2018 DELAWARE STATE EPIDEMIOLOGICAL PROFILE: SUBSTANCE USE AND RELATED ISSUES

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)

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Introduction:
The Role of the Delaware SEOW and the Purpose of the Epidemiological 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. In Delaware, the Division of Substance Abuse and Mental Health (DSAMH) in the Delaware Department of Health and Social Services is the recipient of a Strategic Prevention Framework-Partnerships for Success Grant (SPF-PFS) and the SEOW is part of this initiative. The SEOW (formerly known as the Delaware Drug and Alcohol Tracking Alliance, or DDATA) is a group of stakeholders representing organizations that collect and use data on substance use, associated behaviors, and their consequences in order to establish and monitor indicators related to substance abuse prevention. The SEOW's mission is to bring this data 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 consumption and its consequences;*
- *To create data-guided products that inform prevention planning and policies;*
- *To train agencies and communities in understanding, using, and presenting data effectively in order to support prevention efforts.*

This annual report highlights the most recently available data on substance use and related issues in Delaware. It also includes special topics, such as populations that experience disproportionate risk for substance use or related behaviors. The information is intended to help decision makers and stakeholders throughout Delaware accomplish their goals related to needs assessments, strategic planning, and evaluation. The 2018 report consists of twelve sections: a state demographic background; tobacco and electronic cigarettes; alcohol; marijuana; opioid use; other illegal drugs; substance exposed infants; gambling; mental health; substance use and adverse childhood experiences (ACEs); substance use among the LGBQ population and new data on Transgender youth in Delaware; and protective factors.

The 2018 Delaware Epidemiological Profile is available, along with all SEOW data products, from the Center on Drug and Health Studies at the University of Delaware website.

Thank You, SEOW Collaborators

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

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 Afterschool Network
Delaware Courts – Office of the Child Advocate
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 Information and Analysis Center
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

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Executive Summary

Introduction: The Role of the Delaware SEOW and the Purpose of the Epidemiological 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. In Delaware, the Division of Substance Abuse and Mental Health (DSAMH) in the Delaware Department of Health and Social Services is the recipient of a Strategic Prevention Framework-Partnerships for Success (SPF-PFS) grant and the SEOW is part of this initiative. The SEOW (formerly known as the Delaware Drug and Alcohol Tracking Alliance or DDATA) is a group of stakeholders that collect and use data concerning substance use, related behaviors, and their consequences to establish and monitor indicators related to substance abuse prevention. The SEOW's 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 consumption and its consequences;*
- *To create data-guided products that inform prevention planning and policies;*
- *To train agencies and communities in understanding, using, and presenting data effectively to support prevention efforts.*

This annual report highlights the most recently available data on substance use and related issues in Delaware. The information is intended to help decision makers and stakeholders throughout Delaware accomplish their goals related to needs assessments, strategic planning, and evaluation. 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 special topics, including overviews of gambling, mental health issues, substance exposed

infant births, LGBQ youth, Transgender youth, and 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.

Delaware Data: State Demographic Background

As the second-smallest state in the country and comprised of only three counties (New Castle, Kent, and Sussex), Delaware is a unique state. The population is estimated at just under a million people. The northern part of the state is more densely populated than the two southern counties, which are largely rural. The median age of Delaware residents is slightly older than the national average, and the median household income is slightly higher as well. Just over two-thirds of Delaware residents are white, nearly a quarter are African American, and almost ten percent are Hispanic or Latino (US Census Bureau, n.d.). Much of Delaware is also considered to be a Medically Underserved Area (Health Resources and Services Administration [HRSA], n.d.), with the entirety of Kent and Sussex counties fitting this criteria, as well as communities in southern and eastern New Castle County.

Tobacco and Electronic Cigarettes (Vaping)

While tobacco use is still a serious national and local issue that warrants substantial funding for education and prevention programming, data from five major survey sources show that Delaware youth and adults have reported a steady decline in cigarette use since the late 1990s. Data from the Delaware School Survey (DSS) show that twenty years ago over a third of Delaware 11th graders reported regularly using cigarettes; today, only about 4% of 11th graders report current past month cigarette usage. Although declines in cigarette smoking rates are well documented, many Delaware youth continue to be exposed to second hand smoke. Findings of the 2016 Delaware Youth Tobacco Survey indicate that 21% of high school and middle school students report someone smoking in

their home in the past seven days. One in four high school students and one in five middle school students report riding in a car within the past seven days with someone who was smoking. An emerging trend of concern is "vaping" or the use of e-cigarettes. Youth report greater use of e-cigarettes and other electronic vaping devices than traditional tobacco products. While the perception may be that these devices are safer alternatives to cigarette smoking and other forms of tobacco use, e-cigarette use can still lead to health complications, including an increased likelihood of using other tobacco products (Office of the Surgeon General, 2016). Fortunately, according to the 2017 Delaware Youth Risk Behavior Survey, high school youth reports of ever trying vaping and current use have declined in the past two years (from 41% to 38% and from 24% to 14%, respectively). The Delaware School Survey, conducted annually, while generally reporting lower rates of vaping, has also showed slight declines.

