars .....	32.0%	26.9%
Blunt wraps .....	n/a	53.7%
Hookah.....	10.8%	11.5%
<b>Smokeless tobacco:</b>		
Chewing tobacco .....	56.1%	57.2%
Snus.....	29.7%	26.4%
Dissolvables.....	6.9%	n/a
<b>Electronic smoking devices:</b>		
E-cigarettes.....	n/a	57.3%
Vape pens.....	n/a	30.9%
Mods or tanks .....	n/a	9.0%
E-liquid .....	n/a	28.2%

**Note:** Excludes retailers that prohibit youth from entering or retailers that require a membership or payment for entry. E-cigarettes include cigalikes, e-hookah, e-cigars, and cartridges. Combustible tobacco does not include blunt wraps in 2013. Smokeless tobacco does not include dissolvables in 2016. Specific types of electronic smoking devices were not asked in 2013. **Source:** California Department of Public Health, California Tobacco Control Program. Healthy Store for a Healthy Community, 2013-2016. Sacramento, CA: California Department of Public Health; 2017.

The California Tobacco Retail Surveillance Study, formerly known as the California Tobacco Advertising Study, is used to track retail-tobacco marketing. The tobacco industry spends more of their marketing dollars on in-store marketing than any other industry.<sup>62</sup> Because in-store marketing is visible to everyone, these materials remain a point-of-contact between non-smokers and the tobacco industry and is a factor in smoking initiation.<sup>63</sup> The percentage of tobacco retailers in California displaying tobacco advertising below three feet increased from 13.6 percent in 2008 to 21.1 percent in 2014 (Figure 18). The placement of these advertisements makes them easy for children to see. Furthermore, retailers located in neighborhoods with an above average proportion of African Americans contained more marketing materials than neighborhoods where the proportion was below the state average.<sup>62</sup> Similar relationships were not found in neighborhoods with high populations of other race/ethnicity groups, suggesting tobacco companies tailor marketing strategies to target specific population.

**Figure 18. Interior tobacco advertising below three feet by retailer type, 2008 to 2014**

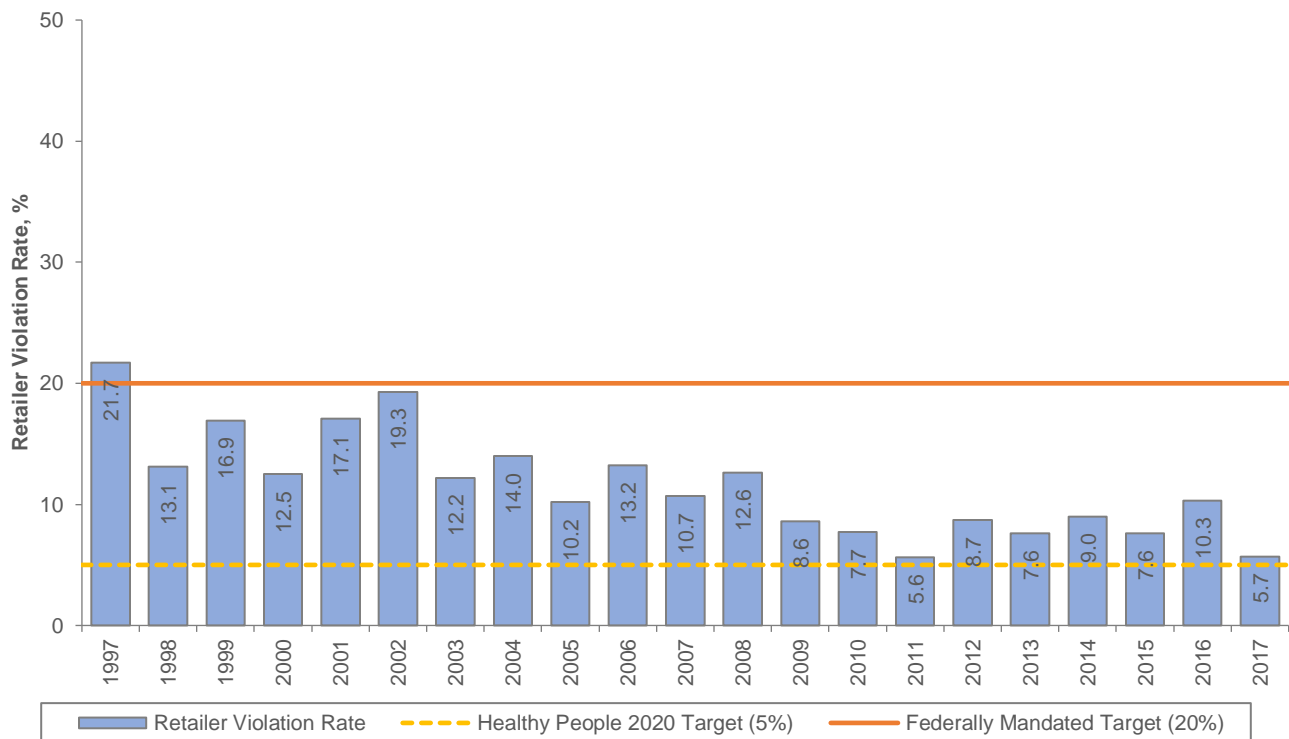


**Note:** Excludes retailers that prohibit youth from entering or retailers that require a membership or payment for entry. **Source:** California Department of Public Health, California Tobacco Control Program. California Tobacco Advertising Study, 2008-2014. Sacramento, CA: California Department of Public Health; 2016.

