

Tobacco Use: Health Focus Area 3



Excerpted from Component A of *The Rhode Island State Health Improvement Plan*

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Definition

Tobacco use encompasses the use of a range of products, including cigarettes, pipes, dipping tobacco, and to electronic nicotine delivery systems. However, for Rhode Island adults, this Report focuses on cigarettes. Smoking status determined from self-reported data from the Rhode Island Behavioral Risk Factor Surveillance System (RI BRFSS). Respondents are considered current smokers if they have smoked 100 or more cigarettes during their lifetime and answer “every day” or “some days” to the question: “Do you now smoke cigarettes every day, some days, or not at all?”.

For pregnant women, this report uses responses from the Pregnancy Risk Assessment Monitoring System (PRAMS) survey, which asks new mothers several questions about smoking. The rate of smoking during pregnancy reflects the percentage of mothers who indicated that they smoked in response to the question “In the last three months of your pregnancy, how many cigarettes did you smoke on an average day?”.¹

To examine tobacco use among Rhode Island high school students, this Report examines the use of a wide range of tobacco products, including cigarettes, cigars, hookahs, as well as, smokeless tobacco, and “electronic vapor products” (i.e., e-cigarettes, e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens) using self-reported data from the Rhode Island Youth Risk Behavior Survey (RI YRBS). High school students are considered current users of these tobacco products if they indicate they used them at least once during the 30 days before the survey was conducted.

Prevalence across the Life Span

Children and Adolescents

In keeping with the national trend, cigarette use among Rhode Island high school students is down dramatically. In 2015, only 4.8% of students reported using at least one cigarette in the 30 days before the survey (down from 15.9% in 2005). However, the overall use of tobacco is much higher. In the 2015 survey, 25.1% of students reported using a tobacco product in the 30 days before the survey and more than 40% of students reported trying electronic vapor products at least once.

Figures 1 and 2 show high school tobacco use and high school electronic vapor use, and there is a statistically significant difference in use between male and female students and 12th graders versus other high school grades. Differences in electronic vapor use are only statistically significant between 12th graders and lower high school grades.

Figure 1: Cigarette Smoking Prevalence in Past 30 days among High School Students in Rhode Island, by Sex, Race/Ethnicity, and Grade. 2015.