Alcohol

Alcohol use also is a major concern that presents real public health risks and social costs. Data from the 2017 DSS and Youth Risk Behavior Surveys (YRBS) show that alcohol remains the most commonly reported substance used by students across the state. According to the DSS, 28% of 11th graders and 8% of 8th graders reported that they drank alcohol in the past month. Though alcohol use among Delaware students declined 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. Driving while intoxicated is a major public health concern associated with alcohol. More than a third of fatal car crashes in Delaware involved alcohol in 2016 (Delaware State Police, 2017); nearly one in eight 11th graders report that they have driven a vehicle after drinking at least once. Heavy drinking can also lead to serious health complications, including diseases of the liver and pancreas, and various cancers. According to data from the 2015-2016 National Survey on Drug Use and Health (NSDUH), young adults between the ages of 18-25 have the highest rates of binge drinking; nearly 40% of adults in this age range reported binge drinking in the past 30 days. Data from the Delaware BRFSS show a decrease in adult past month drinking, from a high of 60% in 2011 to 56% in 2015, although Delaware adults drink at a slightly higher rate

than the national average. Nearly one in six Delaware adults surveyed by BRFSS in 2016 reported binge drinking**;** and 17% met the criteria for heavy drinking.

Marijuana

Over the past two decades, states enacted various laws that changed the legal status of marijuana. Delaware currently permits medical marijuana for certain conditions, and since 2015 has decriminalized the possession of small amounts of marijuana by adults. In the context of the shifting legal status of marijuana, the perception of risk of harm from marijuana usage has declined among students surveyed by the DSS over the past decade, while rates of use among high school students have increased. A comparison of the latest available national YRBS data and the Delaware YRBS data of the same year indicates that in 2017, Delaware high school youth smoked marijuana at a higher rate (26%) than the national average (20%) (CDC, 2017). The 2017 Delaware High School YRBS results indicate that both the rates of lifetime and past month use have increased in the past two years, from 42% to 44% and from 23% to 26%, respectively. Alternate methods of ingesting marijuana have also become more popular among youth in Delaware, including vaping, edibles, and marijuana concentrates. The use of marijuana concentrates is particularly concerning because of the high potency of THC in these products (Carlini, Garrett, & Harwick, 2017). To date, there is little data that measures the use of these concentrates.

Opioids and other Trends

Delaware has been hit hard by the opioid epidemic. Delaware had the 9th highest overdose death rate of the 50 states and District of Columbia in 2016 (CDC, n.d.), and overdose deaths in the state have increased since that time. Treatment data from the U.S. Department of Health and Human Services indicate that heroin was the primary drug at admission in almost half (48%) of all substance use treatment admissions in Delaware in 2017 (Treatment Episode Data Set [TEDS], 2017). Among students who responded to the 2017 DSS, prescription painkillers are the second most misused category of illicit drugs, after marijuana. DSS data from 2017 indicates a slow decline in both 8th and 11th graders self-reported past month misuse of prescription pain

medicine. Still, according to the 2017 Delaware High School YRBS, nearly one in ten high school students report misusing prescription pain medications at least once in their lifetime.

Other Illicit Drug Use

The majority of the epidemiological report focuses on the four major substances outlined in the paragraphs above: alcohol, tobacco, marijuana, and opioids. These are not the only drugs misused by Delawareans; illicit drug use also includes cocaine and crack, hallucinogens, inhalants, and the misuse of other prescription drugs. According to the National Survey on Drug Use and Health (NSDUH) 2015-2016 estimates, in Delaware, approximately 10% of all people over the age of 12 used an illicit drug in the past year (with illicit drugs defined in the NSDUH as: marijuana/hashish, cocaine/crack, heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically). NSDUH findings indicate that 10% of Delaware youth under the age of 18, nearly a quarter of adults age 18-25, and 8% of adults over the age of 26 used illicit drugs during the past year. Data from the 2017 DSS shows that 5% of 5th grade students, 4% of 8th grade students, and 9% of 11th grade students report use of illicit drugs, other than marijuana, during the past year. This analysis includes questions regarding student use of "street uppers," "downers," Ecstasy, hallucinogens, synthetic marijuana, heroin, and cocaine/crack. Cocaine is a specific illicit drug of concern, with 13% of drug overdose deaths linked to cocaine nationwide and reports of fentanyl, a potent opiate, being found mixed in with cocaine bought on the street (Hedegaard, Warner, & Menio, 2017). Over 4 % of all drug treatment admissions in the Delaware were due to cocaine dependence (TEDS).

Substance Exposed Infants

Infants are a special population that can be uniquely impacted by substance use. Substance-exposed infants (SEI) are babies born after exposure to illicit drugs or alcohol. Heavy prenatal substance exposure can lead to conditions such as neonatal abstinence syndrome, fetal alcohol spectrum disorders, or other developmental delays as a result of prenatal substance exposure. Prenatal exposure has the potential to create additional health issues during infancy and later in life, especially if the child's parents or caregivers engage in continued substance use after birth.

As of 2017, 450 substance exposed infant births that had been reported in recent years to the Delaware Division of Family Services were analyzed. Among infants exposed to a single substance, marijuana exposure was the most prevalent. For those infants exposed to two or more substances, opioids were the most commonly identified substance.

Gambling

While many people can enjoy gambling harmlessly, for others, problem gambling and gambling disorders can present numerous challenges and negative consequences. There is evidence that gambling disorders are often co-occurring with other mental health and substance use disorders among adults (Petry, Stinson, & Grant, 2005; Martin, Usdan, Cremeens, Vail-Smith, 2014). According to the 2015 YRBS data, half of middle school students and approximately 40% of high school students who responded to the gambling question indicated that they had gambled at least once in the past year. Among both middle and high school students, those that reported gambling in the past year were more likely to report using substances at higher rates than their non-gambling peers.