## SYNAR AMENDMENT AND STAKE ACT COMPLIANCE

Most adult smokers reported that they began smoking cigarettes while they were minors.<sup>2</sup> Preventing the sale of cigarettes to minors is thus important in reducing the number of adult cigarette smokers. California tracks retailer violation of tobacco sales to minors using the Youth Tobacco Purchase Survey (YTPS), in compliance with Section 1926 (Synar Amendment) of the Alcohol, Drug Abuse, and Mental Health Administration Reorganization Act of 1992. In 1997, 21.7 percent of retailers sold tobacco to minors, just above the federal mandated target of 20.0 percent, though this rate was about half the national rate. The rate has been below the federal mandated target since 1998 (Figure 19). The rate observed in 2017 is 5.7 percent, a statistically significant decrease from 10.3 percent in 2016. Looking more in-depth, tobacco only retailers continue to have high retailer violation rates when compared to other retailers, with a rate of 12.0 percent.

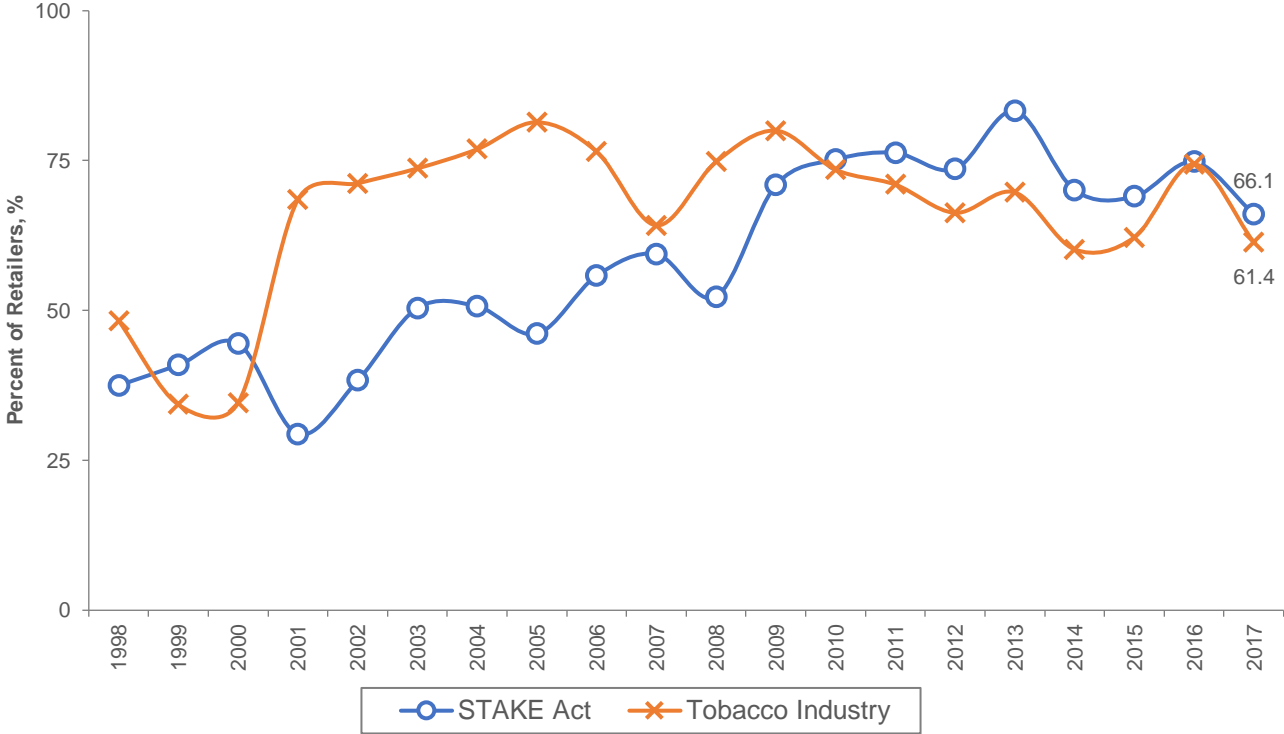
**Figure 19. Percent of tobacco retailers selling tobacco to minors under the age of 18, 1997 to 2017**



**Note:** The protocol is based on actual buys and not attempted buys. YTPS 2016 was conducted before the effective date that changed the minimum purchase age from 18 to 21. **Source:** California Department of Public Health, California Tobacco Control Program. Youth Tobacco Purchase Survey, 1997-2017. Sacramento, CA: California Department of Public Health; 2017.

