2017 DELAWARE STATE EPIDEMIOLOGICAL PROFILE: SUBSTANCE USE AND RELATED ISSUES

January, 2017

Prepared by the

University of Delaware Center for Drug and Health Studies

&

Its State Partners

for

The Delaware SPF-PFS Program,
The Delaware Division of Substance Abuse and Mental Health,
&
The State Epidemiological Outcomes Workgroup
(SEOW, formerly the Delaware Drug and Alcohol Tracking Alliance/DDATA)

Sponsored by Award SP020704 to the Division of Substance Abuse and Mental Health, Delaware Health and Social Services, from the Center for Substance Abuse Prevention, Substance Abuse and Mental Health Services Administration. Please address all inquiries to: Laura Rapp, PhD, University of Delaware Center for Drug and Health Studies, Department of Sociology and Criminal Justice: lrapp@udel.edu .

INTRODUCTION:

HISTORY AND CONTEXT

OF THE STATE EPIDEMIOLOGICAL OUTCOMES WORKGROUP (SEOW) AND THE 2017 PROFILE

All States, including Delaware, have received support from the Substance Abuse and Mental Health Services Administration's (SAMHSA's) Center for Substance Abuse Prevention (CSAP) to establish a statewide epidemiological workgroup or SEOW. Some SEOWs, including Delaware's, are incorporated as part of a SAMHSA Strategic Prevention Framework State Incentive Grant (SPF-SIG) or Strategic Prevention Framework- Partnerships for Success Grant (SPF-PFS). In Delaware, the Division of Substance Abuse and Mental Health (DSAMH) in the Delaware Department of Health and Social Services has been the recipient of a SPF-SIG grant and is currently the recipient of a SPF-PFS grant. The SEOW is a group of people and organizations in the state that have and use analytical data concerning drug and alcohol use and abuse and related behaviors and consequences, which can be used to establish and monitor indicators related to substance abuse prevention. Delaware's SEOW (formerly DDATA) mission is: to bring data on substance abuse and related behavioral problems to the forefront of the prevention planning process. Its goals are:

- *To build monitoring and surveillance systems to identify, analyze and profile data from state and local sources;*
- *To provide current benchmarks, trends and patterns of substance abuse consumption and consequences*
- *To create data-guided products that inform prevention planning and policies*
- *To train agencies and communities in understanding, using, and presenting data effectively.*

This Epidemiological Report is one product developed by the SEOW to disseminate data for strategic planning, decision-making, and evaluation. Using indicators which are available on an ongoing basis, it briefly describes Delaware-specific patterns of consumption, context, consequences and trends of substance use, especially among young people.

Thank You, SEOW Collaborators

for your participation and commitment to
data-driven prevention planning, practice, and evaluation!

SPF-PFS Leadership Team, DSAMH: Cecilia Willis, Rochellda Adderly, Shawn Stevens, Meisje Scales (SAMHSA, CSAP Prevention Fellow)

atTAcK Addiction
Christiana Care Health Systems
Delaware Academy of Medicine
Delaware Criminal Justice Council
Delaware Coalition Against Domestic Violence
Delaware Council on Gambling Problems
Delaware Criminal Justice Information System (DELJIS)
Delaware Department of Education
Delaware Department of Health and Social Services
- Division of Medicaid and Medical Assistance
- Division of Public Health
- Division of Services for the Aging and Persons with Disabilities
- Division of Substance Abuse and Mental Health

Delaware Department of Homeland Security
- Division of Alcohol and Tobacco Enforcement
- Division of Forensic Medicine

Delaware Department of Services for Children, Youth and their Families
- Division of Prevention and Behavioral Health
- Trauma Informed Care

Delaware Office of Controlled Substance
- Division of Professional Regulation, Prescription Monitoring Program

Mental Health Association of Delaware
Delaware Prevention Coalition
Delaware State Police
DEMCO
La Esperanza
KIDS COUNT in Delaware, University of Delaware Center for Community Research & Service
Latin American Community Center
Nemours Health and Prevention Services
Open Door, Inc.
Wesley College
West End Neighborhood House
University of Delaware
- Student Health and Wellness Promotion

SEOW Facilitator Team, University of Delaware Center for Drug and Health Studies: Laura Rapp, Sharon Merriman-Nai, James Highberger, Dana Holz, Brandie Pugh, Kai Lin, Luye Li, Lin Liu, Roberta Gealt, Dan O'Connell, and Steve Martin

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Delaware Data: State Demographic Background

Delaware is the second smallest state in the United States, with total landmass equaling 1,949 square miles (US Census Bureau, n.d.). There are three counties in the state: New Castle County, the most populated county, and Sussex and Kent Counties, which are primarily rural. According to the most recent data available from the United States Census, the state population is estimated at 952,065. The demographic snapshot indicates that 70% of the state population is reported as White, 22% as Black or African American, 9% as Hispanic or Latino, 4% as Asian, and the remaining population of the state identifies as Pacific Islander/Native Hawaiian, American Indian/Alaska Native. From 2011-2015, 13% of Delawareans spoke a language other than English at home (US Census Bureau, n.d.).

The median age in Delaware during the 2011-2015 timeframe analyzed by the American Community Survey was 39.3 years. Currently, individuals aged 18 and under comprise 21.6% of the State's overall population (US Census Bureau, n.d.). However, Delaware's population is changing in key ways. In particular, the population is aging. Since 2000, the population between the ages of 60 to 84 increased by 52% and the population over the age of 85 increased by 70%. This trend is particularly pronounced in Sussex County, where the population over 85 increased by 106% since 2000. Delawareans aged 65 and older comprise 17% of the total population (DelawareFOCUS.org, n.d.).

The median household income from 2011 through 2015 was $60,509. In February 2017, the unemployment rate was 4.5% with over 21,000 people currently unemployed (US Bureau of Labor Statistics, n.d.). In 2015, 7% of the Delaware population was uninsured. About one in five

was enrolled in Medicaid, and one in six was enrolled in Medicare (Kaiser Foundation, n.d.). From 2013 – 2015, 20% of children in the state lived below the federal poverty line. In 2015, 71,393 families were enrolled in the Supplemental Nutrition Assistance Program, and 5,258 families received Temporary Assistance for Needy Families. Two in five children were raised in one-parent families (Center for Community Research and Service, 2016).

Due to unique tax and corporate policies and access to the Delaware Court of Chancery, Delaware has attracted more than half of all U.S. publicly traded companies to incorporate in the state. For this reason, Delaware is often named as the "corporate capital of the world." One of Delaware's major industries is corporate financing and banking. Additionally, Delaware's economy is also driven by chemical manufacturing, aviation, health services, tourism, and agriculture. In Kent and Sussex County, agriculture has greater predominance. The state's largest agricultural output is broiler chickens, followed by soybeans and corn. Many thousands of people, from across the country, visit Delaware's beach resort towns every year, making tourism a great driver of economic development in Sussex County (State of Delaware Office of Economic Development, n.d.). Delaware has also become a retirement destination, which accounts, in part, for the growth in population of older citizens.

New Castle County

The northernmost and most densely populated county, New Castle County had an estimated 538,479 residents during the 2010 Census. Delaware's largest city, Wilmington, is located in New Castle, with an estimated 70,851 people living in the city in 2010 (US Census Bureau, n.d.). There is an upsurge in the number of people in the downtown business district during the day, with much of that population leaving the city for homes in the suburban outlying areas at night. Recent residential and business developments along the waterfront in the city were designed, in part, to attract more working professionals to the city to live, and for dining and entertainment. Efforts to motivate locals to dine and entertain in the city are hampered by concerns over high

crime rates. In 2014, *Newsweek* featured an article on the troubling homicide rate within the city, entitled, *Murder Town USA* (Jones, 2014). Attention to increasing homicide rates led local residents and policymakers to call gun violence a public health epidemic, and epidemiologists from the CDC treated it as such and spent several months in 2015 identifying risk factors that lead to gun violence within the city (Sumner et al., 2015).

Newark, the state's third largest city, with 31,454 people in 2010, is also located in New Castle County (US Census Bureau, n.d.). Delaware's flagship university, the University of Delaware, is located in the city. Towns in lower New Castle County have seen explosive growth in the past two decades. Between the 2000 and 2010 Census reporting periods, Middletown grew by 206%, and Townsend by 492%.

Kent County

Dover, the capitol and the state's second largest city, is located in Kent County. An estimated 36,047 people lived in Dover in 2010 (US Census Bureau, n.d.). The city is home to the Dover Air Force Base, and the Dover Downs International Speedway. Delaware State University and Wesley College are based in Dover, and Delaware Technical and Community College and Wilmington University also have locations in the city. Recent residential developments have attracted more people to Kent County. Two towns saw large increases in populations from 2000-2010; Cheswold increased by 341% during this time period, and Clayton by 129%. Kent County had an overall 28% increase in population between 2000-2010, when the US Census estimated the population at 162,349.

Sussex County

Sussex County, the southernmost of the three, is home to several beach resort towns that support a large influx of people during the warmer months, but do not host a large year-round

population. During the tourist season, tremendous congestion and traffic is evident in these coastal towns. Milford, Georgetown, and Seaford are the three largest cities in the county, all of which are inland from the coast and have primarily year-round populations. Poultry processing is a major industry in Sussex County, and a significant immigrant worker population is associated with the industry. From 2000-2010, Sussex County experienced a 26% increase in its population when the US Census reported 197,110 residents. These official numbers may not actually reflect local realities, as some of the population growth is likely due to migrant and immigrant workers that may not be counted on the Census.

Medically Underserved Areas

The Health Resources and Services Administration (HRSA) uses existing data to determine areas of the country that are medically underserved, and lack access to primary care doctors. Occasionally, areas do not fit official criteria for being medically underserved, but local stakeholders, aware of local context and realities, can petition to designate the area as medically underserved if additional data shows that the population does have difficulty in accessing primary care. This is considered the Governor's Exception Criteria by the HRSA. In Delaware, much of the southern and eastern communities in New Castle County are currently considered a Medically Underserved Area (MUA), under the Governor's Exception Criteria. All of Kent County is considered an MUA, under the same criteria. Sussex County is considered a MUA, under the HRSA coding criteria (Health Resource and Services Administration, n.d.).

In addition to physical health concerns, about a third of adults reported poor mental health status in 2015 (Kaiser Family Foundation, 2015). These factors, coupled with under-resourced service areas, amplify the need for preventative health services, including strategies to bolster behavioral health. (For an interactive map of areas of need within the state, visit the Delaware Health Tracker 2017 SocioNeeds Index.)

An Overview of the 2017 Delaware State Epidemiological Profile Report

The 2017 Delaware State Epidemiological Profile Report highlights the most recently available data on substance use among various populations. It is intended to provide decision-makers with information to support needs assessment, strategic planning, and evaluation. The report begins with an overview of consumption patterns of select substances. Following the overview, individual chapters present narrative summaries for each substance category, which highlight select findings, followed by graphs and charts detailing reported trends and use. The report also features a special topic, adverse childhood experiences (ACES) and their association with substance use. Finally, the report includes data related to protective factors, which are key to prevention efforts. References are included at the end of the report, alphabetized within chapter groups.

Overview: Statewide Consumption Patterns of Select Substances

2016 Delaware School Survey

Percent of Delaware 8th and 11th grade students reporting use of selected substances in the past 30 days

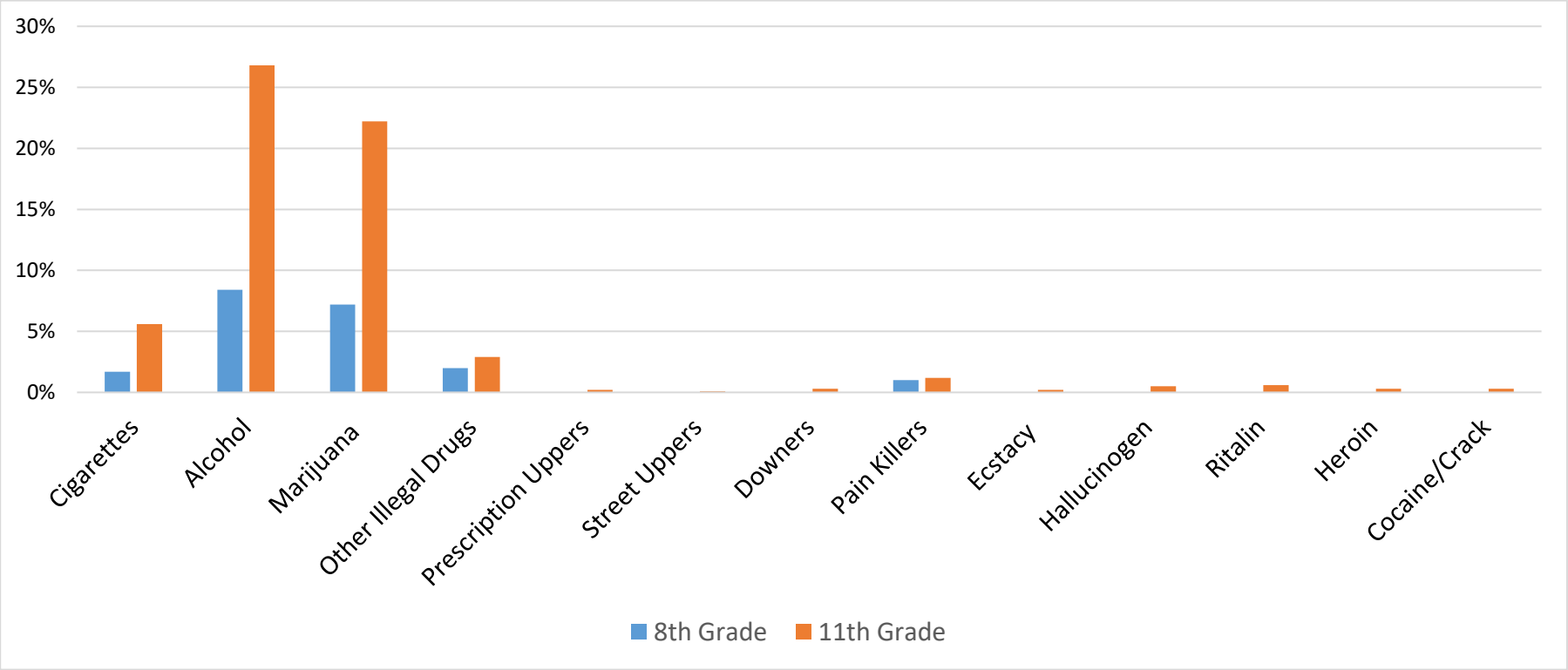

Figure 1 Reported use of selected substances in the past 30 days among Delaware 8th/11th graders

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Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 Delaware School Survey

Cigarettes: Percentage of 8th and 11th public school students who reported using in the past month by zip-code

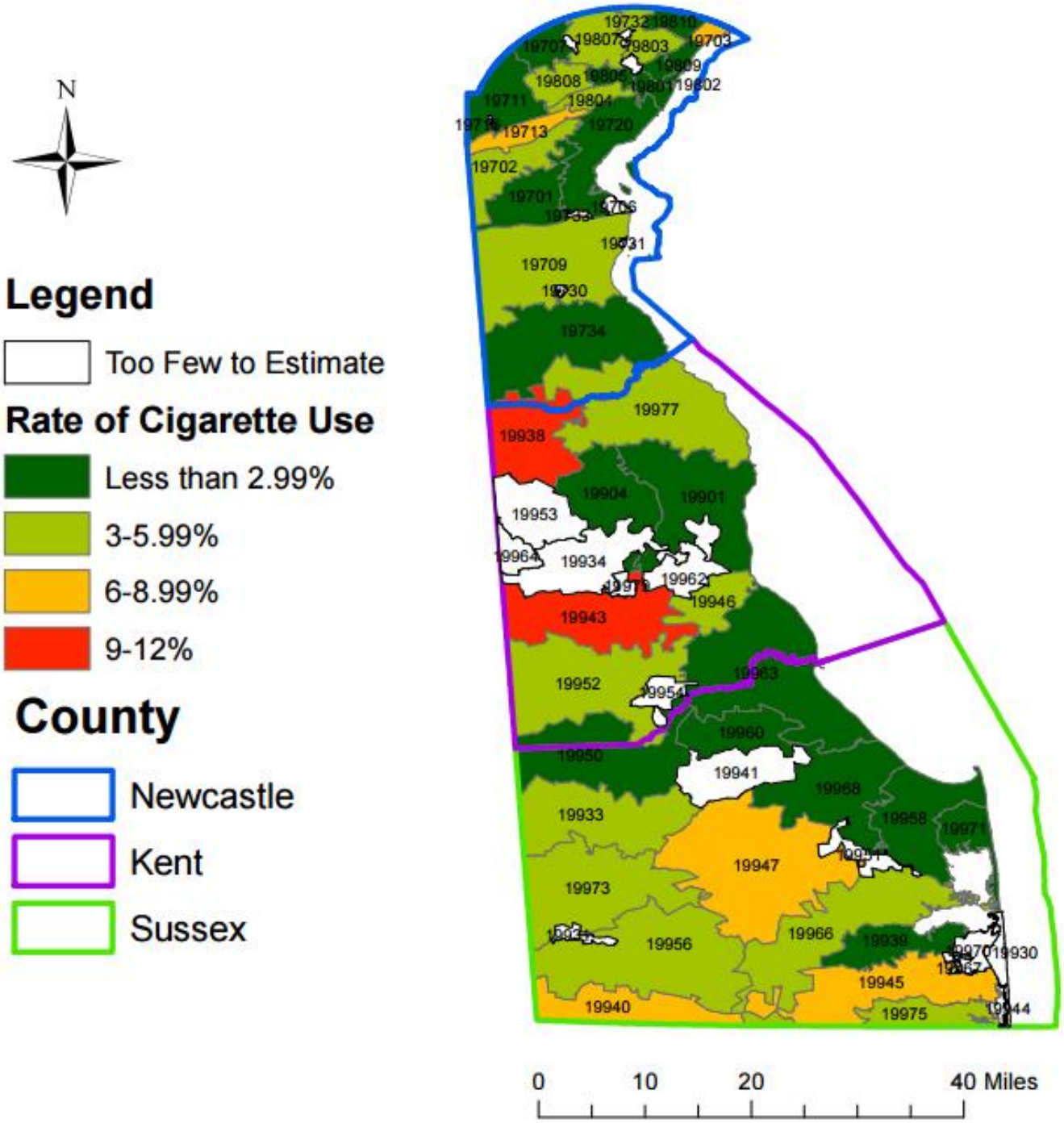

Figure 2 Past month cigarette use map

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Source:
"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 Delaware School Survey

Alcohol: Percentage of 8th and 11th public school students who reported drinking in the past month by zip-code

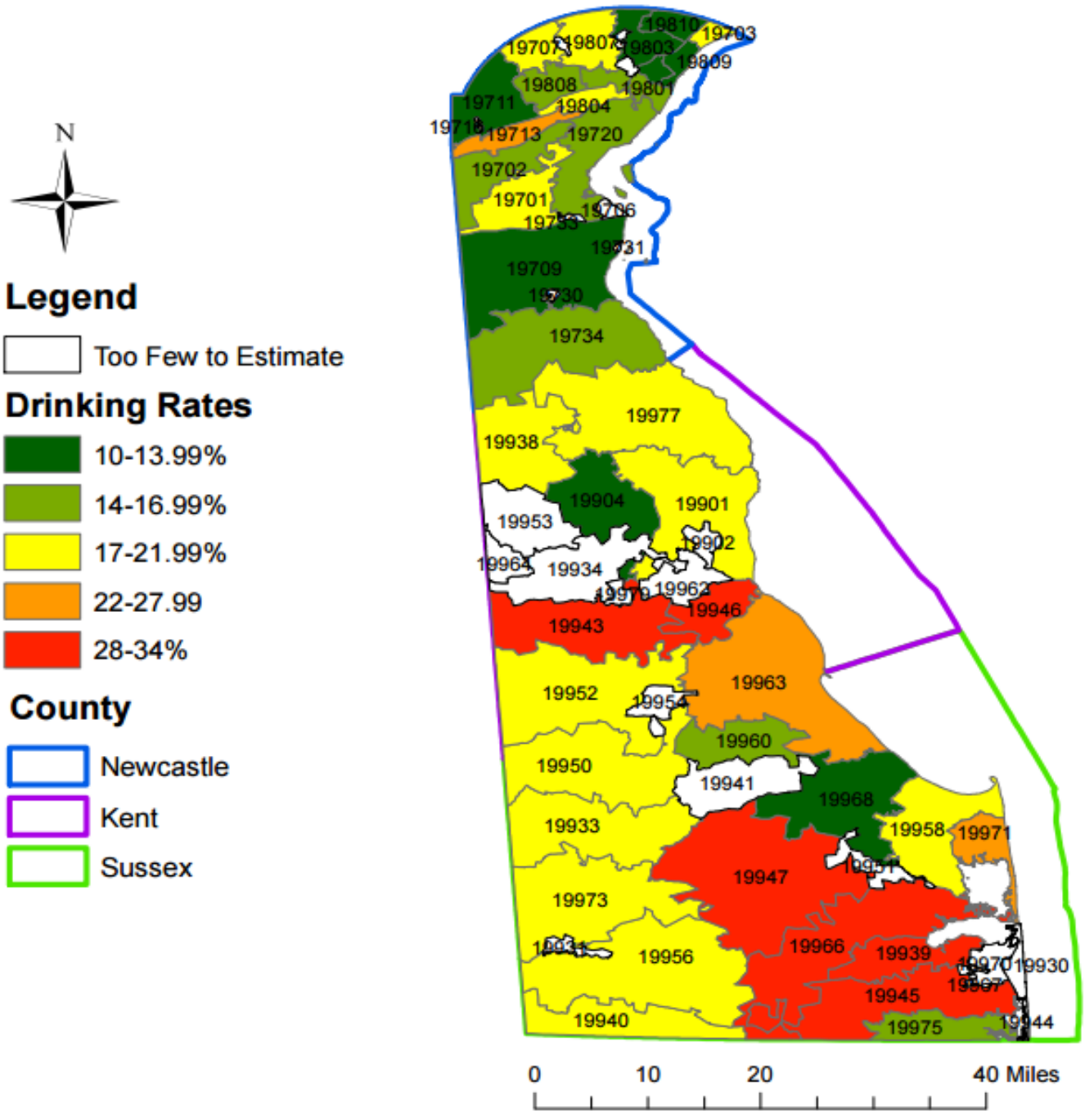

Figure 3 Past month alcohol use map

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Source:

"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 Delaware School Survey

Marijuana: Percentage of 8th and 11th public school students who reported using in the past month by zip-code

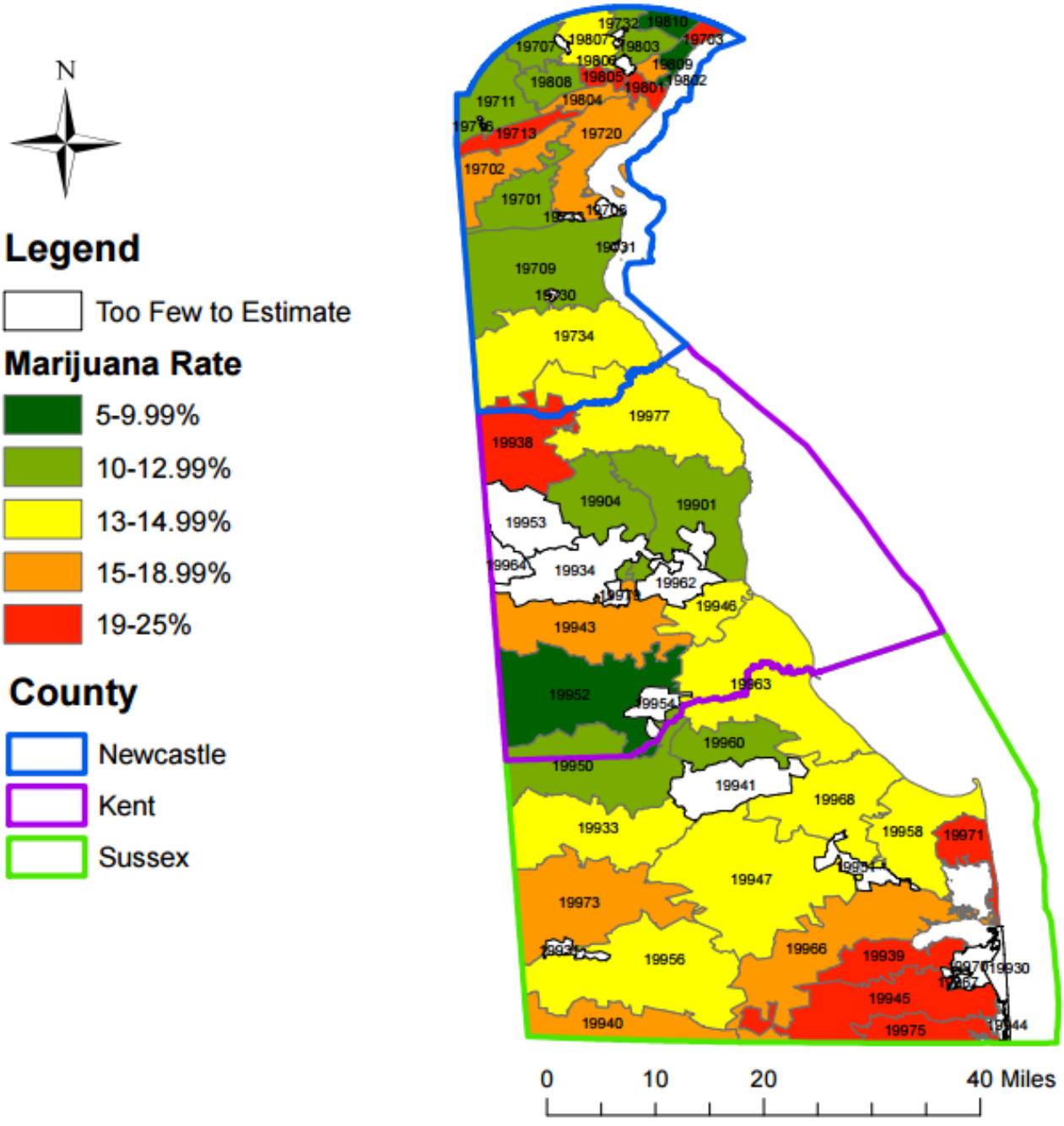

Figure 4 Past month marijuana use map

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Source:

"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 Delaware School Survey

Pain Medications: Percentage of 8th and 11th public school students who reported using in the past month by zip-code

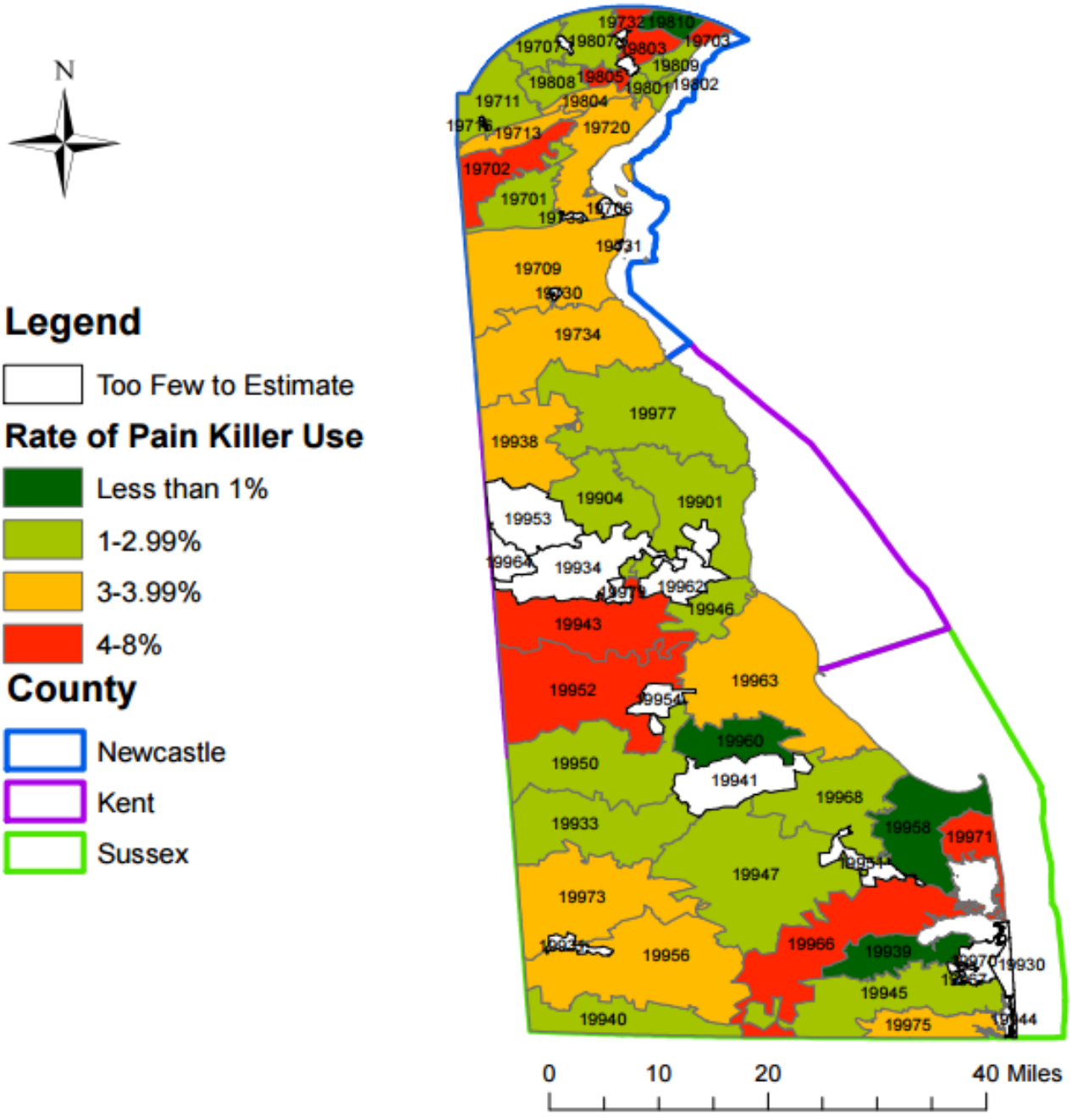

Figure 5 Past month pain killer use map

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Source:

"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

Tobacco and Electronic Cigarettes (Vaping)

National Context

Over fifty years, ago the United States Surgeon General released a comprehensive report documenting the strong evidence that linked cigarette smoking to lung cancer and other conditions. Today, tobacco use has been linked to cancers throughout the body, heart and respiratory conditions, fetal distress, and other dangerous health conditions. Since 1965, the Center for Disease Control (CDC) estimates that more than 20 million Americans have died due to smoking-related causes. Currently, almost one in five deaths in the United States are linked to cigarettes, and these deaths are entirely preventable. The use of cigarettes and other tobacco products have high public health costs; the CDC estimates over $300 billion in public costs associated with smoking each year (CDC, n.d.). Over the decades, increased knowledge of the risks and dangers of smoking has had a positive impact, however, tobacco use remains an issue nationally and locally.

Nationwide, there has been a decrease in use of tobacco products over the past several decades. In 1965, two out of every five adults surveyed by the NHIS reported that they currently smoked, by 2014 that number was reduced to one in six adults. Fortunately, tobacco use among youth also reflected this decline (CDC, n.d.). Respondents to the National Youth Risk Behavior Survey (NYRBS) reported current smoking at 28% in 1991 and 11 % in 2015. During that same time period the number of youth who reported ever trying cigarette smoking declined from approximately 70% of respondents to 32%. The CDC reports that the rate of decline has slowed in recent years. In addition, sharp disparities in use between populations are apparent (CDC, n.d.). While cigarette use has been declining over past years, use of smokeless tobacco and cigar/cigarillo smoking, while still only used by a fraction of tobacco users, has risen slightly (CDC, 2014).

Increasingly, youth and adults are using electronic cigarettes in place of, or in addition to, cigarettes. Nationally, youth use e-cigarettes at a greater rate than any other tobacco product, including cigarettes. A 2016 Surgeon General's report estimated a 900 percent increase in youth use of e-cigarettes between 2011-2015. Youth report that preference for vaping (use of e-cigarettes) over traditional cigarettes is due to multiple flavor options and perceptions of lower risk. While e-cigarettes are marketed as less dangerous than regular cigarettes, they still contain nicotine, aerosol, and additional chemicals that may be toxic to the health of the user (Office of the Surgeon General, 2016). Use of e-cigarettes has also been linked to a greater risk of using other tobacco products, including regular cigarettes. The health impacts of e-cigarettes are still being studied, and some risks may not be known at this time. The use of e-cigarettes is particularly problematic for youth; nicotine is addicting, and has been shown to interfere with healthy brain development during adolescence and young adulthood. E-cigarette devices can also be used for marijuana and other illegal substances.

Data in Action: Cigarette Pricing and Youth Consumption

Youth use of tobacco products should be a major point of public health intervention; 99% of all smokers began smoking by age 26 with 88% of all smokers having had their first cigarette by age 18. The CDC found that there is a higher rate of quitting in younger age groups than in the past. However, nicotine in tobacco products is toxic in high doses, and highly addictive. Many users attempt to quit smoking multiple times before achieving success; in 2012, 43% of respondents interviewed by the National Health Interview Survey (NHIS) who were current smokers had attempted to quit during the last year (SG Report, p. 809). Thus, prevention efforts targeted to youth are essential to curb the public health crisis associated with the use of cigarettes and other tobacco products (Office of the Surgeon General, 2012).

Raising the price of cigarettes has been shown to have a greater preventive effect on youth and young adults than adults over the age of 26. Overall, increasing pricing on cigarettes is estimated to reduce smoking by 3-5%; people under the age of 26 are between 2 to 3 times more likely to be deterred from smoking by higher cigarette prices than older adults (CDC, n.d.). Policymakers in the

State of Delaware are currently debating the merits of increasing the cigarette excise tax. Governor John Carney's proposed state budget would increase taxes on cigarettes by a dollar, for a total of $2.60 per pack. His proposed budget would also increase taxes on snuff and e-cigarettes (Albright, 2017). Nationally, policymakers have also considered raising the age for purchase of tobacco products to the age of 21. Currently, 217 cities and municipalities have raised the purchasing age to 21, but as of yet, no state has passed legislation to change the age for purchasing tobacco products (Tobacco21.org).

Tobacco Use in Delaware

The CDC reports that approximately 1,400 adults die due to illness related to smoking every year in Delaware. The latest available data on health costs associated with tobacco usage was an estimated $532 million in 2009. Efforts to control and prevent tobacco use also have high costs; the CDC alone provided the State of Delaware $708K in FY 2016 for such efforts (CDC, 2017). Additional federal and state funding sources were also used for these efforts. If current tobacco usage trends stay stable, the CDC projects that approximately 17,000 Delawareans who were minors in 2012 will die from a smoking-related illness at some point in their lives (Office of Surgeon General, 2014, p. 693).

Mirroring national trends, data from four major survey sources (BRFFS, NSDUH, YRBS, DSS) show that Delaware youth and adults report a steady decline in cigarette use since the late 1990s. Twenty years ago over a third of eleventh graders reported regularly using cigarettes; today, only 6% of eleventh graders report currently smoking cigarettes (DSS). Younger age groups show larger rates of decrease than older cohorts. The BRFFS shows that there was a 10% decrease in reports of current smoking within the 18-24 age group and a 6.7% decrease within the 25-34 age group during the early 2000s. Youth data from the DSS indicates that the reported age of first use has increased slightly since 2001. In 2016, eleventh graders reported an average age of 14.3 years old as first time using tobacco; eighth graders reported 12.5 years of age. Preventing smoking at a younger age should decrease the public health consequences associated with smoking in the future.

While the decline in cigarette use in Delaware is promising, there has also been a troubling increase in the use of e-cigarettes/vaping devices, for both youth and adults. Consistent with national trends, youth in Delaware currently report a greater use of e-cigarettes/vaping than regular cigarettes. However, trend data on usage is limited because of the infancy of data collection on the use of e-cigarette and vaping devices. According to the 2016 DSS, 8% of eleventh graders report use of an e-cigarette or vaping device in the past month, which is 2% higher than eleventh graders who report smoking cigarettes in the past month. Eighth graders also report higher use of e-cigarettes/vaping devices in the past month, 5% compared to 2%. An increase in use may be explained by individuals perceiving these products as safer alternatives to cigarettes—less than 15% of eleventh graders and eighth graders reported "great risk" in the use of e-cigarettes/vaping devices. As we continue to learn more about the health risks associated with e-cigarettes and vaping devices it will become increasingly important to inform Delaware adolescents, parents, and educators of these risks, because as research illustrates, smoking habits form at a young age.

Tobacco Prevalence Indicators

NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH)

Selected Drug Use, perceptions of great risk, average annual rates of first use of tobacco in Delaware, by age group: percentages, annual averages based on 2014-2015NSDUHs [a]				
Measure	**Total 12 or Older**	**AGE GROUP**		
		12-17	**18-25**	**26 or Older**
Tobacco products				
Past month tobacco product use [b]	26.4%	6.8%	37.2%	26.8%
Past month cigarette use	22.5%	4.9%	31.5%	23.0%
Perceived great risk of smoking one or more packs of cigarettes per day [c]	72.8%	68.2%	68%	74.2%

Figure 6 Perceptions of great risk, average annual rates of first use of tobacco in Delaware

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Notes:

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] Tobacco Products include cigarettes, smokeless tobacco (i.e., chewing tobacco or snuff), cigars, or pipe tobacco.

[c] It was not surveyed in 2014-2015.

Source:

"2014-2015 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab3-1b

2016 DELAWARE SCHOOL SURVEY

Cigarette use among Delaware 5th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	PERCEIVED GREAT RISK OF HARM FROM PACK OR MORE PER DAY
Statewide	2	1	0	52
Males	2	1	0	57
Females	2	1	0	54
Wilmington	2	1	0	40
Males	2	1	0	37
Females	2	1	0	42
New Castle	2	1	0	55
Males	2	1	0	52
Females	2	0	0	58
Kent	2	1	0	59
Males	2	1	0	57
Females	2	0	0	61
Sussex	2	1	0	54
Males	2	1	0	52
Females	2	1	0	57

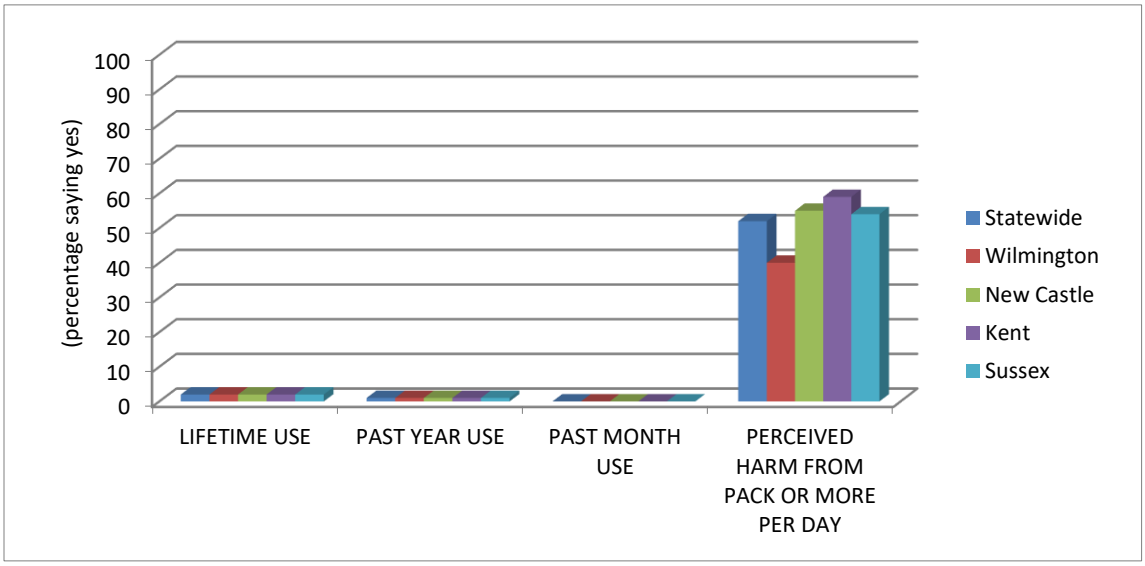

Figure 7 Cigarette use among Delaware 5th graders

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Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Cigarette use among Delaware 8th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	*HEAVY USE* [a]	PERCEIVED GREAT RISK OF HARM FROM PACK OR MORE A DAY
Statewide	5	4	2	0	54
Males	5	3	2	0	51
Females	5	4	2	0	56
Wilmington	5	4	2	0	54
Males	5	3	2	0	51
Females	5	4	2	0	56
New Castle	4	3	1	0	56
Males	4	2	1	0	55
Females	4	4	1	0	57
Kent	6	4	3	1	48
Males	8	6	4	1	40
Females	4	4	2	0	55
Sussex	7	5	2	0	51
Males	6	4	2	0	47
Females	8	6	2	0	54

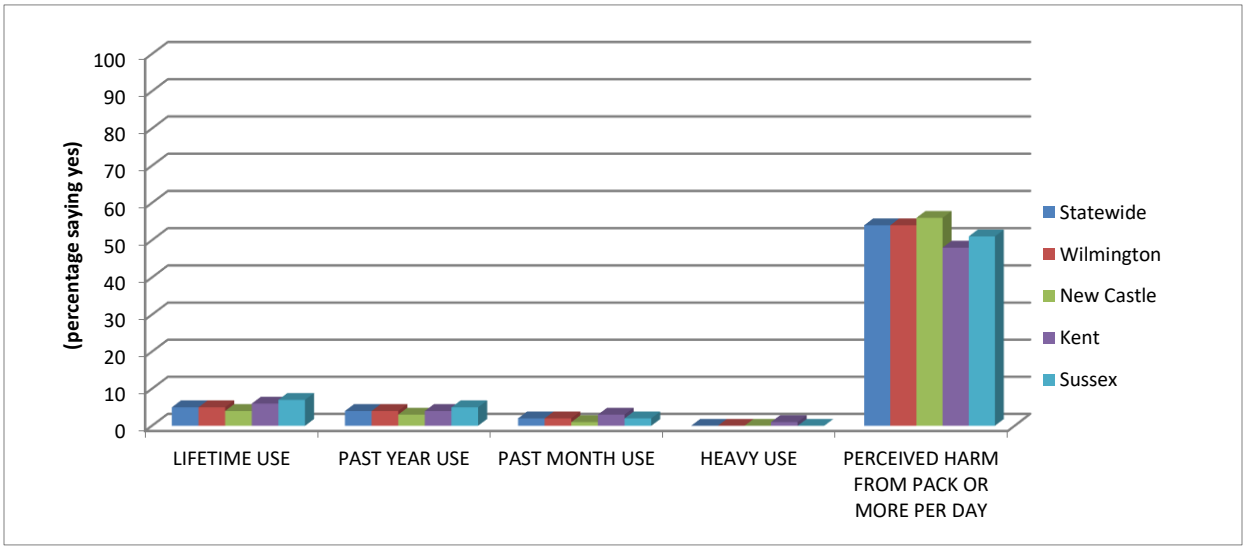

Figure 8 Cigarette use among Delaware 8th graders

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Note:[a] "Heavy Use" is more than one-half pack per day in last thirty days

Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Cigarette use among Delaware 11th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	HEAVY USE [a]	PERCEIVED GREAT RISK OF HARM FROM PACK OR MORE PER DAY
Statewide	14	9	6	1	68
Males	15	10	6	1	65
Females	14	9	5	1	71
Wilmington	13	7	3	1	64
Males	11	6	2	1	61
Females	13	9	3	1	66
New Castle	13	9	6	1	70
Males	14	10	6	1	66
Females	13	8	5	1	73
Kent	17	12	6	1	66
Males	18	13	6	1	64
Females	15	10	5	1	69
Sussex	15	9	6	1	67
Males	16	10	7	1	65
Females	15	9	5	1	68

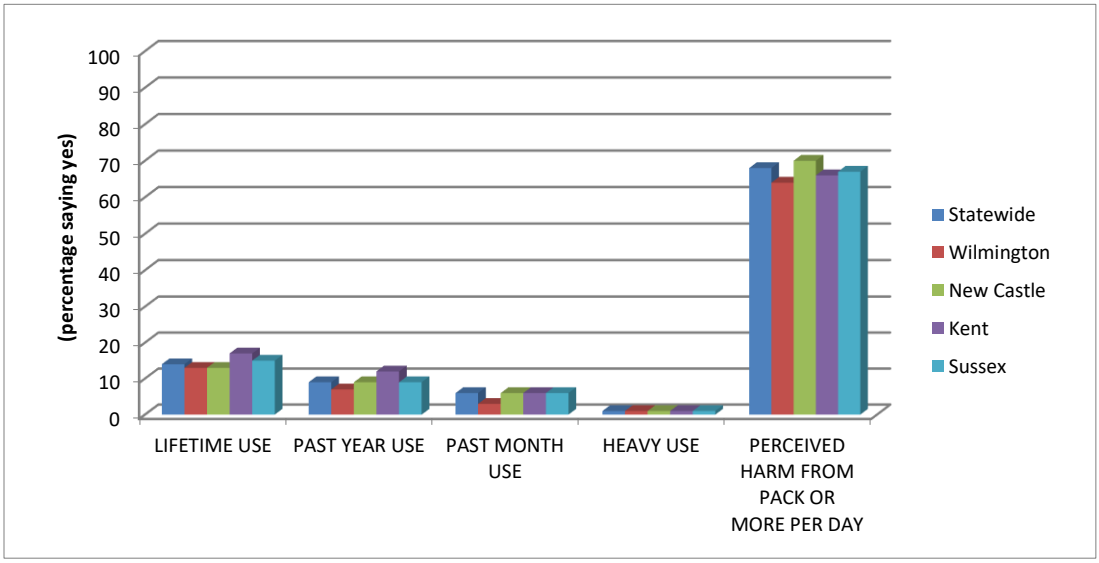

Figure 9 Cigarette use among Delaware 11th graders

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Note:[a] "Heavy Use" is more than one-half pack per day in last thirty days.

Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Electronic cigarette/vaping device use among Delaware 5th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE
Statewide	3	1	0
Males	3	1	0
Females	2	1	0
Wilmington	4	1	0
Males	4	0	0
Females	3	1	0
New Castle	3	1	0
Males	3	1	0
Females	2	1	0
Kent	4	2	0
Males	5	2	0
Females	3	1	0
Sussex	4	1	0
Males	4	1	0
Females	4	1	0

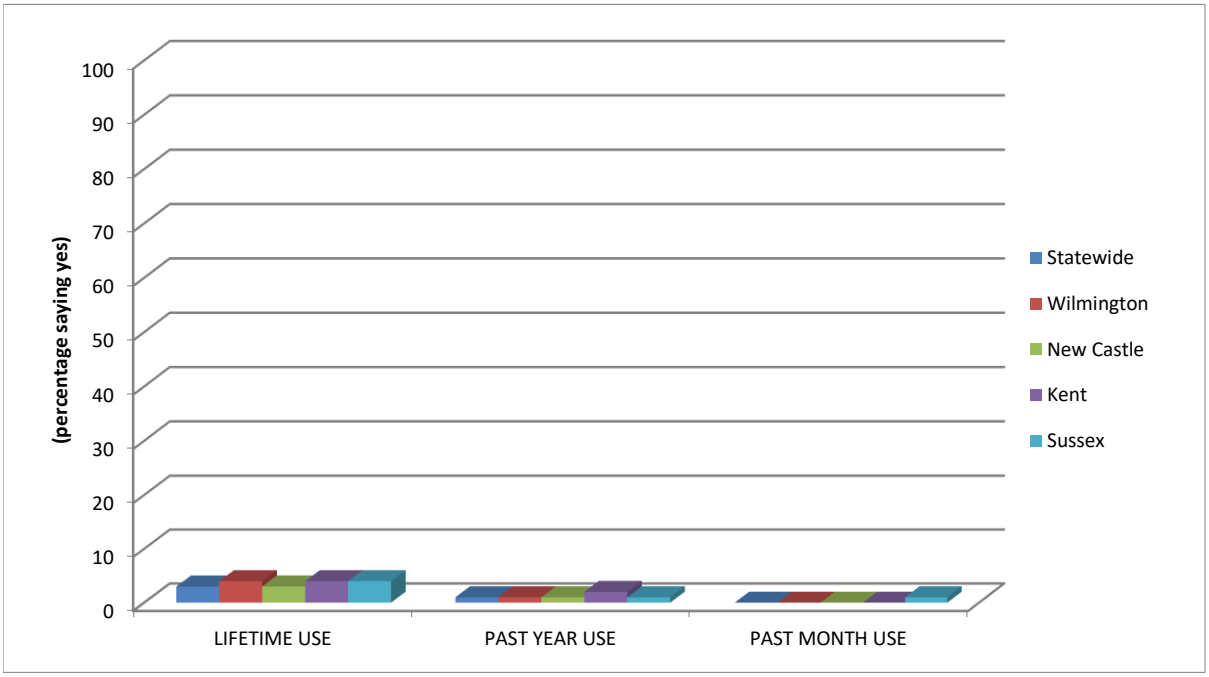

Figure 10 Electronic cigarette/ vaping device among Delaware 5th graders

Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Electronic cigarette/vaping device use among Delaware 8th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	PERCEIVED GREAT RISK OF HARM FROM USING AN E-CIGARETTE OR VAPING DEVICE
Statewide	17	11	5	12
Males	18	12	5	25
Females	15	10	4	25
Wilmington	14	9	4	12
Males	18	13	7	25
Females	10	6	2	29
New Castle	16	10	4	13
Males	18	11	5	12
Females	14	9	4	14
Kent	18	12	5	12
Males	17	14	7	10
Females	18	10	3	12
Sussex	19	13	6	12
Males	19	13	7	10
Females	18	12	6	14

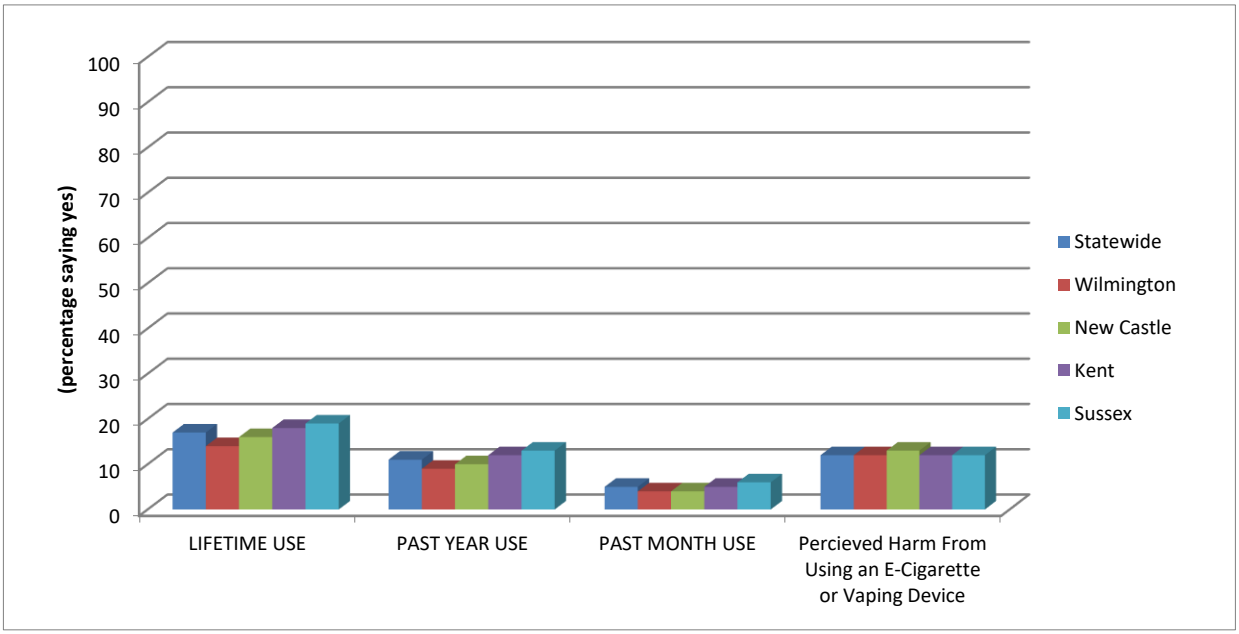

Figure 11 Electronic cigarette/ vaping device among Delaware 8th graders

Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Electronic cigarette/vaping device use among Delaware 11th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	PERCEIVED GREAT RISK OF HARM FROM USING AN E-CIGARETTE OR VAPING DEVICE
Statewide	27	19	8	14
Males	30	22	10	11
Females	25	17	5	16
Wilmington	23	13	4	13
Males	22	13	6	14
Females	22	12	2	13
New Castle	24	17	6	14
Males	27	19	8	11
Females	22	15	5	17
Kent	27	19	8	12
Males	31	24	12	11
Females	22	13	4	14
Sussex	35	26	11	13
Males	35	27	14	10
Females	35	25	8	15

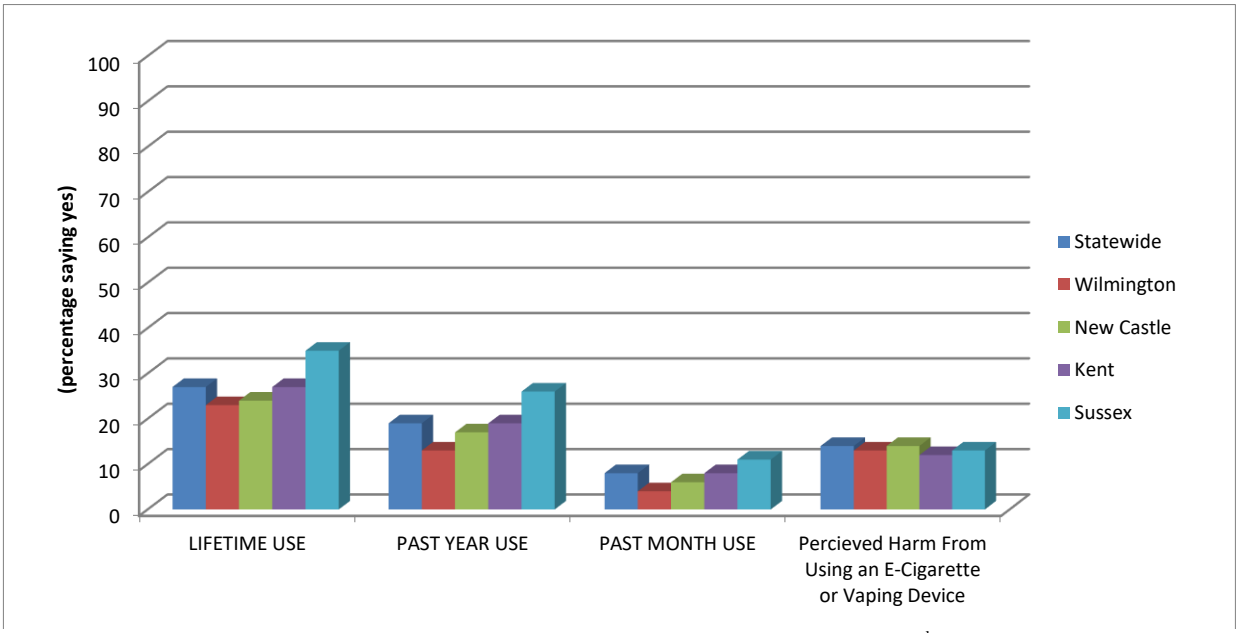

Figure 12 Electronic cigarette/ vaping device among Delaware 11th graders

Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

YOUTH RISK BEHAVIOR SURVEY

2015 Middle School Survey

Percentage of students who smoked cigarettes on one or more of the past 30 days

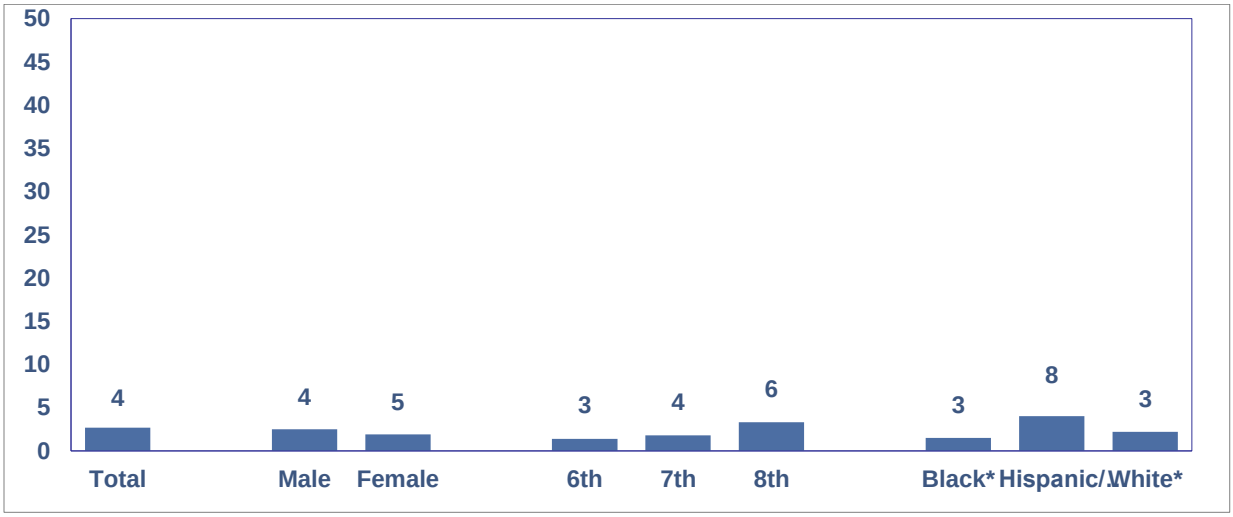

Figure 13 Percentage of students who reported smoking cigarettes in the past 30 days

2015 High School Survey

Percentage of students who smoked cigarettes on one or more of the past 30 days

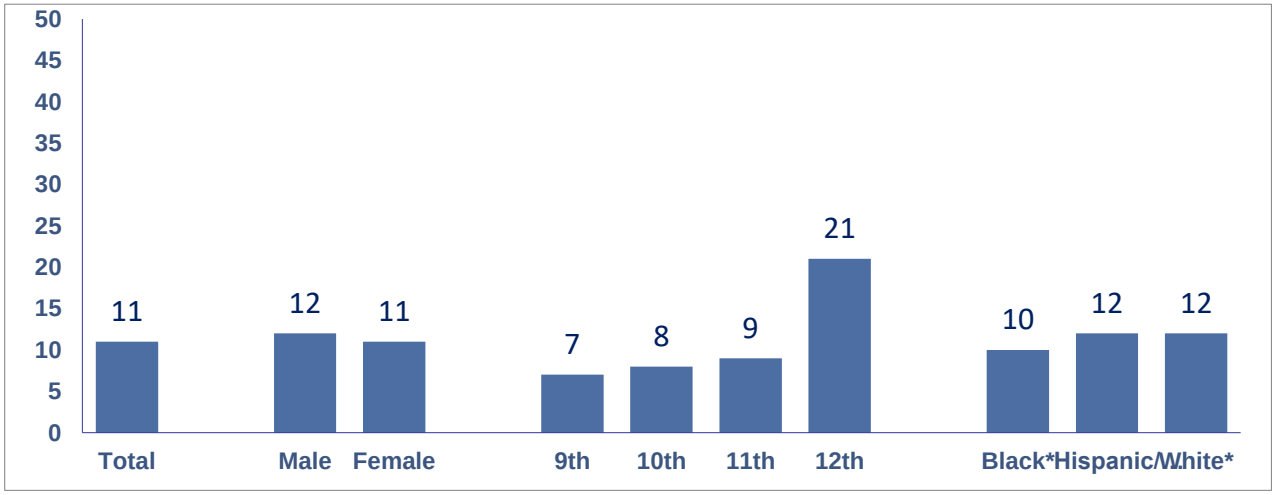

Figure 14 Percentage of high school students who reported smoking cigarettes in the past 30 days

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Notes:*non-Hispanic
Weighted data
Source:"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2016 DELAWARE SCHOOL SURVEY

8TH Grade	11th Grade
12.5 years	14.3 years

Figure 15 Average Age of Onset for Tobacco Use

2015 HIGH SCHOOL YOUTH RISK BEHAVIOR SURVEY
Percentage of students who smoked a whole cigarette for the first time before age 13 years

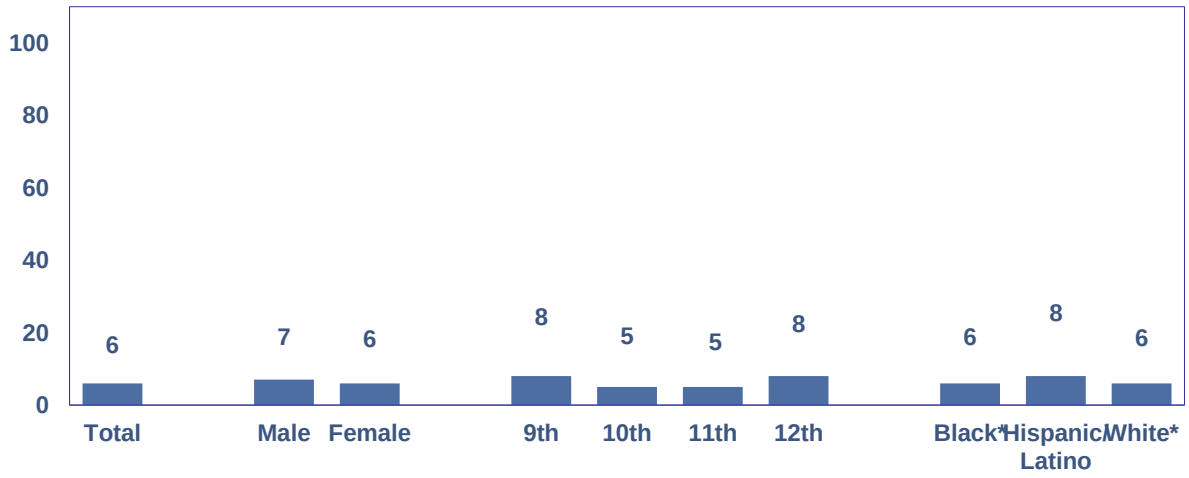

Figure 16 Percentage of students who reported smoking a whole cigarette before 13 years of age

Notes:
*non-Hispanic
Weighted Data
Sources:
"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.
"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

DELAWARE BEHAVIOR RISK FACTOR SURVEY (ADULTS)

Cigarette smoking by gender, 2015			
Gender	**Current Smokers**	**Every Day Smokers**	**Occasional Smokers**
Male	**20.9%** (CI = 18.2-23.6%)	13.8%	7.1.%
Female	**14.2%** (CI = 12.0-16.4%)	10.2%	3.9%

Figure 17 Cigarette smoking by gender, adults

Cigarette Smoking by Race/Ethnicity, 2015			
Race/Ethnicity	**Current Smokers**	**Every Day Smokers**	**Occasional Smokers**
Non-Hispanic White	**17.9%** (CI = 15.7-20.1%)	13.1%	4.8%
Non-Hispanic African American	**17.2%** (CI = 12.7-21.7%)	9.8%%	7.4%%
Hispanic/Latino	**13.7%** (CI = 7.4-20.0%)	8.1%%	5.6%

Figure 18 Cigarette smoking by race/ethnicity

Note:
CI indicates Confidence Interval

Source:"2015 Delaware Adult Behavior Risk Factor Survey." Division of Public Health, Delaware Health and Social Services.

DELAWARE BEHAVIOR RISK FACTOR SURVEY (ADULTS)

Cigarette smoking by education, 2015			
Educational Level	**Current Smokers**	**Every Day Smokers**	**Occasional Smokers**
Less Than High School	**27.8%** (CI =20.5-35.1%)	18.4%	9.3%
High School / G.E.D.	**22.2%** (CI = 18.7-25.7%)	16.1%	6.1%
Some Post-H.S.	**17.5%** (CI = 14.4-20.5%)	11.6%	5.9%
College Graduate	**7.1%** (CI = 5.3-8.9%)	4.7%	2.4%

Figure 19 Cigarette smoking by education, adult

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Note:
CI indicates Confidence Interval

Source:
"2015 Delaware Adult Behavior Risk Factor Survey." Division of Public Health, Delaware Health and Social Services.

DELAWARE BEHAVIOR RISK FACTOR SURVEY

(ADULTS) Cigarette smoking by age, 2015			
Age Group	**Current Smokers**	**Every Day Smokers**	**Occasional Smokers**
18 - 24	**15.3%** (CI = 8.4-22.2%)	11.9%	3.5%
25 - 34	**22.2%** (CI = 16.5-27.9%)	13.0%	9.2%
35 - 44	**17.2%** (CI = 12.7-21.7%)	13.5%	3.7%
45 - 54	**21.7%** (CI = 17.6-25.8%)	14.0%	7.7%
55 - 64	**21.7 %** (CI = 14.8-21.4%)	15.4%	6.3%
65 and Older	**8.8%** (CI = 6.6-11.0%)	6.1%	2.1%

Figure 20 Cigarette smoking by age, adults

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Note:
CI indicates Confidence Interval

Source:
"2015 Delaware Adult Behavior Risk Factor Survey." Division of Public Health, Delaware Health and Social Services.

Tobacco Trends and Comparisons to U.S. and Region

2016 DELAWARE SCHOOL SURVEY

Trends in Delaware students' cigarette use by grade self-reported regular use [a], 1989-present

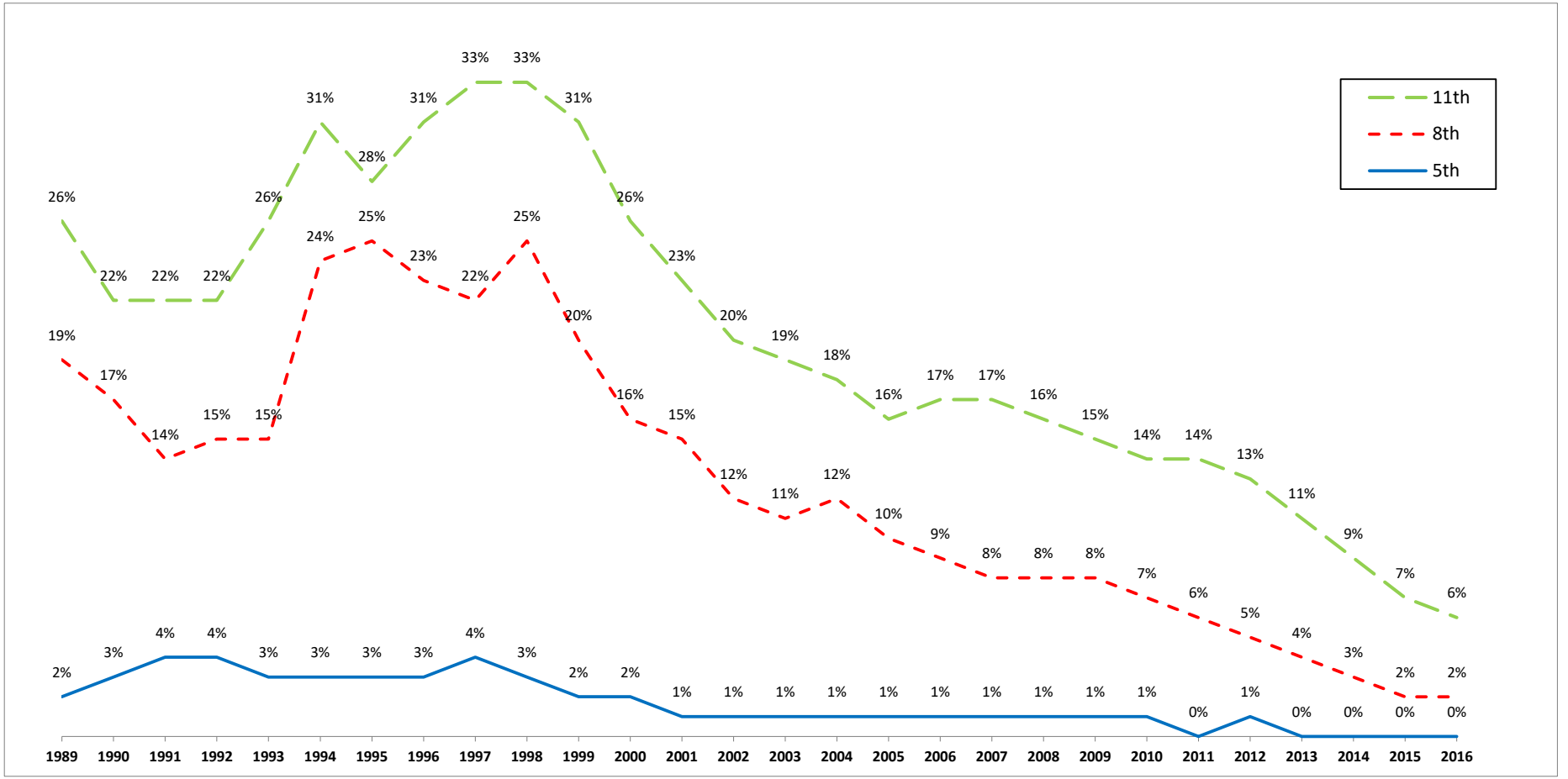

Figure 21 Trends in Delaware students' who reported regular cigarette use by grade; 1989- Present

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Note:

[a] "Regular use" is defined as reports of about once a month or more often

Source:

Data Base/DiagnosticsPlus (1989-1993); Department of Public Instruction (1994)

"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (1995- Present)

NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH)

Tobacco product use in past month, by age group and state: 2013-2014 and 2014-2015 NSDUHs

(in percentages)

State	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
	2013-2014	2014-2015	*p* value	2013-2014	2014-2015	*p* value	2013-2014	2014-2015	*p* value	2013-2014	2014-2015	*p* value
Total U.S.	25.36	24.56	.000	7.42[c]	6.50	.000	36.04[c]	34.02	.000	25.72[c]	25.14	.021
Northeast	23.76	23.30	.216	7.18[c]	6.22	.001	34.61[c]	32.89	.004	23.82	23.62	.669
Delaware	28.51[d]	26.35	.055	8.15[d]	6.77	.096	40.67[c]	37.20	.042	28.76	26.76	.154
Maryland	21.86[c]	23.79	.047	5.97	6.05	.902	32.66[c]	33.98	.414	21.97[d]	24.21	.061
New Jersey	21.51	20.74	.360	7.17[c]	5.33	.002	31.38	30.95	.764	21.72	21.00	.496
Pennsylvania	27.34	26.54	.253	9.14[c]	7.24	.001	40.37[c]	37.54	.010	27.23	26.89	.694

Figure 22 Tobacco product use in past month by age group and state

Cigarette use in past month, by age group and state: 2013-2014 and 2014-2015 NSDUHs[a]

(in percentages)

State	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
	2013-2014	2014-2015	*p* value[b]	2013-2014	2014-2015	*p* value[b]	2013-2014	2014-2015	*p* value[b]	2013-2014	2014-2015	*p* value[b]
Total U.S.	21.05[c]	20.12	.000	5.24[c]	4.53	.000	29.49[c]	27.54	.000	21.53[c]	20.74	.001
Northeast	19.69	19.13	.101	5.10[c]	4.37	.001	28.36[c]	26.89	.016	19.89	19.48	.348
Delaware	23.73	22.46	.237	5.80	4.85	.132	34.83[c]	31.48	.039	23.88	22.95	.485
Maryland	18.27	19.08	.379	4.18	3.93	.618	26.08	25.71	.795	18.65	19.76	.323
New Jersey	17.82	16.69	.420	4.80[a]	3.51	.006	25.77	24.71	.426	18.16	17.02	.279
Pennsylvania	22.53	21.55	.106	6.59[c]	5.03	.000	32.72[c]	29.58	.006	22.64	22.07	.0455

Figure 23 Cigarette use in past month by age group and state

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Notes:

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] *p* value: Bayes posterior probability of no change.

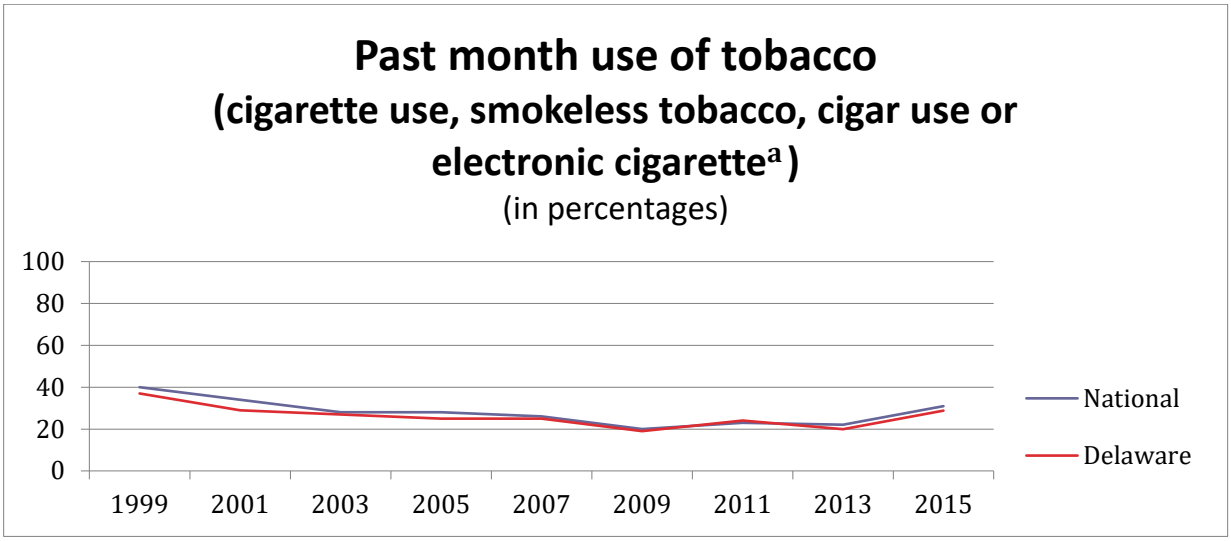
[c] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.05 level.

[d] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.10 level.

Source:

"2014-2015 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

YOUTH RISK BEHAVIOR SURVEY—NATIONAL AND DELAWARE



Year	National	Delaware
1999	40	37
2001	34	29
2003	28	27
2005	28	25
2007	26	25
2009	20	19
2011	23	24
2013	22	20
2015	31	29

Figure 24 Past month use of tobacco, National and Delaware

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Notes:

Weighted data

[a] Electronic cigarette was added to the questionnaire, it had an impact on the past month collective

tobacco use

Sources:

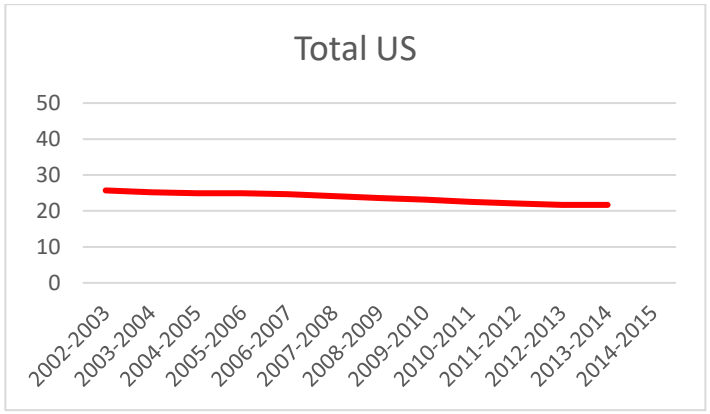
"Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). (1999-2015)

"National High School Youth Risk Behavior Survey." Center for Disease Control and Prevention. (1999-2015)

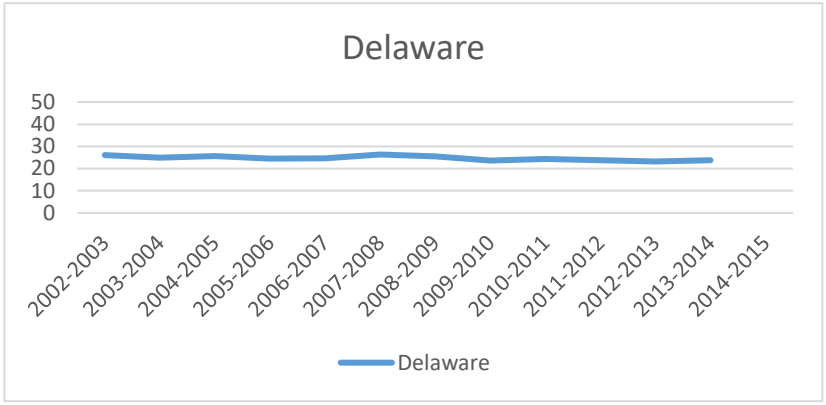
NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH)

Percentage of respondents reporting cigarette use in past month, U.S. & Delaware

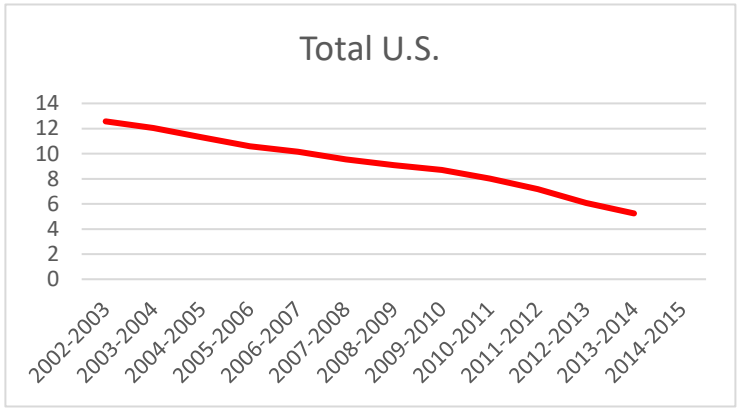
12 and Older



12 and Older



12 to 17



12 to 17

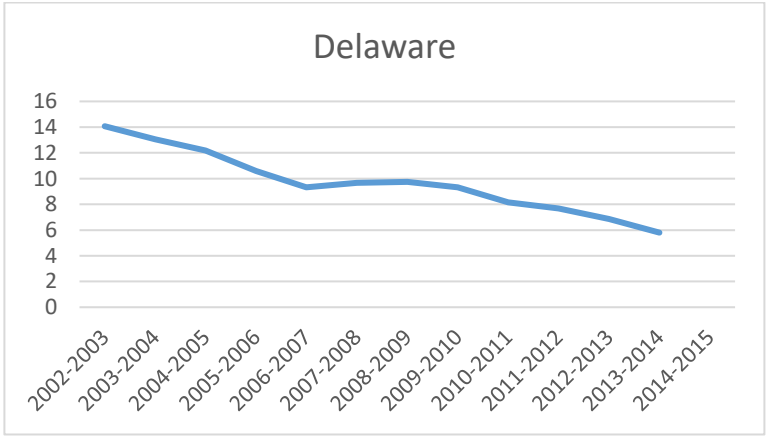


Figure 25 Percentage of respondents reporting cigarette use in past month, Delaware and US

Source: "National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration (2002-2015)

DELAWARE SCHOOL SURVEY, YOUTH RISK BEHAVIOR SURVEY AND MONITORING THE FUTURE

Comparison of recent national and Delaware estimates of cigarette use among high school students

(in percentages)

	Cigarettes	
	Past Year	Past Month
2016 11th Grade Delaware	9	6
2015 11th Grade Delaware	12	7
2014 11th Grade Delaware	14	9
2015 9th-12th Grade YRBS Delaware*	--	11
2013 9th-12th Grade YRBS Delaware	--	11
2016 12th Grade MTF	--	11
2015 12th Grade MTF	--	11

Figure 26 Comparison of recent estimates of cigarette use among high school students, Delaware and National

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NOTE:
--Not Available

*weighted data

Sources:
"Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (2014- 2016)
"Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). (2014-2016)
"In School Surveys, Tobacco Press Release." Monitoring the Future Study (MTF), University of Michigan. (2015-2016)

Perceived Risks and Consequences

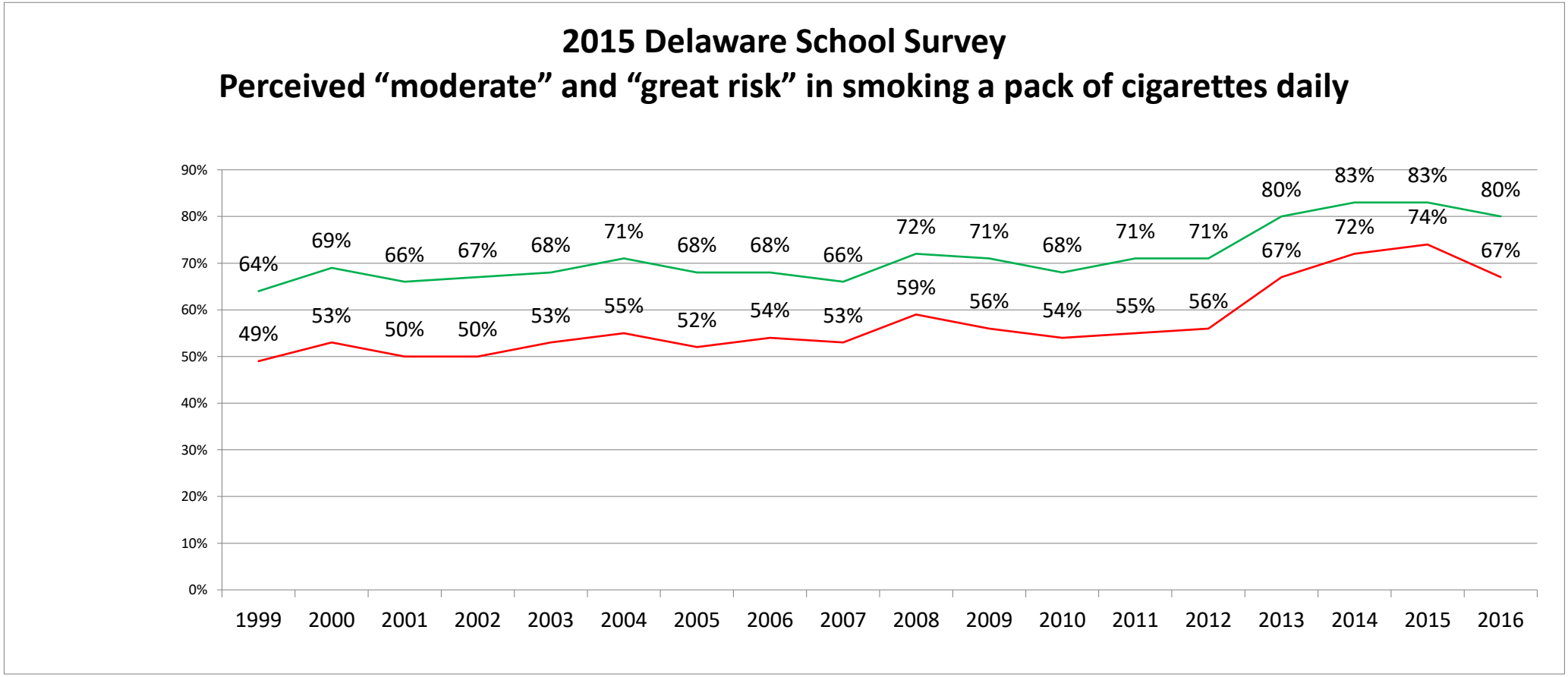

Figure 27 Perceived risks of heavy use of cigarettes in Delaware

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Source:

"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

NATIONAL SURVEY OF DRUG USE AND HEALTH (NSDUH)

Perceptions of great risk of smoking one or more packs of cigarettes per day, by age group and state: 2013-2014 and 2013-2014 NSDUHs

(in percentages) [a]

	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
State	2013-2014	2013-2014	*p* value [b]	2013-2014	2013-2014	*p* value [b]	2013-2014	2013-2014	*p* value [b]	2013-2014	2013-2014	*p* value [b]
Total U.S.	71.24	71.06	.388	64.96	65.28	.310	66.32	66.43	.732	72.86	72.55	.235
Northeast	73.30	73.25	.902	65.81	66.02	.707	68.00	68.15	.803	75.03	74.90	.788
Delaware	73.17	72.34	.435	65.64	64.81	.586	70.19	69.76	.781	74.52	73.60	.491
Maryland	74.30	73.41	.414	66.03	67.82	.232	67.10	67.55	.772	76.47	75.02	.293
New Jersey	76.19	75.37	.369	65.05	66.60	.255	71.77	70.47	.366	78.20	77.15	.370
Pennsylvania	68.55	69.22	.361	62.76	63.03	.804	63.12	62.86	.806	70.10	70.94	.355

Figure 28 Perceptions of great risk of smoking one or more packs of cigarettes per day, by age group and state

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Notes:

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] *p* value: Bayes posterior probability of no change.

[c] Difference between the 2012-2013 estimate and the 2013-2014 estimate is statistically significant at the 0.05 level.

[d] Difference between the 2012-2013 estimate and the 2013-2014 estimate is statistically significant at the 0.10 level.

Source:

"2013-2014 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

Deaths related to tobacco, 2014

	Delaware	Nationally
Adult Smokers	1,400	480,000
Kids now under 18 and alive in Delaware who will ultimately die prematurely from smoking	17,000	-
Death attributed to second hand smoke	-	41,000

Figure 29 Death related to tobacco, Delaware and National

Financial cost of tobacco for Delaware, 2009

	Cost
Annual health care costs in Delaware directly caused by smoking	$532 Million
Medicaid costs caused by smoking Delaware	$95.6 Million
Residents' state and federal tax burden from smoking-caused government expenditures	$878 per household
Smoking-caused productivity losses in Delaware	$391.2 Million

Figure 30 Financial cost of tobacco, Delaware

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Source:
Tobacco Free Kids Organization

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Alcohol

National Overview

There are serious public health and social costs that stem from alcohol misuse and addiction. One national study found that approximately $250 billion in costs were associated with excessive drinking in the United States in 2010 (Sacks et al., 2015). The U. S. Center for Disease Control reports that between 2006 and 2010, approximately 1 in 10 deaths that occurred to working-age adults were attributable to alcohol use (Stahre et al., 2014). Frequent drinking can lead to alcohol use disorder, which can reduce daily functioning, impair social relationships, and lead to critical health outcomes. The National Survey of Drug Use and Health found in 2015 that approximately 1 in 17 people over the age of 12 had an alcohol use disorder (Center for Behavioral Statistics and Quality, 2014). Long-term alcohol use has been linked to a number of chronic and deadly conditions, including diseases of the liver and pancreas, various types of cancers, and risk of stroke (Rehm et al, 2009).E Infants of mothers who drink during pregnancy are at great risk of developing Fetal Alcohol Spectrum Disorder, which can lead to severe complications, including lifelong developmental delays and disability. The National Survey on Drug use and Health reports of past month use has remained relatively stable over the past six years. Youth reports of past month use declined by nearly 20 percent between 1999 – 2015 according to the National YRBS. While the downward trend of student past month use is heartening, alcohol misuse and addiction continue to be a major public health concern.

Alcohol Use in Delaware

Even one-time excessive use of alcohol can have dangerous repercussions. Alcohol was involved in 47% of fatal car crashes in Delaware in 2015, an increase of 18% from the previous year. Misuse of alcohol can lead to risky behaviors, including unprotected sex, physical altercations, and acting in disregard to normal safety conventions; for example, of the 36 fatal pedestrian crashes in Delaware in 2016, 22 of the victims had been drinking prior to the crash (Delaware State Police,

2015). Binge drinking is also associated with an increased risk of victimization (Delaware State Police, 2015). Data from the Delaware College Risk Behavior Survey show students who had reported that they had binged on alcohol (consumed five or more drinks in a single sitting) were twice as likely to also report that they had been a victim of assault than students who either did not binge drink, or did not drink at all. Similarly, binge drinkers were also twice as likely to be victims of sexual assault (Center for Drug & Health Studies/CDHS, 2016). Nationally, researchers have consistently shown a clear association between alcohol use and intimate partner violence (Deveries, et al., 2013), and this is also true in Delaware. For example, rates of teen dating violence are associated with rates of more frequent drinking among Delaware high school students (CDHS, 2017). However, it is important to note that this type of survey data does not allow us to draw conclusions that binge drinking causes victimization, or that being victimized causes binge or frequent drinking, simply that students who experience one are more likely to experience the other.

Among students, alcohol is the most commonly used substance reported. According to the DSS, one out of three eleventh graders and one out of ten eighth graders reported that they drank alcohol in the past month. Though alcohol use among Delaware students has been declining over the past five years, mirroring national trends, student surveys show that too many students still do not adequately understand the risks involved with alcohol misuse. Only half of eleventh graders surveyed responded that there is a "great risk" to drinking daily. Decreased perception of risk can lead to an increase in dangerous behavior among teens. One in six eleventh graders reported binge drinking in the past two weeks, while one in eight reported drinking and driving in 2016. Eleventh grade students report binge drinking at the same rate as adults in Delaware, which suggests the possibility that problem drinking patterns may begin to emerge before adulthood.

Data in Action: Social Host Laws

According to the 2016 DSS, of the students that reported drinking in the past month, nearly a third of eleventh graders, and approximately one in five eighth graders, attended a party where parents bought alcohol within the past year. While Delaware does have policy in place that prohibits the distribution of alcohol to youth under the age of 21, some states have enacted stronger regulations to counter the prevalence of underage alcohol use on private property. Many states have social host laws in place to hold adults accountable for underage drinking that occurs on their property, even if they did not provide the alcohol to the youth. Under these laws adults are responsible for monitoring gatherings that take place on their property, and ensuring that youth who are on their property stay safe and sober. Delaware currently does not have a social host law. The enactment of social host laws is one evidenced-based environmental prevention strategy promoted by the federal Substance Abuse and Mental Health Administration (SAMSHA). Several evaluations of the implementation of social host laws have found evidence of a reduction in drinking and driving, and of large gatherings where underage drinking occurs (University of Wisconsin, Population Health Institute, n.d.).

Preventing and responding to the risk of underage drinking has high social costs. A report compiled by PIRE, a national nonprofit organization that focuses on public health, and funded by the federal Office of Juvenile Justice and Delinquency Prevention, estimates that underage drinking cost Delaware taxpayers $176.4 million in 2013 (Pacific Institute for Research and Evaluation, 2015). Early intervention can reduce some of the risk associated with alcohol misuse. However, DSS data show that the average age of onset for drinking is 12 years old (8th grade survey) and 14 years old (11th grade survey). This is troubling as studies have shown that individuals who start drinking before age fifteen have a four times greater likelihood of becoming alcohol dependent in later life (Grant & Dawson, 1997).

Data from the Delaware BRFSS show a decrease in adult past month drinking, from a high of 60% in 2011, to 53% in 2015, although Delaware adults drink at a slightly higher rate than the national average. One in six adults surveyed by DBRFSS reported binge drinking (which is the same 2016 rate as 11th graders)**;** and one in 20 met the criteria for heavy drinking. Data from the Treatment Episode Data Set (TEDS) indicates that alcohol use was the primary reason for nearly 10% of all 2015 publicly funded treatment admissions in Delaware. A report from the CDC National Vital Statistics System estimates that 77 people in Delaware died from alcohol induced causes in 2014 (Kochanek et al., 2016). This number does not include deaths that occur indirectly as a result of drinking such as fatal vehicle crashes or infant mortality related to Fetal Alcohol Syndrome.

Alcohol Prevalence Indicators

NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH)

Alcohol use in *Delaware*, by age group: percentages, annual averages based on 2014-2015 NSDUHs [a]

Measure	Total 12 or Older	AGE GROUP		
		12-17	18-25	26 or Older
ALCOHOL				
Past Month Alcohol Use	**53.85**	**10.36**	**62.37**	**57.29**
Past Month Binge Alcohol Use[b]	**--**	**--**	**--**	**--**
Perceived Great Risk of Drinking 5 or More Drinks Once or Twice a Week	**--**	**--**	**--**	**--**
Past Month Alcohol Use (Persons Aged 12 to 20)	**--**	**--**	**--**	**--**
Past Month Binge Alcohol Use (Persons Aged 12 to 20)[c]	**--**	**--**	**--**	**--**

Figure 31 Alcohol use in Delaware, by age group

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Notes:

--Not available, estimates have not been released by NSDUH.

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days.

[c] Underage drinking is defined for persons aged 12 to 20; therefore, the "Total" estimate reflects that age group and not persons 12 or older.

Source:

"2014-2015 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

2016 DELAWARE SCHOOL SURVEY

Alcohol use among Delaware 5th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	PERCEIVED GREAT RISK OF HARM	
				TRYING	DAILY USE
Statewide	8	2	0	15	44
Males	9	3	0	15	42
Females	6	1	0	15	47
Wilmington	10	3	0	13	39
Males	14	4	0	15	37
Females	6	2	1	12	41
New Castle	7	2	1	14	44
Males	9	3	0	14	40
Females	5	1	1	14	47
Kent	10	2	1	17	47
Males	10	2	1	17	44
Females	9	1	1	16	49
Sussex	7	2	0	17	46
Males	7	2	0	16	47
Females	6	2	0	18	43

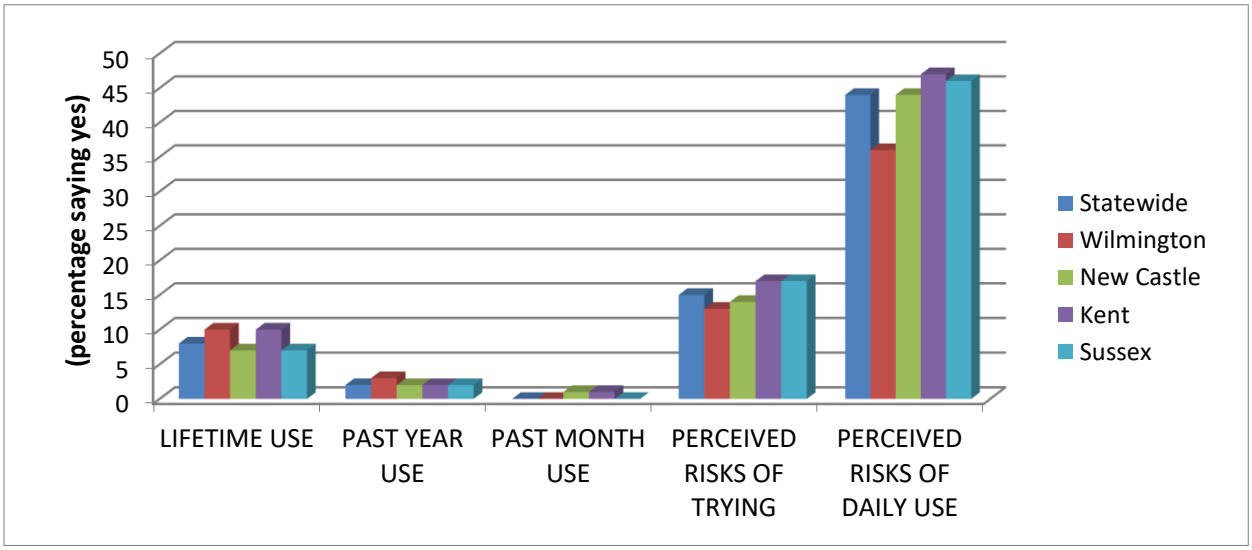

Figure 32 Alcohol use among Delaware 5th graders
Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Alcohol use among Delaware 8th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	BINGE USE [a]	PERCEIVED GREAT RISK OF HARM FROM:	
					DAILY USE	BINGE USE
Statewide	26	19	8	4	33	49
Males	25	17	7	3	30	46
Females	27	21	10	4	36	52
Wilmington	26	19	9	4	31	48
Males	26	17	8	4	28	36
Females	26	20	10	4	33	58
New Castle	26	18	8	3	34	52
Males	25	16	6	3	32	48
Females	27	21	10	4	36	55
Kent	27	20	10	5	35	45
Males	25	17	9	5	29	40
Females	30	24	11	5	41	50
Sussex	27	21	9	4	33	44
Males	26	19	7	4	30	43
Females	27	22	10	4	36	45

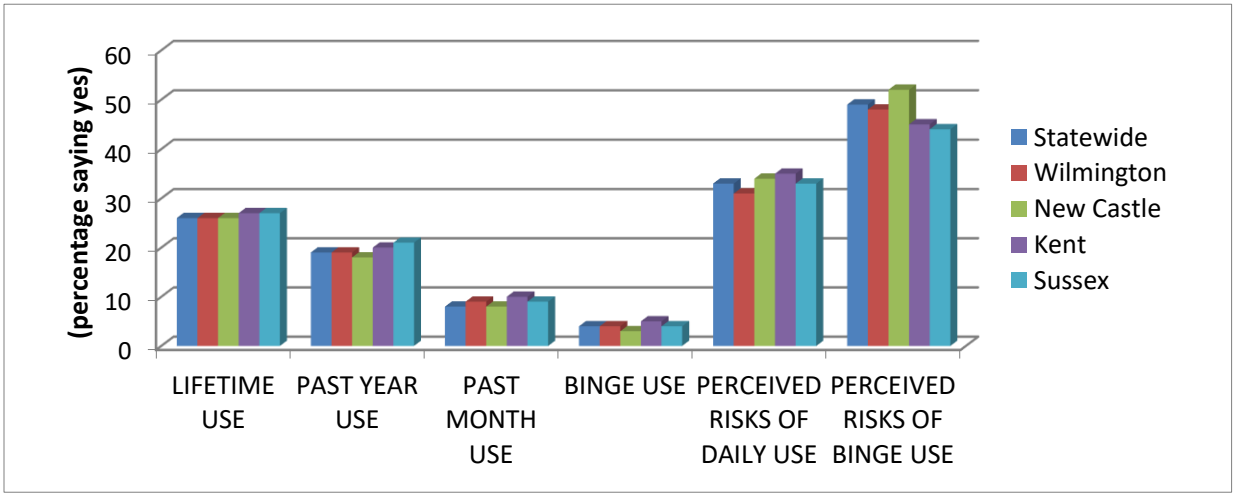

Figure 33 Alcohol use among Delaware 8th grader

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Notes:[a] "Binge Use" is defined as three drinks at a time in the last two weeks.
Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Alcohol use among Delaware 11th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	BINGE USE [a]	PERCEIVED GREAT RISK OF HARM FROM:	
					DAILY USE	BINGE USE
Statewide	62	54	27	14	39	55
Males	58	51	27	16	34	49
Females	65	56	26	13	44	61
Wilmington	64	54	20	10	43	61
Males	54	42	23	14	36	49
Females	70	62	19	8	47	69
New Castle	60	53	25	12	41	58
Males	57	50	24	13	35	52
Females	63	55	26	12	47	63
Kent	62	53	27	15	37	51
Males	60	52	29	17	33	48
Females	64	54	24	13	41	54
Sussex	64	56	32	20	36	49
Males	60	54	34	22	31	58
Females	68	57	30	17	39	53

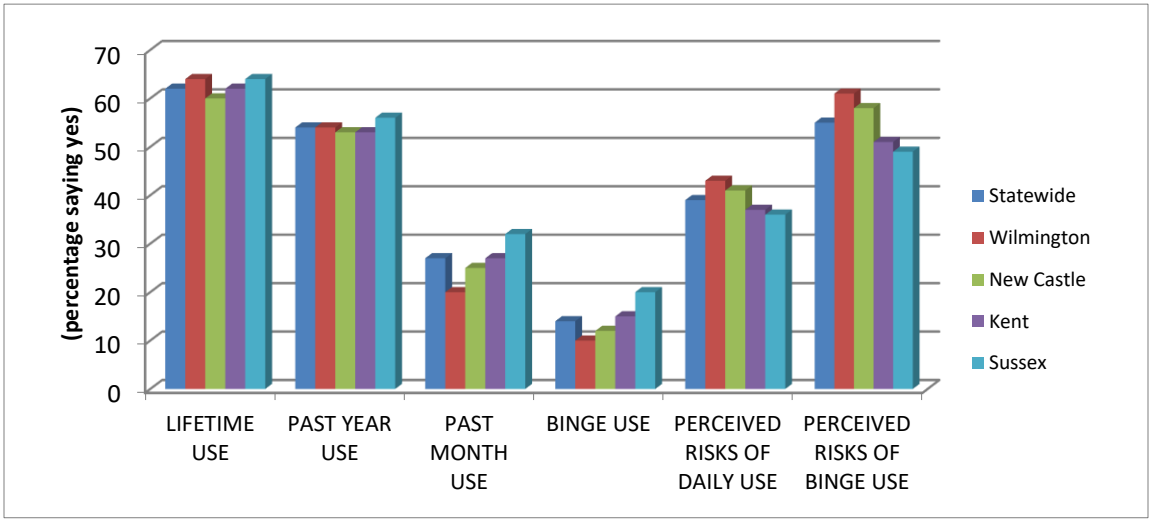

Figure 34 Alcohol use among Delaware 11th graders

Note: "Binge Use" is defined as three drinks at a time in the last two weeks
Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2015 YOUTH RISK BEHAVIOR SURVEY

Percentage of high school students who had at least one drink of alcohol on one or more of the past 30 days

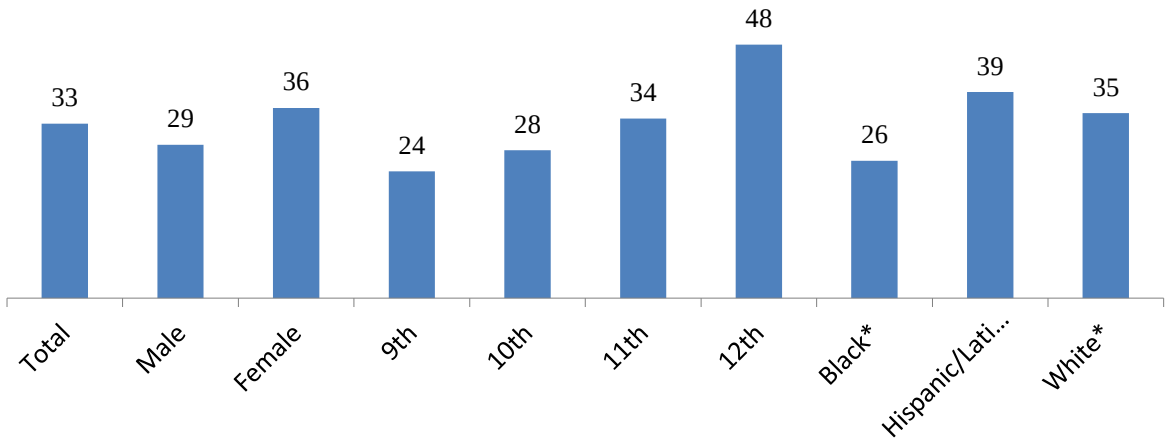

Figure 35 Percentage of high school students who had at least one drink of alcohol on one or more days in the past 30 days

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Notes:
*non-Hispanic
Weighted data

Source:
"2016 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 YOUTH RISK BEHAVIOUR SURVEY

Percentage of high school students who had five or more drinks of alcohol in a row, that is, within a couple of hours, on one or more of the past 30 days

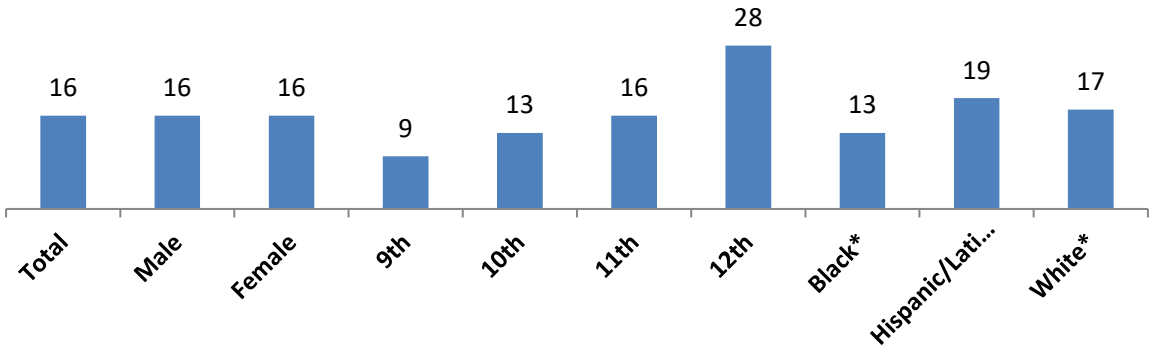

Figure 36 Percentage of high school students who binge drank one or more of the past 30 days

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Notes:
*non-Hispanic
weighted data;

Source:
"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2016 DELAWARE SCHOOL SURVEY

Average age of onset for alcohol use

8TH Grade	11th Grade
12.1 years	14.2 years

Figure 37 Average age of onset of alcohol use
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Source:
"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

BEHAVIOR RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

Statewide and sub-state estimates of binge drinking for Delaware adults from the 2015 Delaware Behavior Risk Factor Surveillance System

Acute or "Binge" Drinking [5+ (males) or 4+ (females) Drinks at One Occasion]				
Statewide	**Wilmington**	**Suburban N.C.**	**Kent**	**Sussex**
20.3%	--	18%	13.7%	11.2%

Figure 38 State and sub-state estimates of binge drinking for Delaware adults

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Source:
"2014 Behavior Risk Factor Surveillance System (BRFSS)." Division of Public Health, Delaware Health and Social Services.