Mental Health

In Delaware, nearly 4% of adults reported having serious mental health problems (Substance Abuse and Mental Health Services Administration, [SAMHSA], 2017). Data from the latest YRBS shows that more than a quarter of Delaware high school students reported feeling sad or hopeless for a period of at least two weeks, about 14% had purposefully cut or hurt themselves, and approximately 7% reported having attempted suicide *in the past year*. These data indicate that there is a need for mental health services across all age groups. Yet less than half of the adults who report having a mental illness also report receiving any treatment or counseling in the past year. This suggests that there are barriers to accessing mental health treatment for many in Delaware. Sussex County has been recognized as a high priority area, with a shortage of mental health facilities (HRSA, n.d.).

Adverse Childhood Experiences (ACEs)

The role of adverse childhood experiences (ACEs) on health and life course outcomes is a topic of concern within the prevention field. ACEs are traumatic events or conditions such as abuse, neglect, or parental separation that, when experienced in childhood, can have long-lasting negative impacts on individuals. Furthermore, experiencing one type of trauma increases the risk of experiencing additional traumas, and multiple individual ACEs can have a compounded impact. The National Survey of Children's Health found that nearly half of all Delaware children have experienced at least one ACE; the three most common being divorce/parental separation, economic hardship, and parental incarceration. Results from the 2017 YRBS indicate that high school students who have experienced trauma report higher rates of all substance use as well as indicators of poor mental health such as self-harm and suicide attempts.

Lesbian, Gay, Bisexual, and Questioning (LGBQ) and Transgender Youth

Eleven percent of Delaware high school youth who responded to a 2017 YRBS question about sexual orientation reported that they identified as lesbian, gay, or bisexual (LGB). An additional three percent indicated that they were not sure of their sexual orientation (Q or questioning). Although when compared to data from the 2015 YRBS it appears the gap is narrowing across several measures, LGBQ youth continue to appear to be at disproportionate risk for substance use and poorer mental health than their straight peers. It is important to note that being gay, lesbian, or bisexual is not the cause of increased risk behaviors; rather, interpersonal and internal conflicts very likely contribute to the heightened risk that these teens experience. In 2017, the Delaware YRBS included a question on transgender status for the first time; just over 1% of students reported that they identified as transgender. While this population sample size is too small at present to conduct further analysis, compiling multiple years of data or partnering with other states may provide enough data to look at risk behaviors of this group of students in future years.

Protective Factors

While childhood trauma can function as a risk factor for substance use and other health risk behaviors, it is also important to recognize conditions that can function as protective factors against risky behavior for young people at the individual, family, peer, and community levels. Data from the 2017 Delaware YRBS indicates that middle and high school students who reported the following characteristics also reported lower consumption of substances: good grades in school; feelings of support and connectedness at school; consistent discipline and structure at home; engaged parents; and a peer group that believes substance use is wrong. Knowledge of protective factors can bolster the effectiveness of community and school prevention programming.

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 961,939. The 2012-2016 American Community Survey Estimates indicates that the median age in Delaware is 39.6 years. Individuals under the age of 18 comprise 23% of the State's overall population. Delawareans aged 65 and older comprise 17% of the total population (US Census Bureau, n.d.). The demographic snapshot for this period indicates that approximately 69% of the state population reported their race as White, 22% as Black or African American, 4% as Asian, 3% as two or more races, and the remaining population of the state identified as Pacific Islander/Native Hawaiian, American Indian/Alaska Native or Other. Nine percent of the population reported their ethnicity as Hispanic or Latino. The 2012-2016 American Community Survey estimates that 13% of Delawareans spoke a language other than English at home (US Census Bureau, American Fact Finder, n.d.[1]).

The median household income from 2012 through 2016 was $61,017. In March 2018, the unemployment rate was 4.3% with over 20,700 people currently unemployed (US Bureau of Labor Statistics, n.d.). In 2016, 9% of the Delaware population was uninsured. 22% of the population was enrolled in Medicaid, and 16% was enrolled in Medicare (Kaiser Foundation, n.d.). From 2014 – 2016, 18.5% of children in the state lived below the federal poverty line. More than 1 in 3 children, during this time period, were raised in one-parent families. In 2016, 71,324

[1] All numbers are rounded to the nearest whole number.

families were enrolled in the Supplemental Nutrition Assistance Program, and 5,081 families received Temporary Assistance for Needy Families (Center for Community Research and Service, 2017).

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.).

New Castle County

The northernmost and most densely populated county, New Castle County had an estimated population of 551,997, according to the 2012-2016 American Community Survey. Delaware's largest city, Wilmington, is located in the county, with an estimated 71,502 people living in the city during this time period (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 an estimated 32,941 people in 2016, 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 37,351 people lived in Dover in 2016 (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 Bureau 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 and migrant 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, with several census tracts within the city of Wilmington considered a MUA using the HRSA coding criteria. All of Kent County is considered an MUA, under the Governor's Exception 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, nearly 30% of adults reported poor mental health status in 2016 (Kaiser Family Foundation, n.d.). 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 2018 SocioNeeds Index).