The YTPS also assesses compliance with the signage component of California Business and Professions Code Section 22952, referred as the California Stop Tobacco Access to Kids Enforcement Act (STAKE Act). The STAKE Act, enacted in 1995, requires that any retailers selling tobacco products must post a clearly visible sign at each cash register where tobacco products are sold indicating that tobacco sales are limited to non-minors. The vast majority of tobacco industry signs do not meet STAKE Act sign compliance and may compromise public health and law enforcement goals, in addition to violating article 5.3 of the Framework Convention on Tobacco Control.<sup>64</sup> Usage of STAKE Act compliant signage has increased steadily since 2001 as shown in Figure 20.

**Figure 20. Percent of retailers displaying STAKE Act warning signs and tobacco industry age-of-sale warning signs, 1998 to 2017**



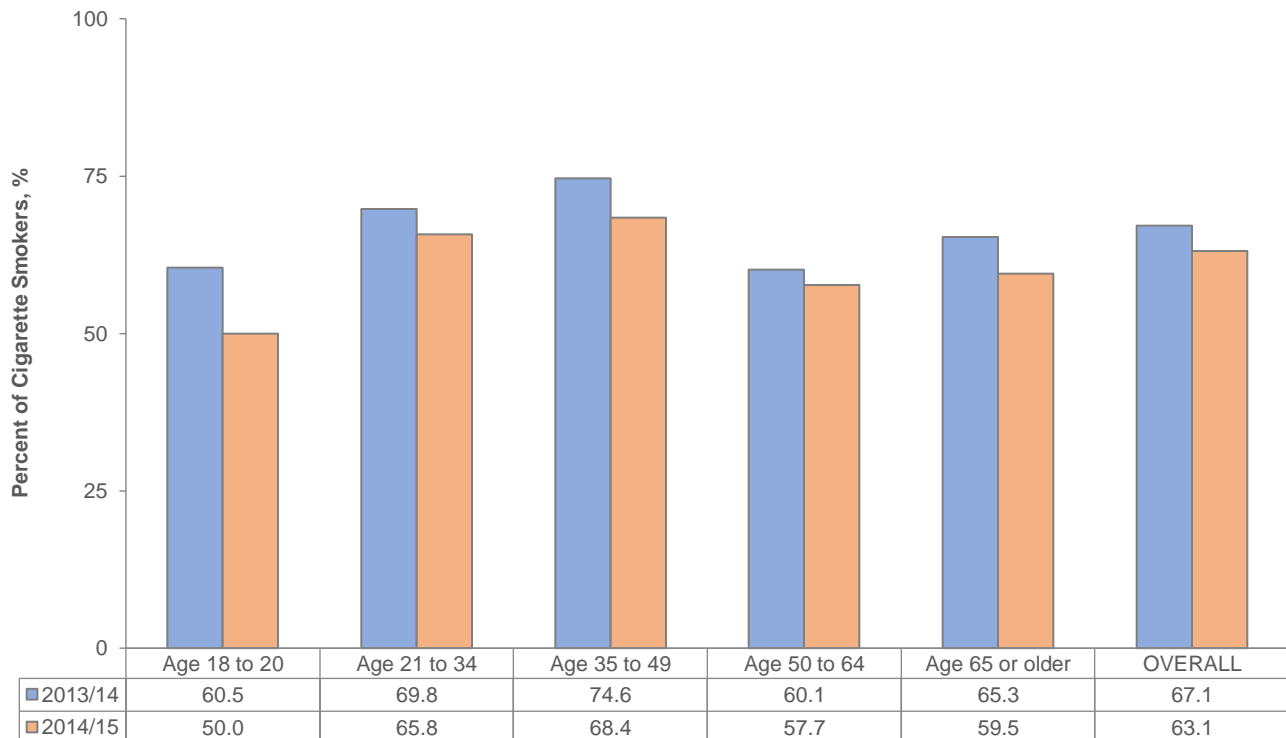
**Note:** The definition of a STAKE Act sign changed in 2006 to include non-California Department of Public Health signs that still met the legal requirements. **Source:** California Department of Public Health, California Tobacco Control Program. Youth Tobacco Purchase Survey, 1998-2017. Sacramento, CA: California Department of Public Health; 2017.

## TOBACCO CESSATION

Cessation is a complex and often extended process. It begins with an individual considering trying to quit and, in some cases, proceeds to repeat quit attempts until successful. Cessation is the goal to prevent or minimize adverse health effects from tobacco. It is also a successful measure of a tobacco control program, policy, or intervention.