Alcohol Trends and Comparisons to U.S. and Region

DELAWARE SCHOOL SURVEY

Trends in Delaware students' alcohol use by grade self-reported regular use [a], 1989-present

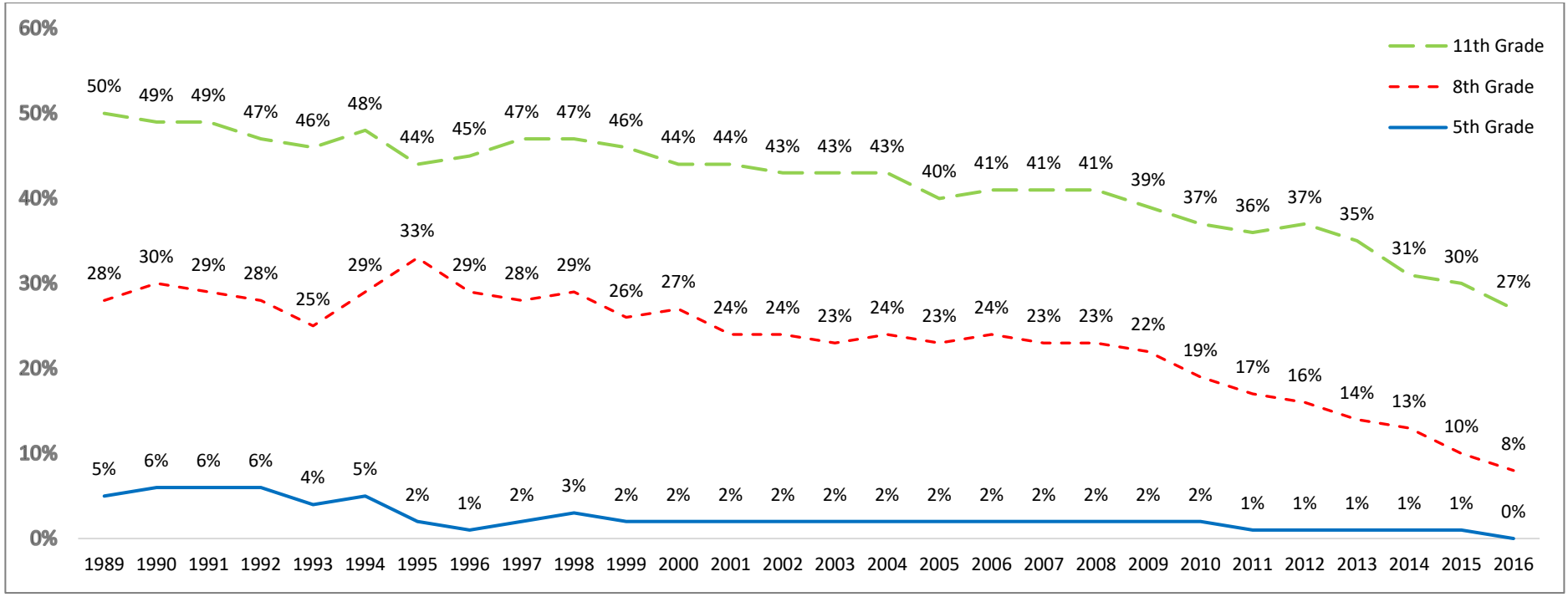

Figure 39 Trends in Delaware students' alcohol use by grade, 1989-present

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Note:

[a] "Regular use" is defined as reports of about once a month or more often

Source:

Data Base/DiagnosticsPlus (1989-1993); Department of Public Instruction (1994)

"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

DELAWARE SCHOOL SURVEY

Trends in Delaware students' binge alcohol use by grade self-reported binge use [a], 1989-present

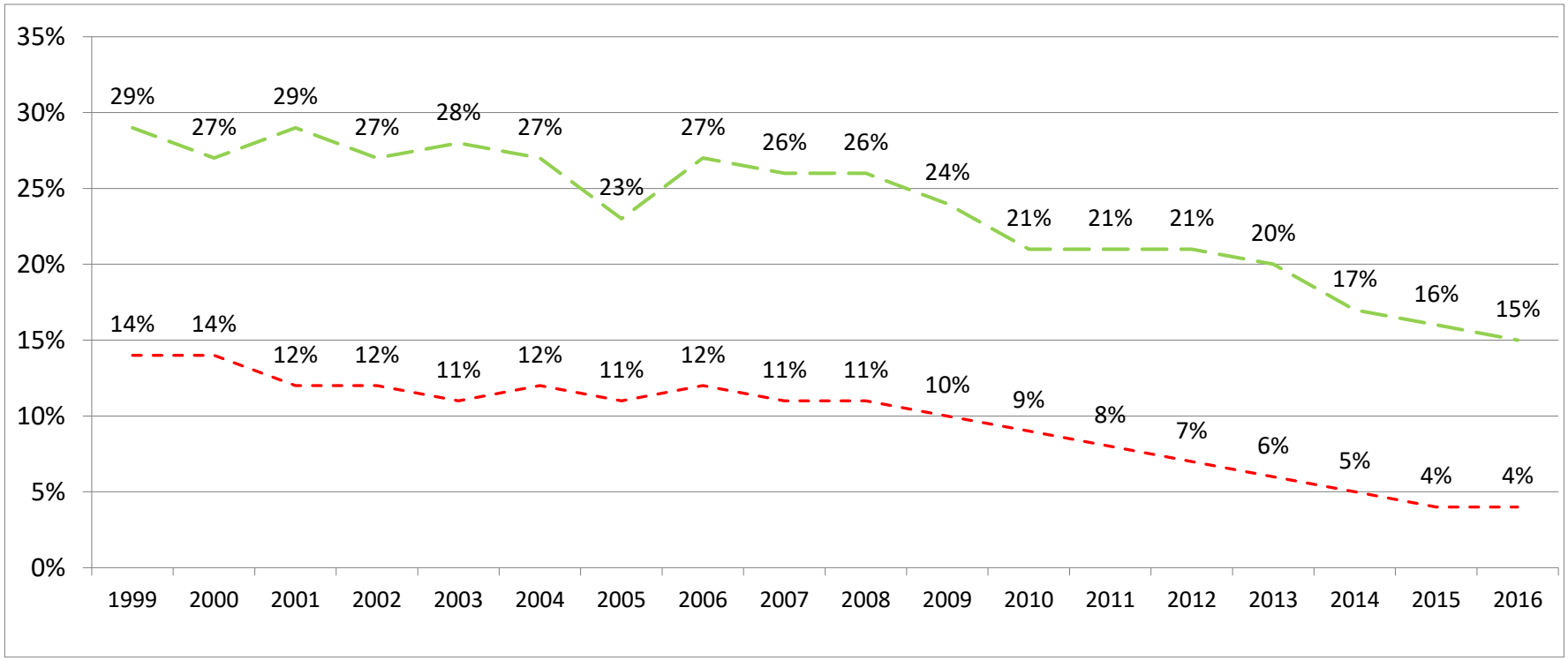

Figure 40 Trends in Delaware students' binge alcohol use by grade, 1989-present

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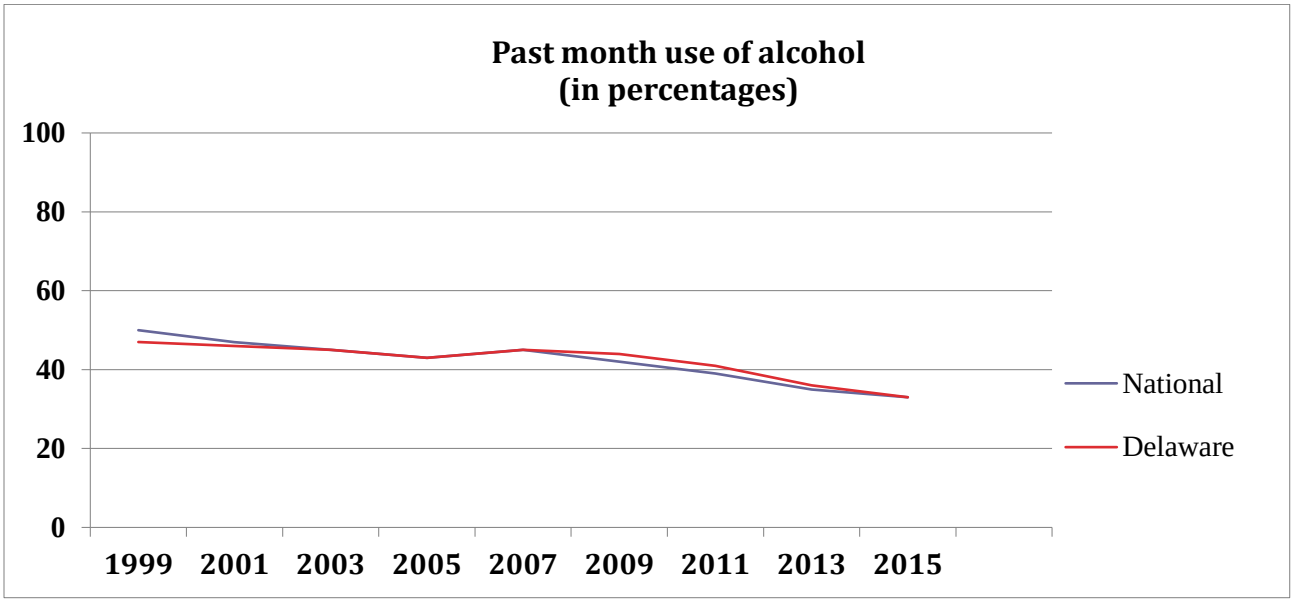
Note:

[a] "Binge use" is defined by the Delaware School Survey as three or more drinks at a time

Source: Data Base/DiagnosticsPlus (1989-1993); Department of Public Instruction (1994)
"Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (1995- Present)

YOUTH RISK BEHAVIOR SURVEY—
NATIONAL AND DELAWARE



Year	National	Delaware
1999	50	47
2001	47	46
2003	45	45
2005	43	43
2007	45	45
2009	42	44
2011	39	41
2013	35	36
2015	33	33

Figure 41 Past month alcohol use, Delaware and National

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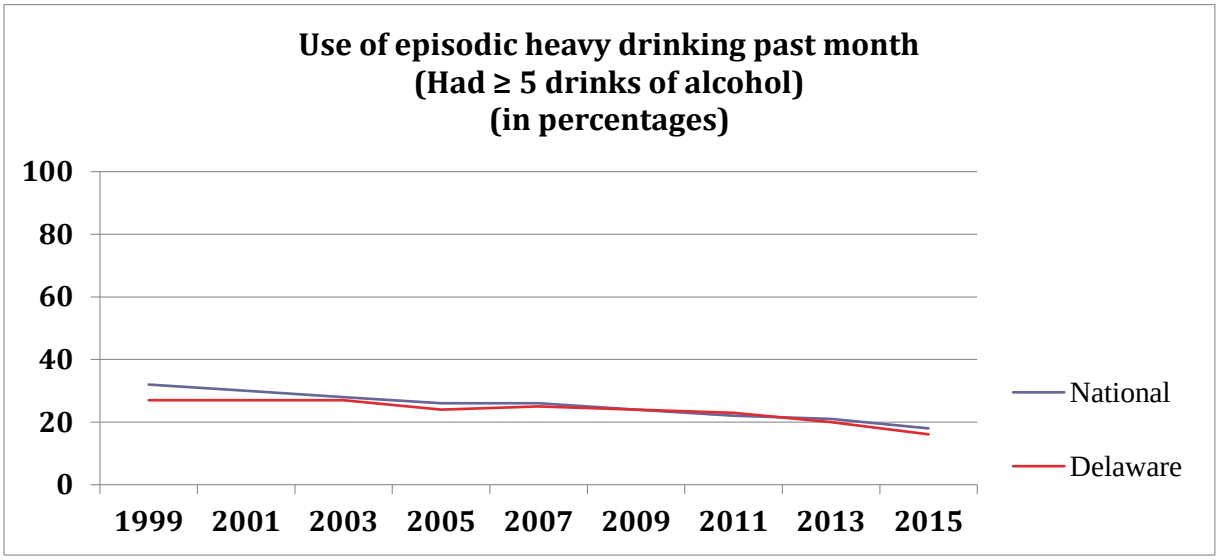
Note: Weighted data

Sources:
"Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). (1999-Present)
"National High School Youth Risk Behavior Survey." Center for Disease Control and Prevention. (1991-2015)

YOUTH RISK BEHAVIOR SURVEY—NATIONAL AND DELAWARE



Year	National	Delaware
1999	32	27
2001	30	27
2003	28	27
2005	26	24
2007	26	25
2009	24	24
2011	22	23
2013	21	20
2015	18	16

Figure 42 Use of episodic heavy drinking past month, Delaware and National

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Notes: Weighted data

Sources:
"Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). (1999-2015)
"National High School Youth Risk Behavior Survey." Center for Disease Control and Prevention. (1991-2015)

NATIONAL SURVEY ON DRUG USE AND HEALTH

Alcohol use in past month, by age group and state: 2013-2014 and 2014-2015 NSDUH (in percentages) [a]

	AGE GROUP (Years)											
	12 or Older			12-17			18-25			26 or Older		
State	2013-2014	2014-2015	*p* value[b]	2013-2014	2014-2015	*p* value[b]	2013-2014	2014-2015	*p* value[b]	2013-2014	2014-2015	*p* value[b]
Total U.S.	52.42	52.19	.337	11.55[c]	10.58	.000	59.60[d]	58.96	.088	56.18	56.04	.644
Northeast	57.80	56.66	.009	13.19	12.57	.130	63.79	64.17	.554	61.82[c]	60.30	.006
Delaware	56.59[c]	53.85	.028	10.61	10.36	.777	63.46	62.37	.532	60.58[c]	57.29	.0233
Maryland	58.04	58.38	.768	12.54	12.09	.659	63.41	62.62	.651	62.51	63.07	.698
New Jersey	56.95	56.67	.809	14.31	13.88	.653	60.74[d]	63.69	.071	61.45	60.63	.575
Pennsylvania	57.12	56.56	.467	12.87[c]	11.34	.031	64.42	63.95	.680	60.84	60.32	.593

Figure 43 Alcohol use in past month by age group and state, 2013-2015

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Notes:

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] *p* value: Bayes posterior probability of no change.

[c] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.05 level.

[d] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.10 level.

Source:

"2014-2015 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

NATIONAL SURVEY ON DRUG USE AND HEALTH

Binge alcohol use in past month, by age group and state: 2013-2014 and 2014-2015 NSDUHs (in percentages) [a]

	AGE GROUP (Years)											
	12 or Older			12-17			18-25			26 or Older		
State	2012-2013	2013-2014	*p* value [b]	2012-2013	2013-2014	*p* value [b]	2012-2013	2013-2014	*p* value [b]	2012-2013	2013-2014	*p* value [b]
Total U.S.	22.92	22.94	.929	6.73	6.16	.001 [c]	38.70	37.82	.021	22.21	22.44	.328
Northeast	24.31	23.81	.145	7.41	6.99	.150	43.00	40.56	.001	23.13	22.92	.631
Delaware	22.38	23.00	.493	6.12	5.55	.312	40.75	40.64	.951	21.12	22.02	.422
Maryland	23.09	22.59	.587	6.76	6.25	.442	39.38	35.16	.023	22.36	22.47	.605
New Jersey	21.55	22.56	.239	7.20	.801	.053 [d]	40.95	38.26	.147	20.36	21.92	.142
Pennsylvania	24.96	24.43	.412	6.87	6.85	.976	43.81	42.58	.282	23.87	23.43	.572

Figure 44 Binge use in past month by age group and state, 2012-2014

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Notes:
"Binge Alcohol Use" is defined as drinking five or more drinks on the same occasion
(i.e., at the same time or within a couple hours of each other) on at least 1 day in the past 30 days.
[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach
[d] p value: Bayes posterior probability of no change.
[c] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.05 level.
[d] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.10 level.
Source: "2013-2014 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH)

Alcohol use and binge alcohol use in past month among persons aged 12 to 20, by state: 2013-2014 and 2013-2014 NSDUHs

(in percentages) [a]

State	Alcohol Use in Past Month			Binge Alcohol Use in Past Month		
	2013-2014	2014-2015	*p* value [b]	2013-2014	2014-2015	*p* value [b]
Total U.S.	23.52	22.76	.022 [c]	14.75	14.00	.007 [c]
Northeast	26.68	26.11	.273	16.63	15.74	.048 [c]
Delaware	23.65	23.14	.660	14.39	14.46	.484
Maryland	22.89	22.60	.803	13.24	12.62	.138
New Jersey	23.34	24.91	.181	14.77	15.35	.549
Pennsylvania	25.97	26.18	.790	17.00	16.52	.474

Figure 45 Alcohol use and binge use in past month among persons aged 12-20 by state, 2012-2014

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Notes:
"Binge Alcohol Use" is defined as drinking five or more drinks on the same occasion
(i.e., at the same time or within a couple hours of each other) on at least 1 day in the past 30 days.
[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.
[b] *p* value: Bayes posterior probability of no change.
[c] Difference between the 2011-2012 estimate and the 2014-2015 estimate is statistically significant at the 0.05 level.
[d] Difference between the 2011-2012 estimate and the 2014-2015 estimate is statistically significant at the 0.10 level.

Source:
"2014-2015 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

DELAWARE SCHOOL SURVEY, YOUTH RISK BEHAVIOR SURVEY AND MONITORING THE FUTURE SURVEY

Comparison of recent national and Delaware estimates of alcohol among high school students (in percentages)

	Alcohol	
	Past Year	Past Month
2016 11th Grade Delaware	54	27
2015 11th Grade Delaware	54	30
2014 11th Grade Delaware	57	31
2015 9th-12th Grade YRBS Delaware*	--	33
2013 9th-12th Grade YRBS Delaware	--	38
2016 12th Grade MTF	56	33
2015 12th Grade MTF	58	35

Figure 46 Comparison of recent National and Delaware estimates of alcohol use among high school students

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Notes:

*Weighted Data

--*Not Available*

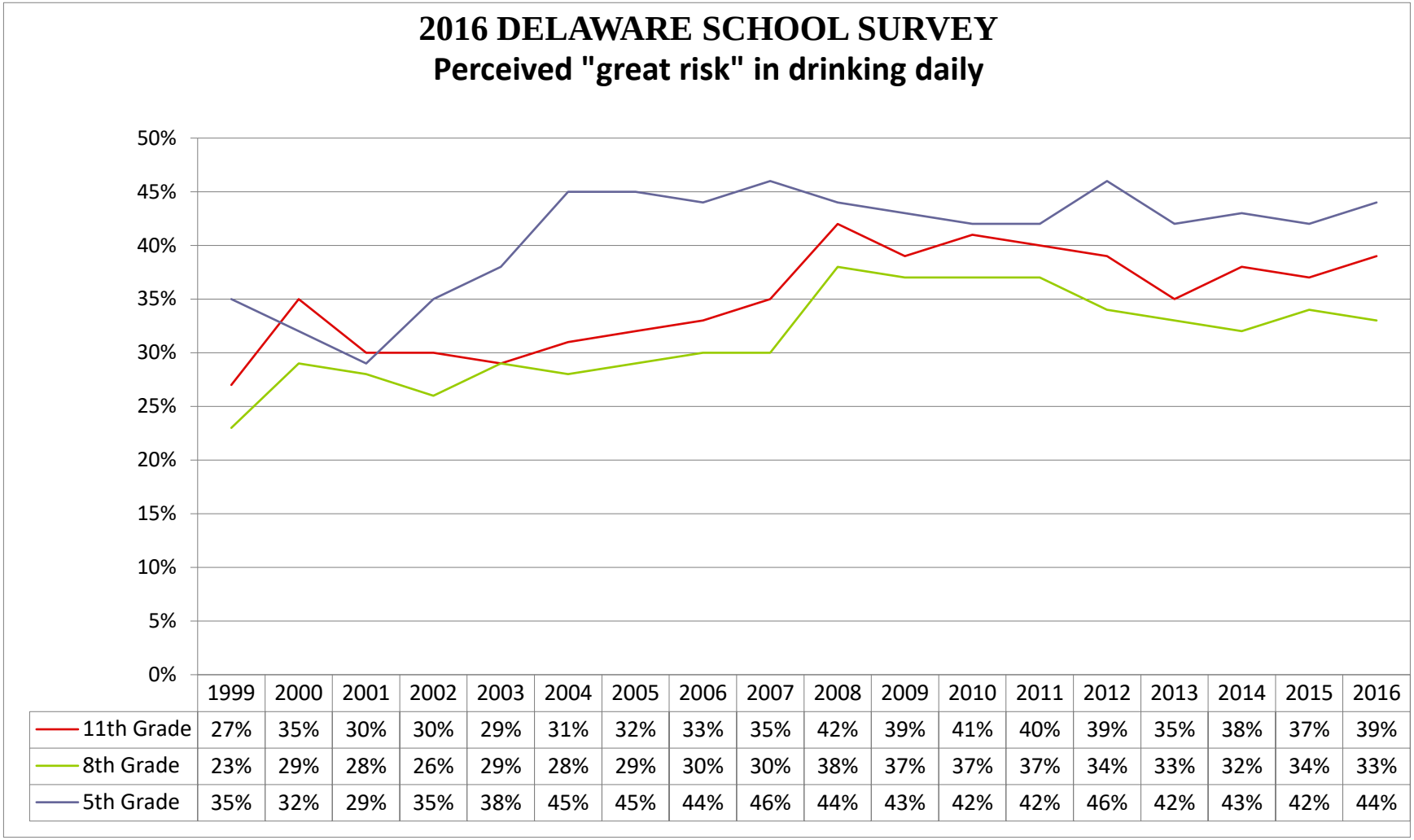
Sources:

"Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (2014-2016)

"Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). (2013-2015)

"In School Surveys, Drug and Alcohol Press Release." Monitoring the Future Study (MTF), University of Michigan. (2015-2016

Perceived Risk and Consequences Behavior



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
11th Grade	27%	35%	30%	30%	29%	31%	32%	33%	35%	42%	39%	41%	40%	39%	35%	38%	37%	39%
8th Grade	23%	29%	28%	26%	29%	28%	29%	30%	30%	38%	37%	37%	37%	34%	33%	32%	34%	33%
5th Grade	35%	32%	29%	35%	38%	45%	45%	44%	46%	44%	43%	42%	42%	46%	42%	43%	42%	44%

Figure 47 Perceived "great risk" in drinking daily

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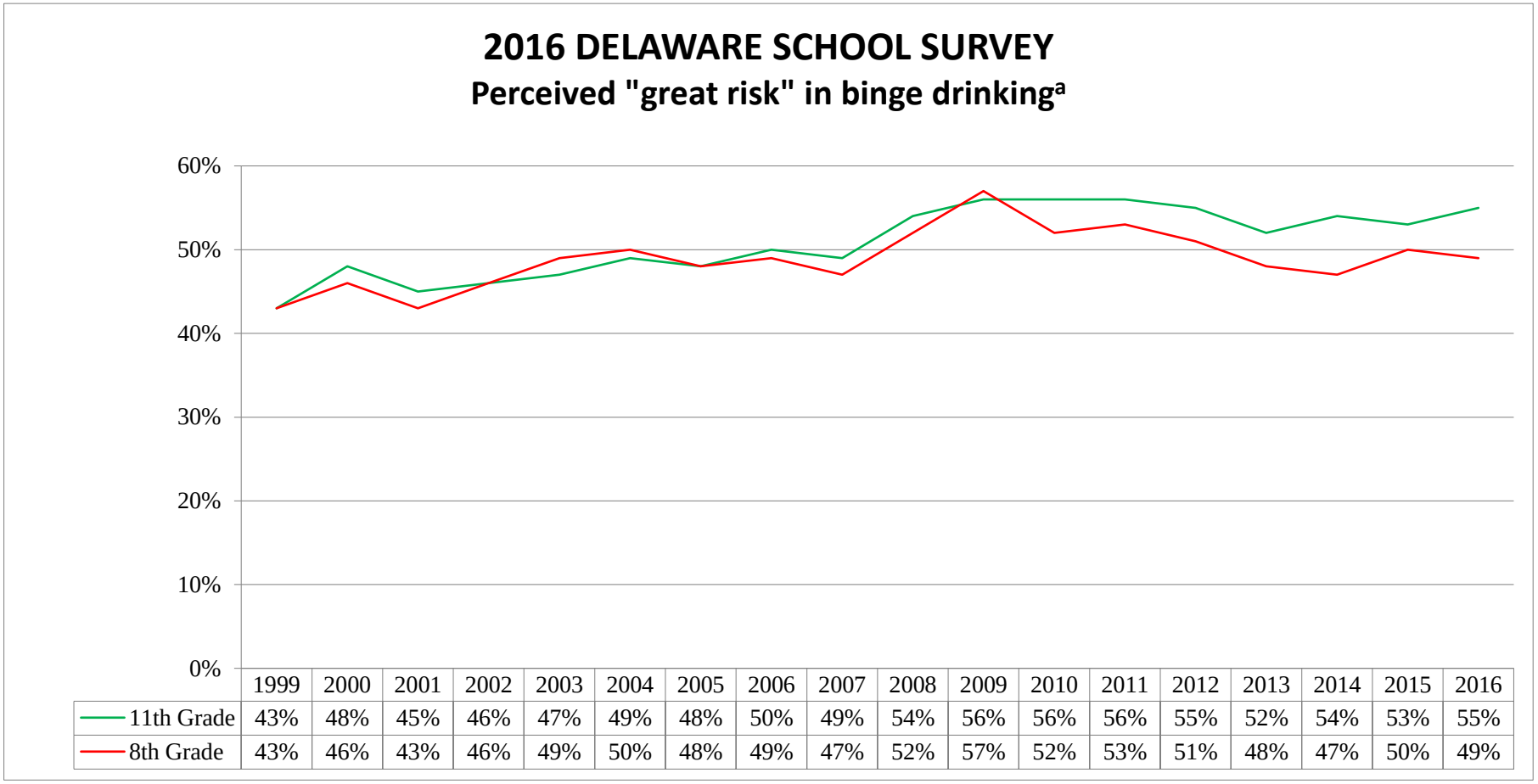
Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
11th Grade	43%	48%	45%	46%	47%	49%	48%	50%	49%	54%	56%	56%	56%	55%	52%	54%	53%	55%
8th Grade	43%	46%	43%	46%	49%	50%	48%	49%	47%	52%	57%	52%	53%	51%	48%	47%	50%	49%

Figure 48 Perceived “great risk” in binge drinking

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NOTE:
[a] “Binge drinking” is defined as five drinks at a time or twice a week
Source:“2016 Delaware School Survey.” Center for Drug and Health Studies, University of Delaware.

NATIONAL SURVEY OF DRUG USE AND HEALTH (NSDUH)

Perceptions of great risk of having five or more drinks of an alcoholic beverage once or twice a week, by age group and state: 2013-2014 and 2013-2014 NSDUH

(in percentages) [a]

	AGE GROUP (Years)											
	12 or Older			12-17			18-25			26 or Older		
State	2013-2014	2013-2014	*p* value [b]	2013-2014	2013-2014	*p* value [b]	2013-2014	2013-2014	*p* value [b]	2013-2014	2013-2014	*p* value [b]
Total U.S.	41.83	40.79	.000 [c]	39.35	39.09	.423	38.83	33.36	.168	43.52	42.27	.000 [c]
Northeast	40.36	39.27	.012 [c]	38.54	38.23	.600	31.50	31.07	.474	42.04	40.75	.016 [c]
Delaware	40.95	39.14	.129	39.50	39.87	.815	34.39	32.40	.233	42.23	40.19	.168
Maryland	42.02	41.80	.848	41.61	42.90	.443	35.13	37.82	.845	43.21	42.32	.540
New Jersey	42.79	41.31	.201	37.89	37.93	.980	33.70	34.14	.787	44.75	42.80	.181
Pennsylvania	36.97	36.67	.704	38.89	37.59	.216	29.34	27.41	.066 [d]	38.03	38.08	.955

Figure 49 Perceptions of great risk of having five or more drinks of an alcoholic beverage once or twice a week, by age group and state

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Notes:

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] *p* value: Bayes posterior probability of no change.

[c] Difference between the 2012-2013 estimate and the 2013-2014 estimate is statistically significant at the 0.05 level.

[d] Difference between the 2012-2013 estimate and the 2013-2014 estimate is statistically significant at the 0.10 level.

Source:

"2013-2014 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

2016 DELAWARE SCHOOL SURVEY

Reported drinking and driving among Delaware 11th graders

(in percentages)

	LIFETIME	PAST YEAR	PAST MONTH
Statewide	18	16	12
Males	21	17	13
Females	17	15	11
Wilmington	16	12	10
Males	18	14	11
Females	14	11	9
New Castle	18	16	12
Males	20	17	13
Females	16	16	11
Kent	19	16	11
Males	22	19	11
Females	16	13	10
Sussex	20	16	13
Males	21	17	15
Females	18	15	11

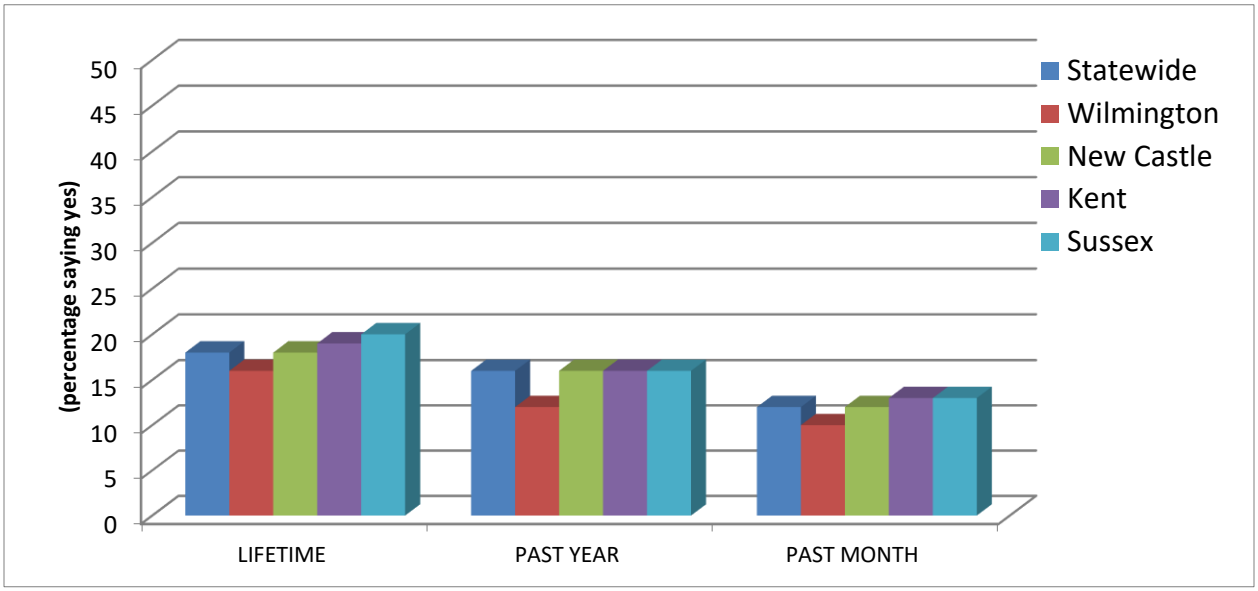

Figure 50 Reported drinking and driving Delaware 11th graders

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Source:
"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

Trends in Delaware 11th graders' reporting drinking and driving in the past month, 1990-2016

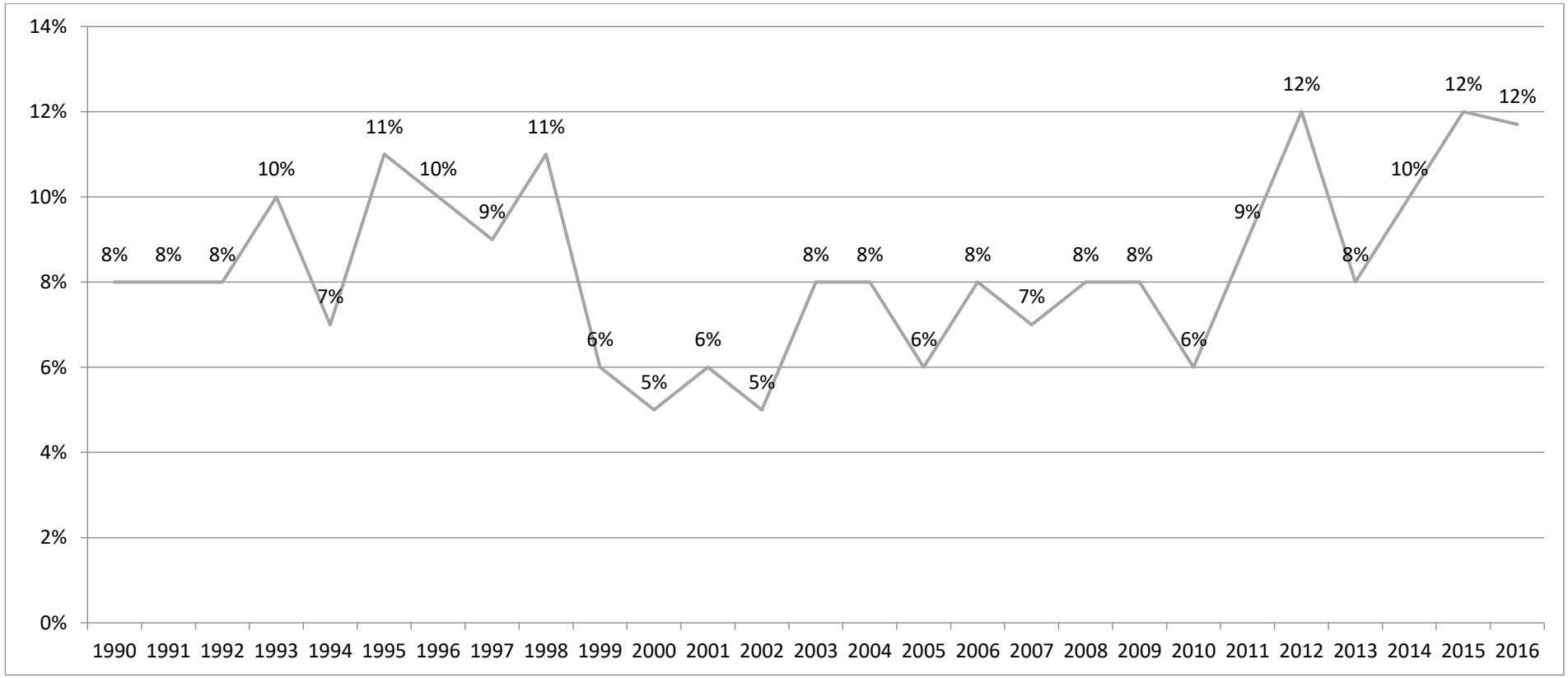

Figure 51 Trends in Delaware 11th Graders reporting drinking and driving in the past month, 1990-2016

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Notes:
Displayed percentiles are rounded to the nearest whole number

Source:
"2015 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DUI Arrest			
Age Range	**DUI Alcohol**	**DUI Alcohol and Drugs**	**DUI Drugs**
15 and under	0	0	0
16 - 20	113	10	66
21 -24	448	26	80
25 -34	1031	72	182
35 - 44	654	42	105
45 - 54	514	35	81
55 - 64	292	29	44
65 -79	85	1	6
80 and over	4	0	0
Kent	640	49	165
New Castle	1220	86	195
Sussex	1264	77	198
Wilmington	17	3	6
Total	3141	215	564

Figure 52 2016 Delaware DUI arrests

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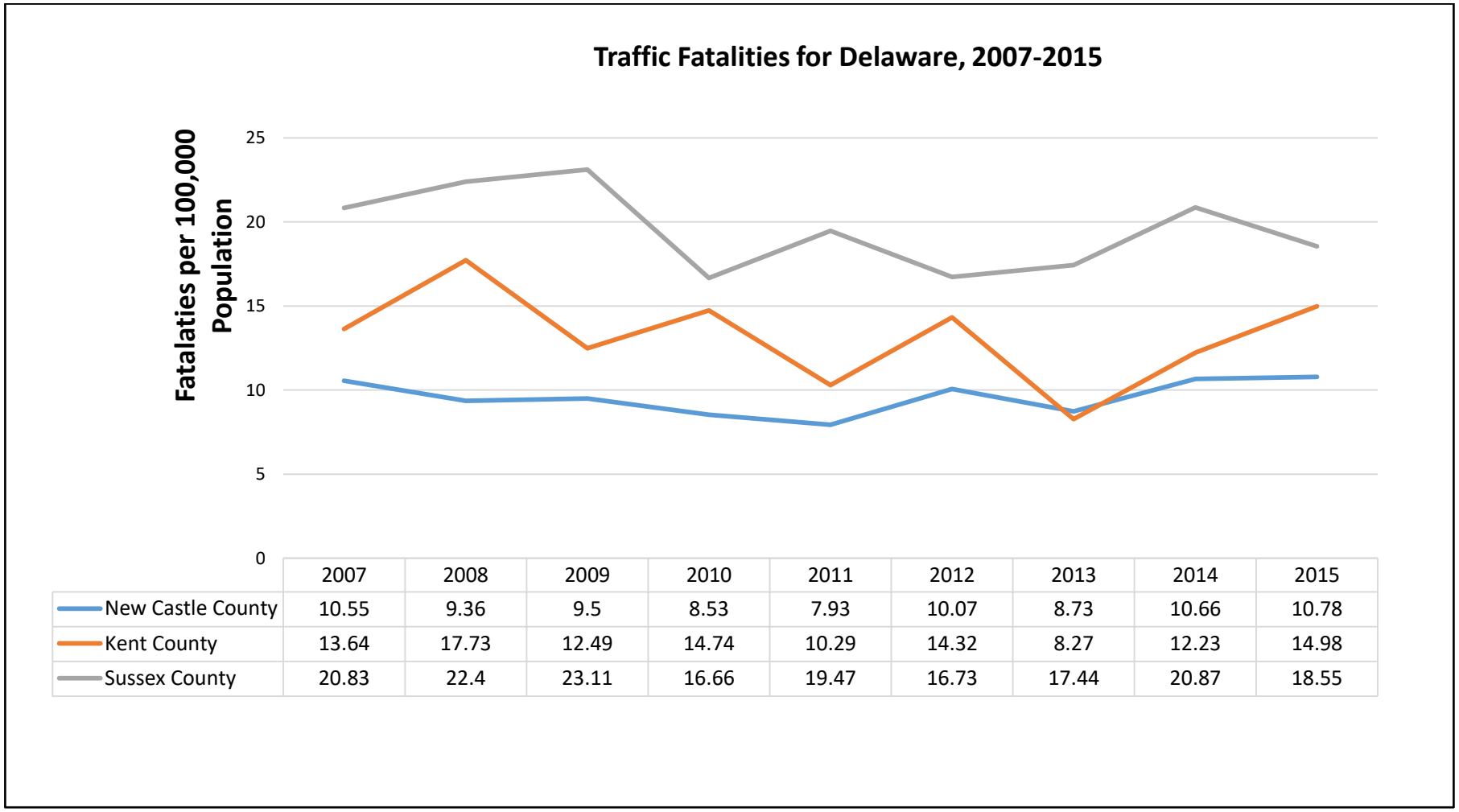
Source:
Delaware Criminal Justice Information System (DELJIS)

Trends in Delaware traffic fatalities and alcohol use among Delaware drivers

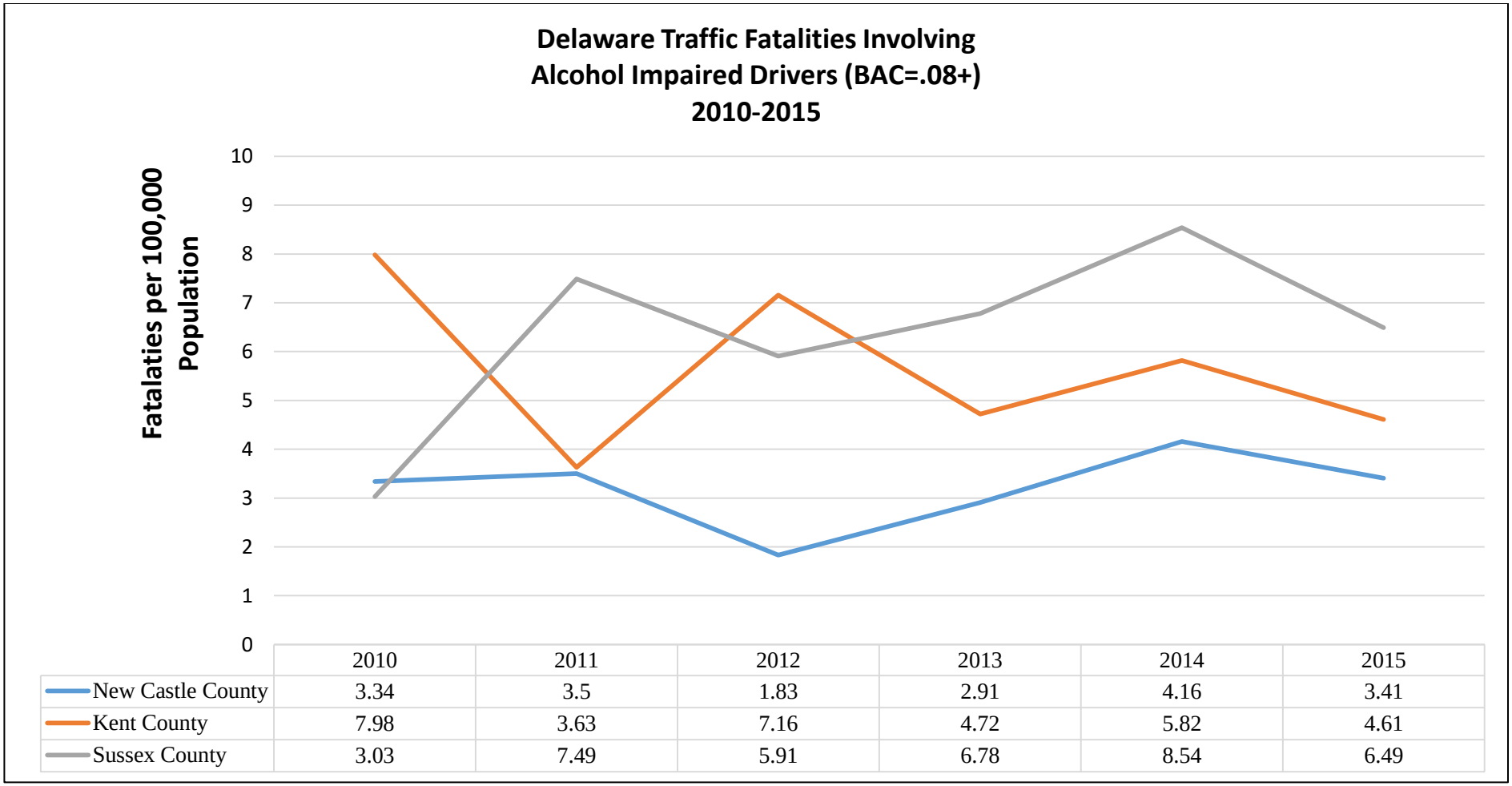


	2007	2008	2009	2010	2011	2012	2013	2014	2015
New Castle County	10.55	9.36	9.5	8.53	7.93	10.07	8.73	10.66	10.78
Kent County	13.64	17.73	12.49	14.74	10.29	14.32	8.27	12.23	14.98
Sussex County	20.83	22.4	23.11	16.66	19.47	16.73	17.44	20.87	18.55

Figure 53 Delaware traffic fatalities, 2007-2015

Source:

National Highway Traffic Safety Administration. Performance Measures, Delaware.



	2010	2011	2012	2013	2014	2015
New Castle County	3.34	3.5	1.83	2.91	4.16	3.41
Kent County	7.98	3.63	7.16	4.72	5.82	4.61
Sussex County	3.03	7.49	5.91	6.78	8.54	6.49

Figure 54 Delaware traffic fatalities involving alcohol, 2010-2015

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Source:

National Highway Traffic Safety Administration. Performance Measures, Delaware.

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Marijuana

National Overview

Over the past two decades the majority of states have enacted laws that change the status of marijuana. Twenty-eight states allow some sort of medical marijuana, twenty states have decriminalized the use of marijuana, and eight states and the District of Columbia allow recreational use of marijuana (National Conference of State Legislatures, 2017). These changes to policy at the state level are at odds with federal law, which classifies marijuana as a Schedule I drug (Drug Enforcement Administration, 2017). Drugs in this category are regarded as dangerous, likely to be abused, and have no medical value. A recent report by the National Academies of Science, Engineering, and Medicine (the Academies) reviewed over 10,700 studies on the health impacts of marijuana. This report shows that there is strong evidence for various medical uses of marijuana, but also notes that there are health concerns linked to use, including: the risk of driving while intoxicated; respiratory symptoms associated with smoking; and evidence that links frequent and/or heavy use of marijuana to schizophrenia or other psychotic disorders in people who are predisposed (National Academies of Science, Engineering, and Medicine, 2017).