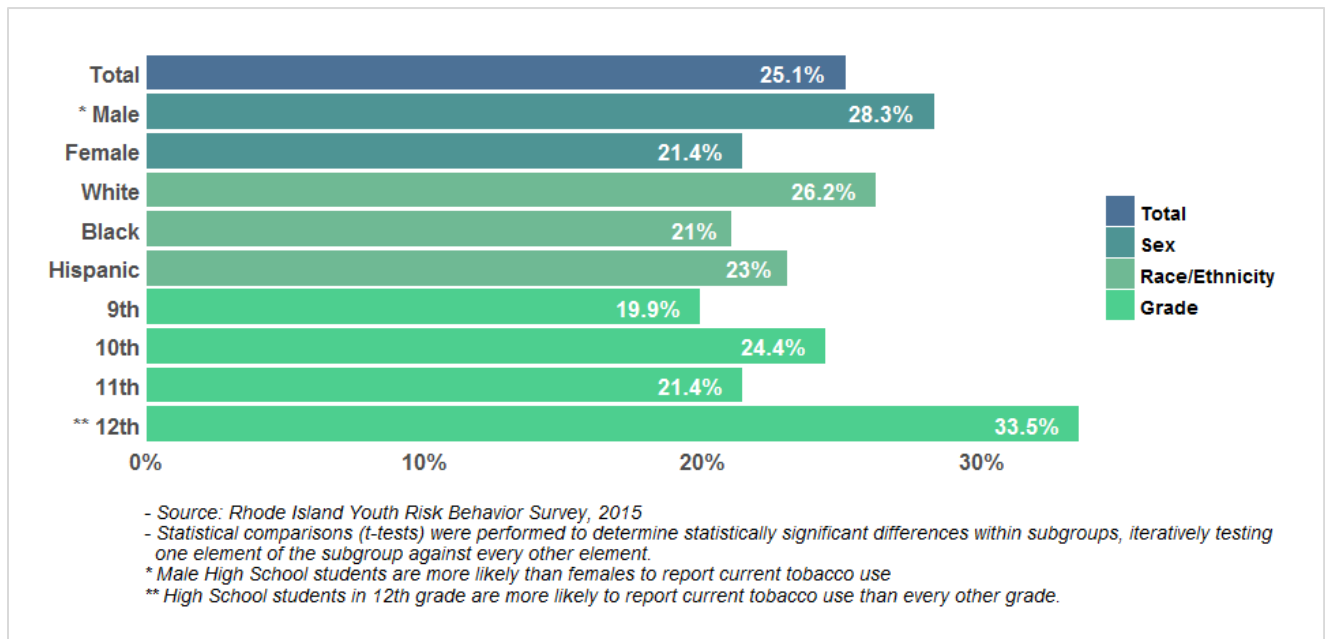
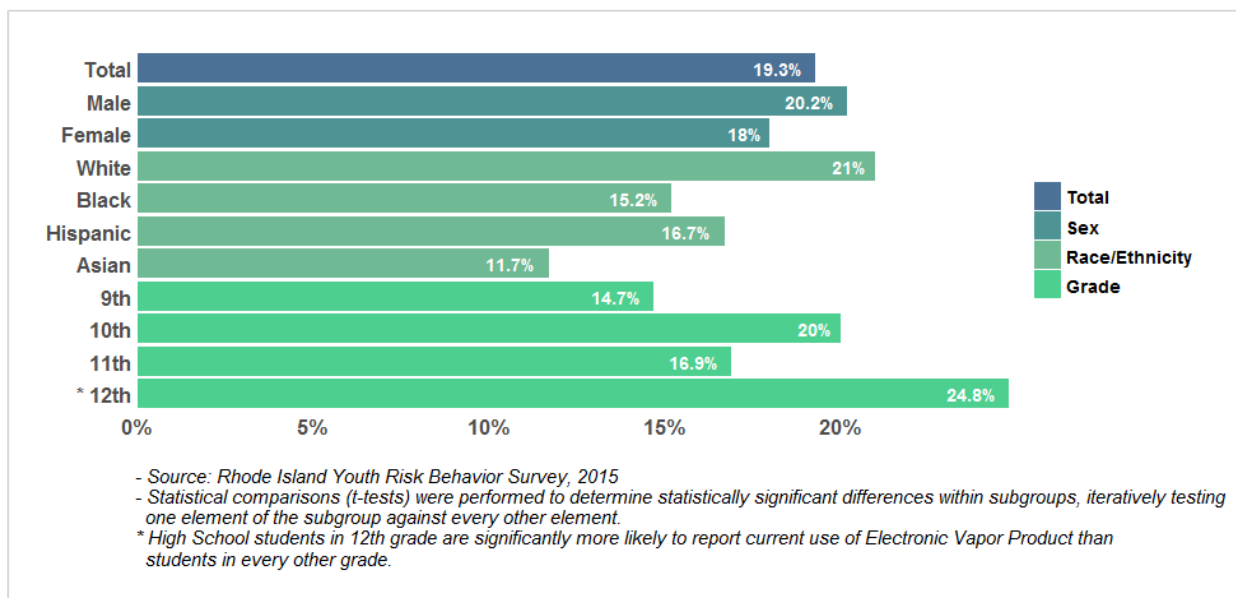


Figure 2: Electronic Vapor Product Use in Past 30 days among High School Students in Rhode Island, by Sex, Race/Ethnicity, and Grade. 2015.