Quitting successfully is a major challenge for smokers. Past studies found that former smokers recalled an average of 4.7 lifetime quit attempts to achieve successful cessation.<sup>65</sup> According to data from the pooled CHIS 2014-15, 72.7 percent of adult smokers in California thought about quitting in the next six months and 59.5 percent made an attempt in the past year.<sup>66,67</sup> The percentage of adult smokers in California making a quit attempt is higher among non-daily smokers than daily smokers (70.0 and 53.5 percent, respectively).<sup>67</sup> When quit attempts are examined by Medi-Cal status, 63.1 percent of smokers covered by Medi-Cal in California made an attempt in the past year (Figure 21). Additionally, 45.1 percent of current and former California high school smokers reported making a quit attempt in the past year.<sup>23</sup>

**Figure 21. Percent of current adult cigarette smokers in California covered by Medi-Cal who made a quit attempt lasting one day or longer by age group, 2013-14 to 2014-15**



**Note:** Restricted to respondents aged 18 or older and are current smoker. Respondents were asked if they are currently covered by Medi-Cal. Data from CHIS 2013 and CHIS 2014 were pooled together. Data from CHIS 2014 and CHIS 2015 were pooled together. **Source:** UCLA Center for Health Policy Research. AskCHIS 2013-2014 and AskCHIS 2014-2015: Current Smokers Who Stopped Smoking for One or More Days in Past Year to Quit for Adults Age 18 or Older by Medi-Cal Coverage Status. <http://ask.chis.ucla.edu/>. Accessed October 24, 2017.

## CESSATION ADVICE AND INTERVENTIONS

Collectively, there has been a steady increase in the use of cessation treatment and/or nicotine replacement therapy. As shown in Table 4, in 2017, 67.0 percent of California smokers aged 18 to 64 reported attempting to quit smoking without assistance (“cold turkey”) during the past year. Furthermore, despite not being an approved method of tobacco cessation by the FDA,<sup>68</sup> 14.6 percent reported using electronic smoking devices as a quitting method.

**Table 4. Method used to quit smoking in the past year among adults in California aged 18 to 64, 2016 to 2017**

Method	2016	2017
Quit cold turkey.....	67.4%	67.0%
Medication (e.g. Chantix, Zyban) .....	6.7%	5.7%
Nicotine patches, gum, or lozenges .....	18.5%	19.2%
Counseling.....	4.1%*	5.6%
Self-help materials.....	5.9%	10.6%
California Smokers’ Helpline (1-800-NO-BUTTS).....	7.3%*	4.6%*
Electronic smoking devices .....	19.5%	14.6%

**Note:** Restricted to respondents aged 18 to 64. Respondents were asked the method used to quit smoking cigarettes in their last attempt. Percent does not equal to 100 percent as smokers could use multiple methods of quitting. Weighted to the 2015 Current Population Survey California population. An asterisk (\*) indicates caution should be used when interpreting the data as the relative standard error is between 30 and 50 percent. A double dash (--) indicates data is suppressed as the relative standard error is larger than 50 percent or the analytic sample size was less than 50. **Source:** California Department of Public Health, California Tobacco Control Program. Online California Adult Tobacco Survey, 2016-2017. Sacramento, CA: California Department of Public Health; 2017.

Research has shown that health care professionals play a critical role in reducing smoking and increasing smoking cessation.<sup>69,70</sup> In 2017, 72.2 percent of adult cigarette smokers aged 18 to 64 in California reported seeing a physician in the past year but about half (43.4 percent) of did not advise them to stop smoking.<sup>28</sup> It is essential that physicians and other health care professionals be prepared to *ask* patient about tobacco use, *advise* patient to quit, and assess the patient’s willingness to make a quit attempt.<sup>69</sup>

## CALIFORNIA SMOKERS' HELPLINE

The California Smokers' Helpline is a free statewide telephone-based tobacco cessation program. Recently, in response to changing demographics and technology, the Helpline added text messaging, chat session, and a mobile application.

Clinical trials consistently demonstrate that telephone counseling doubles the odds of successful long-term quitting.<sup>71-73</sup> Table 5 presents a demographic profile of the Helpline's 2016 intake calls. Most of the intakes in 2016 were with individuals between the ages of 45 and 64, with only 4.6 percent under the age of 25. Referral to the Helpline is vital in reducing adverse health effects through smoking cessation. In 2016, the most common referral source of calls to the Helpline at 32.9 percent was mass media, followed by referrals from the health care industry at 29.0 percent.