As the laws have changed around the use of marijuana, so have public perceptions of risk. This is particularly problematic because marijuana potency has increased dramatically over the past decades. Since 1995, the amount of tetrahydrocannabinol (THC, the main psychoactive component of marijuana) increased nearly 200% in marijuana confiscated by the Drug Enforcement Agency, with average THC levels of 12%. As the name suggests, marijuana concentrates (“dabs,” “budder,”and “wax”), which are increasingly available, have extremely high levels of THC, in some cases up to 75% (ElSohly, et al., 2016; the Academies, 2-7).

When young people use marijuana they are doing so at a critical period of brain development. Neuroscientists have found that brain development continues through the mid-20s. The last part of the brain to develop is the prefrontal cortex, which is associated with decision-making, impulse control, risk-taking, and other executive functioning tasks. Research using brain imagining of youth show significant differences in brain development between youth who frequently use marijuana, and those who abstain, even after comparing for demographic, behavioral, and other key variables (Lisdahl et al., 2013). Comparisons of cognitive functioning (IQ, memory, processing, impulse control, etc.) also reveal significant differences between youth who use marijuana and those who do not (Lisdahl et al., 2013). Early use of marijuana, before the age of 16, has been linked to more frequent and heavier use of marijuana over time than users who began smoking later in life (Gruber, et al., 2017). Several studies have also tied early marijuana use to a greater risk of becoming dependent on other substances later in life (the Academies, 2017).

Data in Action: "Synthetic Marijuana"

A number of synthetic cannabinoids have been developed for medical research and use. These products have found their way to recreational users. The synthetic cannabinoids are sprayed onto a variety of different herbs, and the product (Spice, K-2, etc.) is generally smoked, much like marijuana. The Academies notes that the chemical make-up of these products are more toxic than marijuana, and have been linked to severe health complications, including vomiting, high blood pressure, suicidal thoughts, confusion, heart attack, and even death. There is evidence to suggest that these products are addicting and can cause symptoms of withdrawal. Synthetic cannabinoids are also sometimes mixed with other dangerous drugs or materials. (the Academies, 2-10, 2-11). In 2016, one in ten Delaware eleventh graders, and one in fifteen 8th graders reported on the DSS that they had tried synthetic marijuana. The name "synthetic marijuana" is misleading, however, as these products are chemically different and potentially more dangerous than the plant. Public education campaigns that outline the differences between synthetic cannabinoids and marijuana may help students understand that the risks of using these substances are not the same.

Use of Marijuana in Delaware

DSS data show that the perception of risk involved with the use of marijuana has declined among students over the past ten years. The majority of all 5th, 8th, and 11th graders surveyed reported that they did not perceive "great risk" in smoking marijuana regularly. Decreases in perception of risk may lead to increases in use over time. Currently, one out of every five 11th grade students, and one in fourteen 8th grade students, reported smoking marijuana in the past month. The average age of first use of marijuana was reported as 13 years old by 8th grade students and 14.9 years old by 11th graders. YRBS data indicates that Delaware youth smoke marijuana at a slightly higher rate (24%) than the national average (22%) (CDC, 2015).

Increasingly, youth are finding alternate ways to ingest marijuana other than smoking, including edibles, concentrates, and vaporizing. According to the 2016 DSS, over 90% of 11th graders and 80% of 8th grade students who reported using marijuana said that they smoked it; less than 10% of 8th and 11th graders reported vaping, and less than 15% reported eating marijuana. Currently Delaware does not have data available about the use of marijuana concentrates. Many of these products have very high levels of THC and are generally administered through vaping. Because vaping eliminates much of the strong odor associated with the use of marijuana, and vape pens are small and easy to hide, there may be a greater potential for abuse in schools and other settings where smoking marijuana would be harder to conceal.

Youth who drive while under the influence of marijuana put themselves, and others, in danger. A third of all 11th graders who completed the DSS reported that they had ridden in a car after the driver smoked marijuana at some point in their lives, and one in ten reported that they had driven a car after smoking marijuana in the past.

According to the NSDUH young adults in Delaware (age 18-25) use marijuana at higher rates than the national average, but rates for adults 18 and older are comparable to national figures (Substance Abuse and Mental Health Administration, n.d.). Data from the TEDS indicates that

nearly 10% of all publicly funded treatment admissions in Delaware in 2015 had marijuana as the primary substance of use (TEDS, 2015).

Delaware allows medical marijuana for specific conditions. The State also decriminalized the possession of small amounts of marijuana in 2015. Now, if an adult has less than an ounce of marijuana he or she will have to pay a $100 fine, rather than face arrest and prosecution (Delaware Code, n.d.).

Marijuana Prevalence Indicators

NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH)

Selected drug use, perceptions of great risk, average annual rates of first use of marijuana in *Delaware*, by age group: percentages, annual averages based on 2015 NSDUHs [a]

(in percentages) [b]

Measure	Total 12 or Older	AGE GROUP		
		12-17	18-25	26 or Older
Past Year Marijuana Use	13.06	13.04	37.32	9.17
Past Month Marijuana Use	8.05	7.42	21.19	6.01
Perceived of Great Risk of Smoking Marijuana Once a Month	--	--	--	--
Average Annual Rate of First Use of Marijuana [b]	1.83	5.29	7.73	.29

Figure 55 Average annual rates of first use of marijuana in Delaware by age group

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Notes:

-- Not available

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] Average annual rate = $100*\{[X_1 \div (0.5 * X_1 + X_2)] \div 2\}$, where X_1 is the number of marijuana initiates in past 24 months and X_2 is the number of persons who never used marijuana. Both of the computation components, X_1 and X_2, are based on a survey-weighted hierarchical Bayes estimation approach. Note that the age group is based on a respondent's age at the time of the interview, not his or her age at first use.

Source:

"2014-2015 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

2016 DELAWARE SCHOOL SURVEY

Marijuana use among Delaware 5th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	PERCEIVED GREAT RISK OF HARM	
				TRYING	WEEKLY USE
Statewide	1	1	0	29	51
Males	1	1	1	30	50
Females	1	0	0	29	52
Wilmington	2	1	1	25	23
Males	2	1	1	20	20
Females	2	2	2	30	25
New Castle	1	1	0	28	49
Males	1	1	1	28	48
Females	1	0	0	27	51
Kent	2	1	1	31	56
Males	2	2	1	29	54
Females	1	0	0	32	57
Sussex	1	0	0	33	53
Males	1	1	0	33	52
Females	1	0	0	31	53

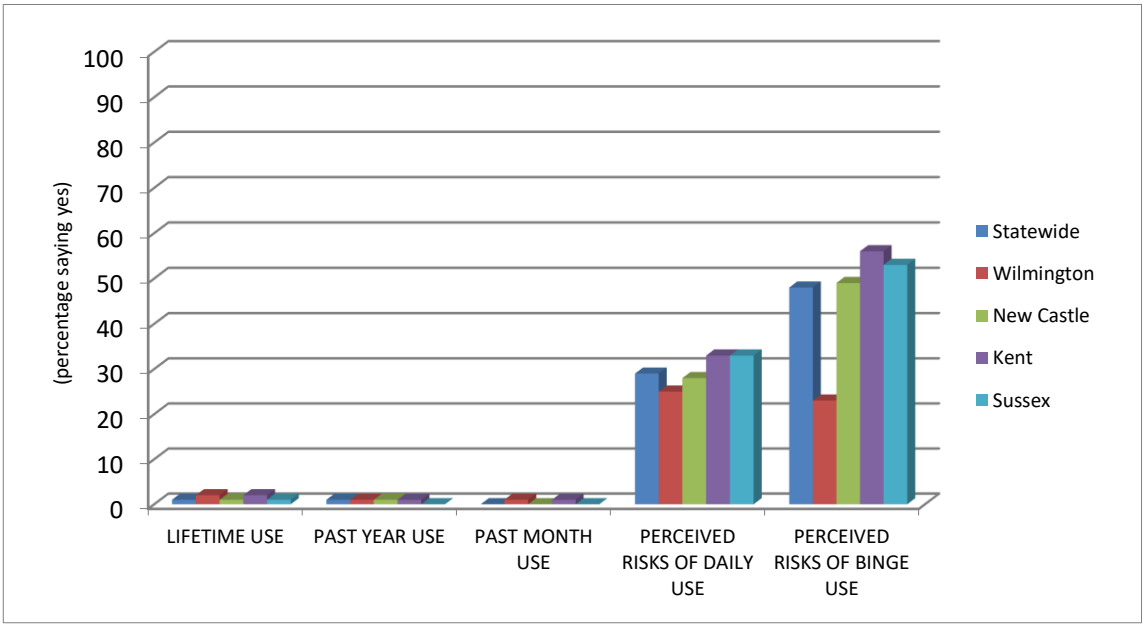

Figure 56 Marijuana use among Delaware 5th graders

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Source:

"2015 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Marijuana use among Delaware 8th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	HEAVY USE *	PERCEIVED GREAT RISK OF HARM FROM:	
					TRYING	WEEKLY USE
Statewide	16	12	7	2	17	49
Males	16	12	7	3	17	46
Females	16	13	7	2	16	52
Wilmington	22	16	10	3	12	41
Males	22	16	12	1	9	33
Females	21	16	9	4	13	48
New Castle	15	11	7	2	16	49
Males	15	11	6	2	17	46
Females	15	12	8	2	16	53
Kent	19	15	8	2	14	46
Males	19	14	9	3	14	41
Females	19	15	6	2	15	50
Sussex	16	13	8	3	19	51
Males	17	13	9	4	18	50
Females	15	13	7	3	19	51

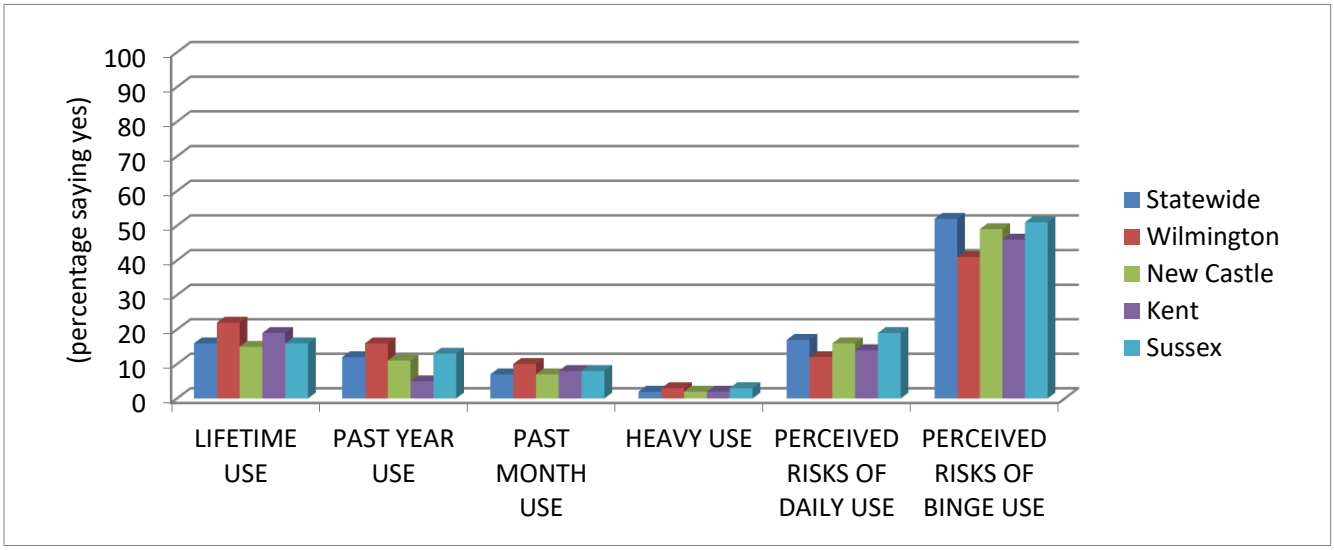

Figure 57 Marijuana use among Delaware 8th graders

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Note:
**"Heavy Use" indicates more than six times in the past month.*
Source: "2015 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Marijuana use among Delaware 11th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	HEAVY USE *	PERCEIVED GREAT RISK OF HARM FROM:	
					TRYING	WEEKLY USE
Statewide	43	35	22	11	10	34
Males	41	34	23	13	10	30
Females	44	36	22	9	10	38
Wilmington	55	44	29	15	8	28
Males	52	43	32	20	12	30
Females	58	44	27	11	5	28
New Castle	42	35	22	11	11	35
Males	41	34	23	13	10	29
Females	44	37	22	8	11	40
Kent	37	30	18	10	10	35
Males	36	29	18	10	10	33
Females	38	30	17	10	11	37
Sussex	43	34	23	11	10	34
Males	41	36	24	13	9	28
Females	45	35	23	10	11	40

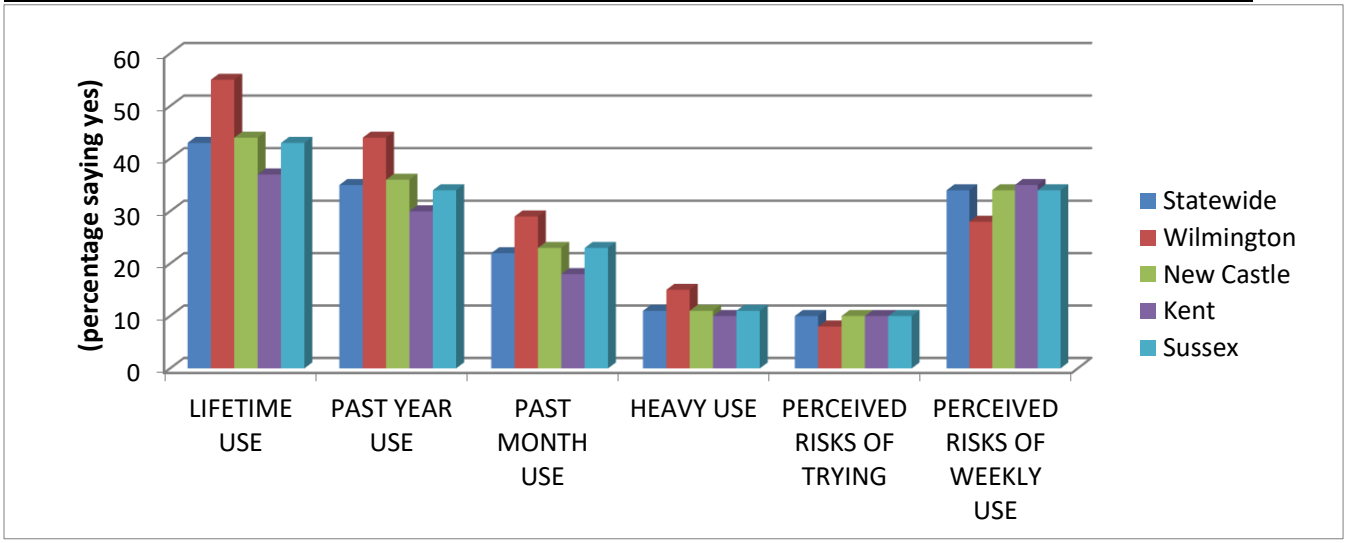

Figure 58 Marijuana use among Delaware 11th graders

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NOTE: "Heavy Use" indicates more than six times in the past month.Source:*
"2015 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

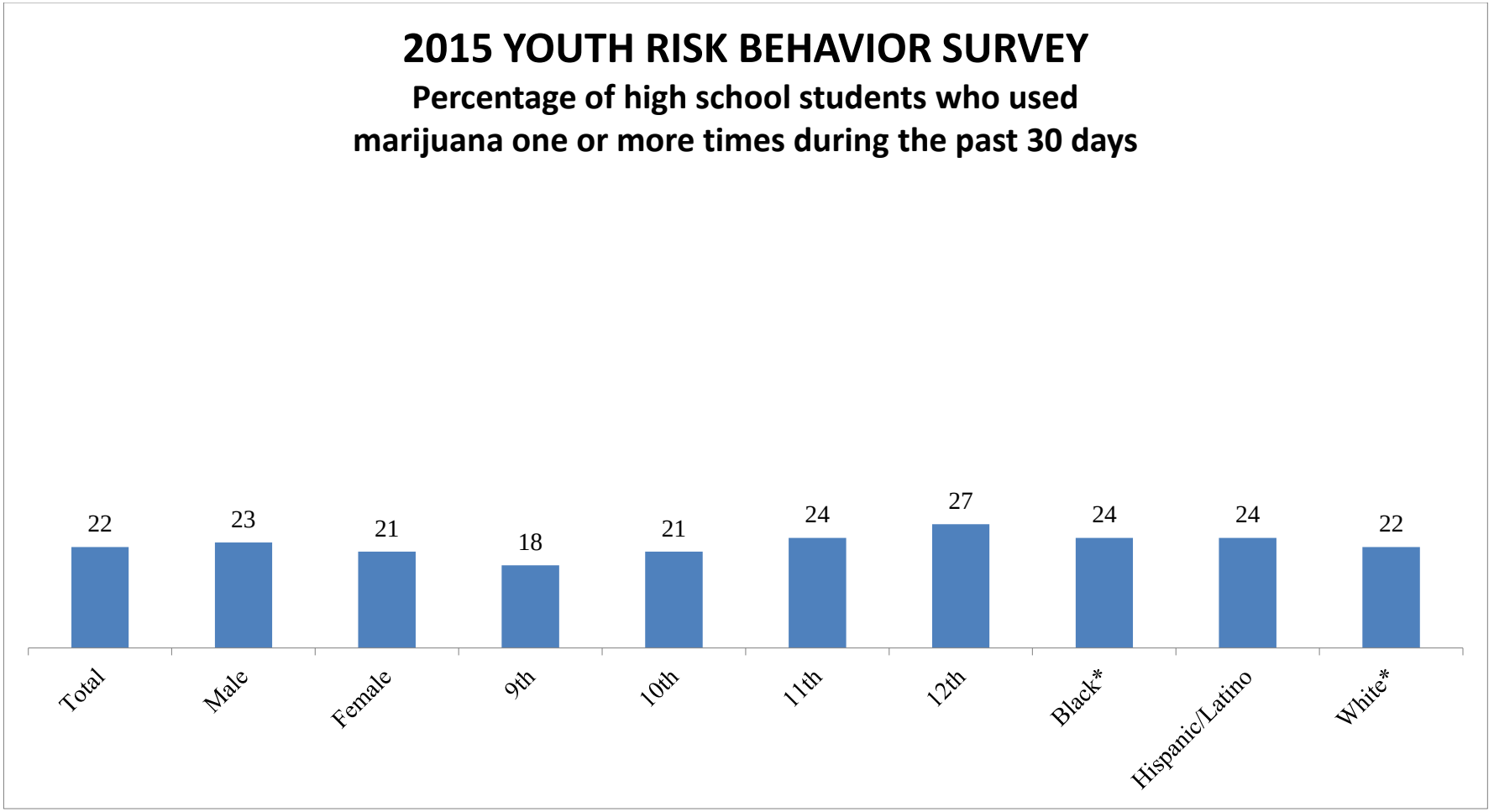

Figure 59 Percentage of high school students who used marijuana in the past 30 days

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Notes: *non-Hispanic

Weighted date

Source:

"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2016 DELAWARE SCHOOL SURVEY

Average age of onset for marijuana use

8TH Grade	11th Grade
13 years	14.9 years

Figure 60 Average age of onset for marijuana use

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Source:
"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

Marijuana Trends and Comparisons to U.S. and Region

DELAWARE SCHOOL SURVEY

Trends in Delaware students' marijuana use by grade
self-reported regular use [a], 1989-present

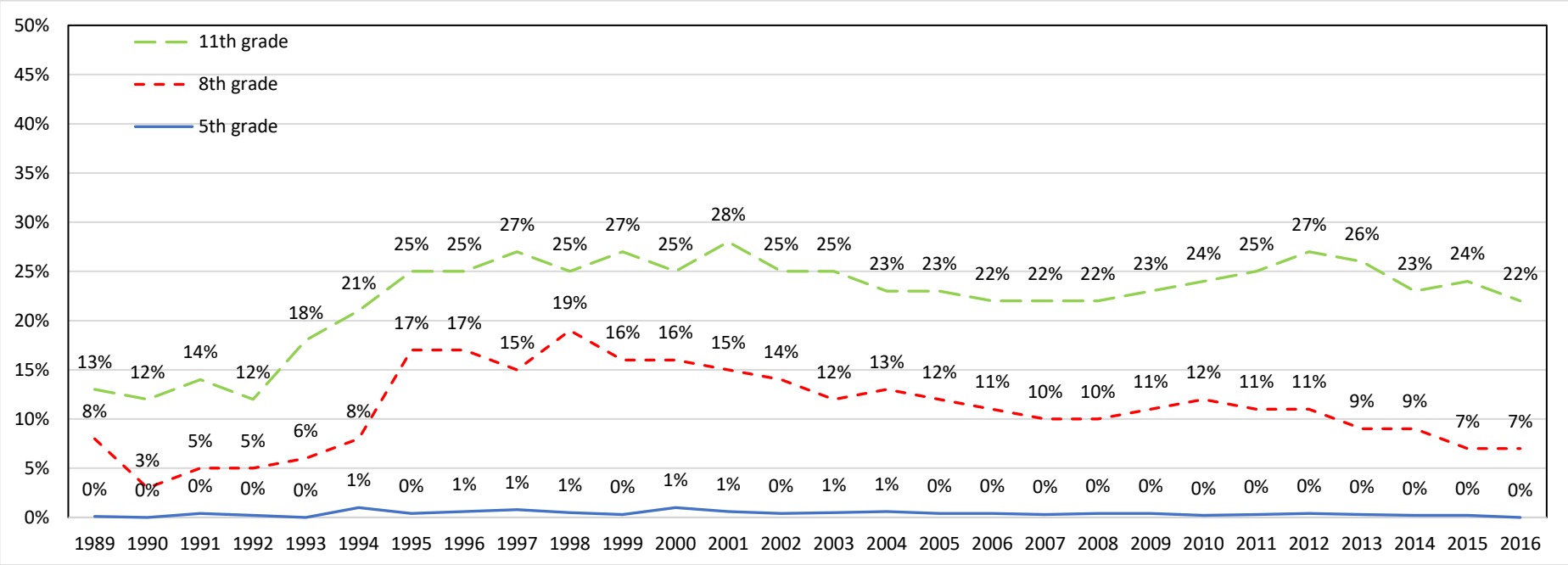

Figure 61 Trends in Delaware students' marijuana use by grade, 1989- present

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Notes:

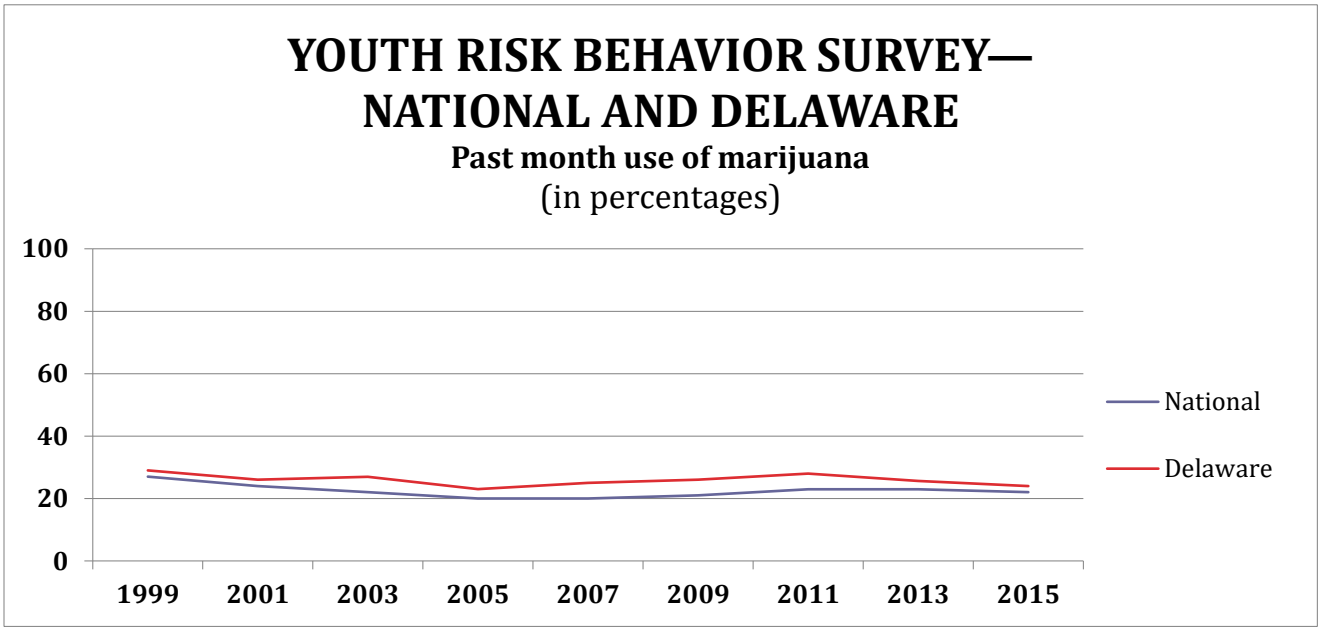
[a] *"Regular use" is defined as reports of about once a month or more often; see note, page 20.*

These statistics contribute to the National Outcome Measures (NOMs)

Source:

Data Base/DiagnosticsPlus (1989-1993); Department of Public Instruction (1994)

"Delaware School Survey." Center for Drug and Health Studies, University of Delaware. *(1995-Present)*



Year	National	Delaware
1999	27	29
2001	24	26
2003	22	27
2005	20	23
2007	20	25
2009	21	26
2011	23	28
2013	23	26
2015	22	24

Figure 62 Past month use of marijuana Delaware and National, 1999-2015

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Notes:

Weighted data

Sources:
"Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). (1999-2015)
"National High School Youth Risk Behavior Survey." Center for Disease Control and Prevention. (1999-2015)

NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH)

Marijuana use in past year, by age group and state: 2013-2014 and 2014-2015 NSDUHs

(in percentages) [a]

State	AGE GROUP (Years)											
	12 or Older			12-17			18-25			26 or Older		
	2013-2014	2014-2015	*p* value [b]	2013-2014	2014-2015	*p* value [b]	2013-2014	2014-2015	*p* value [b]	2013-2014	2014-2015	*p* value [b]
Total U.S.	12.90[c]	13.36	.002	13.28[d]	12.86	.063	31.78	32.07	.369	9.63[c]	10.25	.000
Northeast	13.88[c]	14.66	.005	13.98	13.51	.266	34.66[c]	36.45	.008	10.43[c]	11.22	.015
Delaware	13.98	13.06	.130	15.14[d]	13.04	.079	38.56	37.32	.463	9.77	9.17	.412
Maryland	13.48	15.13	.009	14.96	14.45	.673	36.43	39.01	.157	9.58[c]	11.41	.016
New Jersey	11.25	11.86	.270	12.86	12.41	.641	30.10[d]	32.75	.083	8.22	8.66	.501
Pennsylvania	11.70	12.35	.105	12.37	11.88	.508	32.18	32.36	.872	8.28[d]	9.21	.054

Figure 63 Marijuana use in past year by age group and state, 2012-2014

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Notes:

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] *p* value: Bayes posterior probability of no change

[c] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.05 level.

[d] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.10 level.

Source:

"2014-2015 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH)

Marijuana use in past month, by age group and state: 2013-2014 and 2014-2015 NSDUHs

(in percentages) [a]

	AGE GROUP (Years)											
	12 or Older			12-17			18-25			26 or Older		
State	2013-2014	2014-2015	*p* value [b]	2013-2014	2014-2015	*p* value [b]	2013-2014	2014-2015	*p* value [b]	2013-2014	2014-2015	*p* value [b]
Total U.S.	7.96[c]	8.34	.001	7.22	7.20	.905	19.32	19.70	.178	6.11[c]	8.55	.001
Northeast	8.58[c]	9.28	.001	7.68	7.73	.883	21.19[c]	22.64	.007	6.60[c]	7.27	.005
Delaware	8.23	8.05	.696	8.22	7.42	.370	21.11	21.19	.957	6.09	6.01	.895
Maryland	8.55[c]	9.62	.025	8.05	9.20	.214	23.42	24.87	.335	6.20[d]	7.24	.057
New Jersey	6.30[b]	7.01	.055	6.36	6.81	.503	16.60[c]	18.96	.035	4.74	5.23	.258
Pennsylvania	7.28	7.73	.141	7.00	6.98	.970	19.36	20.61	.396	5.34[d]	6.02	.061

Figure 64 Marijuana use in past month by age group and state, 2012-2015

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Notes:

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] *p* value: Bayes posterior probability of no change

[c] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.05 level.

[d] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.10 level.

Source:

"2014-2015 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH)

Average annual rate of first use of marijuana, by age group and state: 2013-2014 and 2014-2015 NSDUHs

(in percentages) [a]

State	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
	2013-2014	2014-2015	*p* value [b]	2013-2014	2014-2015	*p* value	2013-2014	2014-2015	*p* value [b]	2013-2014	2014-2015	*p* value [b]
Total U.S.	1.91	1.95	.276	5.60	5.41	.106	7.68	7.88	.294	0.24[c]	0.31	.000
Northeast	2.01	2.04	.634	5.85[d]	5.55	.095	8.40	8.67	.410	0.26[c]	0.34	.022
Delaware	2.13[c]	1.83	.007	6.44[c]	5.29	.019	9.00[d]	7.73	.074	0.25	0.29	.419
Maryland	2.24	2.33	.500	6.57	6.12	.354	8.78	9.86	.205	0.26[c]	0.38	.045
New Jersey	1.79	1.74	.544	5.48	4.99	.183	7.48	7.83	.533	0.23	0.30	.148
Pennsylvania	1.77	1.76	.929	5.32[d]	4.74	.052	7.91	7.65	.637	0.21[d]	0.29	.057

Figure 65 Average annual rate of first use of marijuana by age group and state, 2012-2015

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Notes:

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] *p* value: Bayes posterior probability of no change

[c] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.05 level.

[d] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.10 level.

Source:

"2014-2015 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

DELAWARE SCHOOL SURVEY, YOUTH RISK BEHAVIOR SURVEY AND MONITORING THE FUTURE

Comparison of recent National and Delaware estimates of marijuana use among high school students

(in percentages)

	Marijuana	
	Past Year	Past Month
2016 11th Grade Delaware	35	22
2015 11th Grade Delaware	35	24
2014 11th Grade Delaware	34	23
2015 9th-12th Grade YRBS Delaware*	--	22
2013 9th-12th Grade YRBS Delaware	--	26
2016 12th Grade MTF	36	23
2015 12th Grade MTF	35	21

Figure 66 Comparison of recent National and Delaware estimates of marijuana use among high school students

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Notes:
-- Not Available
*Weighted data

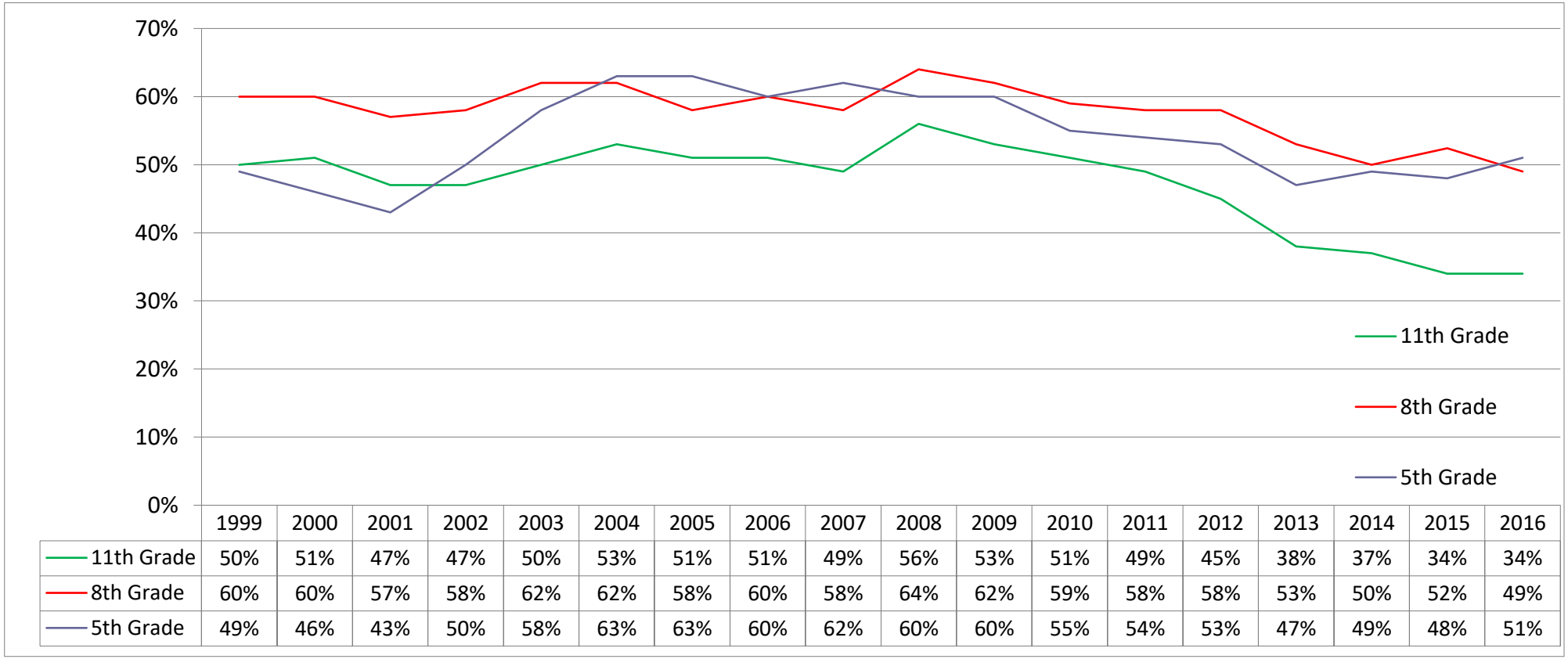
Sources:
"Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (2013-2016)

"Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). (2013-2015)
"In School Surveys, Tobacco Press Release." Monitoring the Future Study (MTF), University of Michigan. (2015-2016)

Perceived Risk and Consequences

2015 DELAWARE SCHOOL SURVEY

Perceived "great risk" in using marijuana weekly



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
11th Grade	50%	51%	47%	47%	50%	53%	51%	51%	49%	56%	53%	51%	49%	45%	38%	37%	34%	34%
8th Grade	60%	60%	57%	58%	62%	62%	58%	60%	58%	64%	62%	59%	58%	58%	53%	50%	52%	49%
5th Grade	49%	46%	43%	50%	58%	63%	63%	60%	62%	60%	60%	55%	54%	53%	47%	49%	48%	51%

Figure 67 Perceived "great risk" in using marijuana weekly

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Source:
"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH)

Perceptions of great risk of smoking marijuana once a month, by age group and state: 2013-2014 and 2013-2014 NSDUHs

(in percentages) [a]

	AGE GROUP (Years)											
	12 or Older			12-17			18-25			26 or Older		
State	2013-2014	2013-2014	*p* value [b]	2013-2014	2013-2014	*p* value [b]	2013-2014	2013-2014	*p* value [b]	2013-2014	2013-2014	*p* value [b]
Total U.S.	29.50	27.35	.000 [c]	25.34	23.54	.000 [c]	15.81	14.22	.000 [c]	32.40	30.09	.000 [c]
Northeast	27.74	25.53	.000 [c]	23.56	22.31	.031 [c]	13.21	11.92	.001 [c]	30.66	28.18	.000 [c]
Delaware	28.95	26.47	.027 [c]	21.67	23.02	.389	12.90	11.96	.349	32.51	29.29	.024 [c]
Maryland	29.97	26.78	.094 [d]	23.57	23.63	.971	15.00	13.50	.186	33.23	29.33	.012 [c]
New Jersey	33.22	28.55	.000 [c]	24.69	22.93	.214	14.95	13.44	.133	37.03	31.52	.000 [c]
Pennsylvania	29.19	26.49	.000 [c]	26.95	25.68	.234	14.59	12.96	.025 [c]	31.89	28.81	.001 [c]

Figure 68 Perceptions of great risk of smoking marijuana once a month, by age group and state

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Notes:

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] *p* value: Bayes posterior probability of no change.

[c] Difference between the 2011-2012 estimate and the 2013-2014 estimate is statistically significant at the 0.05 level.

[d] Difference between the 2011-2012 estimate and the 2013-2014 estimate is statistically significant at the 0.10 level.

Source:

"2013-2014 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

2016 DELAWARE SCHOOL SURVEY

Reported smoking marijuana and driving among Delaware 11th graders

(in percentages)

	LIFETIME	PAST YEAR	PAST MONTH
Statewide	14	11	6
Males	16	13	8
Females	13	10	5
Wilmington	12	8	2
Males	14	10	2
Females	11	6	2
New Castle	14	11	6
Males	15	12	8
Females	13	10	5
Kent	15	12	7
Males	17	13	9
Females	13	10	5
Sussex	15	13	7
Males	16	14	10
Females	15	12	5

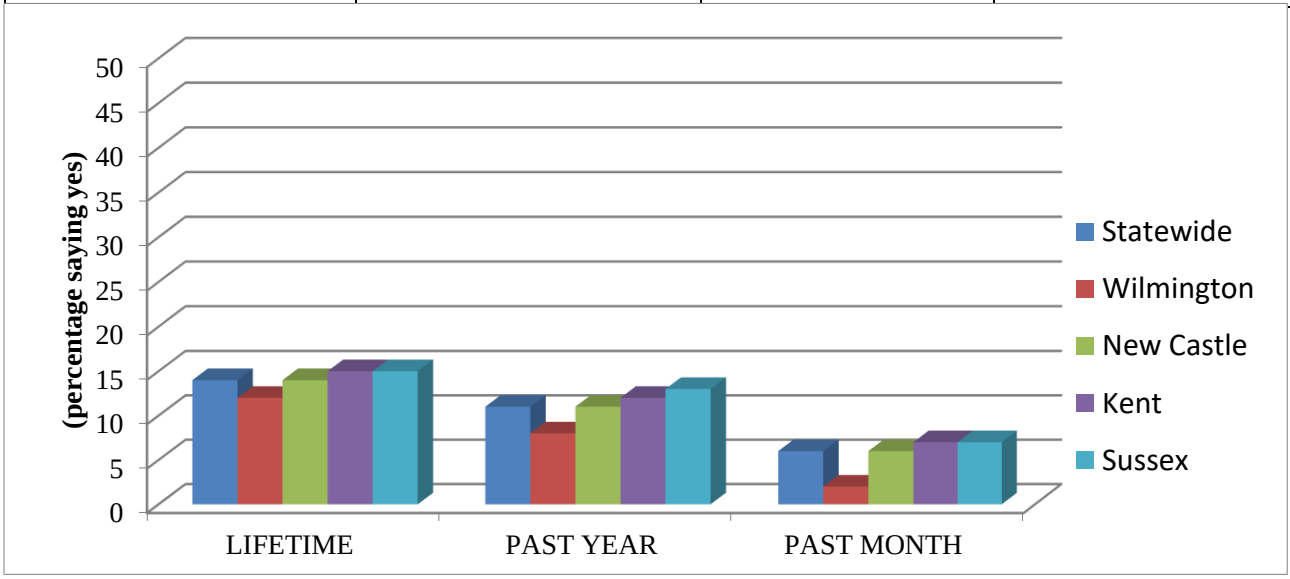

Figure 69 Reported smoking marijuana and driving among Delaware eleventh graders

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Source:
"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Trends in Delaware eleventh graders' reporting smoking marijuana and driving in the past month, 1990-2016

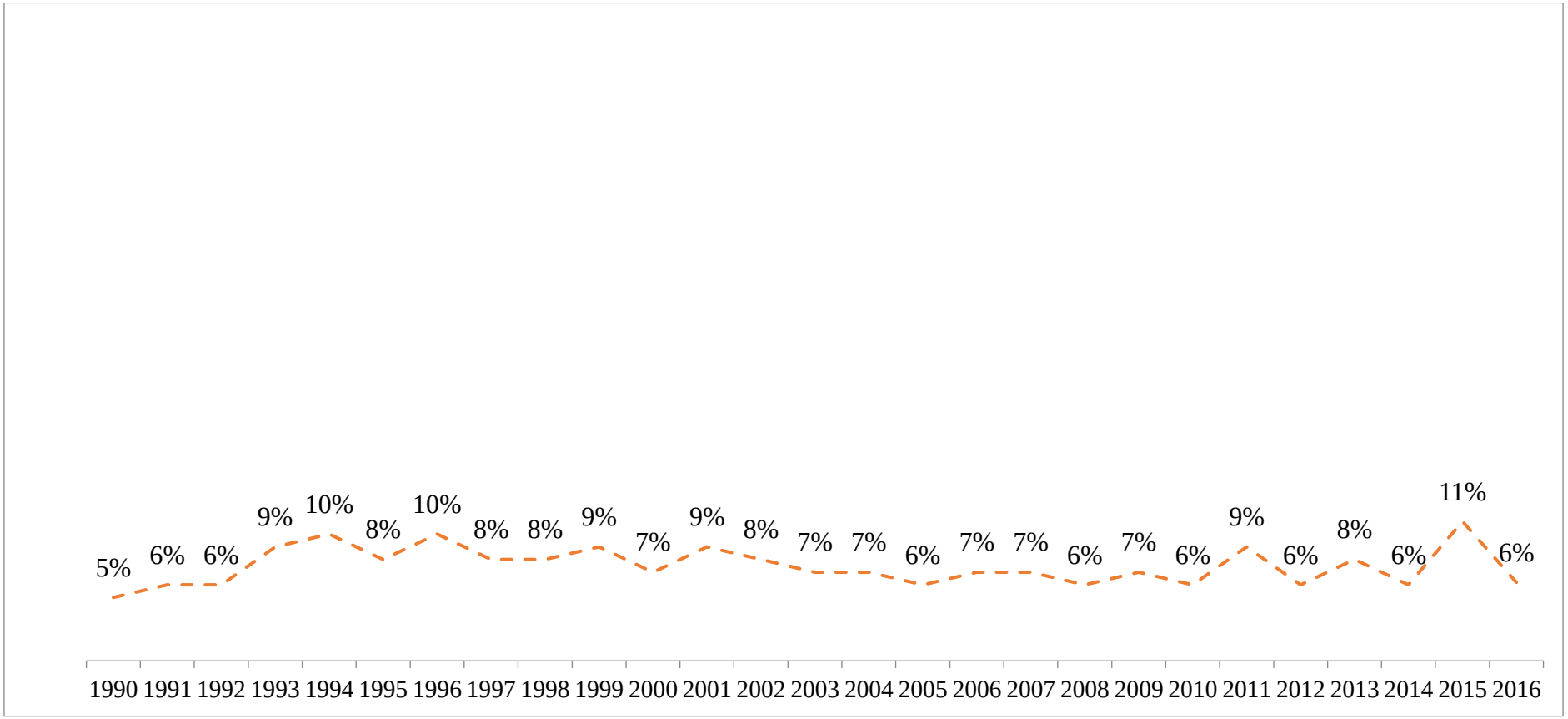

Figure 70 Trends in Delaware eleventh graders' reporting smoking marijuana and driving in the past month, 1990-2016

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Source:
"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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Opioid Use and Other Trends

National Overview

Across the nation communities are struggling with a devastating increase in the number of people misusing opioid drugs, leading many to identify the current situation as a public health epidemic. Prescription drugs and illicit street drugs from the opioid class of drugs are highly addictive, subject to abuse, and in many cases, lead to tragic outcomes including drug overdose deaths, infants born with addictions, criminal behavior, and countless hours of lost time that could otherwise be devoted to productive work, family relationships, or skill-building. This public health crisis impacts people across all age groups and all communities, and comes with high social and public costs; the US Department of Health and Social Services reports over $75 billion in costs related to opioid dependency and misuse in a single year (DHHS, 2016). According to data from the NSDUH, the use of prescription painkillers without a prescription was the second most abused category of drugs in the United States, after marijuana, with an estimated 3.8 million people in the United States using these drugs within the past month (Center for Behavioral Statistics and Quality, 2016).

Deaths due to drug overdoses are increasing across the United States; between 2014-2015 overdoses increased by 11%. In 2014, six out of every ten overdoses were associated with the use of opioids (Rudd et al. 2016). The CDC reports that 91 Americans die as a result of an opioid overdose, every day (CDC, n.d.). Increasingly, heroin makes up a large proportion of all drug overdose deaths that occur nationally; 8% of drug overdoses were attributable to heroin in 2010 and by 2015 one in four people that died as a result of drug overdose, overdosed on heroin. Heroin overdoses tripled between 2010 and 2015 (Hedegaard, Warner, & Minio, 2017), though misidentification of fentanyl and heroin fentanyl mixes account for some of this increase.

In 2015, about 62 deaths per day were attributed to prescription opioids. The risk of overdose increases when opioids are used at the same time with benzodiazepine medications, such as Valium or Xanax. Methadone, Oxycodone, and Hydrocodone are the drugs most often attributed to overdose in this category. In addition, the CDC reports that over 1,000 people visit an emergency room each day as a result of misusing prescription opioids, (CDC n.d.). According to the National Safety Council, 1.9 million

people in the United States are addicted to prescription opioids, 4.3 million use these drugs for nonmedical purposes, and four out of five current heroin users report that they transitioned to heroin after using prescription opioids (National Safety Council/NSC, 2016). Significantly rethinking prescribing practice and policy should have an effect on the number of people who overdose on these drugs or move on to harder and potentially more dangerous illegitimately made and distributed drugs.

The CDC estimates that about a third of the deaths attributed to prescription opioids are a result of fentanyl. Fentanyl, a powerful synthetic opioid often prescribed to patients during end of life care or with advanced cancer, is increasingly accessible to users. Much of the fentanyl on the street has been illegally imported from China or illegally manufactured in China, the U.S. and Mexico, and is not derived from pharmaceutical supplies. The CDC reports that fentanyl is 50 times more potent than heroin, and is often found mixed with heroin or cocaine, with often deadly results. In just one year, 2014-2015, the death rate associated with people who overdosed on synthetic opioids, which includes fentanyl, increased over 70% (CDC, n.d.). A recently troubling trend identified by the Drug Enforcement Agency are reports of illegally manufactured pills inscribed with prescription brand names that are instead primarily made with fentanyl. In 2016, communities in Florida and California had high numbers of overdose deaths associated with counterfeit pills that contained fentanyl (DEA, 2016).

Additional health complications can arise from the misuse of opioids. Drug users that inject heroin or other drugs risk spreading infectious disease. Intravenous drug use has been linked to HIV/AIDS and Hepatitis C. Many communities and states have enacted needle-exchange programs that allow drug users to drop off used needles and receive either free or reduced cost needles. In addition, many of these programs provide resources about substance abuse treatment, infectious disease control, and other health information.

Neonatal abstinence syndrome (NAS) is another public health concern linked to the use of opioids. A study of 28 states between 1999 and 2013 found over a 300% increase in the number of babies born with NAS (Ko et al., 2016). Babies born with this condition experience symptoms of withdrawal, which complicates regular healthy development, and often leads to additional time spent in the hospital after delivery. Infants born to mothers who use opioids are also at higher risk of smaller birth weight, birth defects, trouble feeding, developmental delays, future behavioral problems, and Sudden Infant Death Syndrome (DHHS, 2016). In Delaware, 314 infants were born with NAS in 2015 (Albright & Rini, 2016).

Delaware Context

Delaware has been hit hard by the opioid epidemic. In 2014, Delaware had the 8th highest heroin fatality rate in the US (NSC, 2016). Delaware's drug overdose rate, across all categories of drugs, has increased in the past few years. In 2014, over 70% of all drug overdose deaths were related to opioids; 42% involved prescribed opioids, and 29% involved illicit drugs, including heroin (Prescription Behavior Surveillance System, 2016). Fentanyl-related overdoses are a major public health concern; such overdoses tripled in 2016, with 120 confirmed fentanyl related deaths (Horn, 2017a). Emergency responders in Delaware have responded to the increase in opioid-related overdoses by carrying the opioid antagonist, Naloxone, which can reverse the symptoms of opioids on the nervous system, and potentially save the life of a person suffering an overdose. Emergency responders used Naloxone on 2,334 occasions in 2016 (Horn, 2017a). Yet, even with increased access to potentially life-saving medication, tragic overdoses still occur frequently in Delaware. In March 2017, the Delaware Online News Journal reported that four people died in a five-hour span, in separate locations across New Castle County, due to heroin overdoses (Horn, 2017b).

Data in Action

Treatment admissions in Delaware increased more than 600% between 2013 and 2015. More people are seeking treatment services for heroin dependence than in the past. In 2015, nearly 35% of all treatment admissions in Delaware were related to heroin. An additional 5% were related to other opioids (TEDS, 2015). A recent SWOT analysis by the Opiate and Heroin Dependency Committee, prepared for newly-elected New Castle County Executive Matt Meyer, showed a significant gap between treatment need and access to services, partly due to lack of public knowledge about already existing resources, but also due to limitations in available services (Anderson et al., 2016). Increased public education about the services that do exist, and expanding treatment options, may help reduce some of the grave consequences associated with opioid abuse. National research has shown that women with children often resist accessing treatment services out of fear that their children may be taken into state custody. Treatment programs that accommodate mothers with children have higher success rates with women with children, than those that do not. Nationally, up to 70% of women who enter treatment do have children (DHHS, 2016). Expanding treatment options that are responsive to the needs of caregivers may help improve treatment outcomes across the state.