An Overview of the 2018 Delaware State Epidemiological Profile Report

The 2018 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 special topics, including overviews of mental health issues, substance exposed infant births, LGBQ youth, Transgender youth, and 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

2017 Delaware School Survey

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

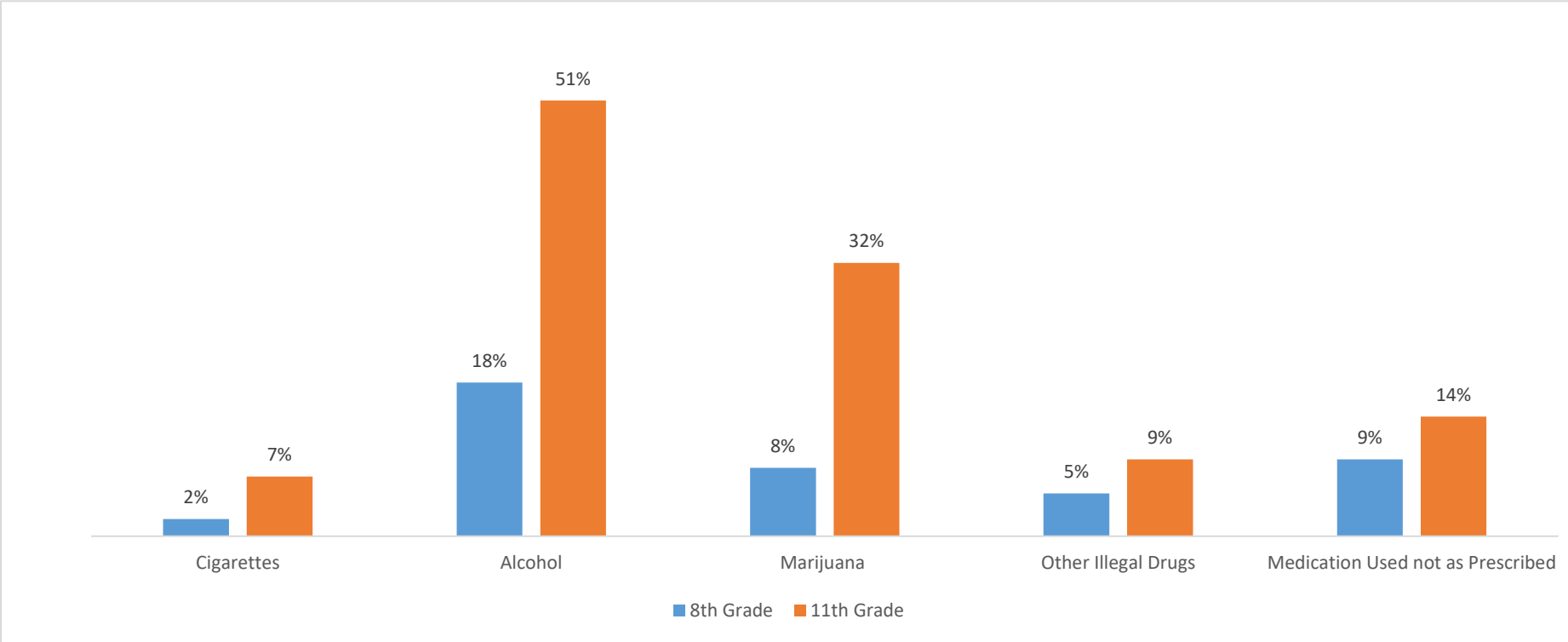

Figure 1 Reported use of selected substances in the past year among Delaware 8th and 11th graders

Notes:
Medication used not as prescribed includes steroids, over the counter medication, prescription uppers (diet pills, Ritalin, Concerta, Adderall), downers (Xanax and other benzodiazepines), and painkillers.
Other illegal drugs include ecstasy, hallucinogens, street uppers, inhalants, cocaine, crack, heroin and synthetic marijuana used to get high.

Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 Delaware School Survey

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

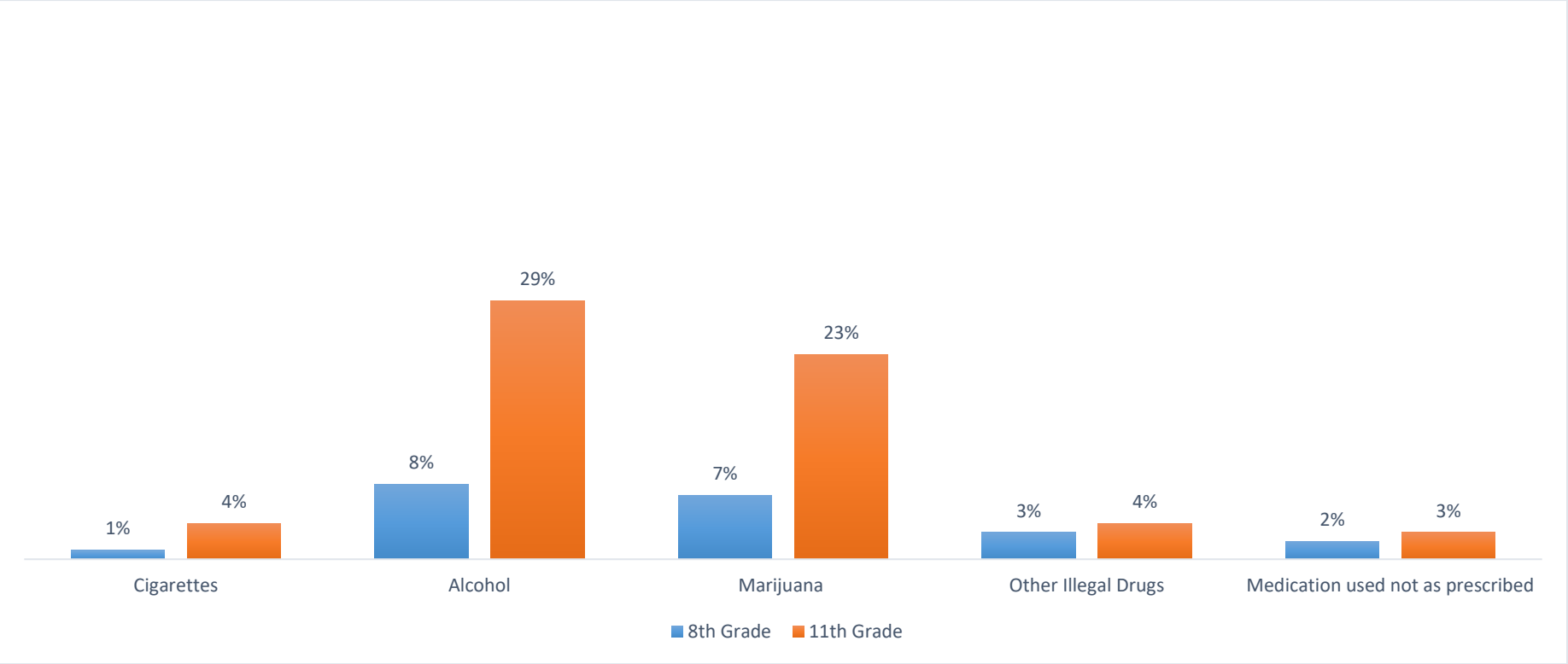

Figure 2 Reported use of selected substances in the past 30 days among Delaware 8th and 11th graders

Notes:
Medication used not as prescribed includes steroids, over the counter medication, prescription uppers (diet pills, Ritalin, Concerta, Adderall), downers (Xanax and other benzodiazepines), and painkillers.
Other illegal drugs includes ecstasy, hallucinogens, street uppers, inhalants, cocaine, crack, heroin and synthetic marijuana used to get high.

Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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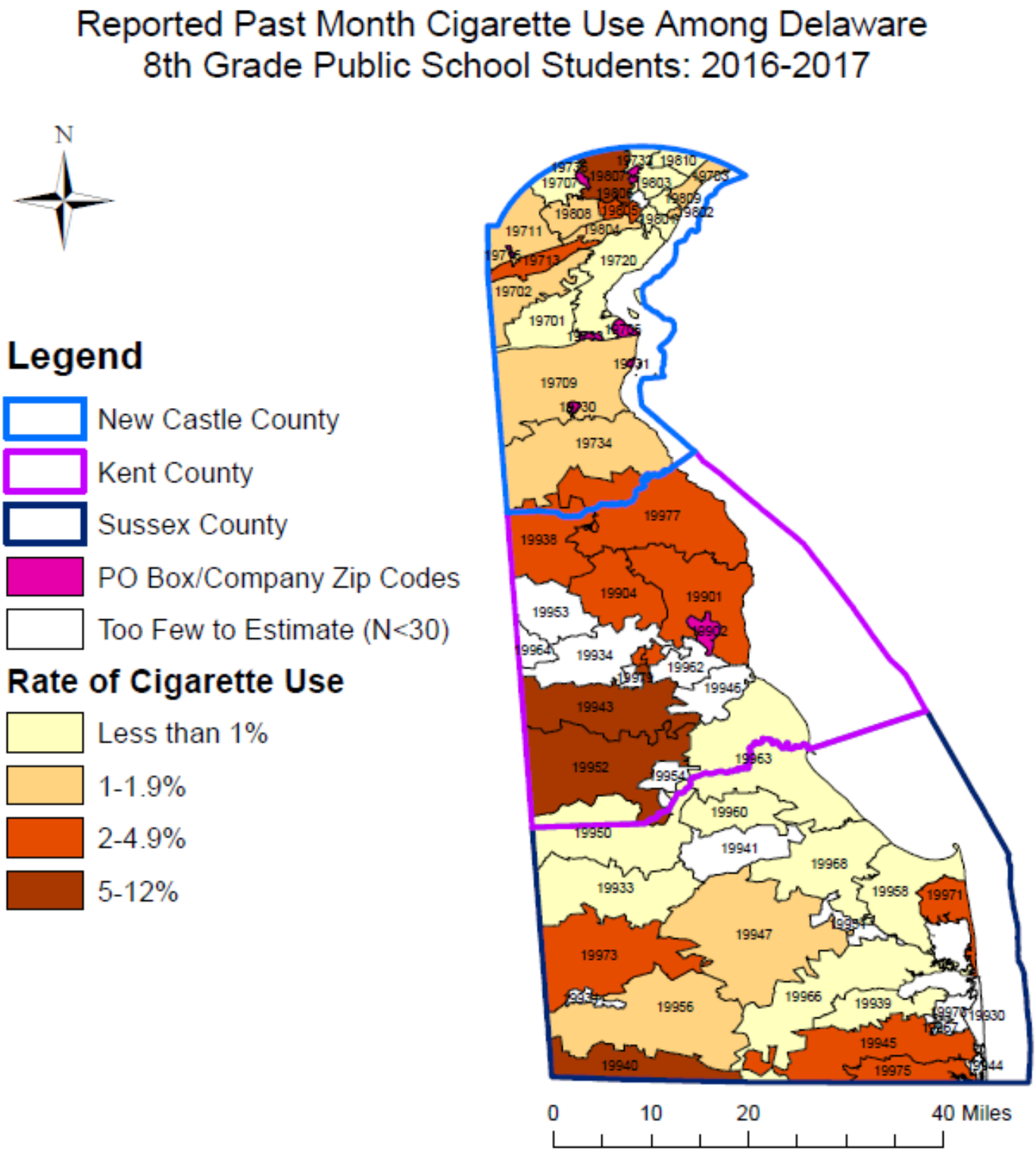