High school students report smoking electronic vapor products, cigars, and hookahs at a higher rate than they smoke cigarettes. In 2015, 19.3% of high school students reported using electronic vapor products at

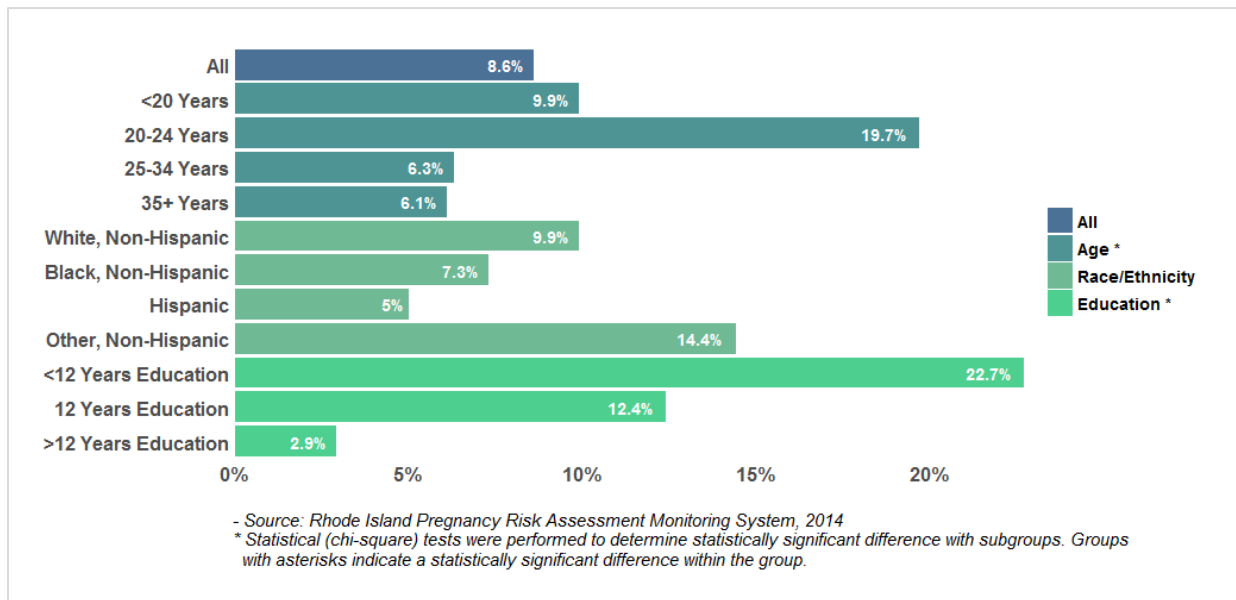
least once during the past month, more than 8% smoked a cigar and 9.2% reported using a hookah. Smokeless tobacco is also more popular than cigarettes, but only slightly. Just more than 5% of high school students reported using “chewing tobacco, snuff, or dip” in the past month.

As previously noted, cigarette use among high school students has dramatically declined in the past 10 years. Cigar use follows a similar downward trend, while use of smokeless tobacco products has varied year by year, perhaps due to a low sample size of users. The YRBS has no historic data regarding e-cigarettes (the 2015 survey asked about these products for the first time) so subsequent surveys will provide important trending data about the use of these products.

Pregnant Women

The rate of Rhode Island mothers who smoked in their last trimester decreased from 13.4% in 2006 to 8.3% in 2014.² However, this rate is higher than the *Healthy People 2020* goal of 1.4% of women smoking during pregnancy (or conversely, 98.6% of females reporting that they abstained from cigarettes while pregnant).³ Figure 3 below shows differences in smoking rates among subgroups of pregnant women. Age and education were associated with tobacco use during pregnancy. The small sample size may limit the ability to determine if race/ethnicity was associated with tobacco use during pregnancy.

Figure 3: Women Smoking During Pregnancy in Rhode Island, by Sex, Income, and Education, 2014.