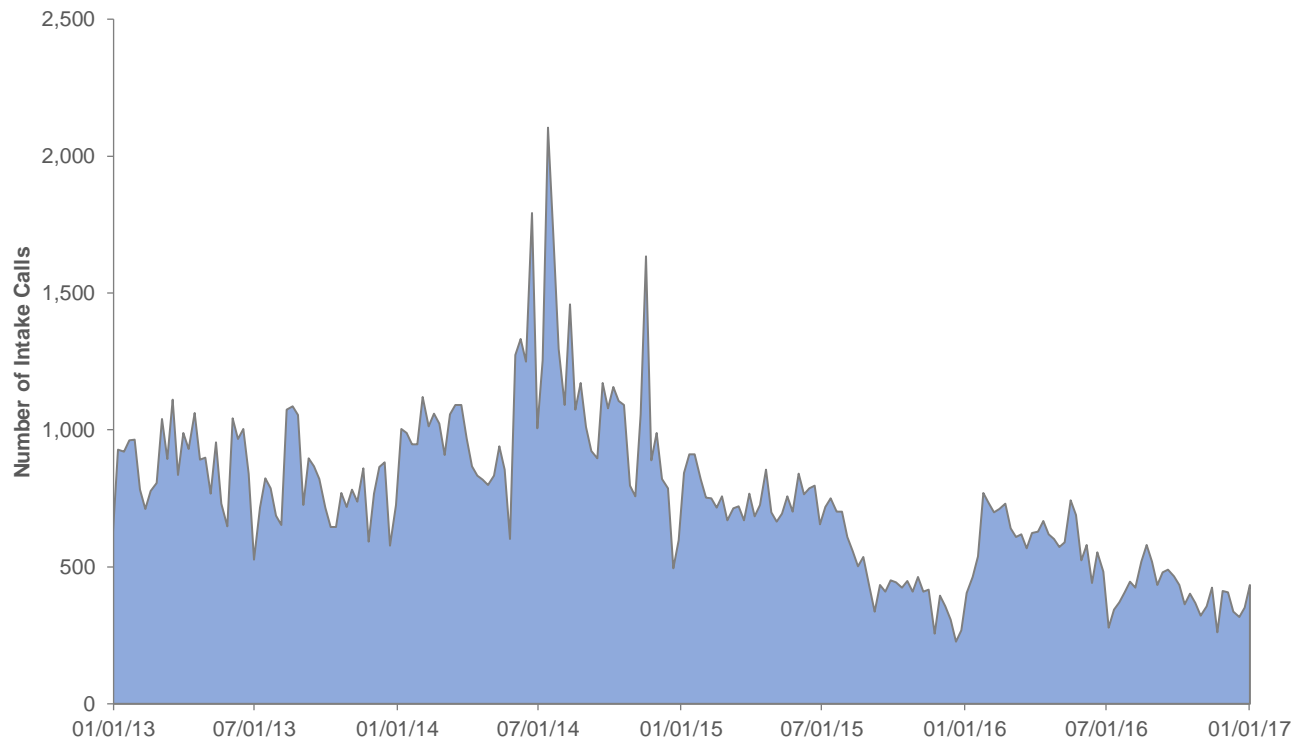
**Table 5. Demographic profile of intakes from the California Smokers' Helpline, 2016**

Demographics	N	Percent
<b>Sex:</b>		
Male .....	10,933	44.0%
Female .....	13,893	56.0%
<b>Age group:</b>		
Age 17 or younger .....	59	0.2%
Age 18 to 24.....	1,112	4.4%
Age 25 to 44.....	8,330	33.0%
Age 45 to 64.....	13,131	52.1%
Age 65 or older .....	2,578	10.2%
<b>Race/ethnicity:</b>		
African American or Black .....	4,218	17.1%
American Indian or Alaska Native .....	168	0.7%
Asian or Pacific Islander .....	1,322	5.4%
Hispanic .....	3,948	16.0%
White.....	12,132	49.3%
Other .....	2,842	11.5%
<b>Referral source:</b>		
Mass media or advertising.....	8,294	32.9%
Healthcare.....	7,306	29.0%
Friends or family .....	3,317	13.2%
Other .....	6,298	25.0%

**Note:** Race or ethnicity categories are non-Hispanic unless otherwise noted. N stands for frequency. **Source:** California Smokers' Helpline. Helpline Caller Intake Reports. <https://www.nobutts.org/california-smokers-helpline-call-reports>. Accessed October 23, 2017.

Figure 22 depicts the number of weekly intake calls from 2013 to 2016, with the Helpline documenting roughly 39,000 intake calls annually. In 2014, a large spike in calls was observed which was due to the Medi-Cal Incentives to Quit Smoking program, a major educational outreach campaign targeting Medi-Cal beneficiaries.

**Figure 22. Number of intake calls from the California Smokers' Helpline by week, 2013 to 2016**



Source: California Smokers' Helpline Intake Calls (unpublished), 2013-2016. La Jolla, CA: California Smokers' Helpline.



## TECHNICAL NOTES

Data analysis conducted for this report were generated using SAS version 9.4 (SAS Institute; Cary, NC). Analysis accounted for the sampling design for each survey, including sampling weight, stratification, clustering, and non-response adjustments. The maps in this report were created using the ArcGIS Desktop version 9.3 (Esri; Redlands, CA).