Prescription drug overdoses account for a larger portion of drug overdose deaths in Delaware than heroin (Prescription Behavior Surveillance System, 2016) Prescription Monitoring Programs have been established in many states, including Delaware, to provide data on prescribing patterns, as well as patient use. These data can help to identify "pill mills" (doctors that prescribe disproportionate amounts of opioids to patients) as well as "doctor shoppers" (individuals who change doctors frequently in order to obtain prescribed opioids). These data can also help doctors identify whether patients are already taking prescriptions that may interfere with opioids, such as benzodiazepines. A recent analysis from the University of Delaware of the Prescription Drug Monitoring Program demonstrated that only 1% of doctors wrote a quarter of opioid prescriptions in the state (Anderson, Martin, Fang, & Li, 2016). Additional analyses of the data by UD researchers were used to create hotspot maps that identified locations in the state that have increased numbers of people with opioid prescriptions (CDHS, 2017). Identifying potential points of access should help reduce some of the flow of pills to recreational users. Delaware has already made some progress in targeting pill mills; early in 2017, three doctors in Delaware were sanctioned as a result of over-prescribing (Goss, 2017).

Changes in prescribing policy and public education strategies that were put in place over the past several years may also be having an effect. Delaware data from the Prescription Behavior Surveillance System (PBSS) at Brandeis University's Center of Excellence, which reports to the CDC, shows a 26% decline between 2012-2105 in opioid prescriptions with high dosages (over 100 morphine milligram equivalents, or MMEs) that have been associated with greater risk of overdose and death. During the same period, there was a decline of over 50% in the rate of multiple provider episodes, which corresponds with "doctor shopping." Despite these significant improvements, Delaware still has the highest rate of patients with prescriptions of over 100 MMEs, compared to other states also analyzed by the PBSS, which suggests that there is still much room for improvement in this area, and that successful intervention should include prescribers (Prescription Behavior Surveillance System, 2016).

Data from the DSS show that less than 1% of 8th and 11th grade students in school report using heroin in the past year, and only 3% of students reported using prescription painkillers. Data from the NSDUH show that for adults in Delaware, age 18 to 25, past year nonmedical use of pain relievers was slightly higher than the national average. In Delaware 9.5% of adults reported misusing these drugs in the past year, higher than the national average response rate of 8.3%.

2016 DELAWARE SCHOOL SURVEY

Prescription pain killer use among Delaware 8th graders

(in percentages)

	Lifetime	Past Year	Past Month	Perceived Great Risk of Using Prescription Drugs without a Prescription
STATEWIDE	3	2	1	50
Males	3	2	1	48
Females	4	3	1	52
Wilmington	4	3	1	47
Males	3	2	1	37
Females	5	3	1	55
New Castle	3	2	1	53
Males	3	2	1	53
Females	3	2	1	53
Kent	4	3	2	44
Males	4	3	2	40
Females	4	3	1	48
Sussex	4	2	1	46
Males	2	1	1	44
Females	5	3	2	49

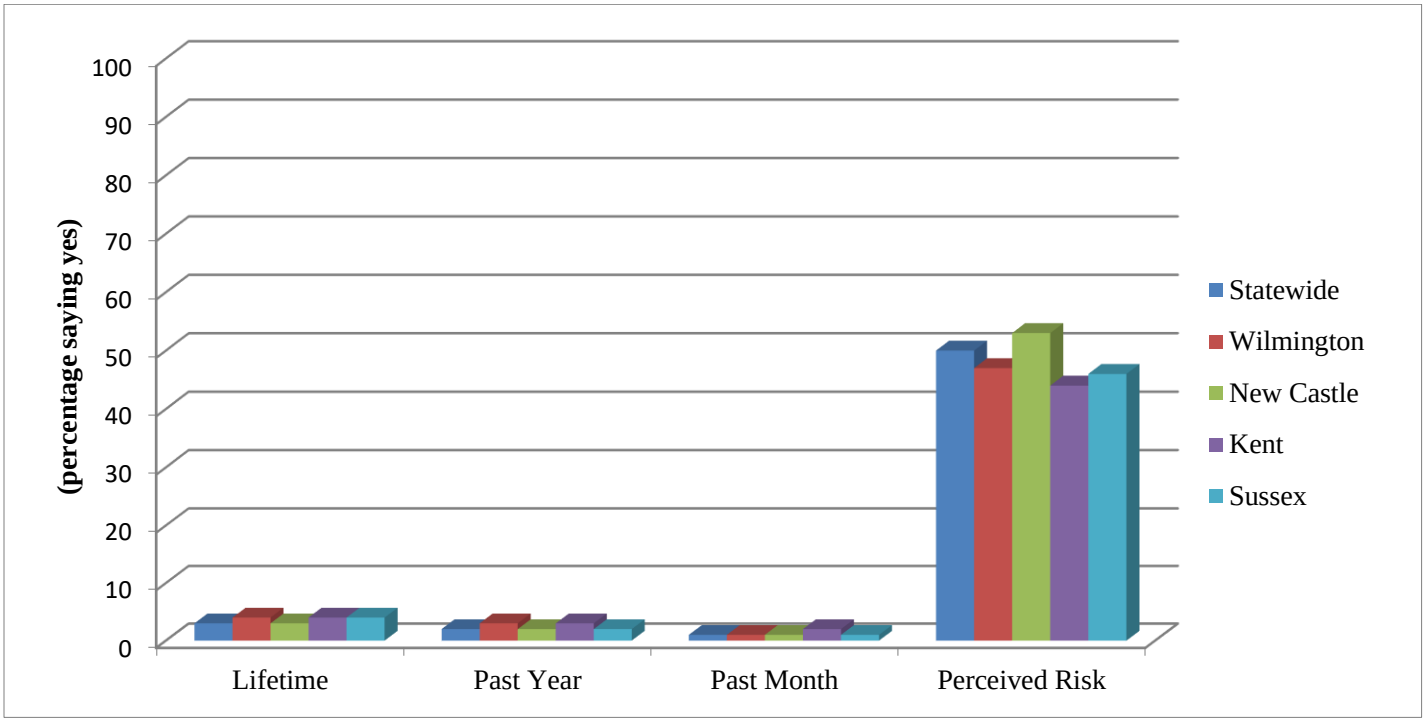

Figure 71 Prescription pain killer use among Delaware 8th graders

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Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Prescription pain killer use among Delaware 11th graders

(in percentages)

	Lifetime	Past Year	Past Month	Perceived Great Risk of Using Prescription Drugs without a Prescription
STATEWIDE	6	3	1	64
Males	7	2	2	61
Females	6	3	1	67
Wilmington	6	3	1	66
Males	8	3	1	65
Females	5	3	1	68
New Castle	6	3	1	60
Males	6	2	1	57
Females	6	3	1	63
Kent	7	2	2	64
Males	7	1	2	60
Females	6	2	1	67
Sussex	6	3	1	62
Males	6	2	1	56
Females	5	3	1	65

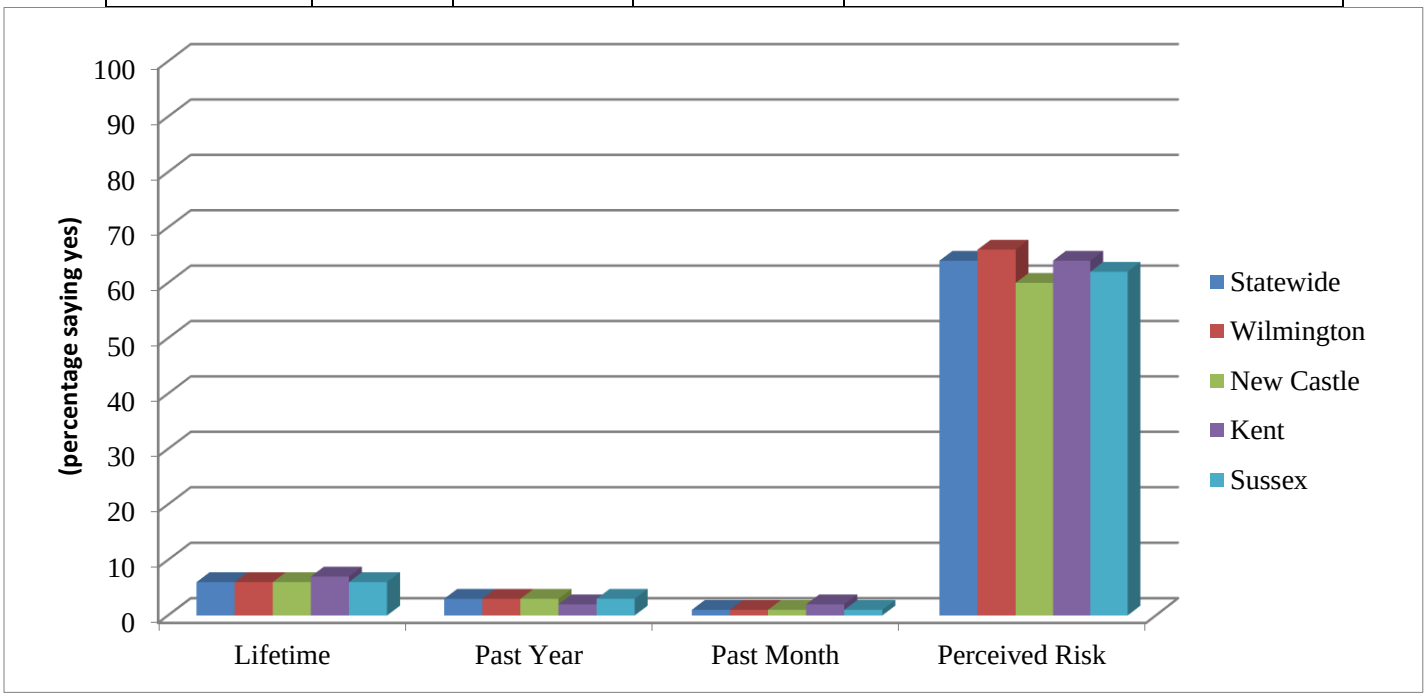

Figure 72 Prescription pain killer use among Delaware 11th graders

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Source:
"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Trends in monthly use of prescription pain killers among Delaware eleventh graders, 2002- present

(in percentages)

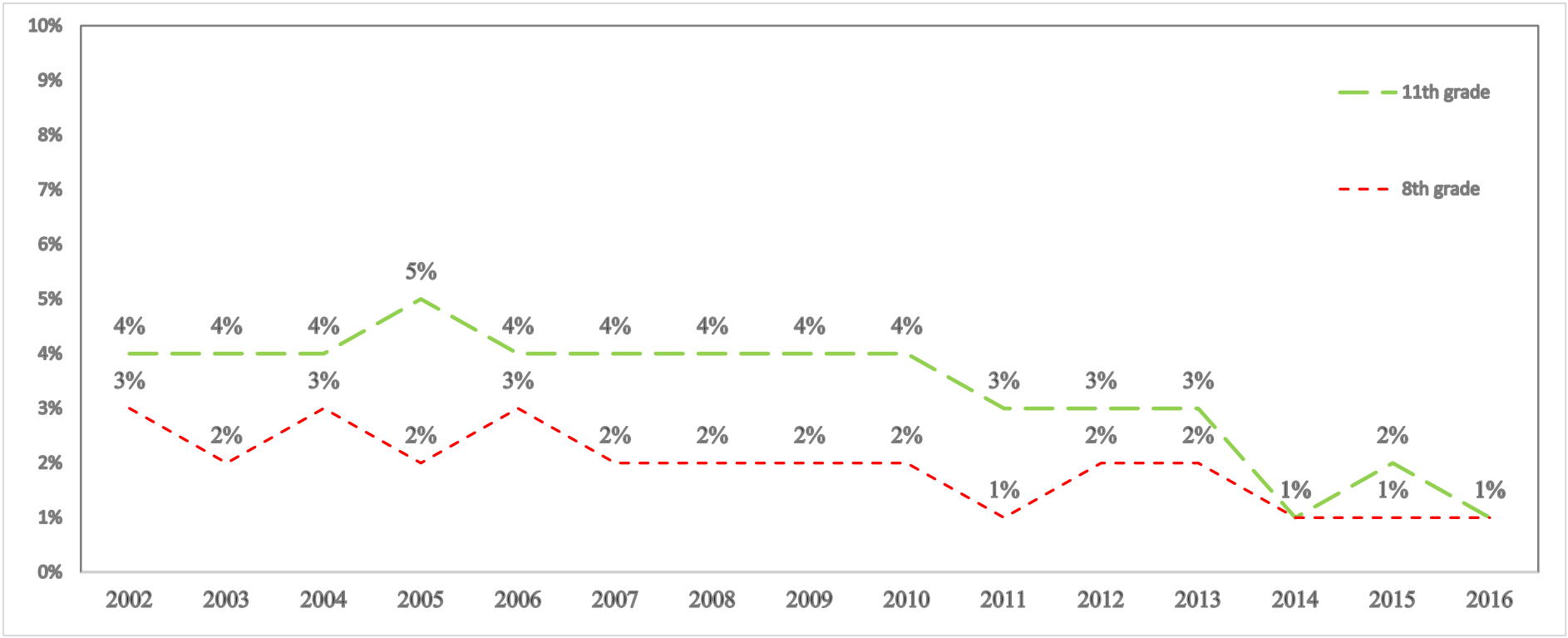

Figure 73 Trends in monthly use of prescription pain killers among Delaware eleventh graders, 2002- present

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Source:
"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

NATIONAL SURVEY OF DRUG USE AND HEALTH (NSDUH)

Nonmedical use of pain relievers in past year, by age group and state: 2012-2013 and 2013-2014 NSDUHs

(in percentages) [a]

State	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
	2012-2013	2013-2014	*p* value [b]	2012-2013	2013-2014	*p* value [b]	2012-2013	2013-2014	*p* value [b]	2012-2013	2013-2014	*p* value [b]
Total U.S.	4.51	4.06	.000 [c]	5.00	4.67	.020 [c]	9.47	8.32	.000 [c]	3.60	3.26	.001 [c]
Northeast	3.90	3.65	.046 [c]	4.05	4.03	.928	8.64	7.84	.005 [c]	3.09	2.91	.217
Delaware	4.87	4.34	.158	5.60	4.66	.080 [d]	10.65	9.52	.163	3.81	3.44	.373
Maryland	4.18	4.50	.373	4.46	4.57	.808	8.49	9.13	.352	3.44	3.74	.460
New Jersey	3.96	3.51	.131	4.08	3.80	.508	9.4	7.83	.014 [c]	3.12	2.82	.372
Pennsylvania	3.94	3.93	.955	4.56	4.48	.815	9.11	8.73	.460	3.01	3.08	.777

Figure 74 Nonmedical use of pain relievers in past year by age group and state, 2012-2014

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Notes:

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] *p* value: Bayes posterior probability of no change.

[c] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.05 level.

[d] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.10 level.

Source:

"2013-2014 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

Rate of Opioid Prescriptions by Geographic Region in Delaware

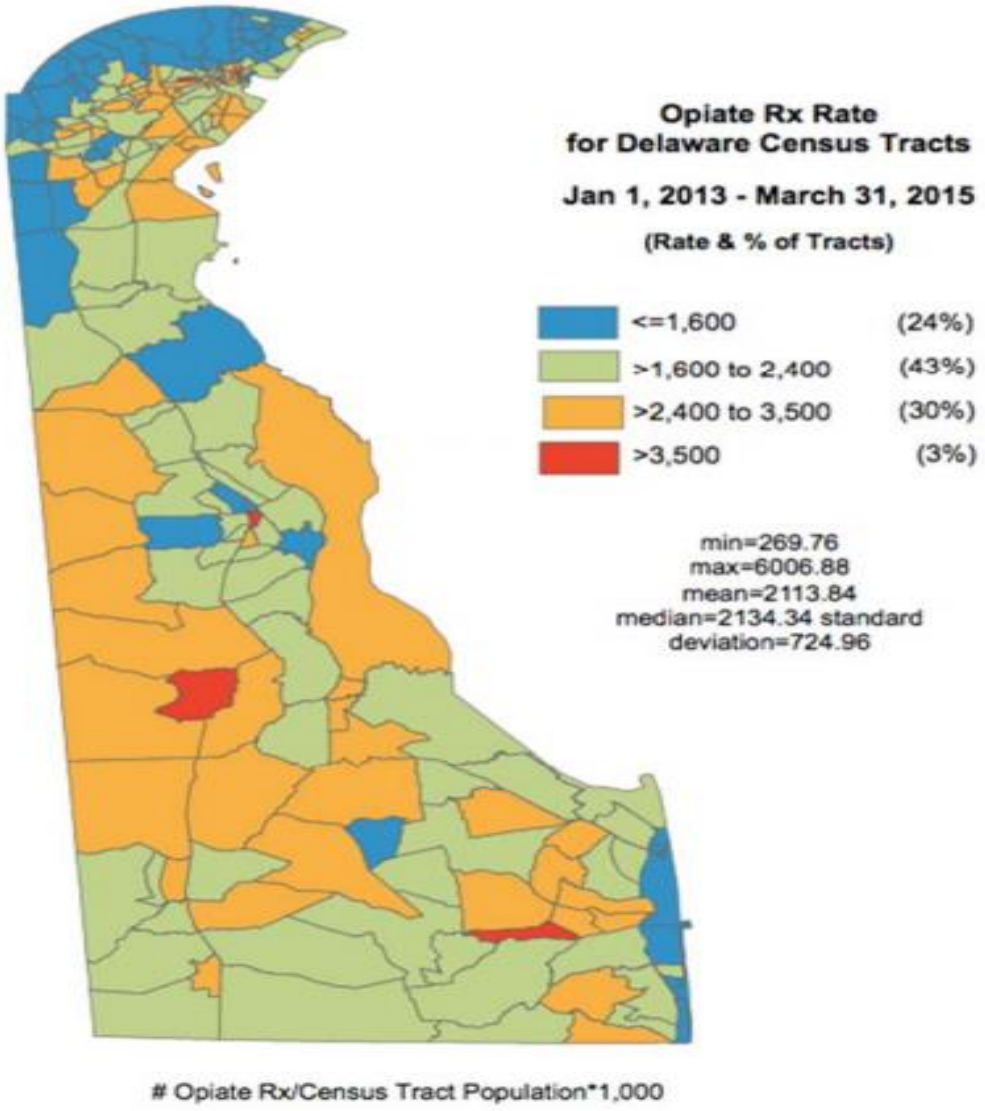

Figure 75 Rate of Opioid Prescriptions by Geographic Region in Delaware

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Notes:

Map was designed and created by the Delaware Prescription Monitoring Program (PMP). Delaware's PMP is a system that collects daily information on all controlled substance (schedules II-V) prescriptions within the State. All practitioners who hold an active Delaware Controlled Substance Registration (with the exception of veterinarians) are required, by Delaware law, to register with the PMP.

The map highlights the differences in opioid prescription rates by census tract.

Between 2013 and the 1st quarter of 2015, Delaware neighborhoods averaged 2,113.8 opiate prescriptions per 1,000 residents. The map shows 3% of the neighborhoods – shaded red- where opiate prescription rates were 50% to 300+% larger than the state average

Source:

Office of Controlled Substances, Division of Professional Regulation DE. Funding for this project has been provided by the Department for Health and Social Services, Division of Substance Abuse and Mental Health - State Delaware through a grant from the Substance Abuse and Mental Health Services Administration (SAMHSA, SP020704).

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Other Illegal Drugs

National Overview

The bulk of this report has primarily focused on the four most pressing substance misuse and abuse issues facing the State of Delaware (tobacco, alcohol, marijuana, and opioids). However, many other illicit and prescription drugs are abused. These other drugs fall into four broad categories, which can include both prescription and street drugs. This list of examples is not exhaustive:

- Depressants: barbituates, benzoadipenes, GHB, Rohypnol
- Stimulants: cocaine, methampethemine, Adderal, Ritalin
- Hallucinogens: LSD, mescaline, salvia, "mushrooms"
- Other drugs: Ecstasy, Ketamine, bath salts, DXM, steroids, inhalants

Use of these substances have less public health implications than tobacco, alcohol, marijuana, and opioids, not because they are less dangerous, but because they impact a smaller population of people. Misuse of these substances come with steep risks, including risk of overdose, serious addiction, potential for the drugs to be mixed with other dangerous products (such as fentanyl in cocaine), and serious mental impairment that can put a person at risk of victimization and/or increase the likelihood of dangerous accidents, physical alterations, and criminal behavior.

Of the 27.1 million people in the United States who are current users of illicit drugs, an estimated 7.8 million, or 29%, of these people are misusing prescription drugs (Center for Behavioral Health Statistics and Quality, 2016). These data demonstrate the value of increased understanding and analysis of prescribing practices and use patterns, through prescription monitoring programs.

Delaware Context

According to the NSDUH, in Delaware, nearly eleven percent of all people over the age of twelve used an illicit drug in the past year. Ten percent of Delaware youth reported past illicit drug use, over a quarter of adults age 18-25, and eight percent of adults over the age of 26, used illicit drugs during the past year. Data from the DSS shows that 4% of eighth grade students, and 7% of eleventh grade students, used illicit drugs, other than marijuana, during the past year. By far, the largest category of drugs misused by Delaware students is prescription drugs.

Crack/Cocaine

Crack/cocaine has particularly troubling health implications. Cocaine is very addictive, leads to various long-term health concerns, and can lead to overdose. Nationwide, 13% of all drug overdose deaths in 2015 were linked to cocaine use (Hedegaard, Warner, & Menio, 2017). Fentanyl has also been found mixed with cocaine, which increases the risk of overdose and death. The NSDUH estimates that less than 1% of the total US population are current users of cocaine. In Delaware, 5% of adults between the ages of 18-25 reported using cocaine in Delaware in the past year during the 2013-2014 time-period; 1.4% of adults over the age of 26, and 0.5 percent of youth between the ages of 12-17 used cocaine in the past year during that same period (Center for Behavioral Health Statistics and Quality, 2016). Nearly 2 percent of all drug treatment admissions in the state were due to cocaine dependence (TEDS).

Prescription Drugs

Twelve percent of eleventh grade students in Delaware reported misusing prescription drugs within the past year. Codeine/Tylenol with Codeine was reported as the most used of these drugs by both eighth and eleventh graders. Of the eleventh grade students in Delaware who reported misusing prescription drugs, 23% reported that the primary reason for misuse was to relieve pain. In contrast, 13% of eleventh graders reported using prescription drugs to get high or to have fun. (CDHS, 2016). These data suggest that many students are using prescription drugs to self-medicate. Crafting public education messages about the risks involved with self-medicating, and helping improve youth access to healthcare, may help reduce some of the misuse of prescription drugs in the state for this population.

The Delaware School Survey asks students about past month and past year use of certain drugs. With the exception of prescription drugs and painkillers, past month use of these drugs is fairly low, with only one percent of eleventh grade students reporting past month stimulant, hallucinogen, or Ritalin misuse.

Other Illegal Drug Prevalence Indicators

NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH)

Selected drug use in Delaware, by age group: percentages, annual averages based on 2013-2014 NSDUHs

(in percentages) [a]

Measure	Total 12 or Older	AGE GROUP		
		12-17	18-25	26 or Older
ILLICIT DRUGS				
Past Year Illicit Drug Use[b]	10.59	10.24	25.63	8.13
Past Month Use of Illicit Drugs Other Than Marijuana [c]	3.75	3.16	9.02	2.94
Past Year Cocaine Use	1.85	.49	5.21	1.44
Past Year Nonmedical Pain Reliever Use	4.34	4.66	9.52	3.44

Figure 76 Select drug use in Delaware, by age group, 2013-2014

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Notes:

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

[c] *Average annual rate* = $100*\{[X_1 \div (0.5 * X_1 + X_2)] \div 2\}$, where X_1 is the number of marijuana initiates in past 24 months and X_2 is the number of persons who never used marijuana. Both of the computation components, X_1 and X_2, are based on a survey-weighted hierarchical Bayes estimation approach. The age group is based on a respondent's age at the time of the interview, not his or her age at first use.

Source:

"2013-2014 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

2016 DELAWARE SCHOOL SURVEY

Other illegal drug [a] use among Delaware 5th graders

(in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE
Statewide	7	3	1
Males	6	3	1
Females	7	3	2
Wilmington	6	2	1
Males	7	4	2
Females	6	1	0
New Castle	7	3	2
Males	6	2	1
Females	8	4	2
Kent	8	4	1
Males	7	5	2
Females	8	3	1
Sussex	6	3	1
Males	6	4	2
Females	6	2	1

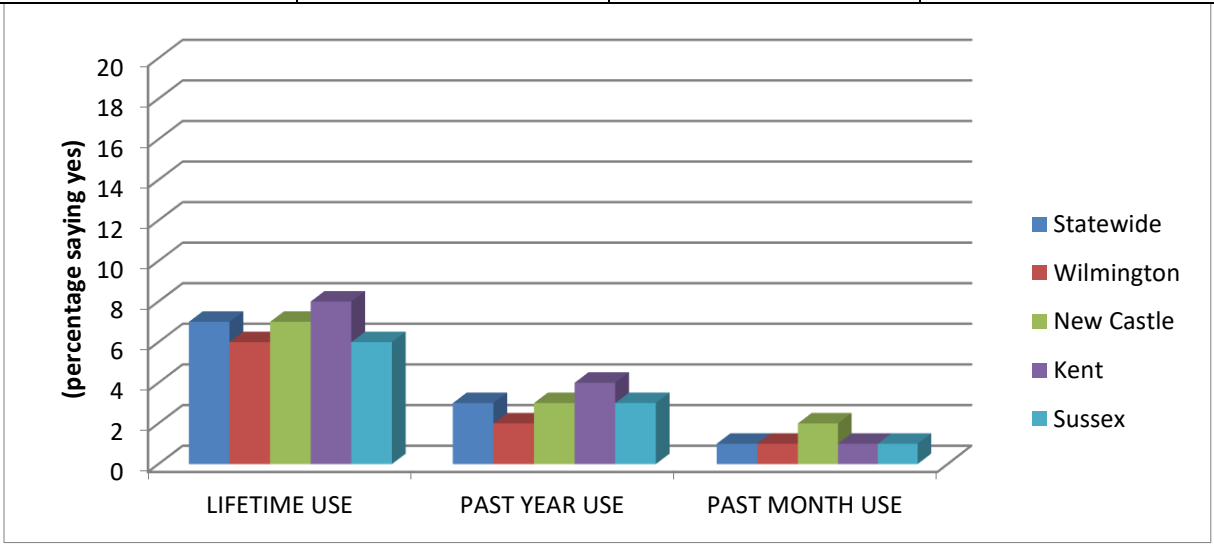

Figure 77 Other illegal drug use among Delaware 5th graders

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Note:
[a] "Other illegal drugs" include prescription downers, prescription uppers, inhalants, hallucinogens, Ritalin ("to get high"), and cocaine
Source:
"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Other illegal drug [a] use among Delaware 8th graders

(in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE
Statewide	7	4	2
Males	7	4	2
Females	7	4	2
Wilmington	7	4	1
Males	7	5	2
Females	7	4	1
New Castle	7	4	2
Males	7	4	2
Females	7	4	2
Kent	8	4	2
Males	9	4	3
Females	7	4	2
Sussex	8	5	2
Males	7	4	2
Females	9	6	3

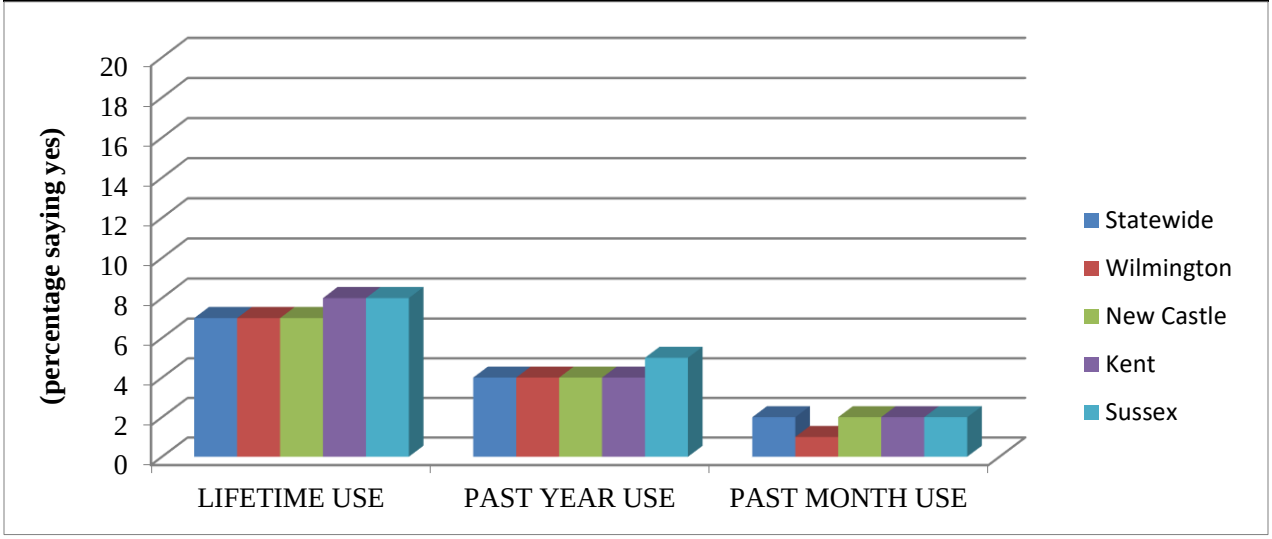

Figure 78 Other illegal drug use among Delaware 8th grader

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Note:

[a] "Other illegal drugs" include prescription downers, prescription stimulants, inhalants, hallucinogens, crack, cocaine, heroin, Ritalin, painkillers, and designer drugs.

Source:

"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Other illegal drug* use among Delaware 11th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE
Statewide	13	7	3
Males	15	9	4
Females	11	6	2
Wilmington	12	9	5
Males	15	13	8
Females	10	6	2
New Castle	13	7	3
Males	14	9	3
Females	12	6	2
Kent	13	8	3
Males	15	10	4
Females	9	5	3
Sussex	14	7	3
Males	14	8	4
Females	13	5	2

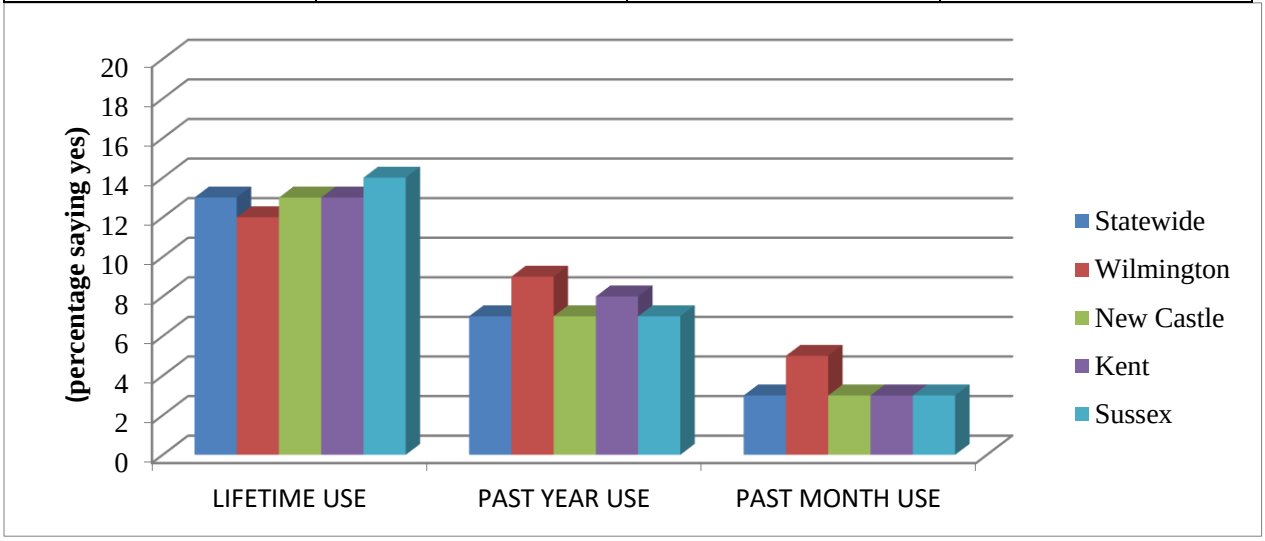

Figure 79 Other illegal drug use among Delaware 11th graders

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Note:
*"Other illegal drugs" include prescription downers, prescription stimulants, inhalants, hallucinogens, crack, cocaine, heroin, Ritalin, painkillers, and designer drugs.
Source:
"2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Past year use of other illegal substances among Delaware 8th graders (in percentages)

	Prescribed Uppers	Street Uppers	Downers	Pain Killers [a]	Ecstasy	Hallucinogen	Ritalin [b]	Heroin	Crack/ Cocaine
STATEWIDE	1	0	1	3	1	1	1	0	1
Males	0	0	1	2	1	1	1	0	1
Females	1	0	1	3	1	1	1	0	1
Wilmington	1	0	1	3	0	-	0	-	-
Males	0	1	1	3	0	-	0	-	-
Females	1	0	1	3	1	-	1	-	-
New Castle	1	0	1	3	1	1	1	0	1
Males	1	0	1	2	1	1	1	0	1
Females	1	0	1	3	1	1	1	1	1
Kent	0	0	1	2	1	1	0	0	1
Males	0	0	0	1	1	1	0	0	1
Females	0	0	1	2	1	1	0	0	1
Sussex	1	0	1	3	1	1	1	0	1
Males	0	0	0	2	1	1	1	0	1
Females	1	0	1	3	1	1	1	1	1

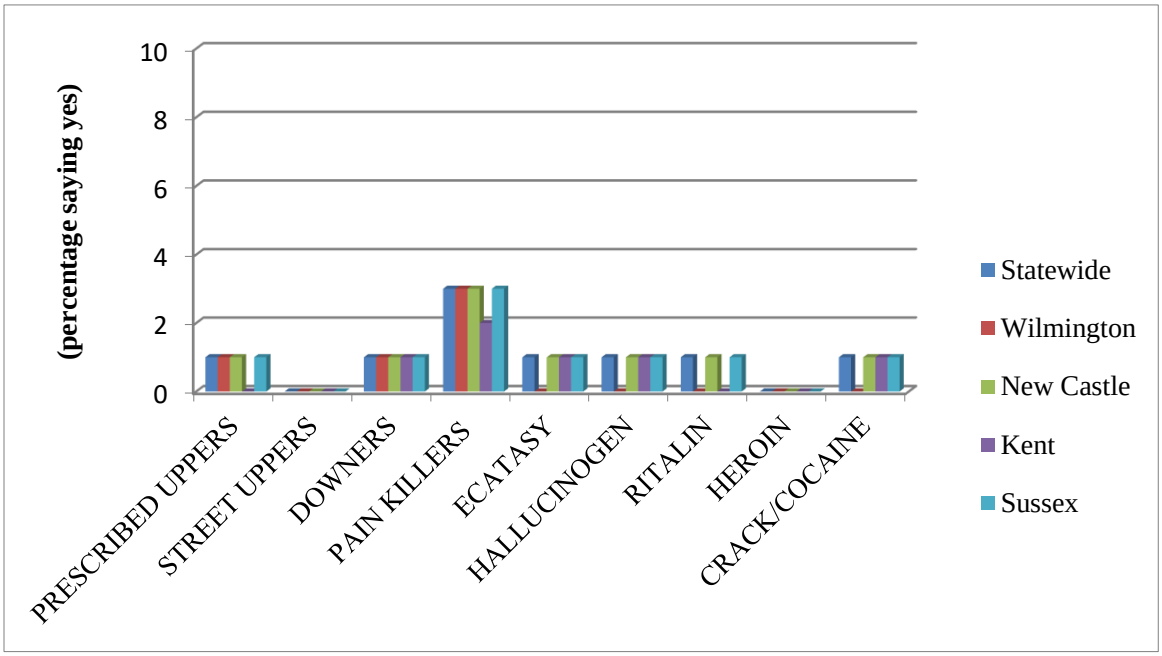

Figure 80 Past year use of other illegal substances among Delaware 8th graders, by sub-county planning area

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Notes:

[a] "Pain killers" includes OxyContin, Codeine, Percocet, and Tylenol 3 "to get high".

[b] "Ritalin" includes Ritalin, Adderall, Cylert, and Concerta "to get high".

Source:

"2015 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

2016 DELAWARE SCHOOL SURVEY

Past year use of other illegal substances among Delaware 11th graders (in percentages)

	Prescribed Uppers	Street Uppers	Downers	Ecstasy	Hallucinogen	Ritalin [a]	Heroin	Crack/ Cocaine
Statewide	1	0	2	1	2	2	1	1
Males	1	0	2	1	3	2	1	2
Females	1	0	2	1	1	2	0	1
Wilmington	1	0	3	0	1	1	1	2
Males	2	1	5	0	2	3	3	3
Females	0	0	1	0	1	1	0	0
New Castle	1	0	2	1	2	2	0	1
Males	0	0	2	1	3	2	1	2
Females	1	0	2	1	2	2	0	1
Kent	0	0	2	1	1	2	0	1
Males	1	1	2	2	2	3	0	1
Females	0	0	1	0	1	1	0	1
Sussex	1	0	2	1	3	1	0	1
Males	1	0	2	1	4	2	1	1
Females	1	0	2	1	1	1	0	1

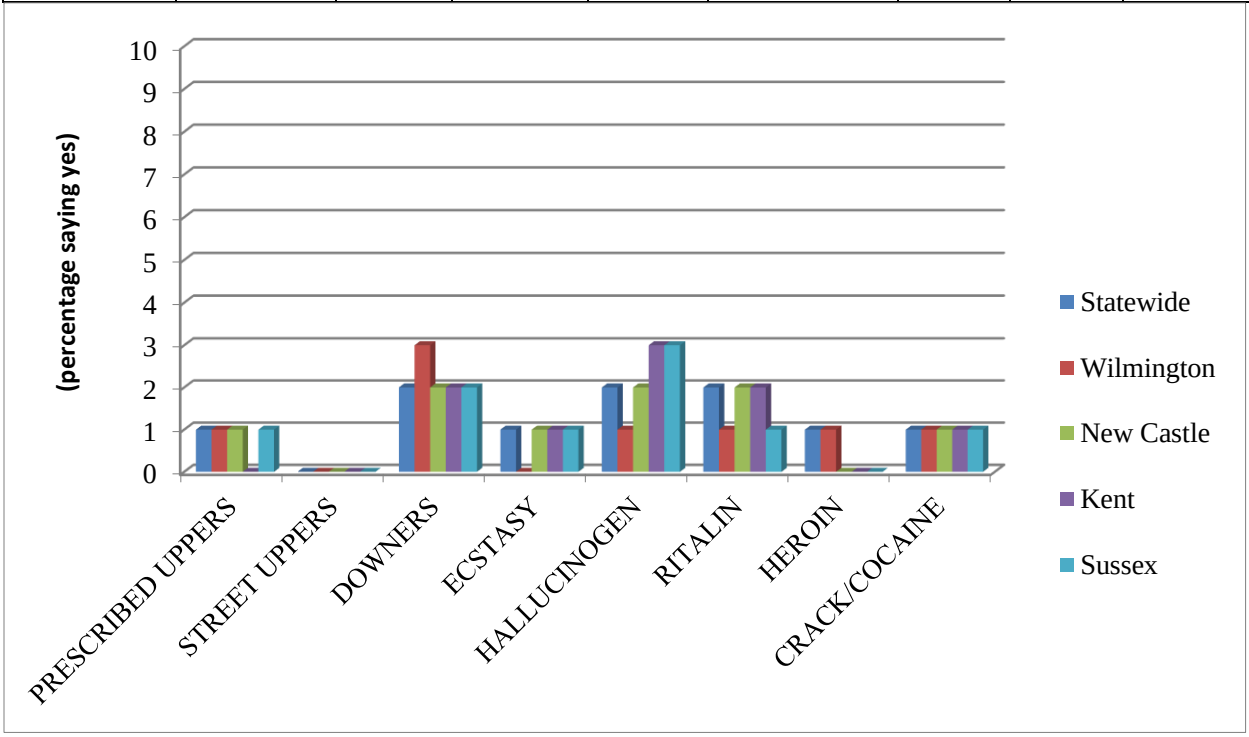

Figure 81 Past year use of other illegal substances among Delaware 11th graders, by sub-county planning area

Notes: [a] "Ritalin" includes Ritalin, Adderall, Cylert, and Concerta "to get high".

Source: "2016 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

Trends and Comparisons of Other Illegal Drug Use

2016 DELAWARE SCHOOL SURVEY

Trends in monthly use of other illegal drugs among Delaware 8th graders, 1989- present

(in percentages)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Inhalants [a]	2	2	2	1	2	2	9	6	9	8	5	6	5	5	6	6	2	2	2	2	1	2	1	1	1	1	1	0
Hallucinogens	1	-	1	1	1	1	2	2	1	1	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Stimulants	4	2	2	2	2	2	2	1	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-
Cocaine	1	-	1	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Heroin[a]	na	na	na	na	na	na	na	na	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Designer Drugs/ Ecstasy	na	na	na	na	na	na	-	1	1	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Ritalin [c]	na	na	na	na	na	na	na	na	na	na	na	na	2	1	1	1	1	1	1	1	1	-	1	1	-	-	-	0
Painkillers [a]	na	na	na	na	na	na	na	na	na	na	na	na	na	3	2	3	2	3	2	2	2	2	1	2	2	1	1	1
Prescription Drugs	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	13	15	11	12	13	12	12	11	10	8	8	7

Figure 82 Trends in monthly use of other illegal drugs among Delaware 8th graders, 1989-present

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Notes:

- indicates less than one-half of one percent.

(na) indicates question was not asked that year.

[a] Inhalant question altered in 2005 and 2006.

[b] Through 1999, the question asked about "designer drugs (XTC, Special K & Roche)"; from 2000 on the question asked explicitly about ecstasy.

[c] Ritalin question added 2001.

[d] Painkillers question added 2002.

Source:

Data Base/DiagnosticsPlus (1989-1993); Department of Public Instruction (1994);

"Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (1995-Present)

2016 DELAWARE SCHOOL SURVEY

Trends in monthly use of other illegal drugs among Delaware 11th graders, 1989- present

(in percentages)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Inhalants[d]	3	2	1	2	1	4	2	3	3	2	3	3	3	2	2	2	1	1	-	1	-	-	-	-	-	-	-	0
Hallucinogens	2	1	3	2	3	4	3	3	3	3	2	2	2	1	-	-	1	1	1	-	-	-	1	-	-	-	-	1
Stimulants	3	2	3	3	3	4	2	2	4	3	2	3	2	1	2	1	1	1	-	-	1	-	-	-	-	-	-	-
Cocaine	3	2	1	1	-	1	1	2	2	2	1	1	1	-	1	-	1	1	1	1	1	-	-	-	-	-	-	0
Heroin[ab]	1	-	1	-	-	na	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	0
Designer Drugs/ Ecstasy[b]	na	na	na	na	na	na	-	1	1	1	1	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Ritalin[ac]	na	na	na	na	na	na	na	na	na	na	na	na	2	2	3	2	2	2	2	2	2	2	2	1	1	1	1	1
Painkillers[ac]	na	na	na	na	na	na	na	na	na	na	na	na	na	4	4	4	4	4	4	4	4	4	3	3	3	1	2	1
Prescription Drugs (past year)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	18	22	20	20	21	20	20	19	17	13	14	12
Prescription Drugs (past year)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	18	22	20	20	21	20	20	19	17	13	14	12

Figure 83 Trends in monthly use of other illegal drugs among Delaware 11th graders, 1989- present

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Notes:

- indicates less than one-half of one percent.

(na) indicates question was not asked that year.

[a] Inhalant question altered in 2005 and 2006.

[b] Through 1999, the question asked about "designer drugs (XTC, Special K & Roche)"; from 2000 on the question asked explicitly about ecstasy.

[c] Ritalin question added 2001.

[d] Painkillers question added 2002.

Source: Data Base/DiagnosticsPlus (1989-1993); Department of Public Instruction (1994)
"Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (1995-Present)

NATIONAL SURVEY OF DRUG USE AND HEALTH (NSDUH)

Illicit drug use other than marijuana in past month, by age group and state: 2013-2014 and 2014-2015 NSDUHs
(in percentages) [a]

	AGE GROUP (Years)											
	12 or Older			12-17			18-25			26 or Older		
State	2012-2013	2013-2014	*p* value [b]	2012-2013	2013-2014	*p* value [b]	2012-2013	2013-2014	*p* value [b]	2012-2013	2013-2014	*p* value [b]
Total U.S.	3.36	3.30	.411	3.36	3.30	.614	6.88	6.58	.093[d]	2.75	2.73	.841
Northeast	3.07	3.16	.482	2.84	2.88	.830	7.03	6.50	.069[d]	2.43	2.63	.177
Delaware	3.39	3.39	.268	3.08	3.16	.842	8.37	9.02	.464	2.58	2.94	.343
Maryland	3.12	3.52	.185	3.28	3.78	.192	6.64	6.22	.547	2.52	3.05	.148
New Jersey	2.88	2.73	.598	2.77	2.61	.606	7.39	6.27	.136	2.21	2.22	.987
Pennsylvania	3.14	3.19	.803	2.95	3.02	.799	6.76	6.69	.880	2.56	2.63	.741

Figure 84 Illicit drug use other than marijuana in past month, by age group, and state, 2013-2015

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Notes:
[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.
[b] p value: Bayes posterior probability of no change.
[c] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.05 level.
[d] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.10 level.

Source:
"2013-2014 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

NATIONAL SURVEY OF DRUG USE AND HEALTH (NSDUH)

Illicit drug use in past month, by age group and state: 2012-2013 and 2013-2014 NSDUHs

(in percentages) [a]

	AGE GROUP (Years)											
	12 or Older			12-17			18-25			26 or Older		
State	**2012-2013**	**2013-2014**	***p* value** [b]	**2012-2013**	**2013-2014**	***p* value** [b]	**2012-2013**	**2013-2014**	***p* value** [b]	**2012-2013**	**2013-2014**	***p* value** [b]
Total U.S.	9.27	9.77	.000 [c]	9.18	9.11	.729	21.44	21.75	.296	7.19	7.81	.000 [c]
Northeast	9.58	10.31	.003 [c]	9.31	9.24	.845	23.57	23.65	.879	7.28	8.23	.215
Delaware	**9.59**	**10.59**	**.069** [d]	**10.77**	**10.24**	**.560**	**23.16**	**25.63**	**.096** [d]	**7.15**	**8.13**	**.128**
Maryland	8.93	10.76	.001 [c]	9.58	10.79	.212	22.36	25.52	.027 [c]	6.65	8.37	.010 [c]
New Jersey	7.40	7.96	.256	7.14	7.95	.281	19.76	19.19	.657	5.57	6.27	.237
Pennsylvania	8.38	9.20	.025 [c]	8.47	8.88	.504	21.60	22.24	.479	6.18	7.11	.031 [c]

Figure 85 Illicit drug use in past month by age group and state, 2013-2015

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Notes:

[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.

[b] p value: Bayes posterior probability of no change.

[c] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.05 level.

[d] Difference between the 2013-2014 estimate and the 2014-2015 estimate is statistically significant at the 0.10 level.