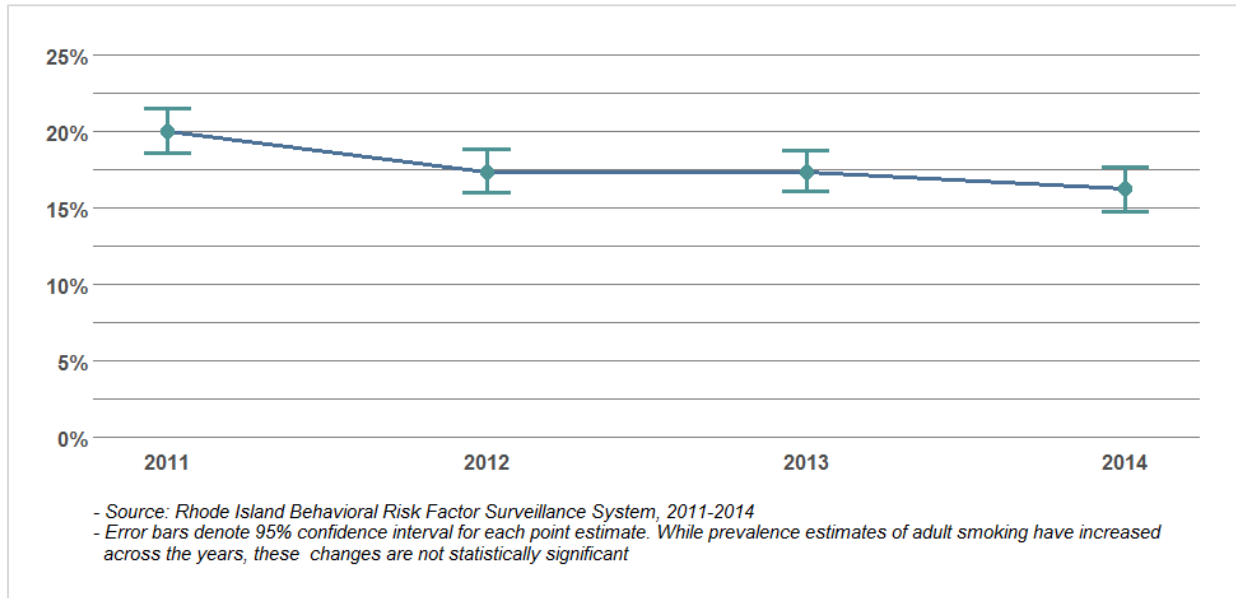


Adults

According to the 2014 RI BRFSS, 16.3% of Rhode Island adults are self-reported current smokers. Although smoking rates vary among Rhode Island’s sub-populations, all experienced a decline in smoking in the past

10 years.⁴ Between 2011 and 2014, smoking prevalence in Rhode Island dropped significantly from 20% to 16.3%.⁵ Figure 4 illustrates the percent of adults who are current smokers.

Figure 4: Percent of Rhode Island Adults that are Current smokers, 2011-2104.



Future versions of this *Health Assessment Report* will feature data on electronic tobacco use once these data are available.

Older Adults

The prevalence of smoking trends downward as Rhode Island adults age. Between 2012 and 2014, Rhode Islanders age 65 or older had the lowest prevalence of current cigarette use among all adult age groups, with only 7.7% reporting that they are current smokers. In 2014, 7.3% of Rhode Islanders older than age 65 reported being a current smoker. This age group is statistically less likely to be a current smoker than Rhode Islanders younger than 65.

At-Risk Populations and Disparities

Children and Adolescents

Regardless of the type of product, male high school students are significantly more likely to be users of tobacco than female students. As students age, they are more likely to report using tobacco. Rates for all types of tobacco products are significantly higher among high school seniors than students in other grades.

Analysis of tobacco use among ethnic/racial groups is limited by small sample sizes, although existing data indicate that differences in use vary by type of tobacco product. White, non-Hispanic students have higher

rates of e-cigarette use (21%) than Hispanic (16.7%) and Black non-Hispanic (15.2%) students, but this difference is not statistically significant. Cigar use is fairly uniform across ethnic/racial groups, ranging from 8.0% to 8.4%.