## DATA SOURCES

Several data sources are used in this publication. Each data source is based on a different survey or surveillance tool, and therefore may report slightly different estimates. However, these differences are not statistically significant, and represent the most accurate and complete picture of California to the best of our knowledge. Caution should be exercised when comparing data from different surveys.

A brief description of each major survey used in this report is found below; however, a more detailed survey description, methodology, and limitations for each survey can be found elsewhere.

- Behavioral Risk Factor Surveillance System (BRFSS): The California Behavioral Risk Factor Survey is California's component to the nationwide BRFSS. The survey is an annual random-dial telephone health survey that assesses health-related risk behaviors, chronic health conditions, and preventive service usage. More information can be found here: <http://www.csus.edu/research/phsrp/brfss.html>.
- California Cancer Registry: The California Cancer Registry is a statewide population-based cancer surveillance system. The State of California mandates that all cancer diagnosed in California to be reported to the registry since 1988. The California Cancer Registry monitors the incidence and mortality of cancer among Californians from patient's medical records. More information can be found here: <http://www.ccrca.org/>.
- California Health Interview Survey (CHIS): CHIS is an annual random-dial telephone health survey. Due to the sample design of CHIS, county-level estimates are available for medium- and large-sized counties and groups of small-sized counties. AskCHIS is a free online query system developed by the UCLA Center for Health Policy Research that allows the public to analyze most variables in the CHIS datasets. Previously reported data using CHIS 2014 and CHIS 2015 may differ due to corrections made by the UCLA Center for Health Policy Research in the summer of 2017. More information can be found here: <http://healthpolicy.ucla.edu/chis/pages/default.aspx>.

- California Smokers' Helpline (Helpline): The Helpline is a free statewide telephone-based tobacco cessation program. Services provided include telephone counseling and providing self-help materials in English, Spanish, Mandarin, Cantonese, Korean, and Vietnamese. Demographical data from participants are collected for population research. More information can be found here: <https://www.nobutts.org/>.
- California Student Tobacco Survey (CSTS): CSTS is a large-scale, in-school survey of tobacco use among California middle (grades 6-8) and high school (grades 9-12) students, typically conducted every two to three years. The purpose of the survey is to assess behavior and attitudes regarding tobacco usage.
- California Tobacco Retail Surveillance Study (CTRSS): CTRSS, formerly the California Tobacco Advertising Survey (CTAS) from 2008 to 2014, is designed to assess retail availability, promotion and placement of tobacco products and marketing materials for tobacco products. The survey also assesses the availability and promotion of flavored tobacco products as well as electronic smoking devices.
- Healthy Store for a Healthy Community (HSHC): HSHC is a retail environment study measured the availability of a range of unhealthy and healthy products, as well as marketing practices for tobacco, alcohol, food and beverage items, and condoms. The HSHC survey was first conducted in 2013, with a follow-up conducted in 2016. More information can be found here: <http://healthystoreshealthycommunity.com/>.
- Online California Adult Tobacco Survey (Online CATS): Online CATS is an online health survey aimed at assessing tobacco-related behaviors and attitudes of California adults aged 18 to 64. The survey also assesses awareness and attitudes toward electronic cigarettes. The first survey was conducted in 2016.
- Youth Tobacco Purchase Survey (YTPS): YTPS is an annual statewide survey with the purpose of capturing the percentage of retailers who sell tobacco to youth under 18 from a randomly selected sample of tobacco retail outlets. YTPS is performed by underage inspectors who attempt to purchase tobacco in unannounced checks. More information can be found here: <http://www.csus.edu/isr/projects/ytps.html>.

## DATA SUPPRESSION

Data is suppressed following similar guidelines from the National Center for Health Statistics for the Healthy People program.<sup>74</sup> Estimates with a relative standard error larger than 50 percent are suppressed as the estimates are unstable to display; estimates with a relative standard error between 30 and 50 percent are presented and marked with an asterisk, unless otherwise noted, and caution should be used when interpreting the data.

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## APPENDIX

The appendix for the *California Tobacco Facts and Figures: A Retrospective Look at 2017* contains additional tables for data used to create maps or data that are not presented in the report.

**Appendix Table 1. Adult cigarette smoking prevalence rates in California and the rest of the U.S., 1988 to 2015**

Year	California	Rest of the U.S.
1988.....	23.7%	n/a
1989.....	22.1%	n/a
1990.....	20.4%	n/a
1991.....	20.2%	n/a
1992.....	21.0%	n/a
1993.....	19.2%	n/a
1994.....	17.6%	n/a
1995.....	16.9%	n/a
1996.....	17.8%	24.1%
1997.....	17.4%	23.7%
1998.....	17.5%	23.5%
1999.....	17.1%	23.1%
2000.....	16.3%	23.1%
2001.....	16.4%	23.6%
2002.....	15.8%	23.5%
2003.....	15.4%	23.0%
2004.....	14.6%	21.6%
2005.....	14.0%	21.3%
2006.....	13.3%	20.4%
2007.....	13.8%	20.2%
2008.....	13.3%	19.2%
2009.....	13.1%	18.8%
2010.....	11.9%	17.9%
2011.....	12.0%	21.0%
2012.....	12.7%	19.8%
2013.....	11.7%	19.0%
2014.....	11.6%	18.1%
2015.....	10.5%	17.5%