Source:

"2014-2015 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

Other Illegal Drug Perceived Risks and Consequences

Substance Abuse Treatment Admissions by Primary Substance of Abuse, by sex, age group, race and ethnicity; 2015

STATE: DELAWARE		Total	PRIMARY SUBSTANCE													
			Alcohol only	Alcohol with secondary drug	Cocaine (smoked)	Cocaine (other route)	Marijuana	Heroin	Other opiates	PCP	Hallucinogens	Amphetamines	Tranquilizers	Sedatives	Inhalants	Other/Unknown
Total	No.	7,901	334	416	81	71	738	2,745	423	18	4	13	16	6	3	3,033
	%	100.0	4.2	5.3	1.0	0.9	9.3	34.7	5.4	0.2	0.1	0.2	0.2	0.1	0.0	38.4
SEX																
Male	%	71.2	74.0	76.4	59.3	71.8	77.5	70.2	58.6	61.1	75.0	69.2	68.8	33.3	0.0	71.9
Female	%	28.7	26.0	23.6	40.7	28.2	22.5	29.8	41.4	38.9	25.0	30.8	31.3	66.7	100.0	27.8
Unknown	%	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Total	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
AGE AT ADMISSION																
12-17 years	%	1.9	0.9	0.2	0.0	0.0	18.6	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3
18-20 years	%	6.3	0.6	2.9	0.0	1.4	24.7	3.4	2.4	16.7	0.0	7.7	18.8	0.0	0.0	6.2
21-25 years	%	21.7	6.0	12.5	12.3	18.3	28.0	23.7	20.3	16.7	50.0	7.7	18.8	0.0	66.7	22.0
26-30 years	%	21.7	10.5	15.6	9.9	14.1	11.5	28.0	24.8	16.7	25.0	0.0	18.8	0.0	0.0	20.8
31-35 years	%	16.4	10.8	13.7	12.3	9.9	8.4	19.7	22.9	38.9	0.0	7.7	6.3	33.3	33.3	15.6
36-40 years	%	9.9	13.2	7.5	6.2	18.3	3.3	10.8	13.0	5.6	25.0	38.5	0.0	0.0	0.0	10.1
41-45 years	%	7.2	13.2	11.8	14.8	5.6	1.6	6.4	3.8	0.0	0.0	7.7	6.3	0.0	0.0	8.4
46-50 years	%	6.4	16.5	14.7	22.2	14.1	1.8	4.1	4.3	0.0	0.0	7.7	12.5	50.0	0.0	7.0
51-55 years	%	5.0	17.1	14.7	13.6	14.1	1.1	2.4	4.7	5.6	0.0	15.4	12.5	0.0	0.0	5.2
56-60 years	%	2.3	6.9	4.6	7.4	4.2	0.8	1.0	2.6	0.0	0.0	0.0	6.3	16.7	0.0	2.6
61-65 years	%	0.8	2.4	1.7	0.0	0.0	0.3	0.3	0.7	0.0	0.0	7.7	0.0	0.0	0.0	1.1
66 years and over	%	0.4	2.1	0.2	1.2	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Unknown	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
RACE																
White	%	69.3	72.2	62.3	59.3	59.2	39.2	88.6	78.5	22.2	50.0	100.0	62.5	100.0	33.3	59.3
Black or African-American	%	26.0	21.3	31.7	35.8	32.4	54.3	9.2	18.9	77.8	50.0	0.0	37.5	0.0	0.0	34.4
American Indian or Alaska Native	%	0.6	0.6	0.2	1.2	1.4	0.9	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Asian or Native Hawaiian or Other Pacific Islander	%	1.6	0.6	2.4	1.2	0.0	1.8	0.9	1.7	0.0	0.0	0.0	0.0	0.0	0.0	2.2
Unknown	%	2.5	5.4	3.4	2.5	7.0	3.8	1.1	0.5	0.0	0.0	0.0	0.0	0.0	66.7	3.3
Total	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
ETHNICITY																
Hispanic or Latino	%	5.5	10.2	5.3	6.2	11.3	10.7	4.3	2.8	0.0	25.0	0.0	0.0	0.0	66.7	5.1
Not Hispanic or Latino	%	90.1	84.1	91.3	88.9	85.9	86.7	94.3	94.8	100.0	50.0	92.3	100.0	100.0	33.3	87.1
Unknown	%	4.4	5.7	3.4	4.9	2.8	2.6	1.4	2.4	0.0	25.0	7.7	0.0	0.0	0.0	7.8
Total	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Figure 86 Substance abuse treatment admissions by primary substance of abuse, by sex, age group, race and ethnicity; 2015

Source: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Sets (TEDS)

Delaware Health and Social Services - Division of Substance Abuse and Mental Health
Division funded adult admissions by fiscal year and client demographics - State Fiscal Years 2002 - 2015

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Primary Drug at Admission														
Alcohol	2,422	2,706	2,685	2,336	2,142	2,267	2,107	2,127	1,924	1,729	1,579	1,513	1,105	1,093
Heroin	1,991	2,124	2,390	2,234	2,113	2,080	2,120	1,965	1,529	1,263	1,845	2,750	3,182	3,723
Cocaine	466	510	527	533	481	643	548	429	301	247	262	180	146	107
Crack Cocaine	966	1,000	1,017	943	908	831	680	457	284	183	177	126	125	143
Marijuana/Hashish	1,416	1,631	1,666	1,801	1,875	1,933	1,613	1,806	1,539	1,348	1,161	1,055	705	873
Amphetamine	4	20	21	18	43	27	28	12	13	10	20	12	22	30
Other Opiates & Synthetics	120	168	252	286	433	736	927	1,400	1,359	1,643	1,793	1,261	766	643
Other/Missing/Unknown/None	344	164	324	329	463	319	396	394	426	439	659	693	1,179	3,265
Age														
16 - 17	6	6	0	0	13	0	0	0	178	184				
18 - 20	872	680	722	952	858	1,075	673	985	1,021	1,086	720	602	561	664
21 - 24	1,227	1,266	1,375	1,342	1,340	1,523	1,329	1,405	1,172	1,180	1,282	1,332	1,302	1,586
25 - 34	2,159	2,431	2,663	2,528	2,560	2,564	2,693	2,756	2,269	2,076	2,749	2,934	2,718	4,097
35 - 44	2,301	2,632	2,685	2,370	2,227	2,215	2,056	1,849	1,467	1,219	1,328	1,400	1,411	1,871
45 - 54	972	1,064	1,127	1,034	1,196	1,003	1,362	1,229	995	859	1,042	937	874	1,200
55 - 64	157	196	245	193	231	191	253	305	234	213	299	319	296	384
65+	30	35	45	38	33	31	49	43	32	39	54	65	62	56
Missing/Unknown	5	13	20	23	0	234	4	18	7	6	22	1	6	19
Gender														
Male	5,967	6,425	6,822	6,584	6,237	6,580	6,129	6,227	5,235	4,790	5,161	5,131	4,875	6,933
Female	1,758	1,896	2,055	1,892	2,214	2,255	2,290	2,363	2,139	2,069	2,322	2,450	2,317	2,927
Missing/Unknown	4	2	5	4	7	1			1	3	13	9	38	17
Race														
White, not of Hispanic Origin	4,804	5,071	5,453	5,314	5,420	5,987	5,743	5,967	5,178	4,940	5,453	5,785	5,621	7,016
Black, not of Hispanic Origin	2,658	3,028	3,057	2,736	2,628	2,516	2,390	2,328	1,978	1,677	1,671	1,473	1,286	2,404
Asian or Pacific Islander	29	86	29	24	25	22	15	15	19	31	30	39	21	33
Native American	63	46	66	174	204	94	38	62	33	30	74	69	57	103
American Indian/Alaskan Nat.	-	-	0	52	50	48	53	70	38	40	85	65	79	67
Other/Multi-racial, unspecified	131	43	242	58	88	134	141	110	102	89	73	85	52	79
Missing/Unknown	44	49	35	122	43	35	39	38	27	55	110	74	114	175
Hispanic														
Of Hispanic Descent	363	392	448	437	384	476	417	464	343	294	354	367	321	525
Not of Hispanic Descent	7,328	7,894	8,393	8,005	8,035	8,329	7,982	8,093	6,997	6,464	6,986	7,110	6,708	8,860
Missing/Unknown	38	37	41	38	39	31	20	33	35	104	156	113	201	492
Total	7,729	8,323	8,882	8,480	8,458	8,836	8,419	8,590	7,375	6,862	7,496	7,590	7,230	9,877

Footnotes:
1) The total for amphetamine includes methamphetamine.

Figure 87 Delaware Adult Admission by Fiscal Year and Client Demographics, 2002-2015
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Source:
Delaware Department of Health and Social Services

Drug overdose deaths in Delaware for 2013-2015 by selected demographic characteristics

	2013 N=188	2014 N=225	2015 N=234	2013-2015 N=647
Location:				
New Castle	55%	56%	59%	57%
Kent	20%	18%	16%	18%
Sussex	18%	18%	13%	18%
Other*	7%	8%	7%	7%
Gender:				
Male	61%	64%	61%	62%
Female	39%	36%	39%	38%
Race:				
White	83%	85%	83%	84%
Black	14%	12%	13%	13%
Hispanic	3%	3%	3%	3%
Other	0%	-	-	-
Age:				
39 or younger	43%	45%	48%	46%
40-50	27%	28%	21%	25%
51 and older	30%	27%	30%	29%

Figure 88 Drug overdose deaths in Delaware for 2013-2015 by selected demographic characteristics

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Notes:
* County determined by decedents' home address at time of death. "Other" are those with addresses outside of Delaware
"-" means less than 1%

Source:
Office of the Chief Medical Examiner, Division of Forensic Medicine, Department of Safety and Homeland Security, State of Delaware

Drug over dose deaths in Delaware by census tracts

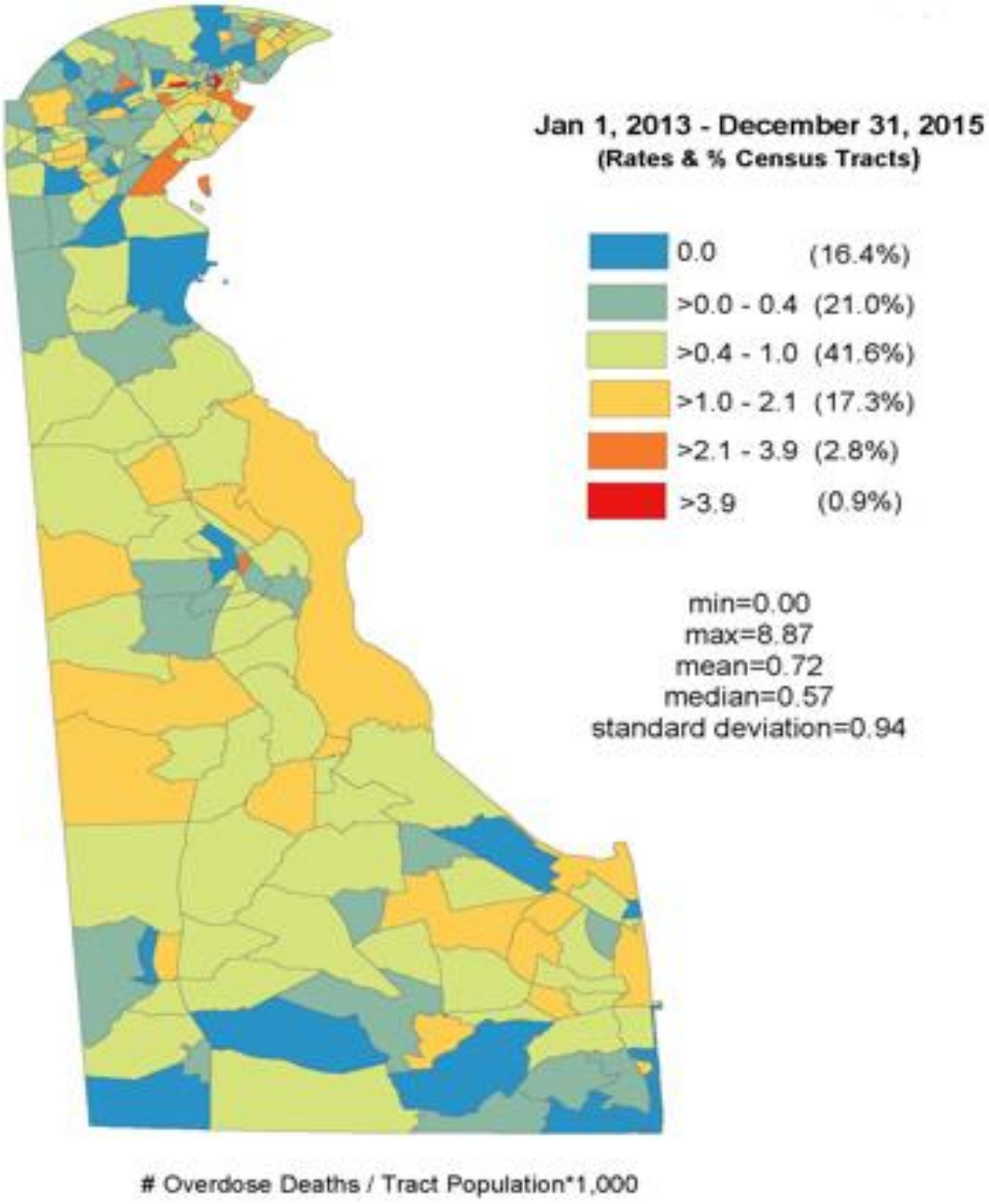

Figure 89 Drug over dose deaths in Delaware by census tracts

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Notes:
From 2013-2015 the neighborhood average of overdose per 1,000 residents in Delaware is approximately 1. And the neighborhoods shaded red had an overdose death rate 4 times the state average. These red neighborhoods make up 1% of Delaware neighborhoods.
Source:
Office of the Chief Medical Examiner, Division of Forensic Medicine, Department of Safety and Homeland Security, State of Delaware
Office of Controlled Substances, Division of Professional Regulation DE. Funding for this project has been provided by the Department for Health and Social Services, Division of Substance Abuse and Mental Health - State of Delaware through a grant from the Substance Abuse and Mental Health Services Administration (SAMHSA, SP020704).

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Mental Health

Overview

There are high public and social costs associated with mental illness and poor mental health. People with poor mental health and/or serious mental illness may find it challenging to navigate social and economic systems and follow daily routines. For example, only one in five adults served by Delaware's public mental health system in 2014 was employed (SAMHSA, n.d.). Untreated mental illness can have fatal results. From 2013-2014, 4% of all adults in Delaware seriously contemplated suicide. In 2014, the suicide rate in Delaware was 13.5 deaths per 100,000 in the population, which is comparable to the national suicide rate of 13.4, during the same time period (CDC, n.d.). As of the 2010 Census, Kent County had the highest rate of suicide in the state (PolicyMap [CDC data], n.d.).

According to the Behavioral Risk Factor Surveillance System, in 2016, Delawareans surveyed reported that on average they did not have good mental health on 3.6 days out of the last 30 days. Disparities in reporting of the number of poor mental health days varied by location, income level, high school attainment, race, and gender. The largest disparities are related to income, educational attainment, and age. Those who reported making $25,000 dollars or less had more than twice the number of days in a month where their mental health was not good than those who made $75,000 or more. Similarly, people who had less than a high school diploma had 75% more poor mental health days as college graduates. Statewide, suburban residents reported a slightly greater number of poor mental health days than other residents. Adults over the age of 65 reported fewer days when their mental health was not good as compared to other age groups (Delaware Health Tracker, n.d.). City-level data from the CDC shows that in 2014, 14.5% of Wilmington residents reported that their mental health was not good for 14 or more days in the past month (CDC, n.d.).

From 2013-2014, nearly 4% of adults in Delaware suffered from a serious mental illness. Almost half of the people surveyed who reported having any mental illness received treatment or counseling within the past year (SAMHSA, n.d.).

In 2015, Delaware had 228 mental health providers per 100,000 people. According to the Health Resources and Services Administration (HRSA), Sussex County has a shortage of mental health facilities, and received a Health Professional Shortage Area score of 18 or above, which qualifies as a high priority area by HRSA (HRSA, 2017).

Data from the 2015 High School Delaware Youth Risk Behavior Survey indicate that about one in four youth report they had felt sad or hopeless for two weeks or more in the past year. Thirteen percent reported that they had purposely hurt or cut themselves during the past year. An even greater percent of students (15%) reported they had considered suicide during the past year while 11% of students had a plan for suicide, and 7% reported that they had attempted suicide. Almost half of the respondents reported that they think the main reason that teenagers commit suicide is due to bullying. According to the *2015 Behavioral Health Barometer: Delaware* (SAMHSA), 11 % of youth, age 12-17, reported having a major depressive episode during the past year. Over half of these youth reported that they did not receive treatment for depression.

Adverse Childhood Experiences (ACES)

Overview

Adverse Childhood Experiences (ACEs) are traumatic events or conditions, such as abuse, neglect, homelessness, etc., that have been associated with toxic stress, health risk behaviors, and lifelong impacts. The research indicates that youth who experience significant traumas are likely to experience poorer health outcomes throughout the lifespan, and even premature death. The number of ACES an individual experiences have an agglomerate impact; a recent analysis indicates that individuals who experience six or more ACES have a shorter life expectancy by up to 20 years. However, the presence of a supportive and caring adult has been associated with higher rates of resiliency among those who've experienced childhood trauma. In short, without intervention and support, children who experience traumatic events are likely to have increased health problems throughout their lives – lives which are likely to be shorter than the lives of others (CDC, n.d.).

In the original ACEs study, conducted in the mid-90s, more than 17,000 adults in an outpatient healthcare setting were asked to report on their childhood experiences regarding the following ten indicators:

- Emotional, Physical, Sexual Abuse
- Emotional and Physical Neglect
- Parental Divorce/Separation
- Living in a household with a person who has a mental illness
- Living in a household with a person who abuses substances
- Parental Incarceration
- Exposure to Domestic Violence

Nearly two out of three respondents reported experiencing one or more ACE, with one in eight participants experiencing four or more (Kaiser/CDC, n.d.). Since then, various researchers have examined additional indicators, such as bullying, discrimination, economic hardship, and violence within the

community (as distinct from domestic violence). The more ACEs an individual experiences, the greater the likelihood he or she will experience poorer health status (Hussaini, K. et al., 2016).

Delaware Context

In 2015, the Delaware Public Health Institute conducted the Delaware Household Health Survey, which asked respondents about their experiences with childhood trauma. When considering the original ten ACE indicators, half of adults in Delaware reported experiencing one or more ACE, with 13.8% reporting four or more. The most commonly identified ACEs were parental divorce or separation (31.7%), followed by living in a household with someone who had abused substances (20.6%). When factoring in being bullied and/or experiencing discrimination, two indicators added to the Delaware survey, 59% of adults reported having at least one ACE, with 16% reporting four or more (Public Health Management Corporation, 2016).

In an effort to assess the prevalence of ACEs among youth, the 2011-2012 National Survey of Children's Health also included a number of ACE indicators. However, the survey, administered to parents who report on the health of their children, did not include questions on abuse or neglect. Nonetheless, 48% of Delaware children were reported to have at least one ACE, most commonly economic hardship (25%), divorce/separation (21%), and exposure to neighborhood violence (12%, which is above the national average) (Fink, 2016).

The CDC Youth Risk Behavior Survey (YRBS), administered to Delaware middle school and high school students in odd-numbered years, includes a number of questions that address trauma, such as parental incarceration, being bullied, and exposure to various types of violence. Because the YRBS also includes questions regarding substance use and mental health, the data provides us an opportunity to explore the association between trauma and a spectrum of risk behaviors. Perhaps not surprisingly, youth who report experiencing trauma have higher rates of all substance use as well as symptoms of depression, including self-harm and suicide attempts. For example, high school students who experience homelessness were nearly twice as likely to be current alcohol drinkers (59%) than students who were not homeless (30%), and five times as likely to have abused prescription drugs within the previous

month. They were also almost twice as likely to have experienced symptoms of depression than those who had not (47% compared to 25%), and nearly five times as likely to have attempted suicide within the previous year. As illustrated by the following graphs, these patterns are extremely similar when we consider all types of trauma.

By examining these associations, policy analysts and practitioners can begin to consider how early interventions may improve lifelong health consequences and the associated costs for individuals, families, and society.

Reported Risk Behaviors for Students who have had Adverse Childhood Experiences:

Data Notation:

The data in the following section deals with small subcategories of Delaware public high school student sample population and because of that will not be weighted. Applying weights to small categories can led to inaccuracies in analyses.

The following adverse childhood experiences have been shown to have a statistically significant relationship with both substance use and mental health. The significance is at $p<.05$.

ADVERSE CHILDHOOD EXPERIENCES…

…have lifelong consequences in regards to substance use and risk behavior. The Delaware Public Health Institute conducted a household survey of Delaware adults and found that over half of Delaware residents (n=2506) have experienced one or more ACE in their lifetime

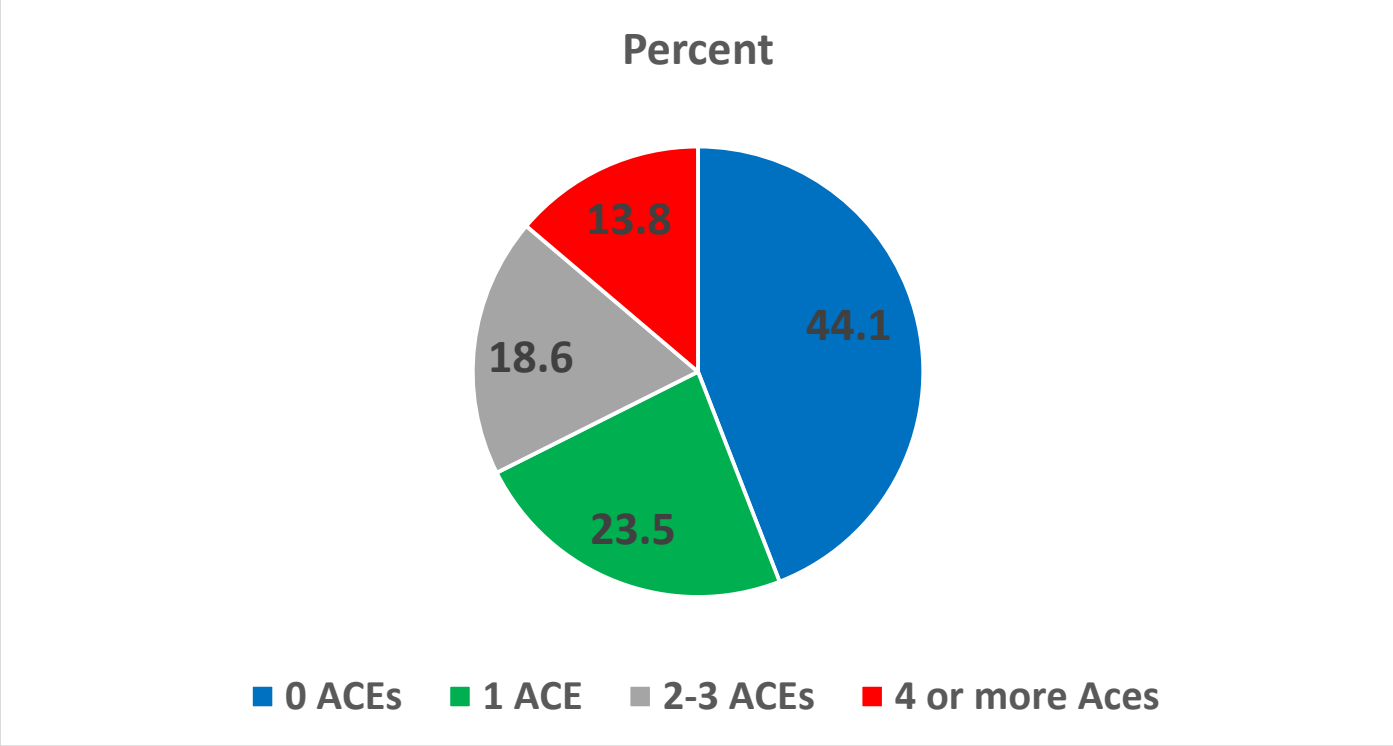

Figure 90 Adverse Childhood Experiences

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Source:
"2015 Delaware Household Health Survey (DHHS)." The Delaware Public Health Institute.

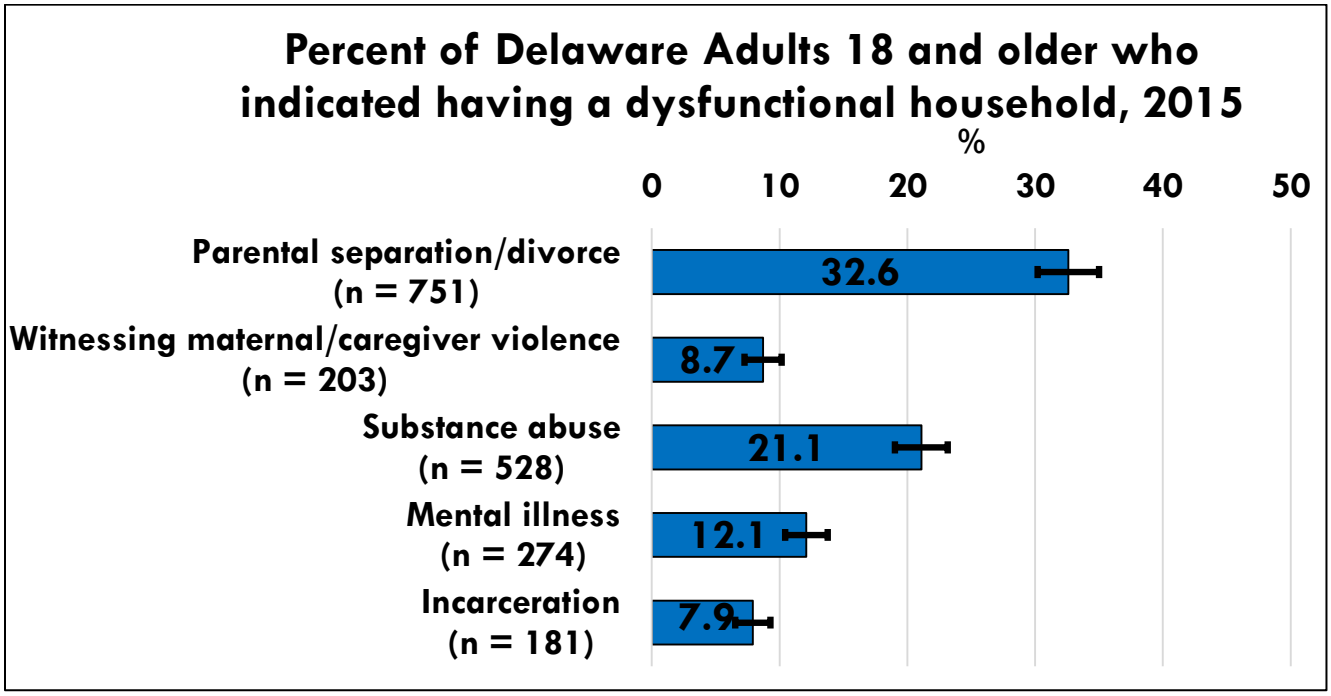

Figure 91 Delaware Adults who indicated having a dysfunctional household, 2015

Source:
"2015 Delaware Household Health Survey (DHHS)." The Delaware Public Health Institute.

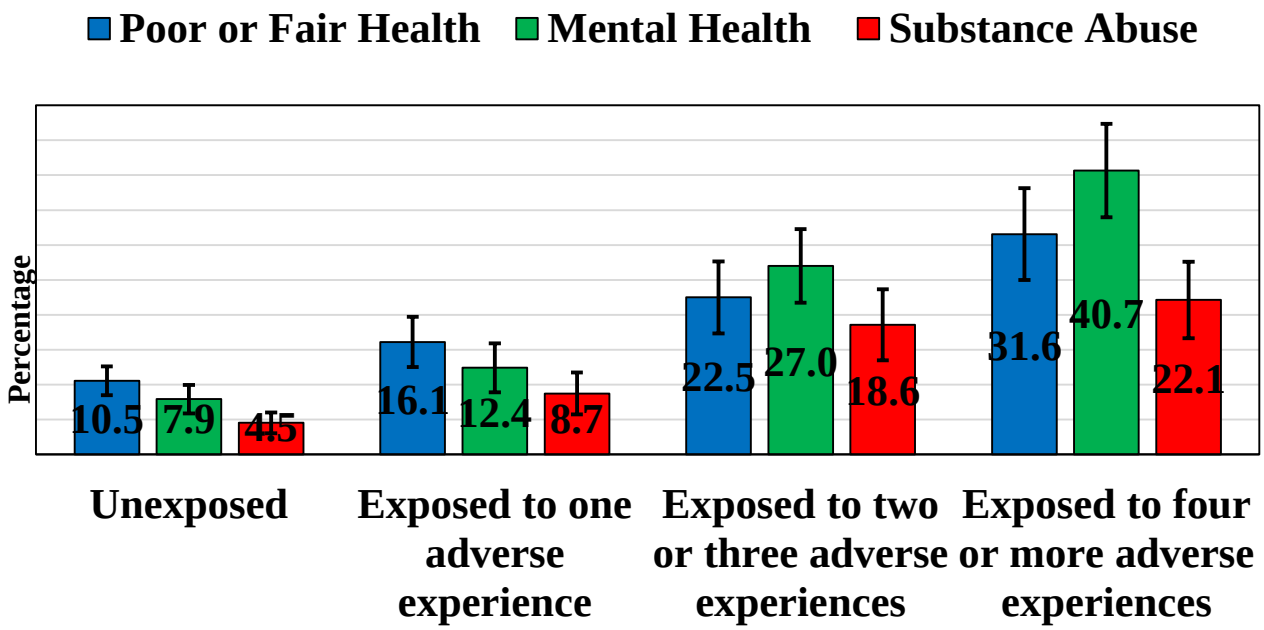

Figure 92 Breakdown of Adverse Childhood Experience

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Sources:

"2015 Delaware Household Health Survey (DHHS)." The Delaware Public Health Institute.

The Impact of Adverse Childhood Experiences (ACE) on Health-related Quality of Life, Mental Health, and Hospitalizations in Delaware Khaleel S. Hussaini, Ph.D.1, 2, Tabatha-Offutt Powell, Dr.P.H.1 , Mathew Christensen, Ph.D.1 , Leah Woodall, M.P.A.2 2016. Delaware Journal of Public Health. Volume 2 Issue 5.

2015 HIGH SCHOOL YOUTH RISK BEHAVIOR SURVEY

Homelessness: Where do you typically sleep at night? (in percentages)

	At home with your parents or guardian	Other
Male	96	4
Female	97	3
Total	96	4

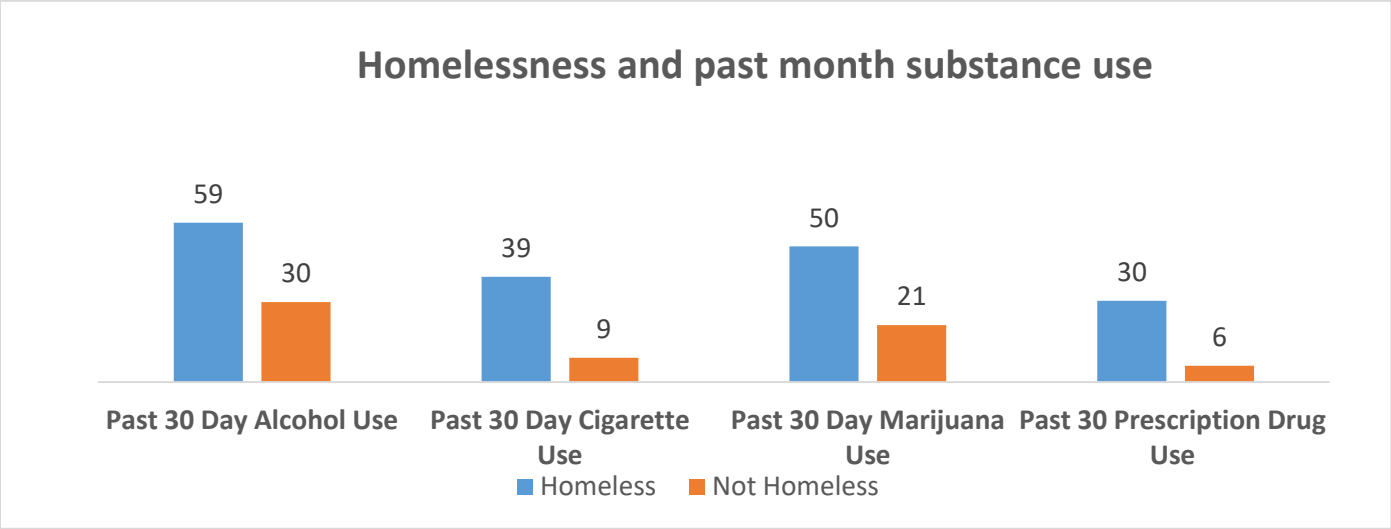

Figure 93 Homelessness and substance use

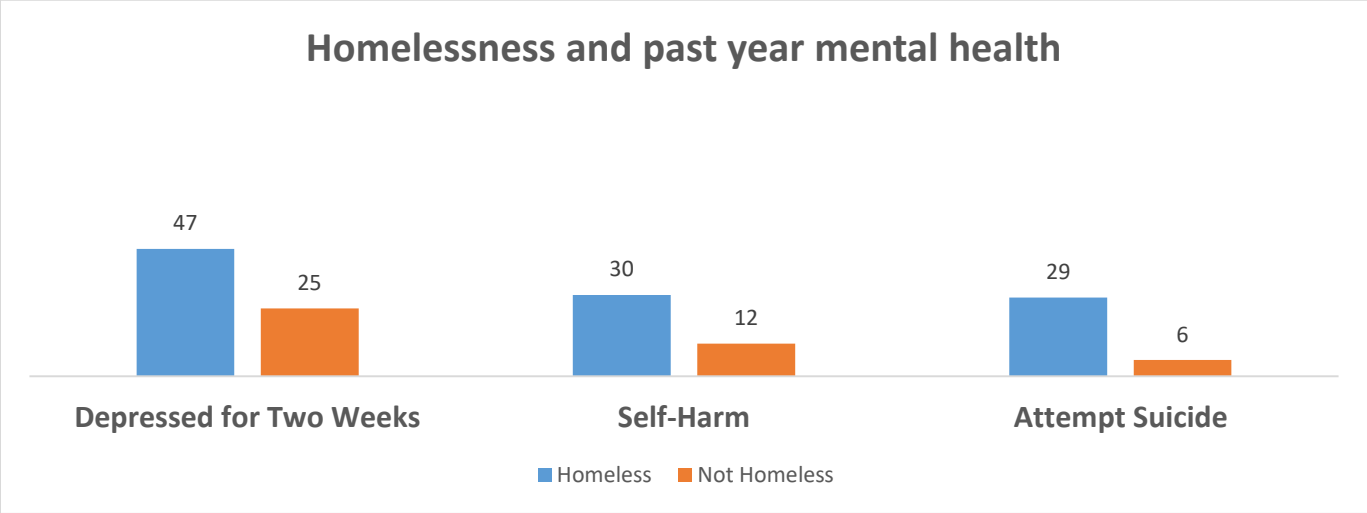

Figure 94 Homelessness and mental health

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Note:
Unweighted data
Source "2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 HIGH SCHOOL YOUTH RISK BEHAVIOR SURVEY

Incarceration: In the past year has either your mother or father been incarcerated?

(in percentages)

	No	Yes
Male	91	9
Female	91	9
Total	91	9

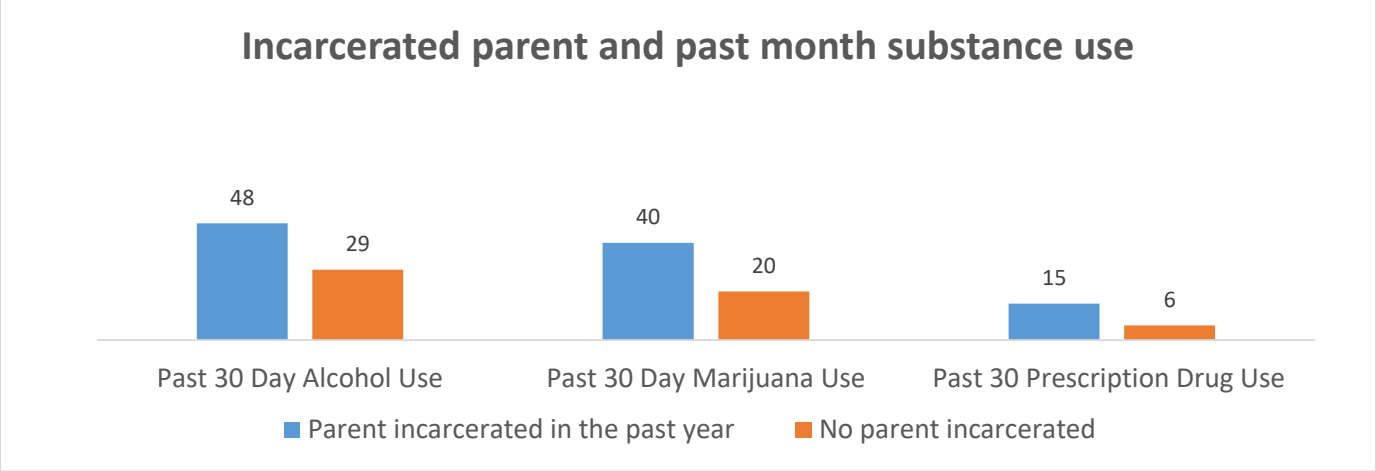

Figure 95 Parental incarceration and substance use

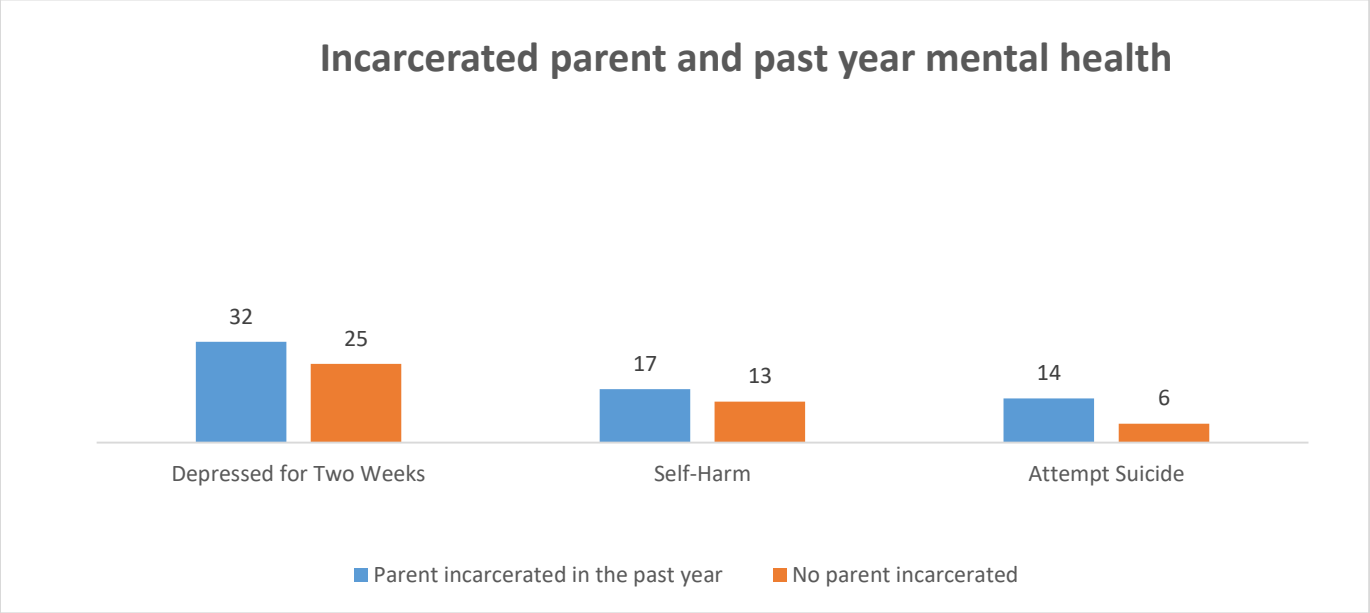

Figure 96 Parental Incarnation and mental health

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Note: Unweighted data

Source: "2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 HIGH SCHOOL YOUTH RISK BEHAVIOR SURVEY

Exposure to Violence Indicators (in percentages)

	I have been in a fight in the past year	I have been threatened or injured you with a weapon on school property in the past 12 months	I have been bullied on school property in the past year
Male	25	8	14
Female	16	4	19
Total	21	6	16

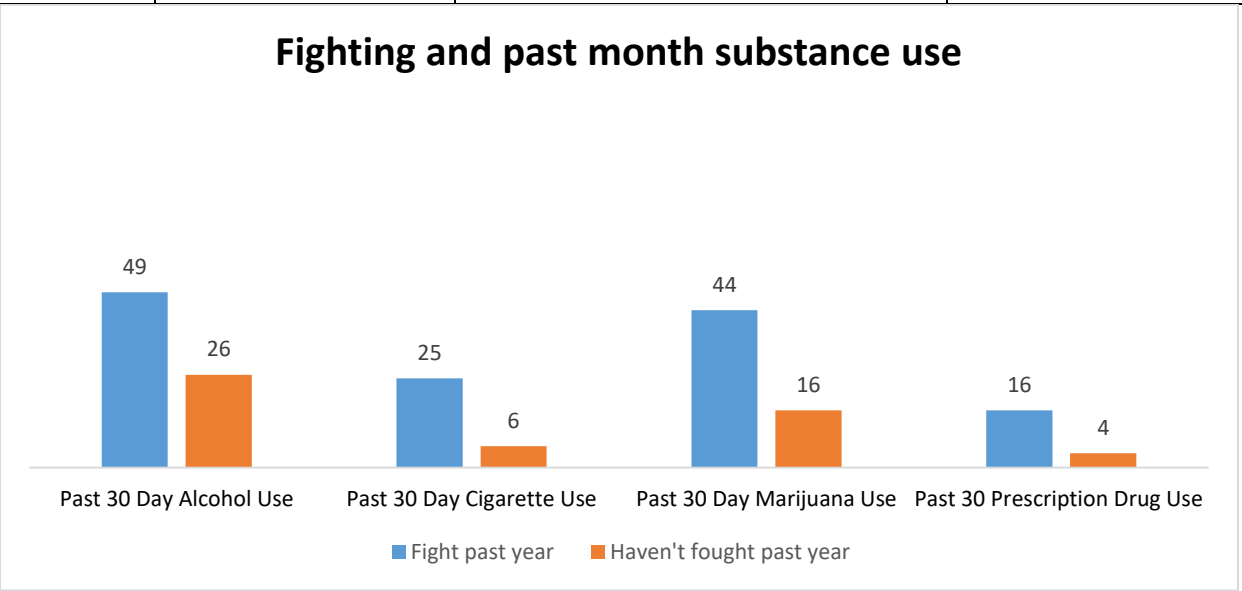

Figure 97 Fighting and substance use

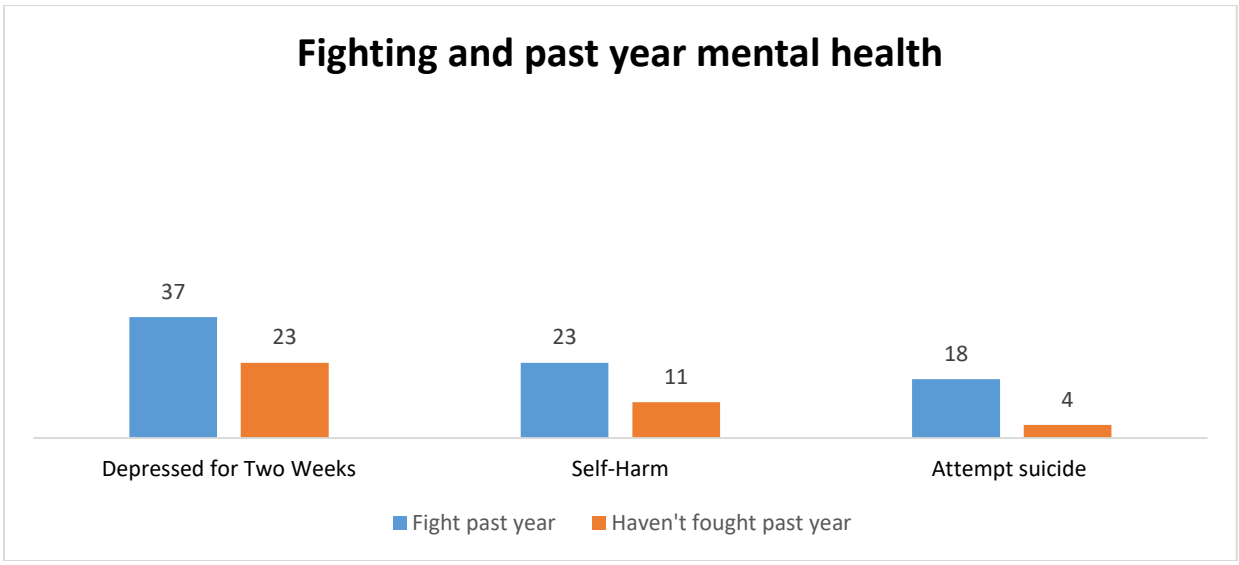

Figure 98 Fighting and mental health

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Notes: Unweighted data

Source: "2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

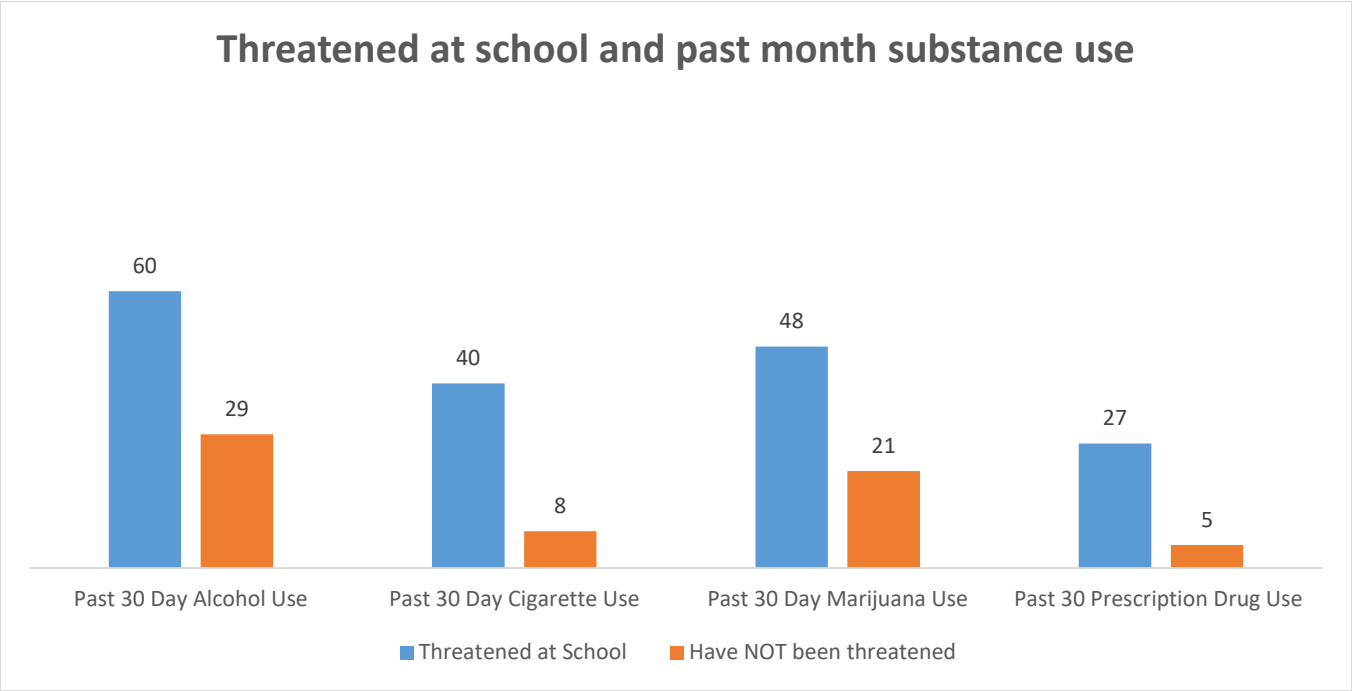

Figure 99 Threatened at school and substance use

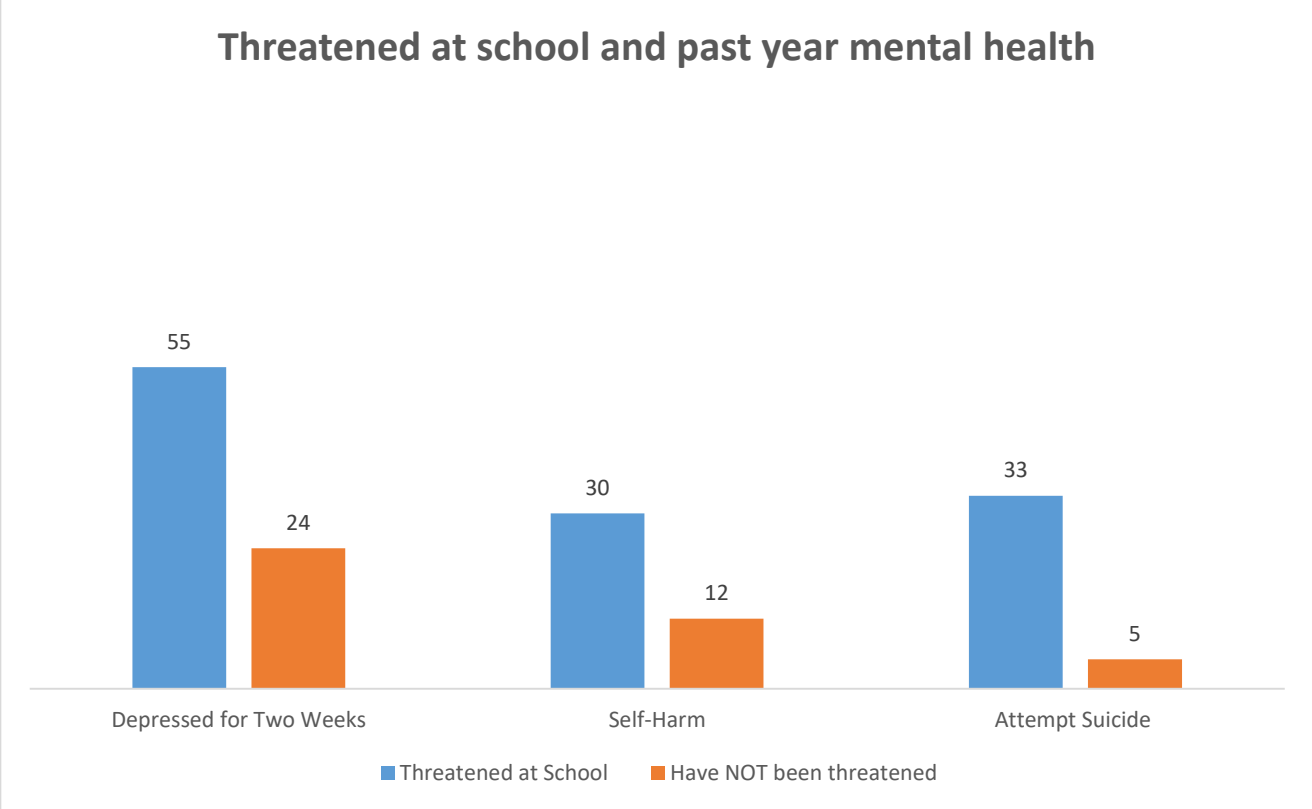

Figure 100 Threatened and mental health

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Notes: Unweighted data
Source:
"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