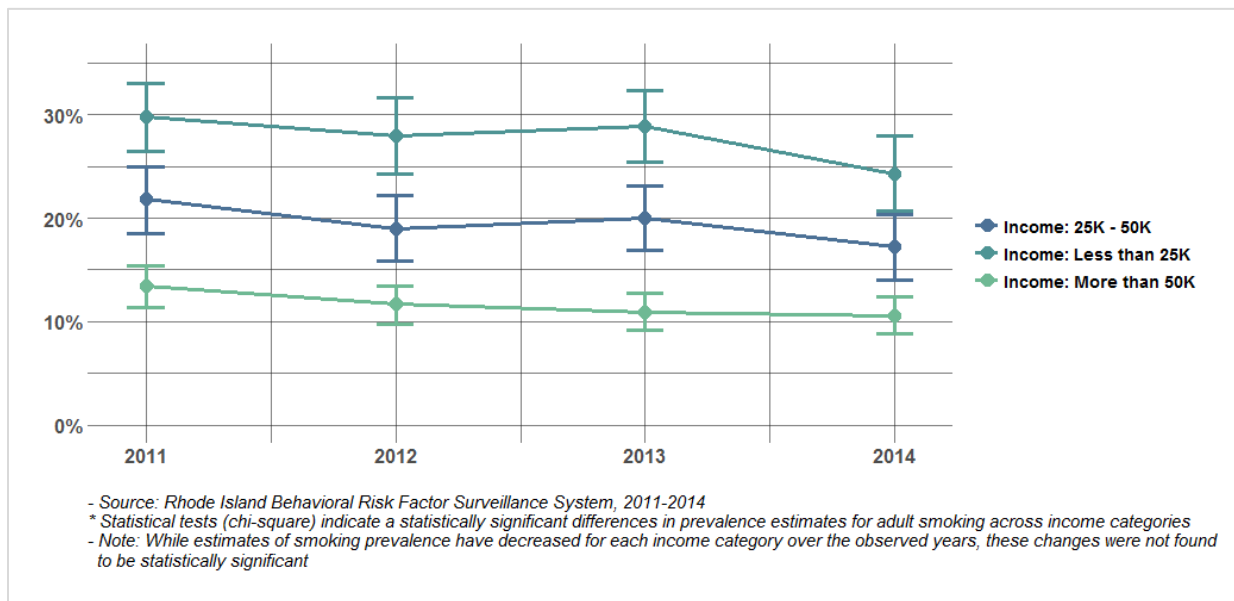
Pregnant Women

Rhode Island Department of Health (RIDOH) analysis of data collected between 2012 and 2014 found that Rhode Island women age 20-24, non-Hispanic, White women, and those with less than 12 years of education had the highest rates of smoking during pregnancy.⁶

Adults

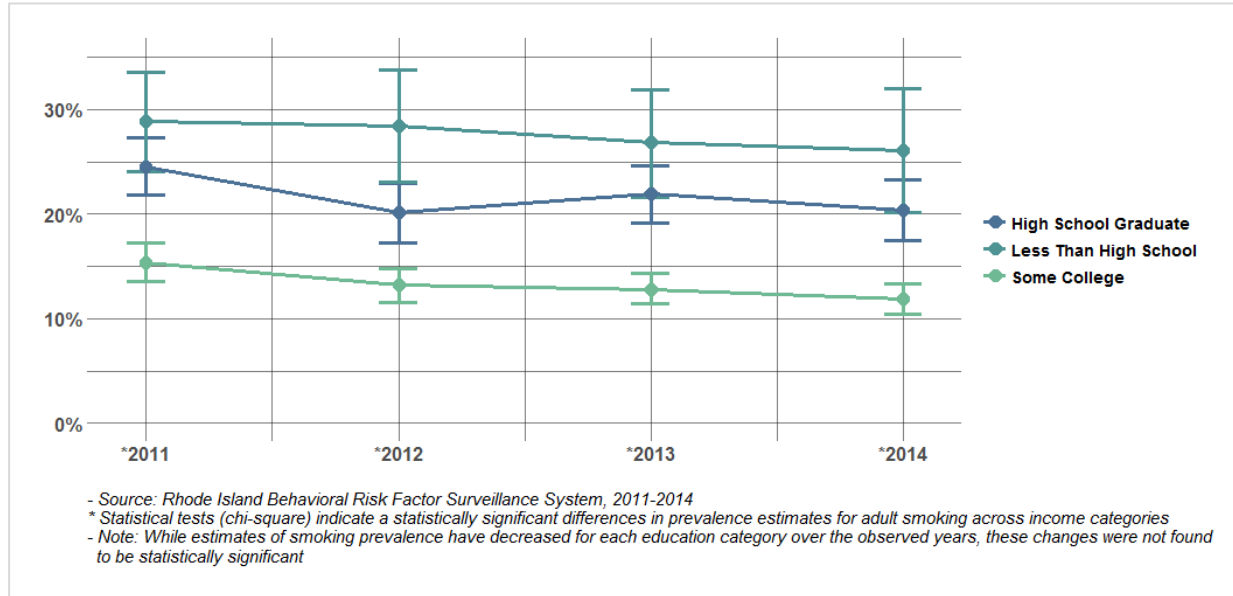
There are statistically significant differences in current smoking status by income and educational levels. Among Rhode Islanders with an annual household income of less than \$25,000, the current smoking rate (24.3%) is more than double the rate among Rhode Islanders with an annual household income of more than \$50,000. In general, Rhode Island smoking rates decrease as income increases. (See Figure 5.)