**Note:** Restricted to respondents aged 18 or older. Respondents were asked to report cigarette smoking behavior. An adjustment was made to address the change of smoking definition in 1996 that included more occasional smokers. The weighting methodology changed in 2012 for California but changed for the rest of the U.S. in 2011. Data is weighted to the 2000 California population from 1988-2011 and to the 2010 California population since 2012. **Source:** California Department of Public Health, California Tobacco Control Program. Behavioral Risk Factor Surveillance System, 1988-2015. Sacramento, CA: California Department of Public Health; 2016.

**Appendix Table 2. Adult cigarette smoking prevalence rates in California by county, 2013-15**

<b>County</b>	<b>Prevalence</b>
Alameda .....	12.1%
Alpine.....	12.4%
Amador .....	12.4%
Butte .....	17.1%
Calaveras .....	12.4%
Colusa .....	15.9%
Contra Costa .....	14.3%
Del Norte .....	18.8%
El Dorado.....	16.9%
Fresno.....	18.5%
Glenn .....	15.9%
Humboldt .....	19.5%
Imperial.....	12.5%
Inyo .....	12.4%
Kern .....	17.1%
Kings.....	17.7%
Lake .....	25.4%
Lassen.....	18.8%
Los Angeles.....	12.0%
Madera .....	15.9%
Marin.....	10.8%
Mariposa.....	12.4%
Mendocino .....	15.6%
Merced.....	16.3%
Modoc.....	18.8%
Mono.....	12.4%
Monterey.....	10.6%
Napa .....	17.0%
Nevada .....	14.5%
Orange.....	10.9%
Placer.....	11.0%
Plumas.....	18.8%
Riverside.....	12.2%
Sacramento .....	16.2%
San Benito .....	11.4%
San Bernardino.....	12.9%
San Diego.....	12.4%
San Francisco.....	9.0%
San Joaquin.....	15.9%
San Luis Obispo .....	13.0%
San Mateo .....	7.3%

<b>County</b>	<b>Prevalence</b>
Santa Barbara .....	9.0%
Santa Clara.....	9.3%
Santa Cruz.....	11.6%
Shasta .....	20.9%
Sierra .....	18.8%
Siskiyou .....	18.8%
Solano .....	13.1%
Sonoma .....	9.9%
Stanislaus .....	14.0%
Sutter .....	14.5%
Tehama .....	15.9%
Trinity.....	18.8%
Tulare.....	17.7%
Tuolumne.....	12.4%
Ventura .....	12.9%
Yolo.....	9.3%*
Yuba .....	20.7%
<b>STATEWIDE .....</b>	<b>12.6%</b>

**Note:** Restricted to respondents aged 18 or older. Respondents were asked to report cigarette smoking behavior. Data from CHIS 2013, CHIS 2014, and CHIS 2015 were pooled together. An asterisk (\*) indicates caution should be used when interpreting the data as the relative standard error is between 30 and 50 percent. A double dash (--) indicates data is suppressed as the relative standard error is larger than 50 percent or the analytic sample size was less than 50. **Source:** UCLA Center for Health Policy Research. AskCHIS 2013-2015: Current Smoking Status for Adults Age 18 or Older by County. <http://ask.chis.ucla.edu/>. Accessed August 18, 2017.

**Appendix Table 3. Age-adjusted incidence of lung and bronchus cancer among adults aged 35 or older in California and the rest of the U.S. per 100,000, 1990 to 2014**

<b>Year</b>	<b>California</b>	<b>Rest of the U.S.</b>
1990.....	135.7	131.6
1991.....	132.8	134.2
1992.....	132.2	134.1
1993.....	129.1	131.2
1994.....	126.9	130.3
1995.....	127.3	128.7
1996.....	124.6	128.9
1997.....	122.9	128.9
1998.....	120.7	131.6
1999.....	119.3	128.2
2000.....	116.9	124.5
2001.....	115.0	124.3
2002.....	112.2	124.8
2003.....	109.5	125.9
2004.....	108.1	121.3
2005.....	106.7	122.5
2006.....	105.4	120.6
2007.....	102.7	118.9
2008.....	99.3	116.7
2009.....	101.1	115.0
2010.....	94.3	110.5
2011.....	88.5	107.2
2012.....	87.1	105.2
2013.....	83.5	103.0
2014.....	81.4	100.3

**Note:** Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population (19 age groups - Census P25-1130) standard. **Source:** California Cancer Registry. Sacramento, CA: California Department of Public Health; 2017.