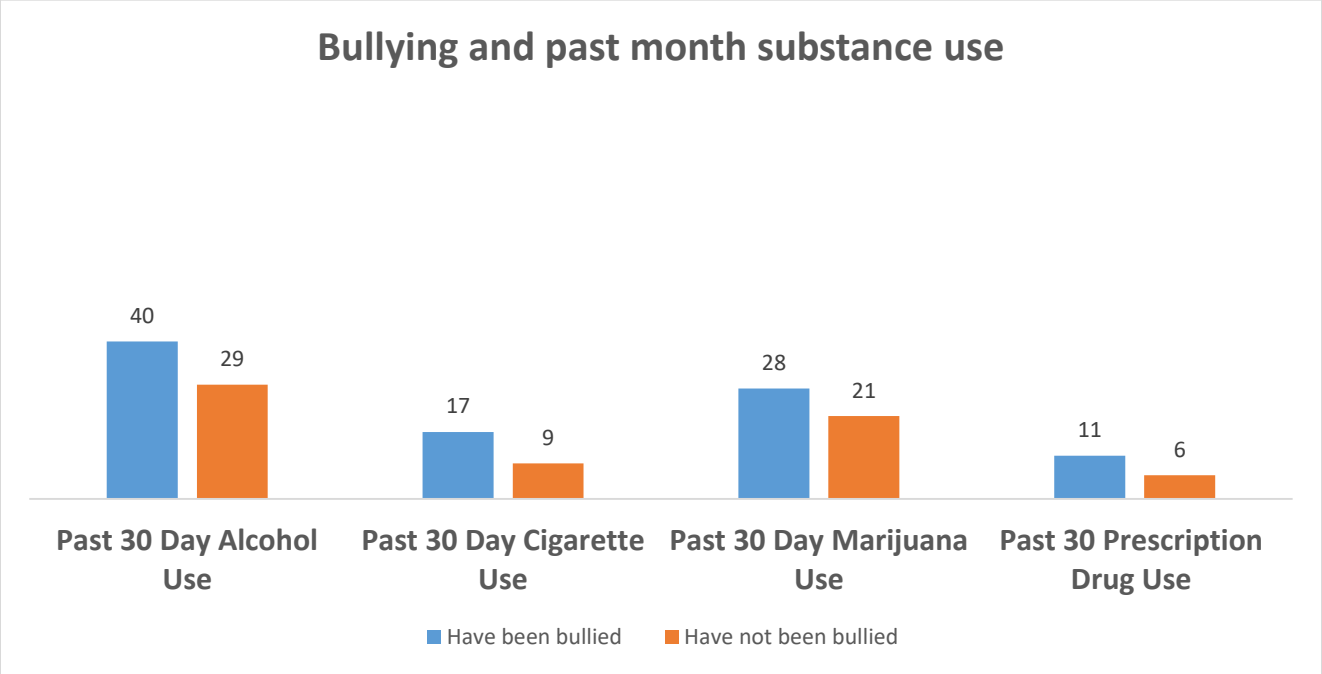

Figure 101 Bullying and substance use

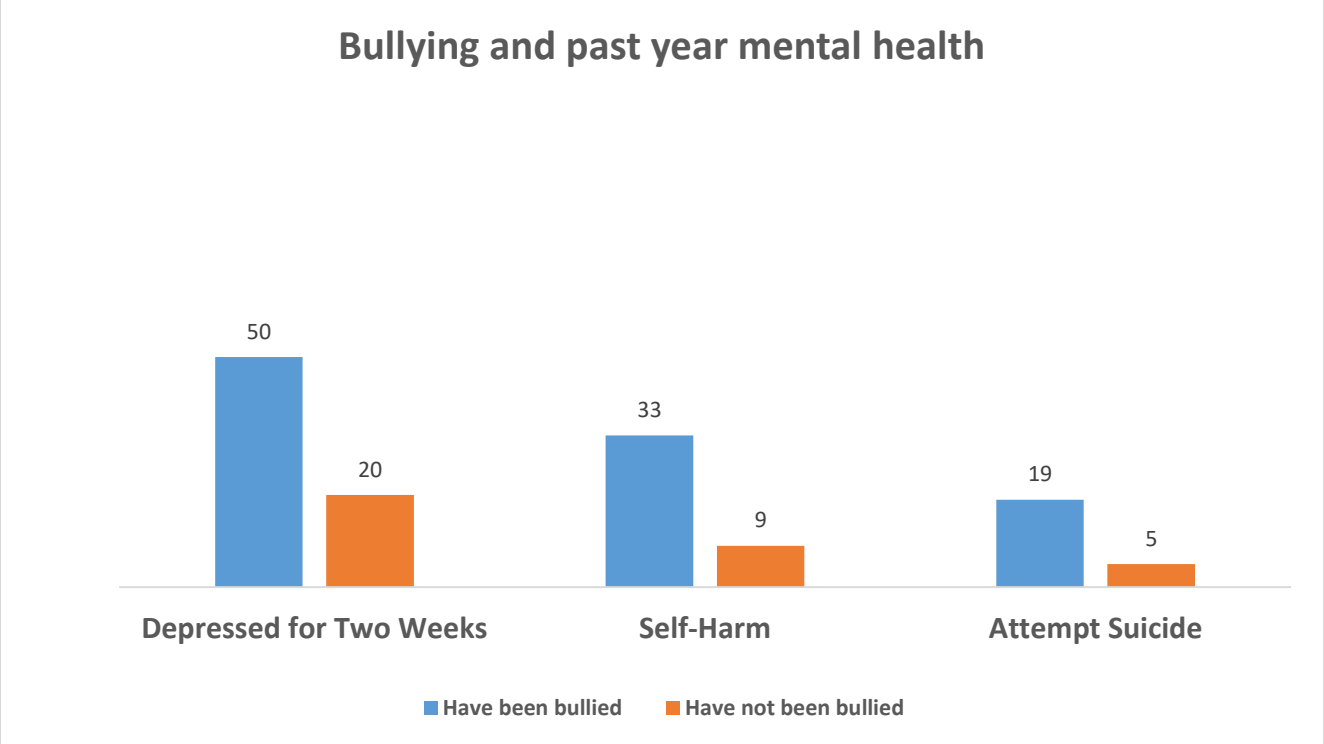

Figure 102 Bullying and mental health

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Notes:
Unweighted data
Source:
"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 Youth Risk Behavior Survey

Teen Dating Violence (TDV) and Sexual Violence Indicators
(in percentages)

	Did someone you were dating or going out with say things to you or say things to other people about you to purposely hurt you? (Emotional TDV)	Did someone you were dating or going out with physically hurt you on purpose? (Physical TDV)	Did someone you were dating or going out with force you to do sexual thing you did not want to do? (Sexual TDV)	Have you ever been physically forced to have sexual intercourse when you did not want to?
Male	**10**	**5**	**4**	**4**
Female	**20**	**7**	**7**	**9**
Total	**15**	**6**	**6**	**7**

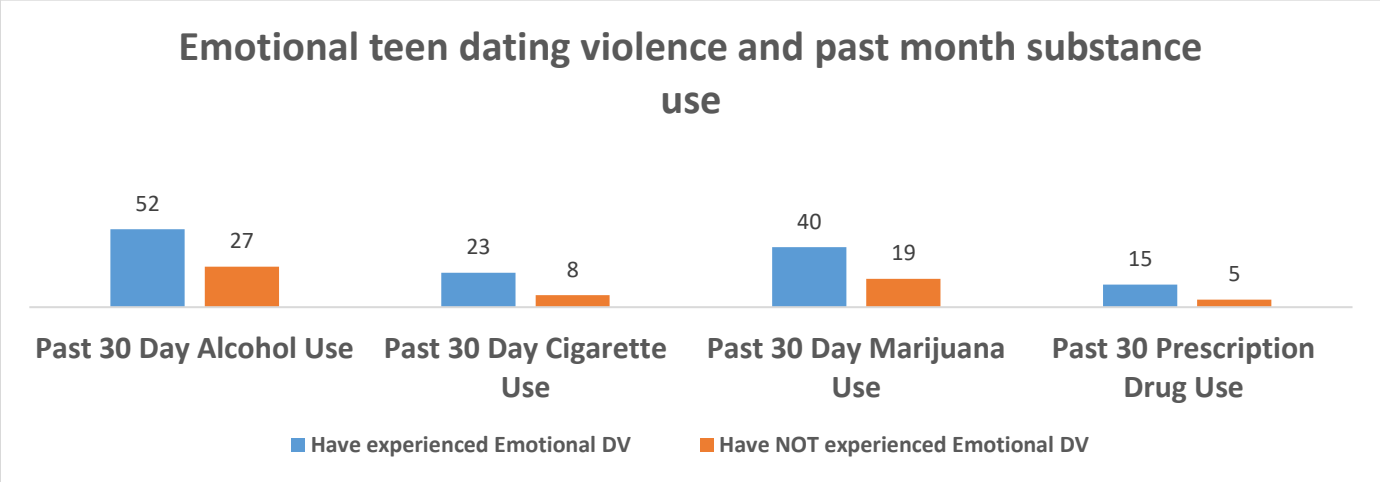

Figure 103 Emotional teen dating violence and substance use

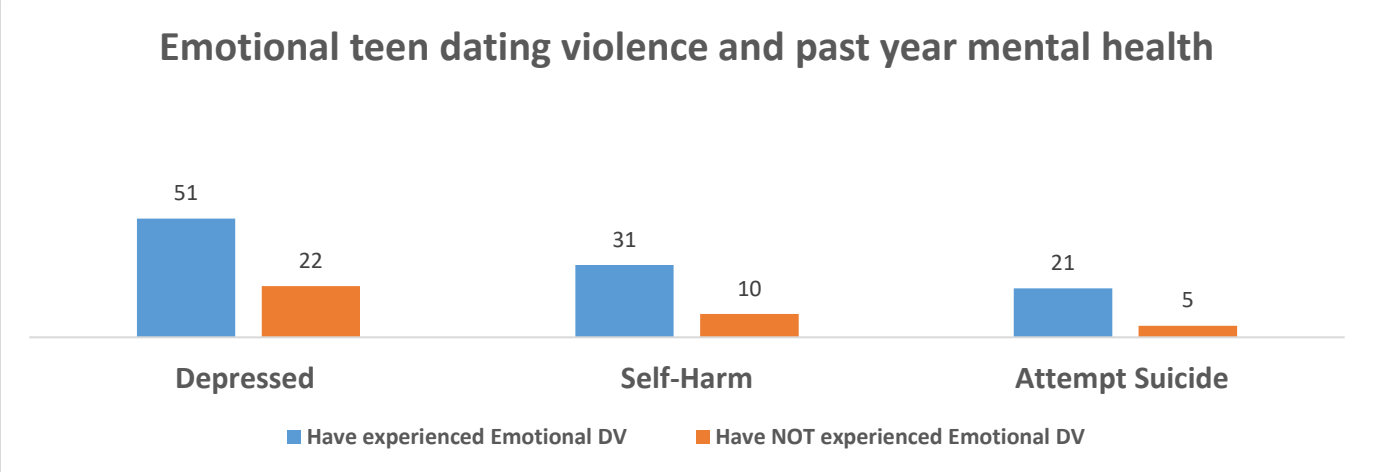

Figure 104 Emotional teen dating violence and mental health

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Notes: Unweighted data

Source: "2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

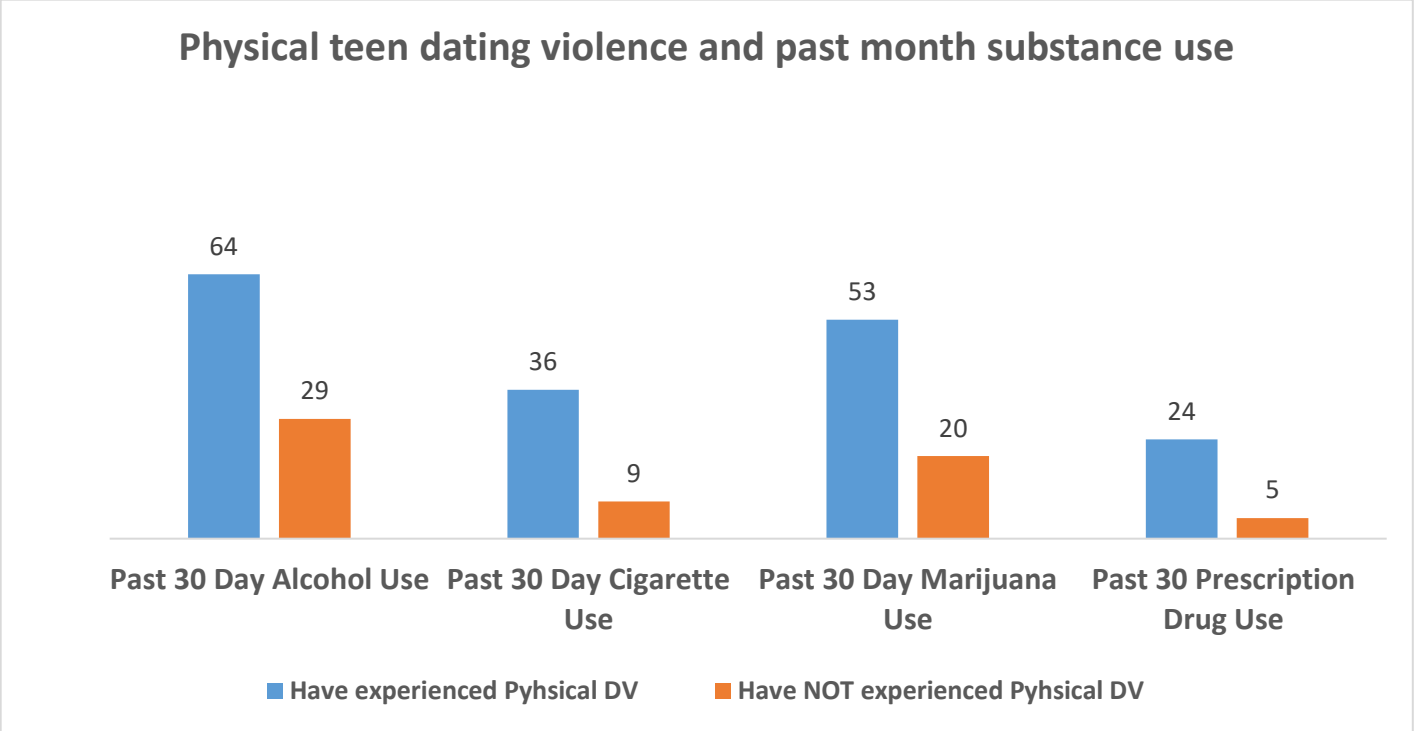

Figure 105 Physical teen dating violence and substance use

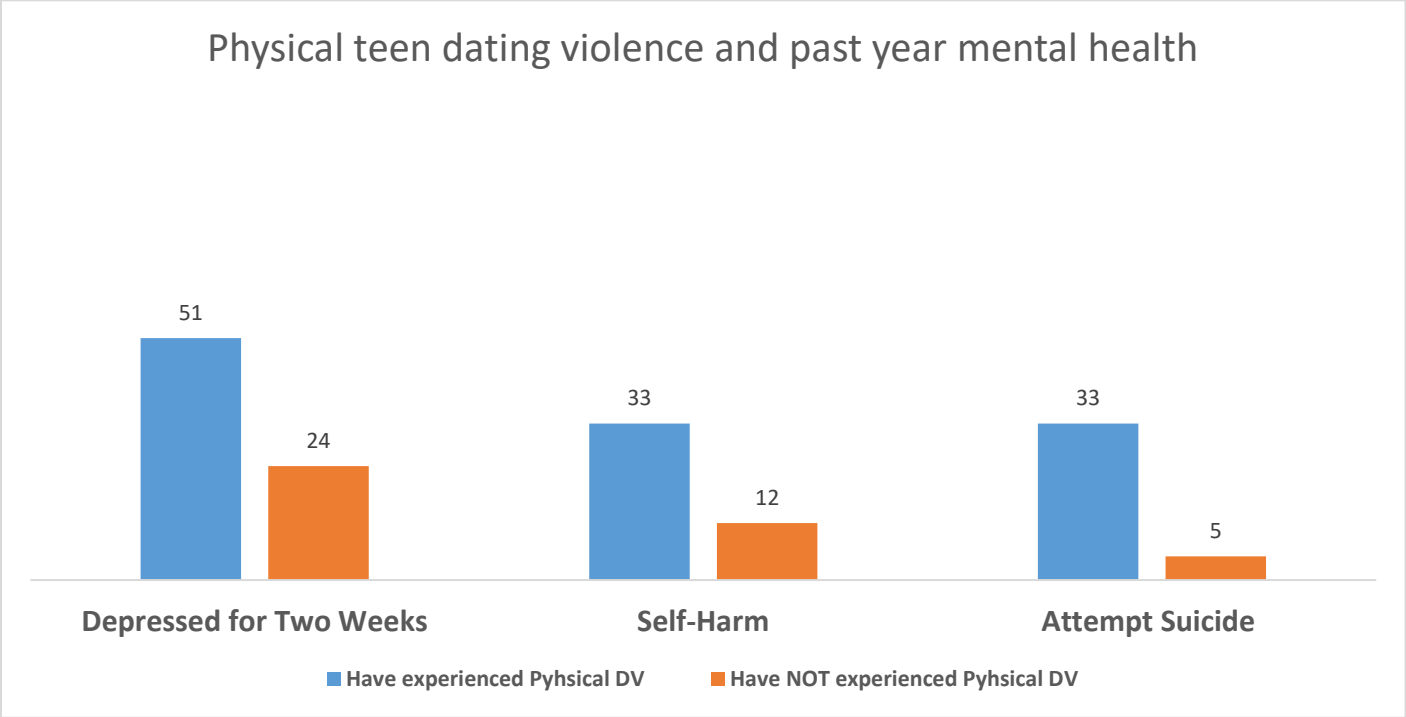

Figure 106 Physical teen dating violence and mental health

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Note: Unweighted data

Source: "2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

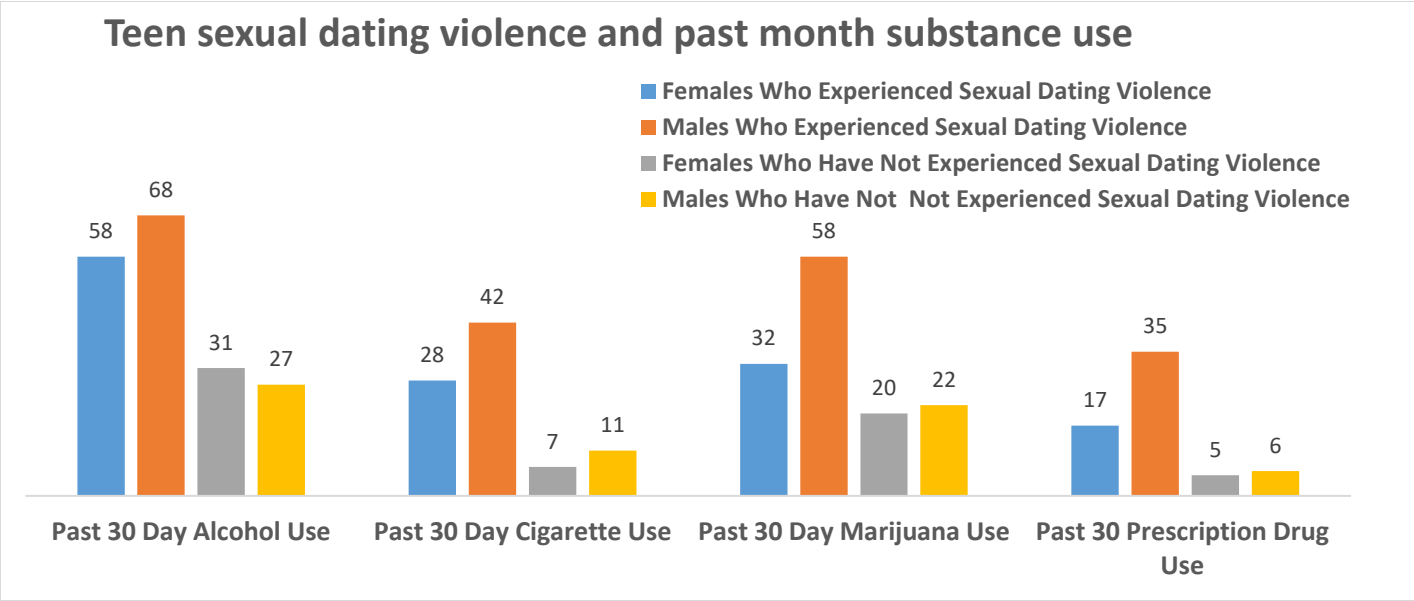

Figure 107 Sexual teen dating violence and substance use

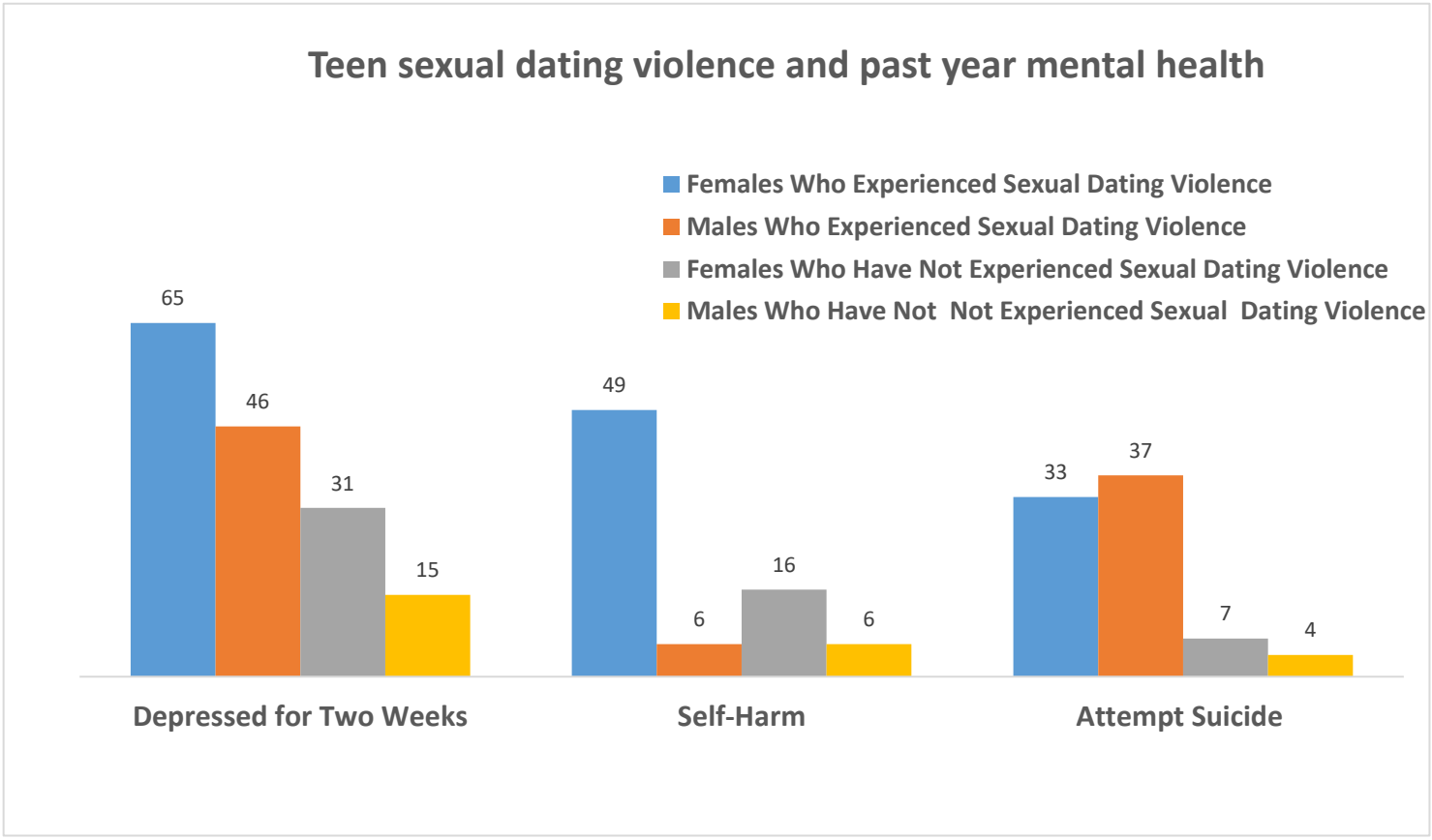

Figure 108 Sexual teen dating violence and mental health

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Note:
Unweighted data
Source:
"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

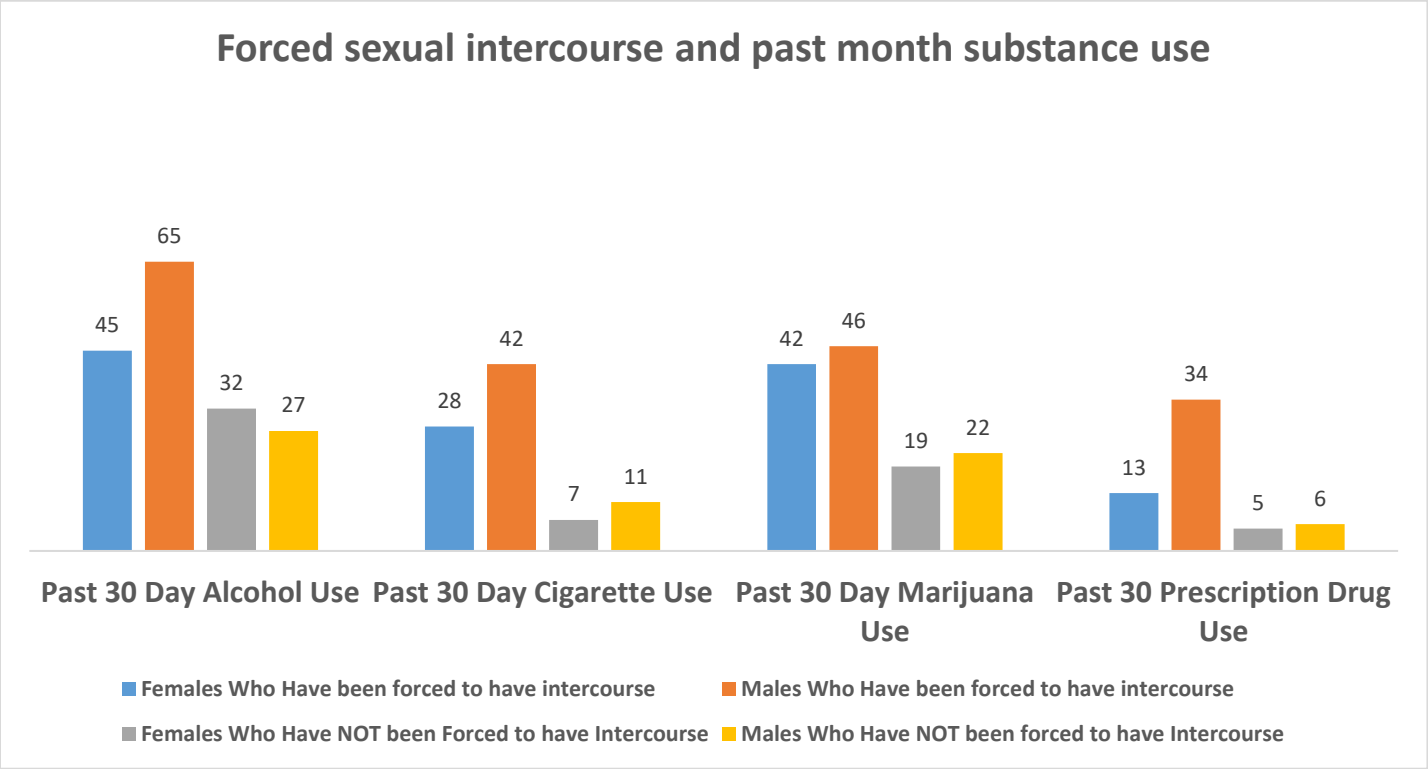

Figure 109 Forced intercourse and substance use

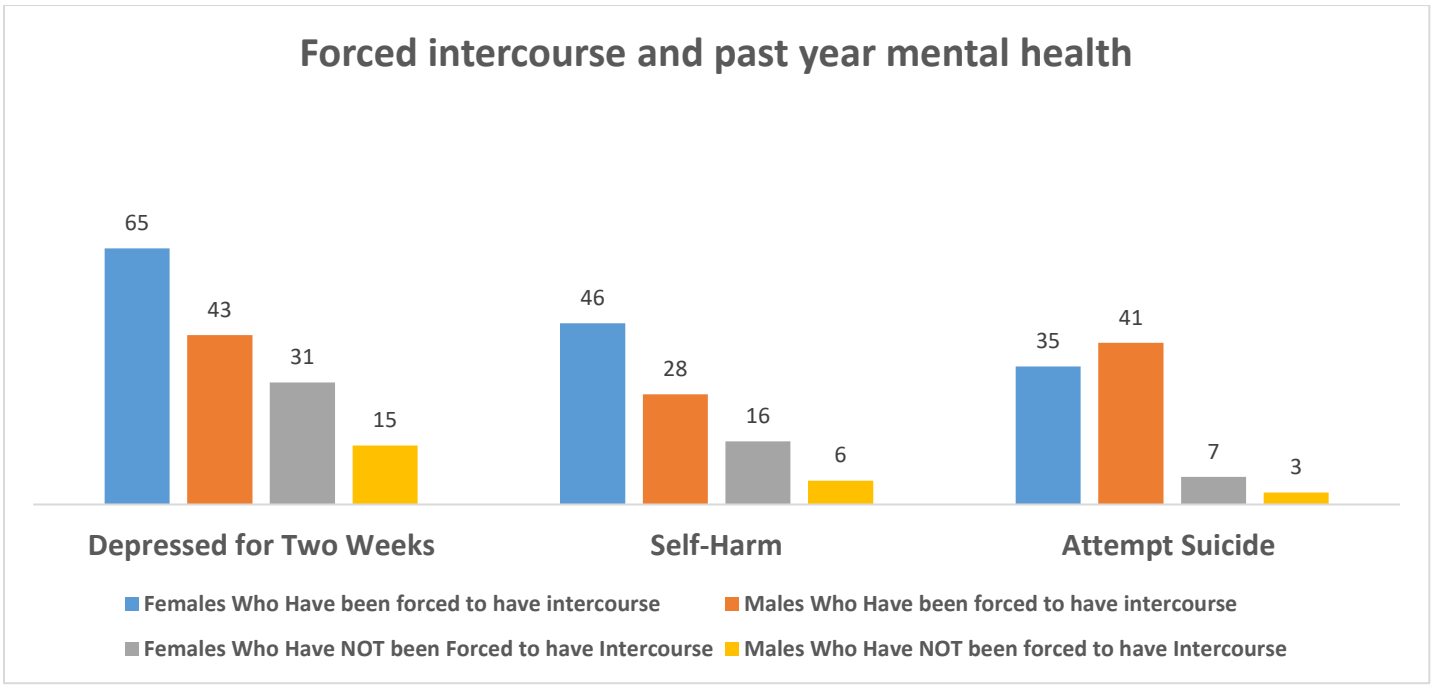

Figure 110 Forced Intercourse and mental health

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Note: Unweighted data

Source: "2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 Youth Risk Behavior Survey

Aggregated Adverse Childhood Experiences (ACEs*) (in percentages)

	0 Aces	1 ACE	2 or more
Statewide	55	24	21
Males	57	25	18
Females	53	24	23
New Castle	57	25	19
Males	61	24	16
Females	54	25	21
Kent	54	23	23
Males	54	25	21
Females	54	20	26
Sussex	52	26	23
Males	52	27	22
Females	52	24	24

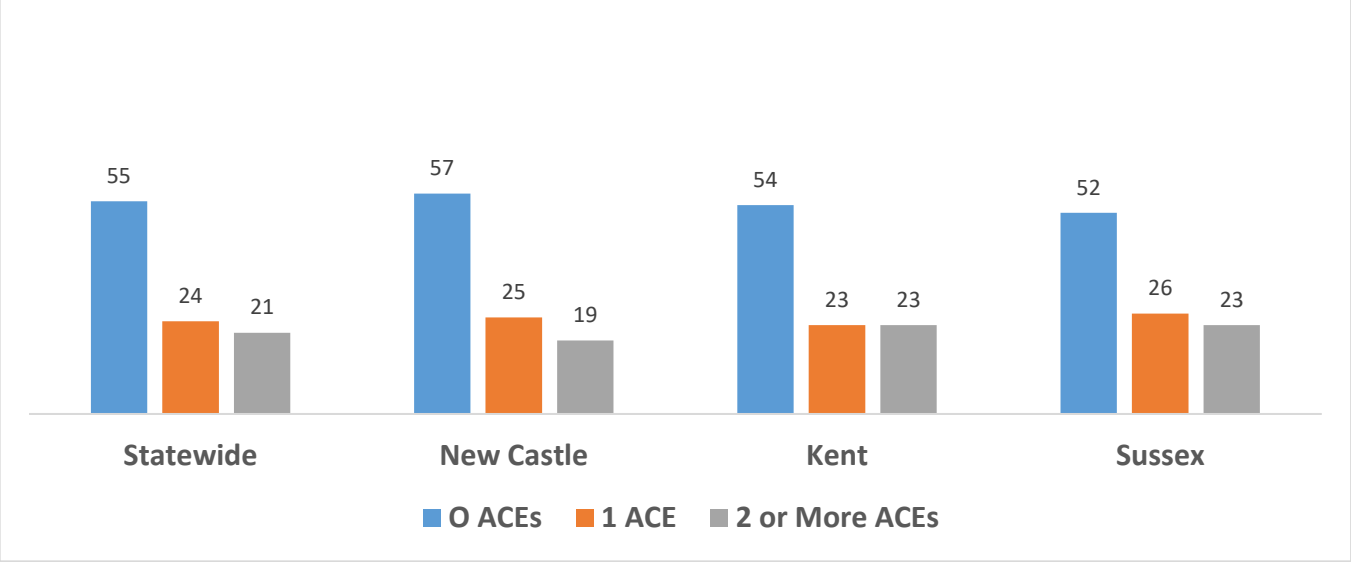

Figure 111 Aggregated adverse childhood experiences
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Notes: Unweighted data
*Students who confirmed experiencing any of the events above such as homelessness, incarcerated parent, fighting, being threatened, being bullied, or experience teen dating violence or sexual violence, were placed in either "1 ACE" or "2 or More ACEs" category depending on the number of different experiences they reported.
Source: "2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 Youth Risk Behavior Survey

ACEs* and past month substance use (in percentages)

Number of ACEs	Past 30 Day Cigarette Use	Past 30 Day Alcohol use*	Past 30 Day Marijuana Use*	Past 30 day prescription drug use
0 ACEs	4	20	13	3
1 ACE	10	36	27	7
2 or more ACEs	26	52	42	16

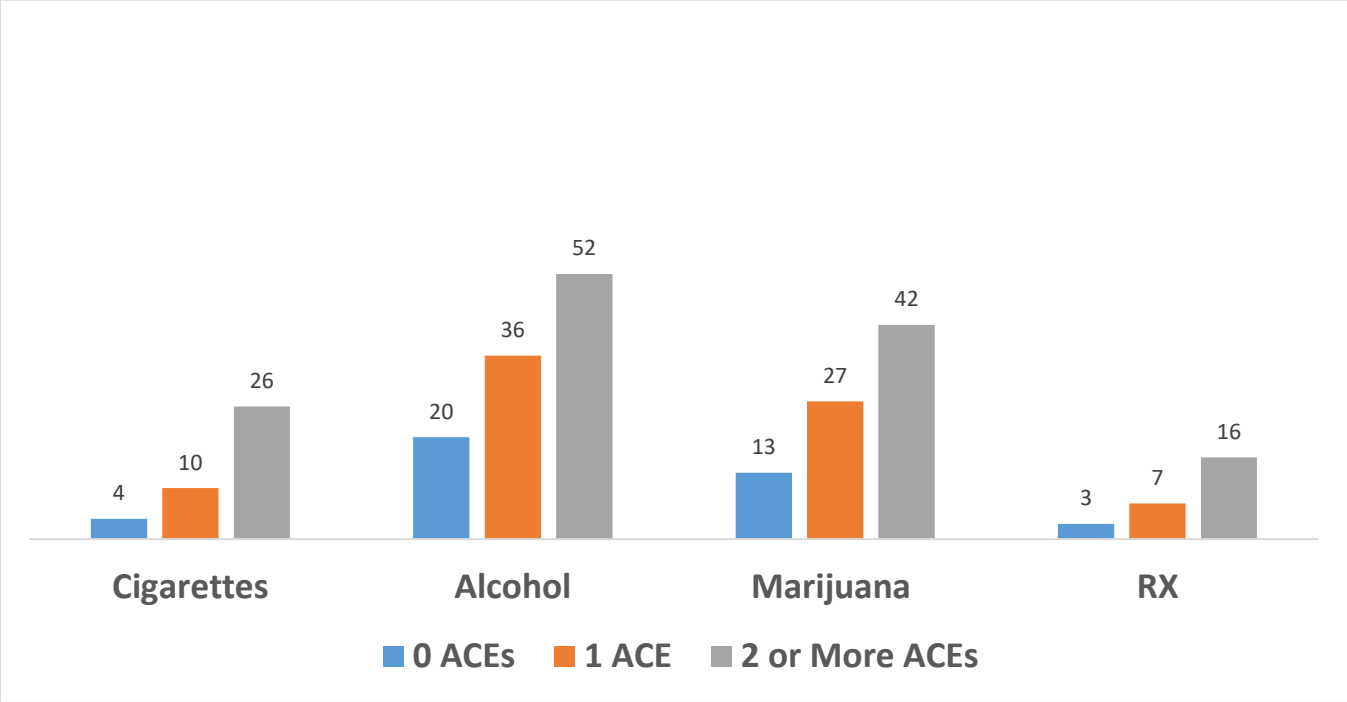

Figure 112 Aggregated adverse childhood experiences and substance use

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Note:
Unweighted data
*Students who confirmed experiencing any of the events above such as homelessness, fighting, being threatened, being bullied, or experience teen dating violence or sexual violence, were placed in either "1 ACE" or "2 or More ACEs" category depending on the number of different experiences they reported.

Source:
"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 Youth Risk Behavior Survey

ACEs and past year mental health – self-report (in percentages)

Number of ACEs	Depressed for Two Weeks	Self-Harm	Attempt Suicide
0 ACEs	15	5	2
1 ACE	29	15	7
2 or more ACEs	50	31	22

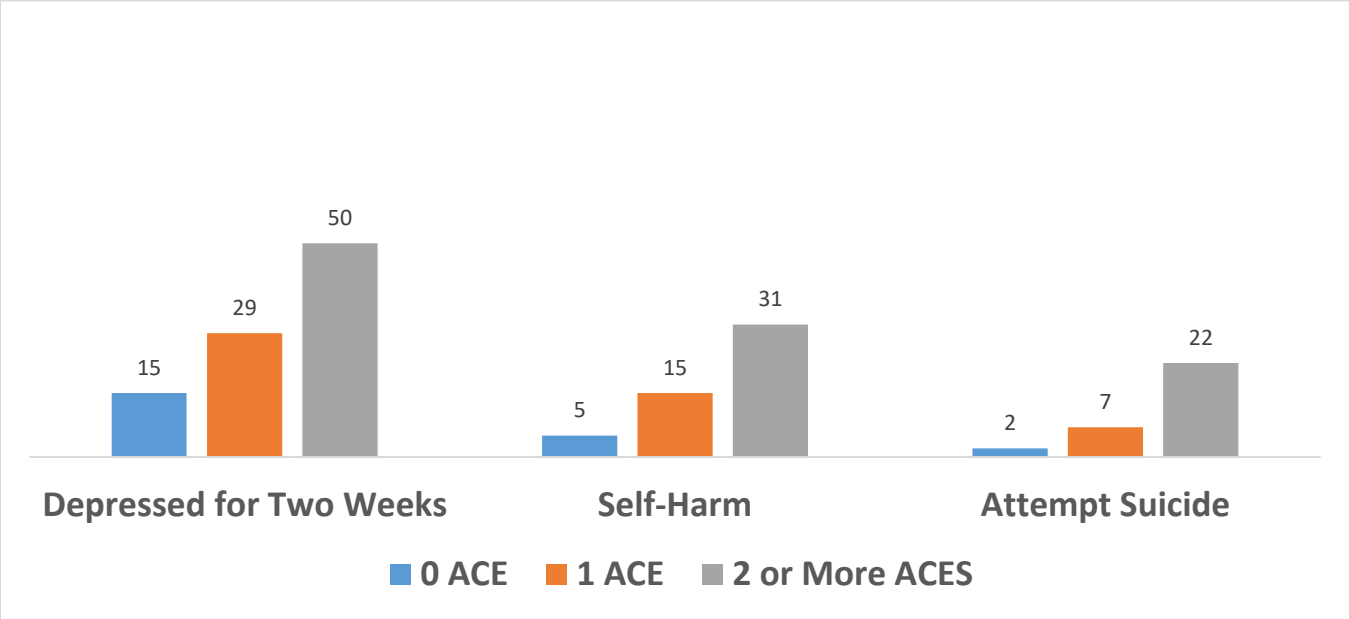

Figure 113 Aggregated adverse childhood experiences and mental health mental health
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Notes:
Unweighted data
*Students who confirmed experiencing any of the events above such as homelessness, fighting, being threatened, being bullied, or experience teen dating violence or sexual violence, were placed in either "1 ACE" or "2 or More ACEs" category depending on the number of different experiences they reported.
Source:
"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

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Protective Factors

Overview

Prevention research and work is grounded in the identification of risk factors that increase the probability of substance abuse, and protective factors, that help reduce the risk of substance abuse in the future. Targeted interventions that decrease risk factors, increase protective factors, or combine both approaches, have been shown to be effective in decreasing problem substance use. Risk and protective factors are relevant at all stages of life, and across several domains. Generally, researchers identify several levels, or domains, for intervention: the individual level, family level, peer level, and community level. At different stages in a person's life, one domain may play an outsized role in comparison to another. Cleveland, et al. (2008) found that peers and the school environment had a greater influence on older adolescents' substance abuse, than younger adolescents. In contrast, families and the outside community had a greater impact on younger children than peers or schools. Effective prevention programming should target risk and protective factors that are most salient at each life stage, and best-suited for the domain in which the intervention will be implemented.

The National Institute on Drug Abuse makes the case that prevention programs should target risk and protective factors that have been shown to have the most impact at each developmental level (2003). Early interventions, even at the preschool level, can play a powerful role in reducing risk throughout the "developmental risk trajectory" (p. 6). Similarly, the Substance Abuse and Mental Health Services Administration website notes that risk factors are "correlated and cumulative" – that is, having a risk factor early in life increases the likelihood of having more risk factors later in life. Many of the risk and protective factors that are associated with problem substance misuse or abuse are also associated with mental health conditions, so efforts to reduce risk factors and increase protective factors associated with substance abuse should also have an impact on future mental health status.

Individual risk factors include personality traits, such as impulsivity, risk-taking, antisocial behaviors, and emotional problems. Protective factors include traits such as adaptability, empathy, and good social skills. Attitudes about life are also important: academic achievement, hopes for the future, self-efficacy, and the willingness to follow rules, to name a few. Data from the 2015 Delaware Youth Risk Behavior Survey illustrates the importance of academic achievement in relationship to substance abuse and mental health status. In Delaware, students that do well academically, and have higher grades, use substances at a lesser rate, and have lower rates of depression, self-harm, and planning and attempting suicide than students who have low grades in school.

Family protective factors include: consistent discipline, parental involvement, family stability, and clear expectations. Child abuse, parental substance abuse, lack of supervision, and poor relationships with parents (which are also ACEs, previously discussed) are a few of the risk factors that have been associated with future substance abuse. The Delaware YRBS asks a number of questions about students' relationships with their parents. Data from the 2015 survey show that the way parents interact with their children has significant impact on not only youth substance abuse, but also their mental health status. Youth in Delaware high schools who reported that their parents never or almost never told them they are proud of them used substances at higher rates and had higher rates of depression, self-harm, and planning and attempting suicide, than youth whose parents told them they were proud of them sometimes or always. This same pattern emerged when youth were asked, "How often do you get along well with your parents," and "I can count on my parent(s) to be there when I need them." Better mental health status and reduced substance abuse is also consistent with questions concerning parental monitoring and supervision. Youth who have parents who ask them where they are going and who they are going with use substances at lesser rate, and have better mental health status than youth who do not. Youth who reported that their parents have consistent rules and expectations also have better outcomes than youth who did not.

Relationships with peers can also reduce or increase the risk of substance abuse. Maintaining friendships with peers that use substances, and/or minimize the risk associated with the use of substances, increases the likelihood of future substance use; however, friendships with youth who do not use substances, or participating in pro-social afterschool activities with friends, can reduce the likelihood of future substance abuse. The 2015 Delaware YRBS asks students to report whether their friends would

think it was wrong if they smoked marijuana, used prescription drugs, smoke tobacco, or have one or two drinks nearly every day. Across all categories, the students who reported that their friends would think that it was wrong used substances at a lesser rate than students whose friends did not think substance abuse was wrong.

Schools operate at the intersection of the peer and community level—they are the location where most peer interactions occur, but can also provide a powerful protective function if school leaders find ways to enhance school connectedness and promote healthy norms (Centers for Disease Control and Prevention, 2009). Community-level factors include social disorganization, norms favorable or unfavorable to substance abuse, and community safety. A report from the CDC (2009) explains how school connectedness – that is, the extent to which youth feel connected to the school community – can reduce the risk of mental health and substance abuse problems in youth. Schools can promote school connectedness by providing adult support, supporting the formation of positive peer groups, promoting the importance of education, and creating a safe and positive school environment.

The literature on risk and protective factors is extensive, and these are just a few examples at each level of intervention (see: CDC; SAMSHA; Cleveland, et al., 2008; etc.). The Delaware data presented here is a sample of the ways in which we can use Delaware survey data to better understand the influence of risk and protective factors on youth substance abuse in Delaware.

Student Risk and Protective Factors (Self-reported)

Data Notation:

The data in the following section deals with small subcategories of Delaware public high school student sample population and because of that will not be weighted. Applying weights to small categories can led to inaccuracies in analyses

The following protective factors have been shown to have a statistically significant relationship with both substance use and mental health. The significance is at $p<.05$, unless specifically noted.

2015 YOUTH RISK BEHAVIOR SURVEY

Individual protective factors and past month substance use (in percentages)

Academic achievement

	Mostly As	Mostly Bs	Mostly Cs	Mostly Ds or Fs
Cigarettes	4	9	17	24
Males	4	10	18	25
Females	4	8	16	23
Alcohol	24	32	37	49
Males	20	27	34	54
Females	27	36	41	41
Binge Drinking*	10	15	22	26
Males	8	14	23	30
Females	11	16	22	18
Marijuana Use	12	20	32	46
Males	12	19	33	43
Females	13	21	30	50
Rx drugs without a prescription	4	6	7	18
Males	4	5	7	23
Females	4	7	8	10

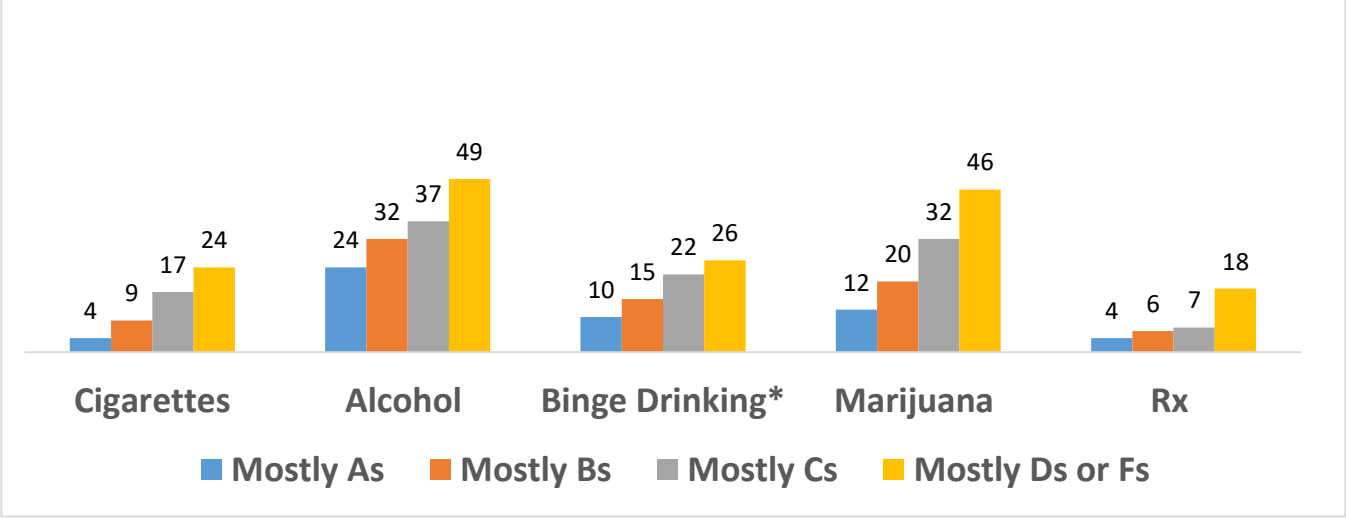

Figure 114 Individual protective factors and substance use

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Notes: Unweighted Data
*Binge drinking is having 5 or more drinks in a row within a couple hours in the past month
Source: "2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 YOUTH RISK BEHAVIOR SURVEY

Family protective factors and past month substance use (in percentages)

There are clear rules and consequences in my home?

	Strongly Agree/ Agree	Unsure	Strongly Disagree/ Disagree
Cigarettes	8	12	22
Males	10	18	23
Females	7	6	20
Alcohol	28	32	48
Males	26	36	44
Females	30	28	51
Binge Drinking*	14	16	28
Males	14	21	27
Females	13	11	29
Marijuana Use	20	25	35
Males	21	31	35
Females	19	21	35
Rx drugs without a prescription	5	9	16
Males	5	12	16
Females	5	6	16

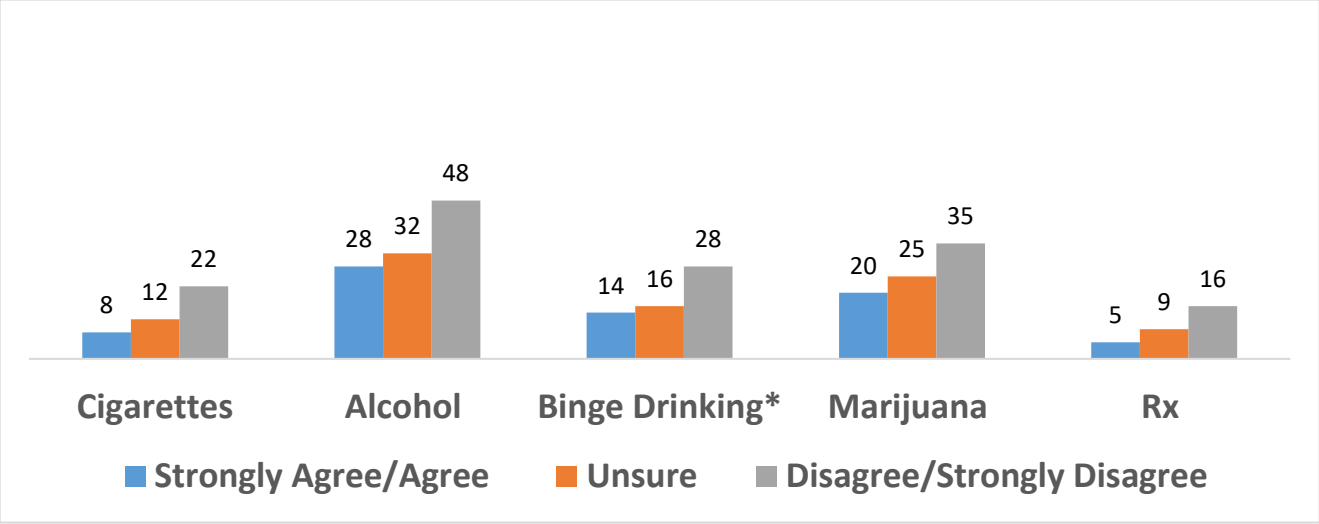

Figure 115 Family protective factors and substance use

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Notes: Unweighted Data

*Binge drinking is having 5 or more drinks in a row within a couple hours in the past month

Source:"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 YOUTH RISK BEHAVIOR SURVEY

Family protective factors and past month substance use (in percentages)

My parents or adult in my home asks where I'm going or with whom I will be?