Figure 3 Past month cigarette use map, 8thgrade

Source:
"2016-2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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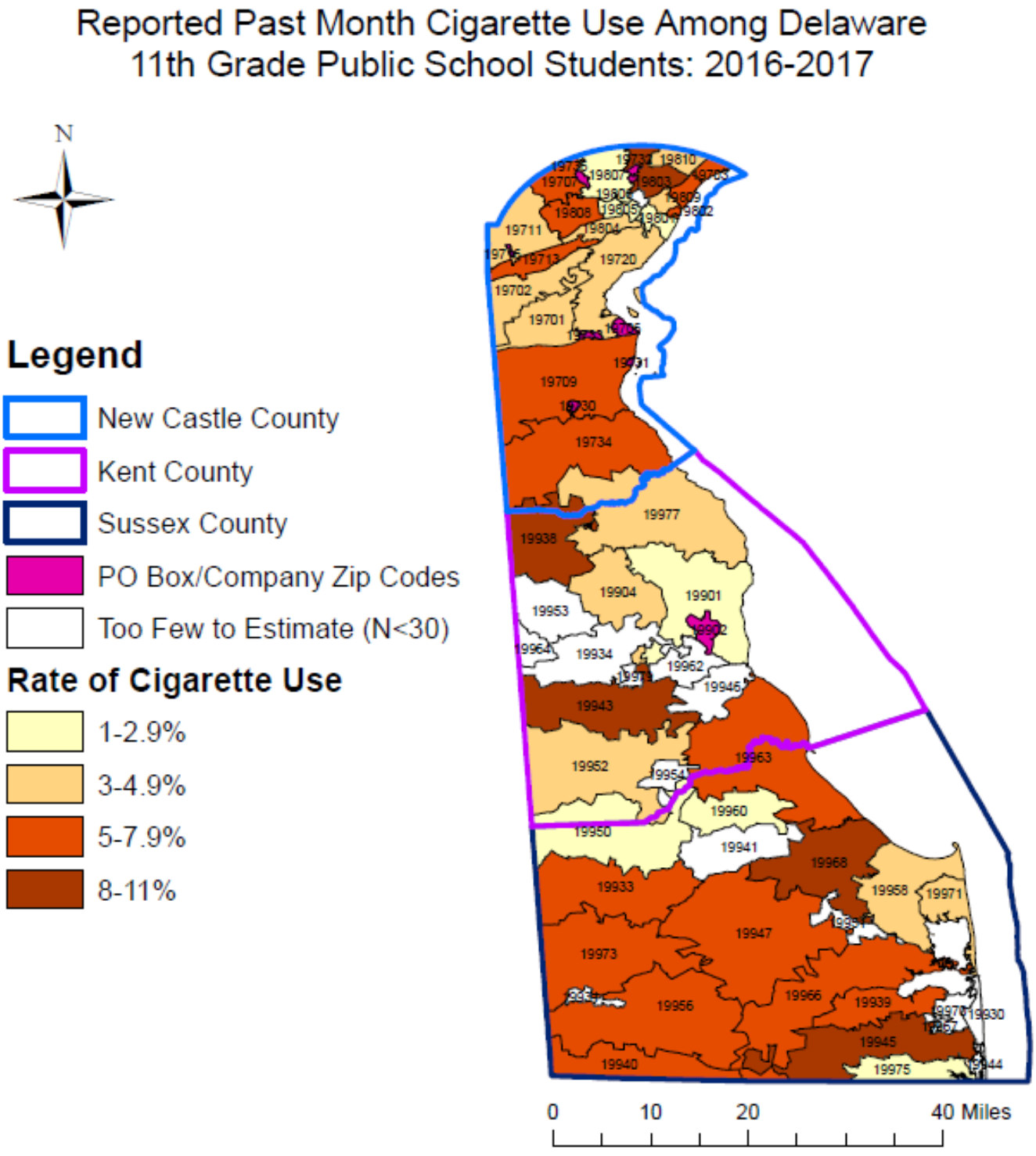