Figure 5: Smoking Prevalence by Income among Rhode Islanders Adults, 2011-2014.



Rates of smoking among adults decrease as educational levels increase. Rhode Islanders without a high school diploma have the highest rate of smoking, at 26.1%. This rate drops to 11.8% among Rhode Islanders with at least some college education. (See Figure 6.)

Figure 6: Smoking Prevalence by Education among Rhode Island Adults, 2011-2014.



Small sample sizes do not allow for conclusions to be drawn about racial/ethnic differences in current smoking status. Black, non-Hispanic Rhode Islanders have the highest smoking rate at 21.9%, but this percentage is based on a very small sample size and is not statistically different from other racial/ethnic groups.

Co-Morbidities

Analysis of RI BRFSS data collected between 2012 and 2014 reveal that a variety of conditions and behaviors co-occur with tobacco use.

Of those who were identified as 'current smokers':

- Approximately 27.2% are obese;
- Around 9.0% have been told they have diabetes;
- Approximately 5.5% have been told they had a heart attack; and
- About 37.2% have been told they have a depressive disorder.

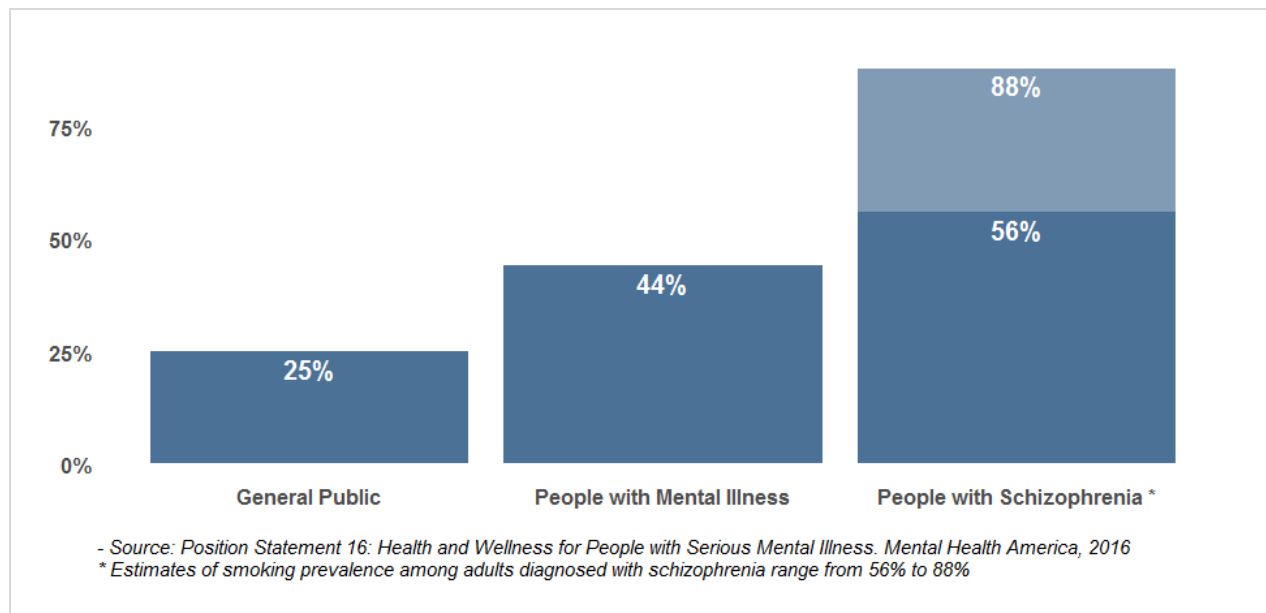
In addition, people with behavioral health needs have higher rates of smoking than the general public.⁷ A Position Statement on Health and Wellness for People with Serious Mental Illness issued by Mental Health America⁸ identified that nationally:

- 44% of all cigarettes smoked in the United States are by people who have a mental illness;

- Approximately 56% to 88% of people with schizophrenia smoke compared to 25% of the general public; and
- People with schizophrenia who smoke have a higher toxic exposure than other smokers, meaning they smoke more cigarettes and smoke more of each cigarette.

Figure 7 below illustrates the differences in smoking rates among the general public and United States residents with mental illness and schizophrenia.

Figure 7: Smoking Prevalence among Adults with Mental Illness in the United States and Rhode Island, 2011-2014.



According to the National Institutes of Health (NIH), people who currently smoke are much more likely to drink alcohol, and people who drink are much more likely to smoke.⁹ Dependence on alcohol and tobacco also is correlated: People who are dependent on alcohol are three times more likely than those in the general population to be smokers, and people who are dependent on tobacco are four times more likely than the general population to be dependent on alcohol.¹⁰

- People who drink and smoke are at higher risk for certain types of cancer, especially cancers of the mouth and throat. Approximately 80% of cases of cancer of the mouth and throat in men and about 65% in women can be attributed to alcohol and tobacco.¹¹
- Tobacco use and alcohol consumption both are major risk factors for various forms of cardiovascular disease.¹² While there is little evidence to suggest that drinking and smoking together raise the risk more than the sum of their independent effects, the negative effects from excessive tobacco use and excessive drinking and the high rates of co-occurrence are cause for concern.¹³

References

- ¹ PRAMS and smoking (2012). Atlanta, GA: Centers for Disease Control and Prevention. Retrieved May 15, 2017 from <https://www.cdc.gov/prams/tobaccoandprams.htm>
- ² Kim, H., Cain, R., Viner-Brown, S., and Yang, M. (2012). 2012 Rhode Island Pregnancy Risk Assessment Monitoring System data book. Providence, RI: Rhode Island Department of Health. Retrieved May 16, 2017 from <http://www.health.ri.gov/publications/databooks/2012PregnancyRiskAssessmentMonitoringSystem.pdf>
- ³ Pregnancy health and behaviors (objective MICH-11.3) (n.d.). Washington, DC: Healthy People 2020. Retrieved May 16, 2017 from <https://www.healthypeople.gov/2020/topics-objectives/objective/mich-113>
- ⁴ In 2011, the BRFSS began including cell phone numbers for its telephone survey so data before 2011 is not technically comparable to data collected in 2011 and beyond.
- ⁵ Rhode Island Behavioral Risk Factor Surveillance System survey (2011-2014).
- ⁶ Kim, H., Cain, R., Viner-Brown, S., and Roach, C. (2014). 2014 Rhode Island Pregnancy Risk Assessment Monitoring System data book. Providence, RI: Rhode Island Department of Health. Retrieved May 16, 2017 from <http://www.health.ri.gov/publications/databooks/2014PregnancyRiskAssessmentMonitoringSystem.pdf>
- ⁷ Position statement 16: Health and wellness for people with serious mental illnesses. (2012).
- ⁸ Position statement 16: Health and wellness for people with serious mental illnesses. (2012).
- ⁹ Alcohol and tobacco (2007). Alcohol Alert Number 71, January 2007. Rockville, MD: National Institute of Health, National Institute on Alcohol Abuse and Alcoholism. Retrieved May 16, 2017 from <https://pubs.niaaa.nih.gov/publications/AA71/AA71.pdf>
- ¹⁰ Alcohol and tobacco (2007).
- ¹¹ Alcohol and tobacco (2007).
- ¹² Alcohol and tobacco (2007).
- ¹³ Alcohol and tobacco (2007).