	Always/ Most of the time	Sometimes	Never/Rarely
Cigarettes	8	13	20
Males	9	12	25
Females	8	14	11
Alcohol	29	36	36
Males	25	33	40
Females	32	41	29
Binge Drinking*	13	20	20
Males	12	18	28
Females	14	22	11
Marijuana Use	18	32	29
Males	18	32	34
Females	18	31	20
Rx drugs without a prescription	4	10	16
Males	3	9	18
Females	5	11	12

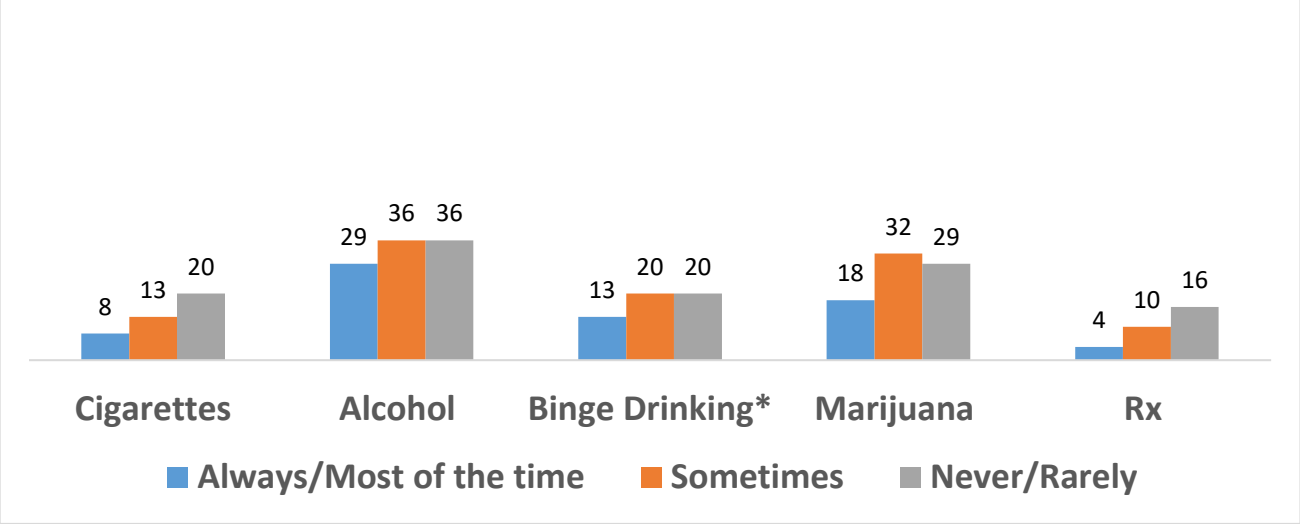

Figure 116 Family protective factors and substance use

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Notes: Unweighted Data

*Binge drinking is having 5 or more drinks in a row within a couple hours in the past month

Source:"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 YOUTH RISK BEHAVIOR SURVEY

Peer protective factors and past month substance use (in percentages)

How wrong do your friends feel it would be for you to have one or two drinks of alcohol nearly every day?

	Not Wrong	A little Wrong	Wrong/ Very Wrong
Cigarettes	19	14	6
Males	20	16	7
Females	19	13	5
Alcohol	45	42	23
Males	43	37	20
Females	48	49	25
Binge Drinking*	27	22	10
Males	26	24	9
Females	29	19	11
Marijuana Use	36	30	16
Males	36	30	16
Females	36	30	15
Rx drugs without a prescription	12	10	4
Males	12	9	4
Females	13	10	4

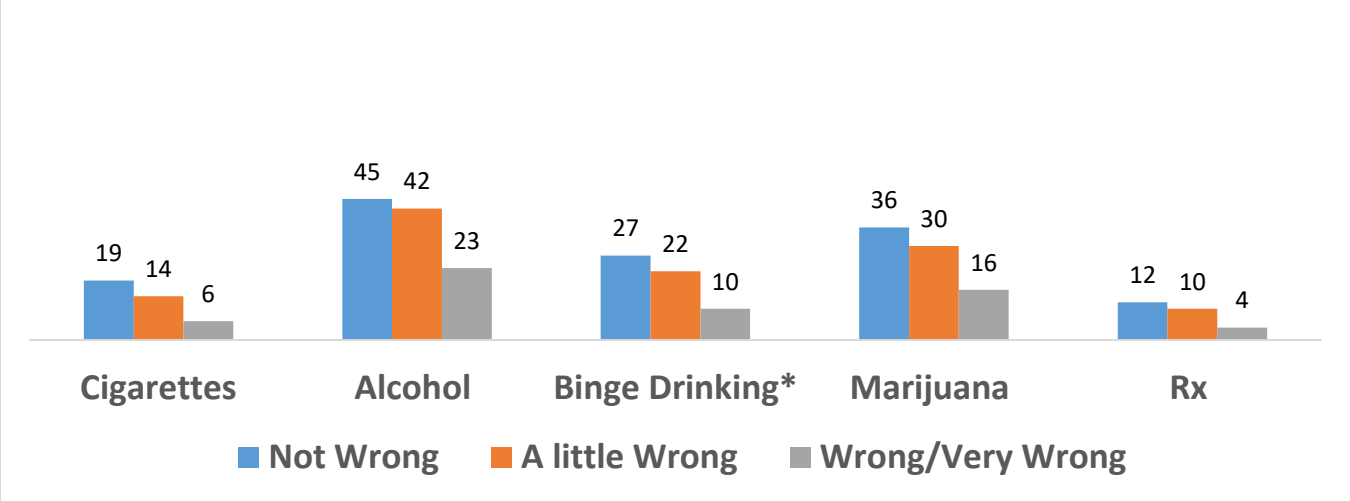

Figure 117 Peer protective factors and substance use

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Notes: Unweighted Data

*Binge drinking is having 5 or more drinks in a row within a couple hours in the past month

Source:

"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 YOUTH RISK BEHAVIOR SURVEY

Peer protective factors and past month substance use (in percentages)

How wrong do your friends think it would be to take an Rx without a prescription?

	Not Wrong	A little Wrong	Wrong/ Very Wrong
Cigarettes	21	18	7
Males	21	20	9
Females	21	15	6
Alcohol	37	31	29
Males	30	37	27
Females	52	30	30
Binge Drinking*	26	26	13
Males	22	25	14
Females	35	26	12
Marijuana Use	37	31	19
Males	36	31	21
Females	41	32	18
Rx drugs without a prescription	18	16	4
Males	19	13	4
Females	17	19	4

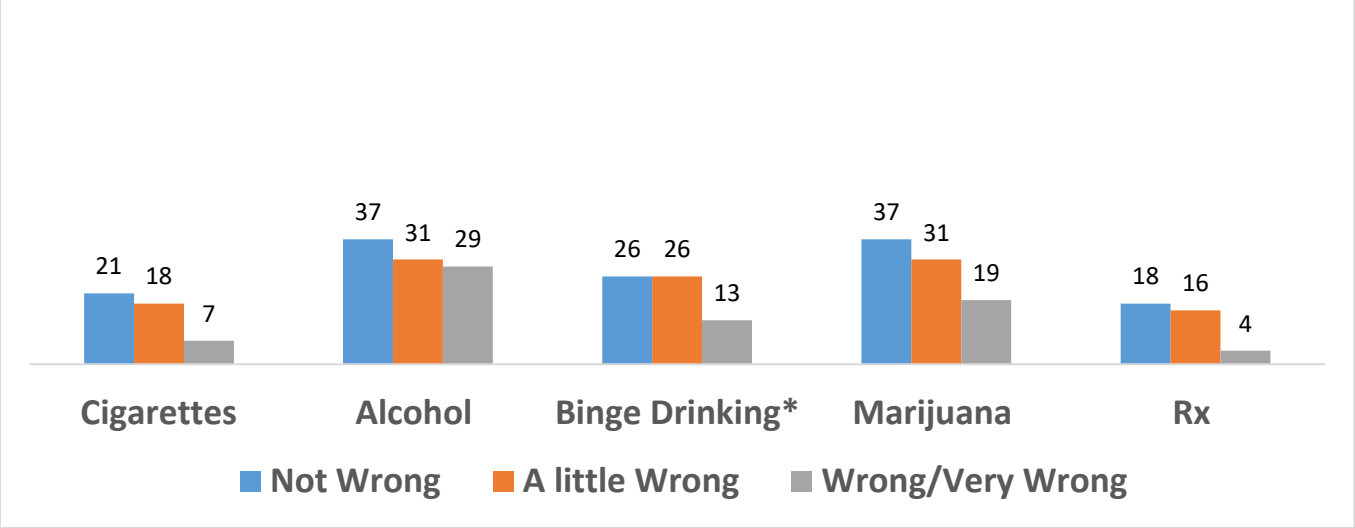

Figure 118 Peer protective factors and substance use

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Notes: Unweighted Data

**Binge drinking is having 5 or more drinks in a row within a couple hours in the past month*

Source:"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 YOUTH RISK BEHAVIOR SURVEY

Individual protective factors and past year mental health: Academic achievement

(in percentages)

	Mostly As	Mostly Bs	Mostly Cs	Mostly Ds or Fs
Depressed for two weeks at a time	18	27	28	39
Males	8	17	19	30
Females	25	37	41	55
Self-Harm	12	13	13	19
Males	7	4	8	17
Females	15	20	20	21
Attempt Suicide	4	8	9	13
Males	3	4	6	10
Females	5	11	13	18

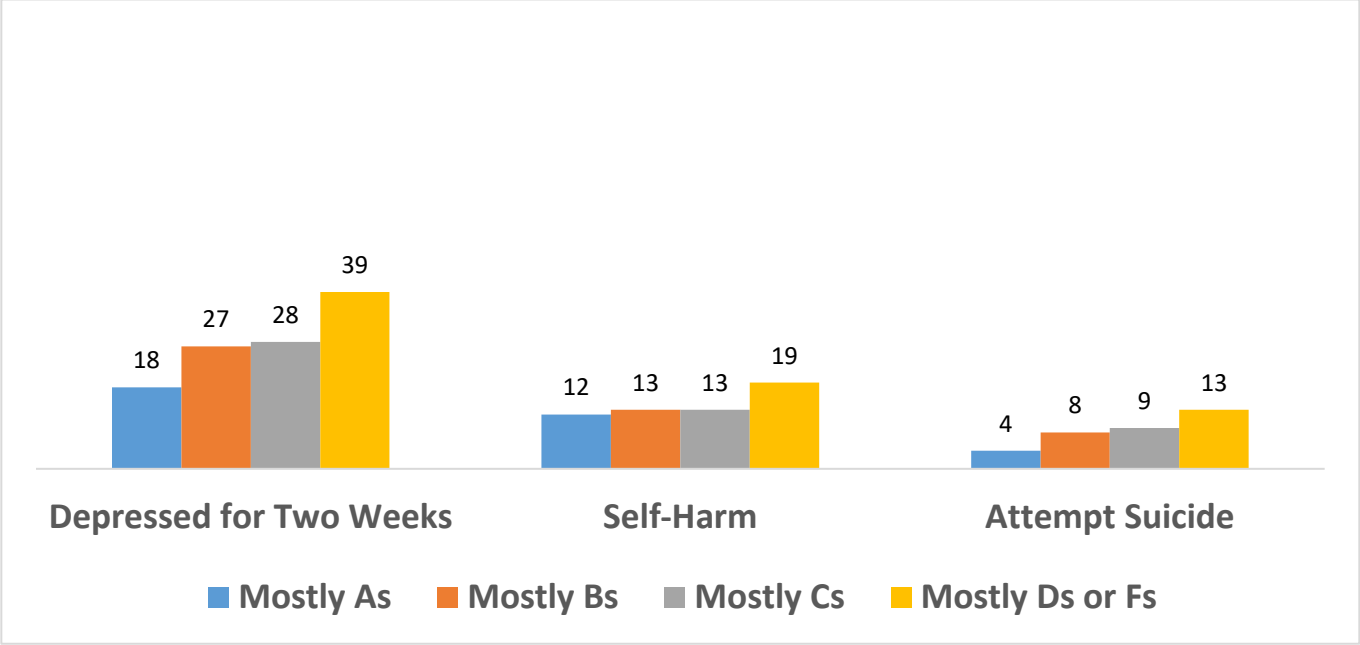

Figure 119 Individual protective factors and past year mental health

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Notes:
Unweighted Data
Source:
"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 YOUTH RISK BEHAVIOR SURVEY

Family protective factors and past year mental health (in percentages)

There are clear rules/consequences in my home?

	Strongly Agree/ Agree	Unsure	Strongly Disagree/ Disagree
Depressed for two weeks at a time	21	36	41
Males	12	23	31
Females	30	47	47
Self-Harm	11	17	22
Males	5	12	13
Females	16	22	30
Attempt Suicide	5	9	12
Males	3	5	12
Females	7	12	12

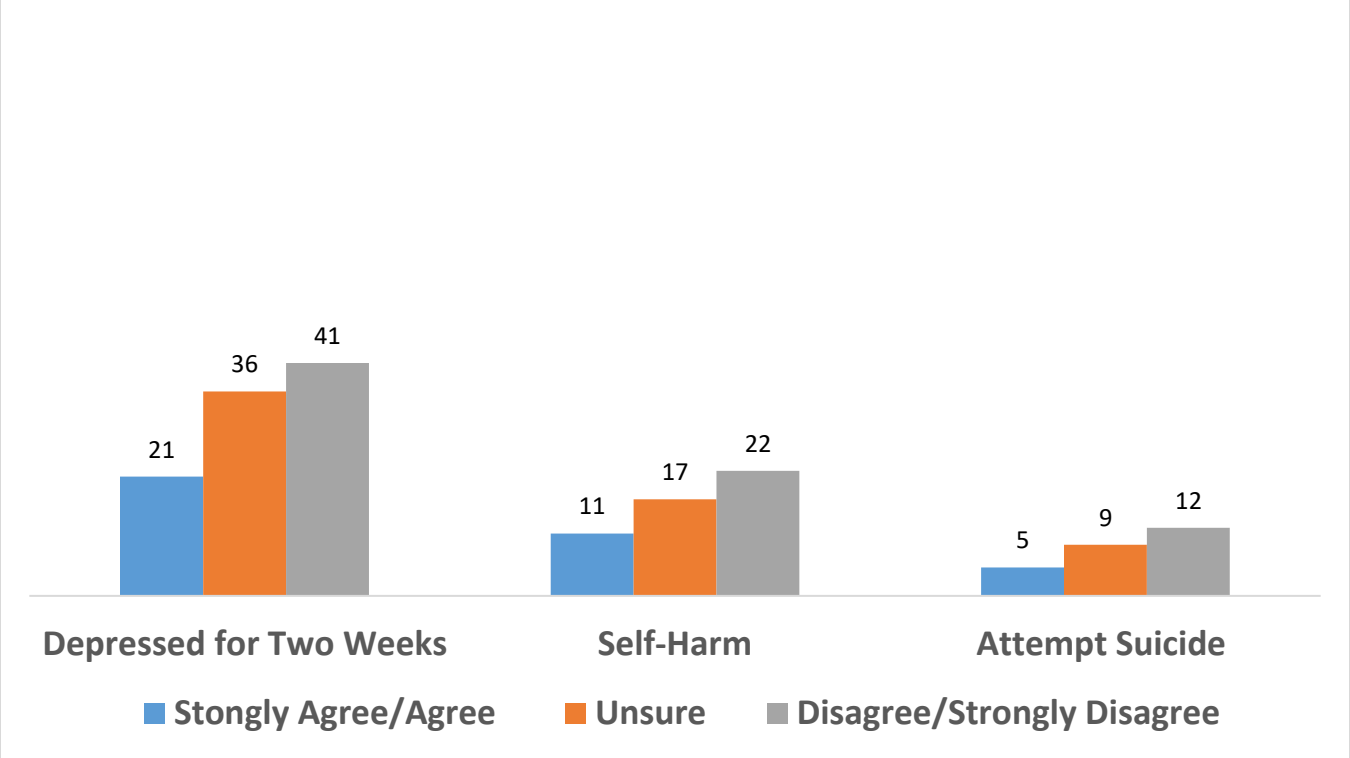

Figure 120 Family protective factors and mental health

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Note:
Unweighted Data
Source:
"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 YOUTH RISK BEHAVIOR SURVEY

Family protective factors and past year mental health (in percentages)

My parents or adult in my home asks where I'm going or with whom I will be?

	Always/ Most of the time	Sometimes	Never/Rarely
Depressed for two weeks at a time	25	29	23
Males	14	19	18
Females	33	42	31
Self-Harm	12	13	14
Males	5	8	11
Females	18	20	20
Attempt Suicide	6	7	11
Males	4	2	10
Females	7	14	13

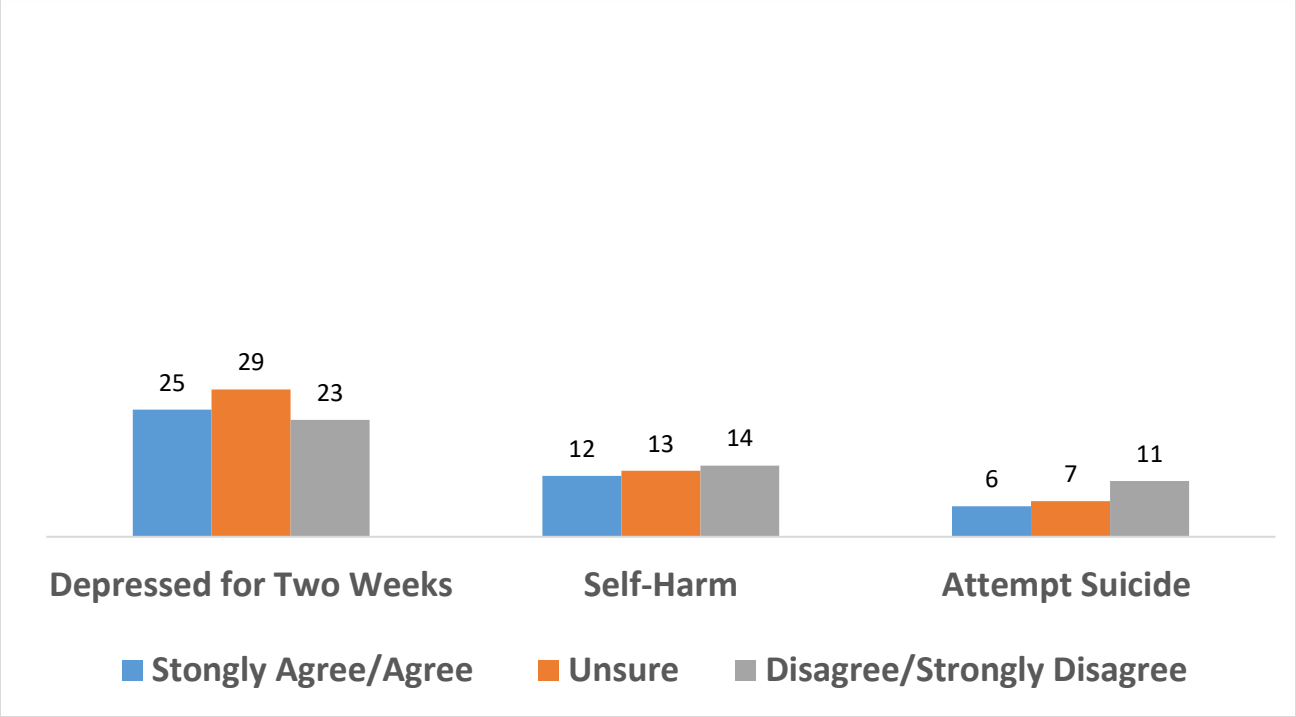

Figure 121 Family protective factors and mental health

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Note:
Unweighted Data
Source:
"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 YOUTH RISK BEHAVIOR SURVEY

Peer protective factors and past year mental health (in percentages)

How wrong do your friends feel it would be for you to have one or two drinks of alcohol nearly every day?

	Not Wrong	A little Wrong	Wrong/ Very Wrong
Depressed for two weeks at a time	27	29	23
Males	20	19	12
Females	37	39	31
Self-Harm	17	15	11
Males	13	8	5
Females	22	22	16
Attempt Suicide	11	7	5
Males	8	4	4
Females	15	10	7

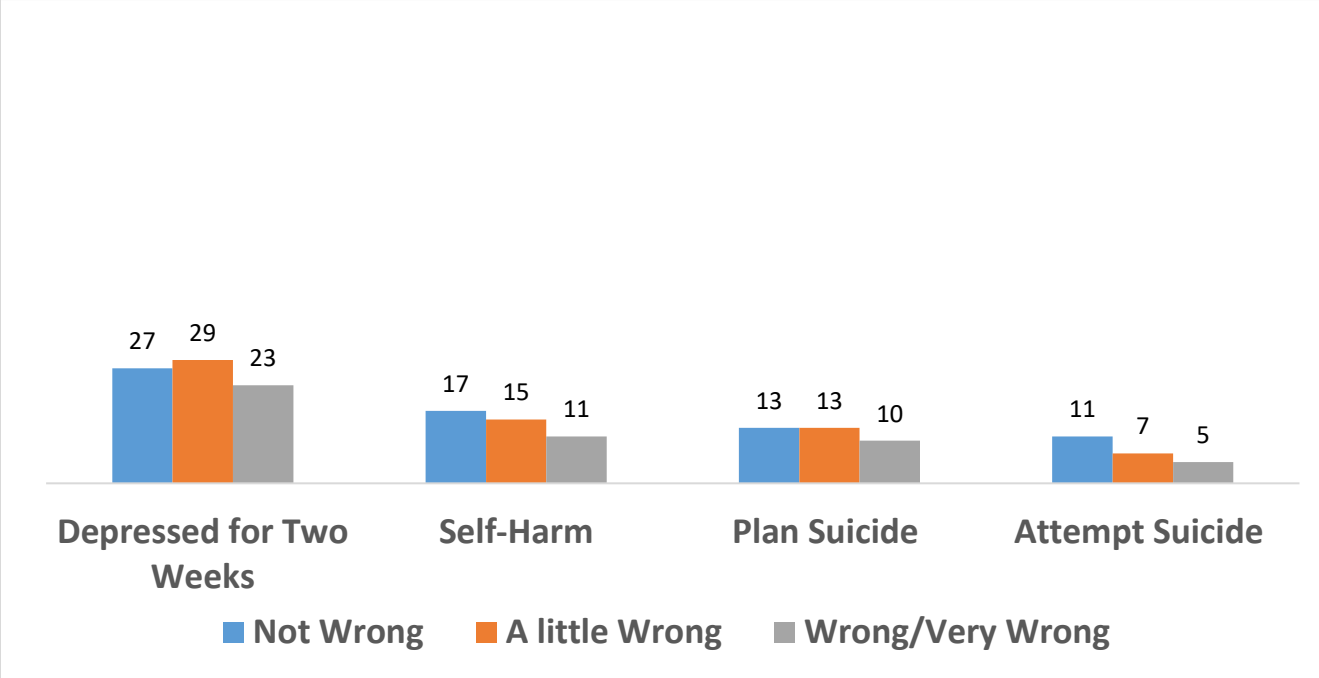

Figure 122 Peer protective factors and past year mental health

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Note:
Unweighted Data
Source:
"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

2015 YOUTH RISK BEHAVIOR SURVEY

Peer protective factors and past year mental health (in percentages)

How wrong do your friends feel it would be to take an Rx without a prescription?

	Not Wrong	A little Wrong	Wrong/ Very Wrong
Depressed for two weeks at a time	29	34	23
Males	24	27	12
Females	39	41	32
Self-Harm	19	19	11
Males	16	12	5
Females	24	25	16
Attempt Suicide	11	9	6
Males	9	7	4
Females	15	11	8

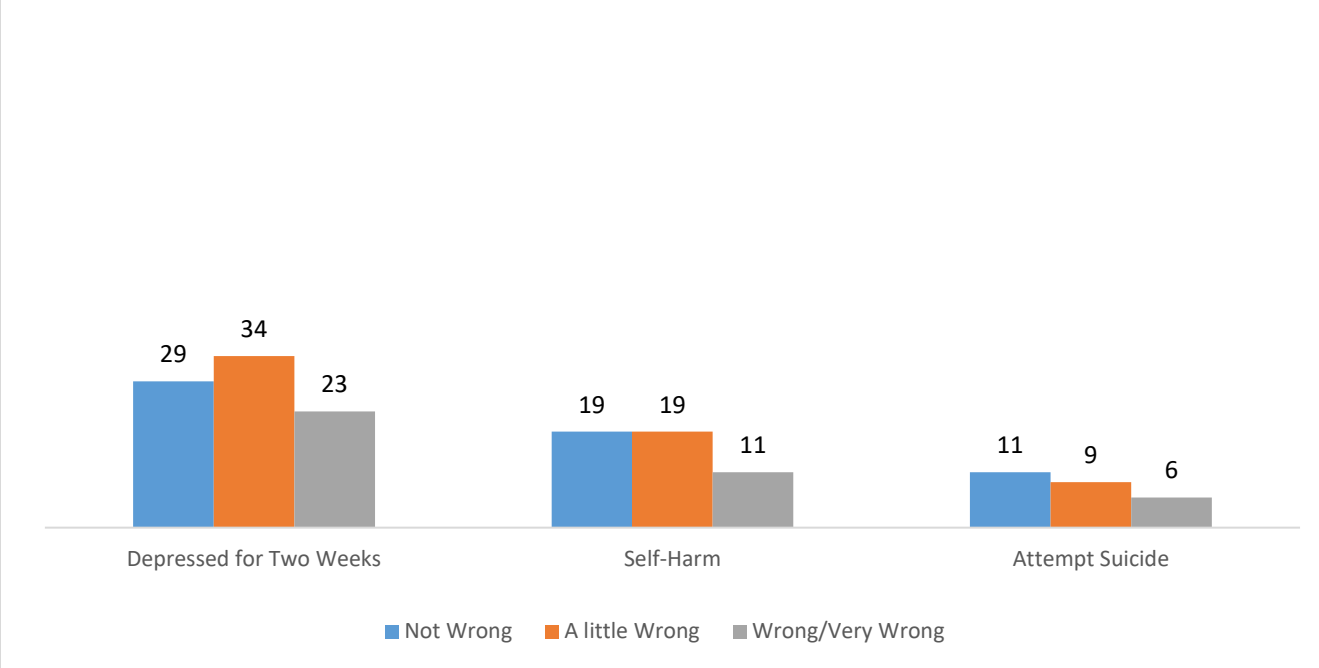

Figure 123 Peer protective factors and past year mental health

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Note: Unweighted Data

Source:"2015 Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware).

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References

About Delaware

Bureau of Labor Statistics. (n.d.). [Table]. *Economy at a Glance: Delaware*. Retrieved April 7, 2017 from https://www.bls.gov/eag/eag.de.htm

Center for Community Research and Service, University of Delaware. (2016). *Kids count in Delaware families count in Delaware: Fact book 2016*. Retrieved May 24, 2017 from https://www.sppa.udel.edu/ccrs/kids-count-sub-site/Documents/2016-KidsCount.pdf

Delaware Focus. (n.d). [Table]. *Language Diversity*. Retrieved April 7, 2017 from http://delawarefocus.org/demographics/diversity/language-diversity

Delaware Focus. (n.d). [Table]. *Population by Age*. Retrieved April 7, 2017 from http://delawarefocus.org/demographics/population-facts/population-by-age

Health Resources and Services Administration. (n.d). [Map]. *Medically Underserved Areas/Populations.* Retrieved April 7, 2017 from https://datawarehouse.hrsa.gov/ExportedMaps/MUA/HGDWMapGallery_MUA.pdf

Jones, A. (Dec. 9, 2014). Murder town USA (aka Wilmington, Delaware). *Newsweek*. Retrieved April 7, 2017 from http://www.newsweek.com/2014/12/19/wilmington-delaware-murder-crime-290232.html

Kaiser Family Foundation. (n.d.). [Table: Time frame 2015]. *Health Insurance Coverage of the Total Populatio*n. Retrieved April 7, 2017 from http://kff.org/state-category/health-coverage-uninsured/

State of Delaware, Economic Development Office. (n.d.). *Corporate headquarters*. Retrieved April 7, 2017 from http://dedo.delaware.gov/Industries/Corporate-Headquarters

State of Delaware, Office of State Planning Coordination. (n.d.). [Table]. *2010 Census Data for Delaware*. Retrieved April 7, 2017 from http://stateplanning.delaware.gov/census_data_center/2010_data.shtml

Sumner, S, Mercy, J., Hillis, S., Maenner, M., & Socias, C. (Nov. 3, 2015). Elevated rates of urban firearm violence and opportunities for prevention—Wilmington, Delaware. Centers for Disease Control and Prevention. Retrieved April 7, 2017 from http://www.dhss.delaware.gov/dhss/cdcfinalreport.pdf

United States Census Bureau. (n.d.). [Table]. *State Area Measurements and Internal Point Coordinates*. Retrieved April 7, 2017 from https://www.census.gov/geo/reference/state-area.html

United States Census Bureau. (n.d.). [Table]. *Quick Facts: Delaware ACS*. Retrieved April 7, 2017 from https://www.census.gov/quickfacts/table/PST045216/10

United States Census Bureau. (n.d.). [Table]. *ACS Demographic and Housing Estimates: 2011-2015 American Community Survey 5-Year Estimates*. Retrieved April 7, 2017 from https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

Tobacco

Albright, M. (2017, Mar. 23). Carney proposes tax hikes, spending cuts in state budget. *The News Journal*. Retrieved from http://www.delawareonline.com/story/news/politics/2017/03/23/carney-budget/99527956/

Centers for Disease Control and Prevention. (n.d.). *Extinguishing the tobacco epidemic in Delaware.* Retrieved April 7, 2017 from https://www.cdc.gov/tobacco/about/osh/program-funding/pdfs/delaware-508.pdf

Centers for Disease Control and Prevention. (n.d.). Health effects of cigarette smoking. Retrieved April 7, 2017 from https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm

Centers for Disease Control and Prevention. (n.d.). Economic trends in tobacco. Retrieved April 7, 2017 from https://www.cdc.gov/tobacco/data_statistics/fact_sheets/economics/econ_facts/

Centers for Disease Control and Prevention. (n.d.). [Table and trend graph]. *Trends in Current Cigarette Smoking Among High School Students and Adults, United States, 1965–2014*. Retrieved April 7, 2017 from https://www.cdc.gov/tobacco/data_statistics/tables/trends/cig_smoking/

Centers for Disease Control and Prevention. (n.d.). [Table]. *Trends in the Prevalence of Tobacco Use: National YRBS: 1991—2015.* Retrieved April 7, 2017 from https://www.cdc.gov/healthyyouth/data/yrbs/pdf/trends/2015_us_tobacco_trend_yrbs.pdf

Tobacco21.org. (n.d.). [List]. *Tobacco 21 cities*. Retrieved on April 7, 2017 from http://tobacco21.org/wp-content/uploads/2014/02/tobacco21-localities-new-7.pdf

U.S. Department of Health and Human Services, Office of the Surgeon General. (2012). *Preventing tobacco use among youth and young adults: A report of the Surgeon General.* Retrieved from https://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf

U.S. Department of Health and Human Services, Office of the Surgeon General. (2014). *The health consequences of smoking—50 years of progress: A report of the Surgeon General*. Retrieved from https://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf

U.S. Department of Health and Human Services, Office of the Surgeon General. (2016). *E-cigarette use among youth and young adults: A report of the Surgeon General*. Retrieved from https://e-cigarettes.surgeongeneral.gov/documents/2016_SGR_Full_Report_508.pdf

Alcohol

Center for Behavioral Health Statistics and Quality. (2016). *Key substance use and mental health indicators in the United States: Results from the 2015 National Survey on Drug Use and Health* (HHS Publication No. SMA 16-4984, NSDUH Series H-51). Retrieved from http://www.samhsa.gov/data/

Centers for Disease Control and Prevention. (2016). *2015 Calculated Variables Report: Behavioral Risk Factor Surveillance System*. Retrieved from http://www.dhss.delaware.gov/dhss/dph/dpc/files/de2015calcvariables.pdf

Center for Drug and Health Studies, University of Delaware. (2017, Feb.). *Victims of teen dating violence report drinking alcohol on more days in the past month than non-victims*. DelawareData, 2017, DDATAgrams, 12(8). Retrieved March 29, 2017 from https://www.cdhs.udel.edu/content-sub-site/Documents/DDATA/DDATAGram%20Vol%2012%20Is%208_TDV%20and%20alcohol%20use.pdf

Decamp, W., et al. (2016). *Binge drinking and other risk behaviors among college students 2016*. Center for Drug and Health Studies, University of Delaware. Retrieved March 29, 2017 from https://www.cdhs.udel.edu/content-sub-site/Documents/CRBS%202016%20Report.pdf

Delaware State Police, Delaware Information and Analysis Center. (2016). *Delaware's annual traffic statistical report*. Retrieved March 29, 2017 from http://dsp.delaware.gov/pdfs/2015%20Traffic%20Annual.pdf

Deveries, K.M., et al. (2013). Intimate partner violence victimization and alcohol consumption in women: a systematic review and meta-analysis. *Addiction* 109(3). http://onlinelibrary.wiley.com/doi/10.1111/add.12393/full

Grant, B.F., & Dawson, D.A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse, 9*, 103-110.

Kochanek, K. D., Murphy, S.L., Xu, J., & Tejada-Vera, B. (2016). Deaths: Final data for 2014. *National Vital Statistics Reports, 65*(4). Retrieved March 13, 2017 from https://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_04.pdf

PIRE. (n.d.). *Underage drinking in Delaware: The facts*. Retrieved April 7, 2017 from http://www.pire.org/documents/UDETC/cost-sheets/DE.pdf

Rehm, J., Mathers, C., Popova, S., Thavorncharoensap, M., Teerawattananon, Y., & Patra, J. (2009). Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. *The Lancet, 373*(9682), 2223-2233.

Sacks, J. J., Gonzales, K. R., Bouchery, E. E., Tomedi, L. E., & Brewer, R. D. (2015). 2010 national and state costs of excessive alcohol consumption. *American Journal of Preventive Medicine, 49*(5).

Stahre, M., Roeber, J., Kanny, D., Brewer , R. D., & Zhang, X. (2014). Contribution of excessive alcohol consumption to deaths and years of potential life lost in the United States. *Preventing*

Chronic Disease, 11(E109). http://dx.doi.org/10.5888/pcd11.130293

Substance Abuse and Mental Health Services Administration. (n.d.). [Table of data from the Treatment Episode Data Set]. *Substance Abuse Treatment Admissions by Primary Substance Abuse, According to Sex, Age Group, Race, and Ethnicity Year = 2015*. Retrieved April 7, 2017 from https://wwwdasis.samhsa.gov/webt/quicklink/DE15.htm

Marijuana

Centers for Disease Control and Prevention. (n.d.). [Table]. *High School YRBS: Delaware 2015 Results*. Retrieved April 7, 2017 from https://nccd.cdc.gov/youthonline/App/Results.aspx?LID=DE

Centers for Disease Control and Prevention. (n.d.). [Table]. *Trends in the Prevalence of Marijuana, Cocaine, and Other Illegal Drug Use National YRBS: 1991—2015.* Retrieved April 7, 2017 from https://www.cdc.gov/healthyyouth/data/yrbs/pdf/trends/2015_us_drug_trend_yrbs.pdf

ElSohly, M. A., Mehmedic, Z., Foster, S., Gon, C., Chandra, S., & Church, J.C. (2016). Changes in cannabis potency over the last 2 decades (1995–2014): Analysis of current data in the United States. *Biological Psychiatry 79*(7), 613–619.

Gruber, S. A., & Sagar, K. A. (2017). Marijuana on the mind? The impact of marijuana on cognition, brain structure, and brain function, and related public policy implications. *Policy Insights from the Behavioral and Brain Sciences, 4*(1). http://journals.sagepub.com/doi/full/10.1177/2372732216684851

Lisdahl, K. M., Gilbart, E. R., Wright, N.E., & Shollenbarger, S. (2013). Dare to delay? The impacts of adolescent alcohol and marijuana use onset on cognition, brain structure, and function. *Frontiers in Psychiatry*. https://doi.org/10.3389/fpsyt.2013.00053

National Academies of Sciences, Engineering, and Medicine. (2017). The health effects of cannabis and cannabinoids: The current state of evidence and recommendations for research. Retrieved April 7, 2017 from http://www.nap.edu/24625

National Conference of State Legislatures. (n.d.). Marijuana laws. Retrieved on April 7, 2017 from http://www.ncsl.org/bookstore/state-legislatures-magazine/marijuana-deep-dive.aspx%20retrieved%203/17/17.aspx

National Conference of State Legislatures. (2017, Mar. 16). State medical marijuana laws. Retrieved April 7, 2017 from http://www.ncsl.org/research/health/state-medical-marijuana-laws.aspx

Substance Abuse and Mental Health Administration. (n.d.). *National Survey on Drug Use and Health: Comparison of 2013-2014 and 2014-2015 population percentages (50 states and the District of Columbia)*. Retrieved April 7, 2017 from https://www.samhsa.gov/data/sites/default/files/NSDUHsaeShortTermCHG2015/NSDUHsaeShortTermCHG2015.pdf

Opioids

Albright, M. & Rini, J. (2016, Apr. 28). Over 600 babies in Delaware to be born addicted in 2016. *The News Journal.* Retrieved from http://www.delawareonline.com/story/news/local/2016/04/28/kids-count/83603116/

Anderson, T., Rapp, L., O'Connell, D., Carter, T., Mancik, A., & Martin, S. (2016). Opiate and Heroin Dependency Transition Committee (OHDTC) SWOT Report. Retrieved April 7, 2017 from http://www.mattmeyer2016.com/Opiate%20and%20Heroin%20Dependency%20SWOT%20Report_FINAL.pdf

Anderson, Tammy L., Martin, Steve, Fang, Yiqian and Jiamin Li. (2016). *Report to the Delaware PDAC on Criteria of High Risk Prescribing for RIPAID* [Centers for Disease Control Grant].

Centers for Disease Control and Prevention. (n.d.). Understanding the epidemic. Retrieved April 7, 2017 from https://www.cdc.gov/drugoverdose/epidemic/index.html

Centers for Disease Control and Prevention. (n.d.). Synthetic opioid data. Retrieved April 7, 2017 from https://www.cdc.gov/drugoverdose/data/fentanyl.html

Centers for Disease Control and Prevention. (n.d.). Prescription opioid overdose data. Retrieved April 7, 2017 from https://www.cdc.gov/drugoverdose/data/overdose.html

Drug Enforcement Agency. (2016). National heroin threat assessment summary – updated. Retrieved April 7, 2017 from https://www.dea.gov/divisions/hq/2016/hq062716_attach.pdf

Goss, S. (2017, Jan. 31). Delaware pulls prescribing privileges from 3 pain docs. *The News Journal*. Retrieved April 7, 2017 from http://www.delawareonline.com/story/news/health/2017/01/31/delaware-pulls-prescribing-privileges-3-pain-docs/97276558/

Hedegaard, H., Warner, M., & Minino, A. M. (2017). Drug overdose deaths in the United States, 1999-2015. *NCHS Data Brief, No. 273.* Retrieved April 7, 2017 from https://www.cdc.gov/nchs/data/databriefs/db273.pdf

Horn, B. (2017, Feb. 14). Delaware fentanyl-related overdoses triple in 2016. *The News* Journal. Retrieved April 7, 2017 from http://www.delawareonline.com/story/news/local/heroindelaware/2017/02/14/fentanyl-related-overdoses-triple-2016/97899684/

Horn, B. (2017, Mar. 26). 4 dead in one day from heroin in Delaware. *The News* Journal. Retrieved April 7, 2017 from http://www.delawareonline.com/story/news/local/heroindelaware/2017/03/26/four-people-dead-heroin-involved-overdoses-ncco/99673706/

National Safety Council (2016). *Prescription nation 2016: Addressing America's drug epidemic*. Retrieved April 7, 2017 from http://www.nsc.org/learn/NSC-Initiatives/Pages/Prescription-Nation-White-Paper.aspx

Prescription Behavior Surveillance System at Brandeis University. (2016). Patient risk measures for controlled substance prescriptions in Delaware, 2012-2015. *PBSS Data Brief*. Retrieved April 7, 2017 from http://www.pdmpassist.org/pdf/COE_documents/Add_to_TTAC/DE%20PBSS%20data%20brief%20updated.pdf

Prescription Behavior Surveillance System at Brandeis University. (2016). Patient risk measures for controlled substance prescriptions in Delaware, 2012-2015. *PBSS Data Brief*. Retrieved April 7, 2017 from http://www.pdmpassist.org/pdf/COE_documents/Add_to_TTAC/DE%20PBSS%20data%20brief%20updated.pdf

Rudd, R. A., Seth, P., David, F., & Scholl, L. (2016). Increases in drug and opioid-involved overdose deaths — United States, 2010–2015. *Morbidity and Mortality Weekly Report 65*(50 & 51). Centers for Disease Control and Prevention. Retrieved April 7, 2017 from https://www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm655051e1.pdf

Substance Abuse and Mental Health Services Administration. (n.d.). [Table of data from the Treatment Episode Data Set]. *Substance Abuse Treatment Admissions by Primary Substance Abuse, According to Sex, Age Group, Race, and Ethnicity Year = 2015*. Retrieved April 7, 2017 from https://wwwdasis.samhsa.gov/webt/quicklink/DE15.htm

U.S. Department of Health and Human Services. (n.d.). The opioid epidemic: By the numbers. Retrieved April 7, 2017 from https://www.hhs.gov/sites/default/files/Factsheet-opioids-061516.pdf

U.S. Department of Health and Human Services Office on Women's Health. (2016). *White paper: Opioid use, misuse and overdose in women.* Retrieved April 7, 2017 from https://www.womenshealth.gov/files/documents/white-paper-opioid-508.pdf

Other Illicit Drugs

Center for Behavioral Health Statistics and Quality. (2016). [Figure 1]. Key substance use and mental health indicators in the United States: Results from the 2015 National Survey on Drug Use and Health (HHS Publication No. SMA 16-4984, NSDUH Series H-51). Retrieved May 24, 2017 from http://www.samhsa.gov/data/

Hedegaard, H., Warner, M., & Minino, A. M. (2017). Drug overdose deaths in the United States, 1999-2015. *NCHS Data Brief, No. 273.* Retrieved May 24, 2017 from https://www.cdc.gov/nchs/data/databriefs/db273.pdf

Substance Abuse and Mental Health Services Administration. (n.d.). [Table of data from the Treatment Episode Data Set]. *Substance Abuse Treatment Admissions by Primary Substance Abuse, According to Sex, Age Group, Race, and Ethnicity Year = 2015*. Retrieved May 24, 2017 from https://wwwdasis.samhsa.gov/webt/quicklink/DE15.htm

Mental Health

America's Health Rankings. (n.d.) [Table: Data from the 2016 Annual Report]. *Delaware Poor Mental Health Days*. Retrieved April 21, 2017 from http://www.americashealthrankings.org/explore/2016-annual-report/measure/MentalHealth/state/DE

Center for Disease Control and Prevention. (n.d.) Mental health. Retrieved April 13, 2017 from https://www.cdc.gov/nchs/fastats/mental-health.htm

Delaware Health Tracker. (n.d.). [Table]. *Poor Mental Health: 14+ Days*. Retrieved April 21, 2017 from http://www.delawarehealthtracker.com/index.php?module=indicators&controller=index&action=view&indicatorId=1835&localeId=138817

Health Resources and Services Administration. (2017). [Map]. *Health Professional Shortage Areas (HPSA) - Mental Health*. Retrieved April 12, 2017 from https://datawarehouse.hrsa.gov/ExportedMaps/HPSAs/HGDWMapGallery_BHPR_HPSAs_MH.pdfData as of 04/11/2017

PolicyMap. (n.d.) [Center for Disease Control and Prevention data - Map]. *Rate of deaths from suicide per 100,000 people in 2014*. Retrieved April 12, 2017 from https://www.policymap.com/

Substance Abuse and Mental Health Services Administration. (2015). Behavioral health barometer: Delaware, 2015. Retrieved April 12, 2017 from https://www.samhsa.gov/data/sites/default/files/2015_Delaware_BHBarometer.pdf

Adverse Childhood Experiences

Center for Disease Control and Prevention. (n.d.). *Adverse Childhood Experiences* (ACEs) Retrieved February, 21, 2017 from https://www.cdc.gov/violenceprevention/acestudy/

Delaware Public Health Institute. (2016, Dec. 7). *Collecting and Utilizing Reliable, Local Community-Based Health Information*. Presentation.

Fink, A. (2016, Dec. 16). *Adverse Childhood Experiences and Behavioral Health*. Presentation to the State Epidemiological Outcomes Workgroup, New Castle, Delaware.

Hussaini, K., Offutt-Powell, T., Christensen, M., & Woodall, L. The impact of adverse childhood experiences (ACE) on health-related quality of life, mental health, and hospitalizations in Delaware. Retrieved February 21, 2017 from http://delamed.org/wp-content/uploads/2016/12/DJPH_Dec2016.pdf

Risk and Protective Factors

Arthur, M. W., Pollard, J. A., Catalano, R. F., & Baglioni, A. J. (2002). Measuring risk and protective factors for substance use, delinquency, and other adolescent behaviors: The communities that care survey. *Evaluation Review, 26*(6). DOI: 10.1177/019384102237850

Centers for Disease Control and Prevention. (2009). *School connectedness: Strategies for increasing protective factors among youth*. Retrieved April 19, 2017 from https://www.cdc.gov/healthyyouth/protective/pdf/connectedness.pdf

Cleveland, M. J., Feinberg, M. E., Bontempo, D. E., & Greenberg, M. T. (2008). The role of risk and protective factors in substance abuse across adolescence. *Journal of Adolescent Health, 43*(2). http://doi.org/10.1016/j.jadohealth.2008.01.015

Interagency Working Group on Youth Programs. (n.d.) *Risk and Protective Factors*. Retrieved on April 19, 2017 from http://youth.gov/youth-topics/substance-abuse/risk-and-protective-factors-substance-use-abuse-and-dependence

Nargiso, J. E., Friend, K., & Florin, P. (2013). An examination of peer, family, and community context risk factors for alcohol use and alcohol use intentions in early adolescents. The Journal of Early Adolescence, 33(7). DOI: 10.1177/0272431613477238

National Institute on Drug Abuse. (2003). *Preventing drug use among children and adolescents: A research-based guide for parents, educators, and community leaders* [2nd Edition]. Retrieved April 19, 2017 from https://www.drugabuse.gov/sites/default/files/preventingdruguse.pdf

Substance Abuse and Mental Health Services Administration. (n.d.). *Risk and Protective Factors.* Retrieved April 19, 2017 from https://www.samhsa.gov/capt/practicing-effective-prevention/prevention-behavioral-health/risk-protective-factors

2017 Data Sources - Figures

Data Instrument	Administered/Compiled by	Most Recent Data	Trend Range
Data Base/ Diagnostics Plus	-	-	1989-1993
Delaware Annual Traffic Statistical Report	Delaware State Police/Delaware Statistical and Analysis Center	2015	-
Delaware Criminal Justice Information System (DELJIS)	DELJIS	2016	-
Delaware Behavioral Risk Factor Surveillance System (BRFSS)	DE Division of Public Health (sponsored by the CDC)	2015	-
Delaware Household Health Survey	Delaware Public Health Institute	2015	-
Delaware Prescription Monitoring Program (PMP)	Delaware Office of Controlled Substance, Division of Professional Regulation	2015	2013 - 2015
Delaware School Survey (DSS) – 5th, 8th, and 11th grades	Center for Drug and Health Studies, UD	2016	1995 - 2016
Delaware Youth Risk Behavior Survey (YRBS) – High School	Center for Drug and Health Studies, UD (sponsored by DE Division of Public Health and the CDC)	2015	1999 - 2015
Delaware Youth Risk Behavior Survey (YRBS) – Middle School	Center for Drug and Health Studies, UD (sponsored by Nemours)	2015	1999 - 2015
Department of Public Instruction	-	1994	-
Monitoring the Future	University of Michigan	2015-2016	-
National High School Youth Risk Behavior Survey	US Centers for Disease Control	2015	1995 - 2015
Performance Measures, Delaware	National Highway Safety Administration		
National Survey on Drug Use and Health (NSDUH)	US Substance Abuse and Mental Health Services Administration	2014-2015	2002 - 2015
Tobacco Free Kids Organization	Tobacco Free Kids Organization	2014	-
Treatment Admissions Data	US Substance Abuse and Mental Health Services Administration, collected by Delaware Division of Substance Abuse and Mental Health	2015	2002 - 2015

In addition to the data sources for the figures and tables in the 2017 report, the following data sources are also cited throughout the narrative:

- America's Health Rankings
- Bureau of Labor Statistics
- Centers for Disease Control and Prevention
- Delaware Health Tracker
- Health Resources and Services Administration
- Kaiser Family Foundation
- PolicyMap
- Prescription Behavior Surveillance System at Brandeis University
- Tobacco21.org
- U.S. Department of Health and Human Services
- U.S. Census Bureau