Figure 4 Past month cigarette use map, 11th grade

Source:
"2016-2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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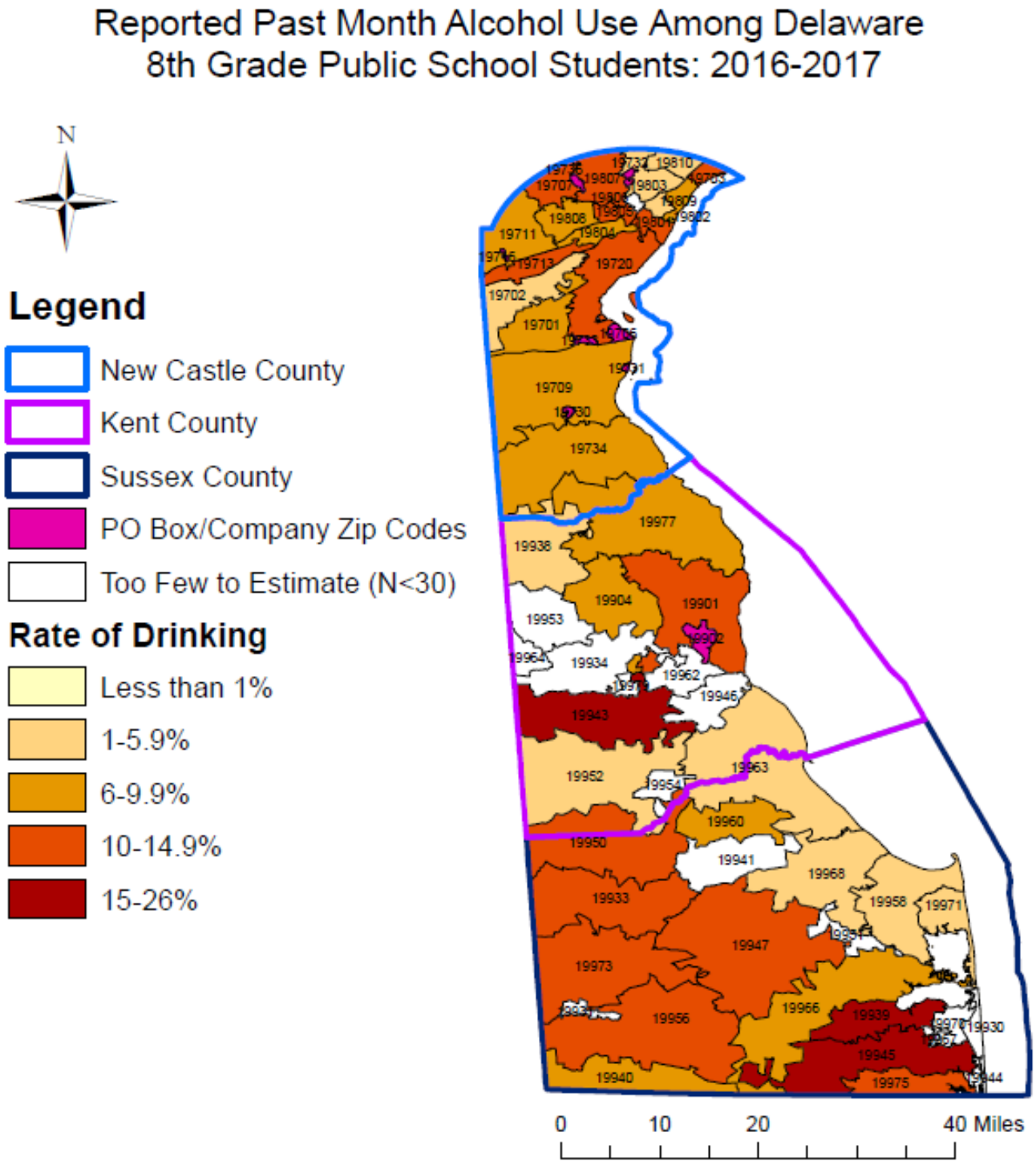

Figure 5 Past month alcohol use map, 8th grade

Source:
"2016-2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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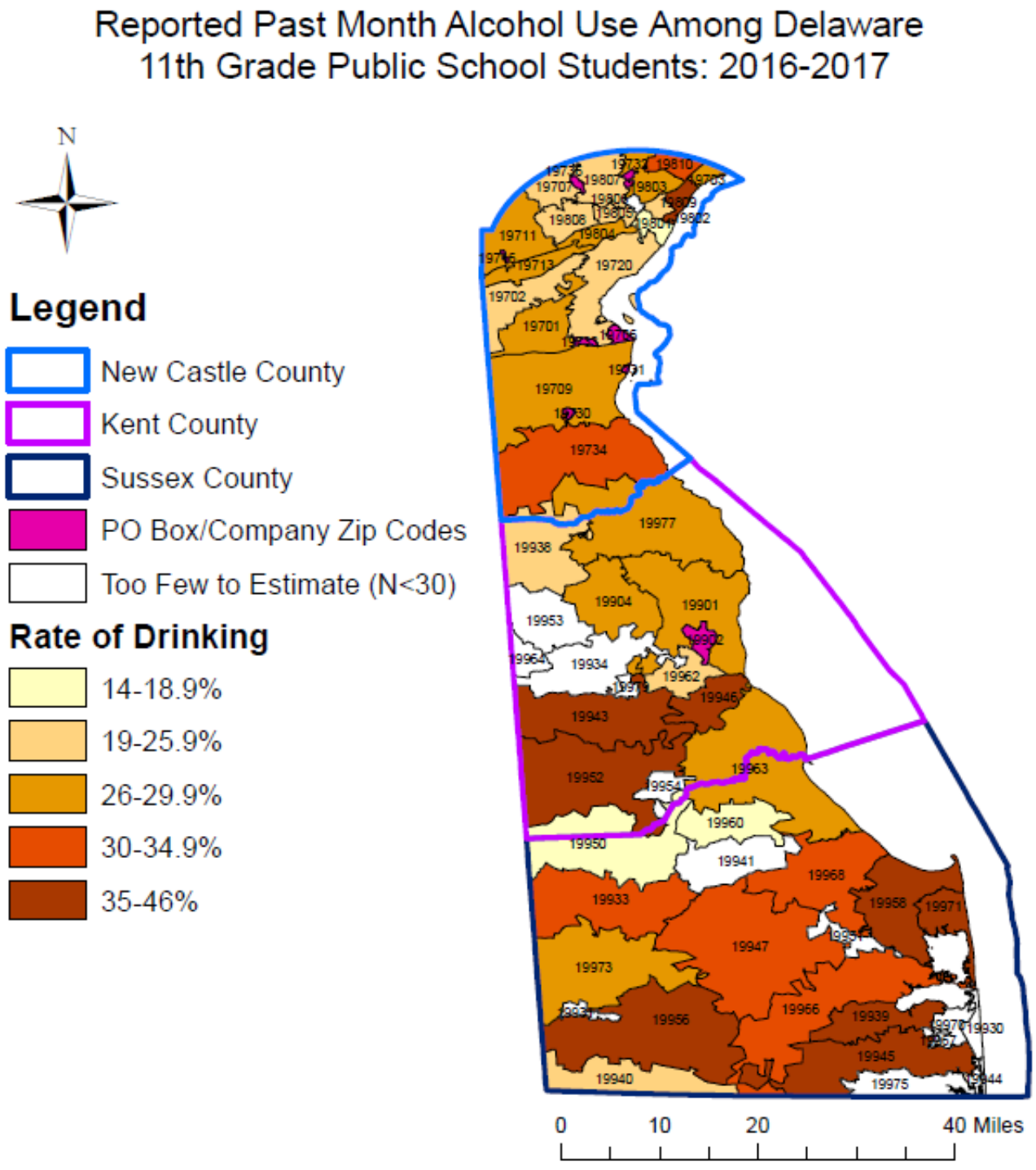