**Appendix Table 4. Age-adjusted mortality of lung and bronchus cancer among adults aged 35 or older in California and the rest of the U.S. per 100,000, 1990 to 2014**

<b>Year</b>	<b>California</b>	<b>Rest of the U.S.</b>
1990.....	106.1	116.0
1991.....	106.1	116.3
1992.....	103.4	116.5
1993.....	104.3	116.8
1994.....	103.3	115.7
1995.....	101.6	115.5
1996.....	99.0	114.8
1997.....	98.5	114.0
1998.....	94.7	113.5
1999.....	94.1	110.0
2000.....	92.0	111.2
2001.....	92.2	110.0
2002.....	89.2	109.7
2003.....	86.4	108.3
2004.....	83.6	106.8
2005.....	81.8	105.9
2006.....	79.9	103.6
2007.....	78.0	101.6
2008.....	75.5	99.5
2009.....	74.1	97.1
2010.....	71.1	95.3
2011.....	68.1	92.6
2012.....	64.9	90.6
2013.....	62.7	87.6
2014.....	60.1	85.2

**Note:** Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population (19 age groups - Census P25-1130) standard. **Source:** California Cancer Registry. Sacramento, CA: California Department of Public Health; 2017.

**Appendix Table 5. Age-adjusted incidence of lung and bronchus cancer among adults aged 35 or older in California by race/ethnicity per 100,000, 1990 to 2014**

<b>Year</b>	<b>Asian</b>	<b>Black</b>	<b>Hispanic</b>	<b>White</b>
1990.....	88.1	181.2	77.4	147.7
1991.....	82.0	175.2	73.0	145.9
1992.....	90.3	171.2	71.7	145.4
1993.....	82.7	168.0	72.9	142.1
1994.....	79.6	158.2	65.5	142.4
1995.....	81.7	170.6	71.8	141.1
1996.....	79.1	166.5	66.6	139.1
1997.....	84.2	159.5	66.4	137.8
1998.....	82.8	159.1	69.5	134.7
1999.....	78.9	155.5	65.1	134.8
2000.....	83.7	151.3	61.7	132.6
2001.....	82.9	149.3	61.7	130.7
2002.....	77.2	141.7	64.0	127.6
2003.....	80.5	149.0	62.4	123.7
2004.....	77.3	143.6	63.3	123.0
2005.....	78.7	150.1	60.7	121.1
2006.....	77.2	141.8	58.4	121.3
2007.....	73.4	131.9	58.0	119.6
2008.....	73.5	127.9	57.4	115.3
2009.....	76.6	137.8	57.9	116.4
2010.....	71.4	127.1	54.7	109.5
2011.....	70.1	115.6	50.7	103.1
2012.....	71.4	114.0	48.0	101.8
2013.....	69.5	105.6	49.1	97.0
2014.....	65.4	109.0	46.5	95.7

**Note:** Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population (19 age groups - Census P25-1130) standard. Race or ethnicity categories are non-Hispanic unless otherwise noted. Asian includes Pacific Islander. **Source:** California Cancer Registry. Sacramento, CA: California Department of Public Health; 2017.

**Appendix Table 6. Age-adjusted mortality of lung and bronchus cancer among adults aged 35 or older in California by race/ethnicity per 100,000, 1990 to 2014**

<b>Year</b>	<b>Asian</b>	<b>Black</b>	<b>Hispanic</b>	<b>White</b>
1990.....	61.3	138.8	46.2	118.7
1991.....	66.5	147.6	46.4	117.9
1992.....	62.0	143.3	45.8	115.3
1993.....	64.9	138.9	46.5	117.2
1994.....	62.6	137.2	44.8	116.9
1995.....	60.8	138.3	46.3	115.1
1996.....	59.2	131.7	45.4	112.4
1997.....	58.3	139.7	48.5	111.1
1998.....	56.2	127.6	44.5	108.5
1999.....	61.8	128.7	45.1	106.9
2000.....	58.9	122.5	43.9	105.5
2001.....	63.0	126.8	43.6	105.7
2002.....	55.5	118.1	42.4	104.0
2003.....	60.0	116.9	41.1	99.7
2004.....	55.6	109.4	43.0	97.1
2005.....	54.4	114.0	42.5	94.9
2006.....	53.9	114.2	39.2	93.6
2007.....	53.5	107.4	38.7	91.7
2008.....	53.6	96.8	40.3	88.7
2009.....	53.4	101.8	36.9	87.5
2010.....	50.4	98.3	37.2	84.0
2011.....	51.4	94.9	35.8	80.0
2012.....	48.4	87.4	32.1	77.6
2013.....	48.2	83.7	32.0	74.8
2014.....	47.6	82.0	32.7	70.7

**Note:** Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population (19 age groups - Census P25-1130) standard. Race or ethnicity categories are non-Hispanic unless otherwise noted. Asian includes Pacific Islander. **Source:** California Cancer Registry. Sacramento, CA: California Department of Public Health; 2017.