Figure 6 Past month alcohol use map, 11th grade

Source:
"2016-2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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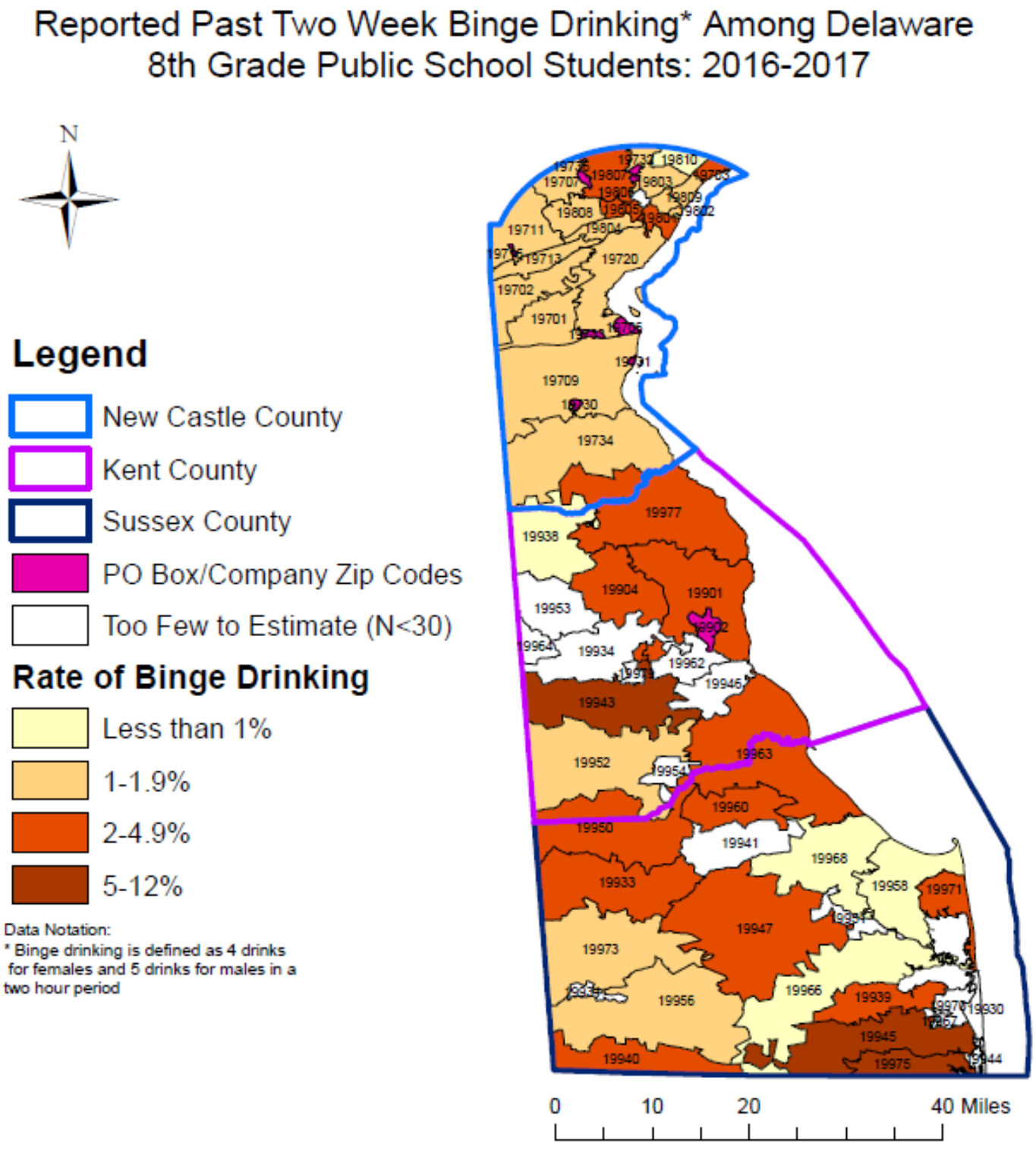

Figure 7 Binge drinking map, 8th grade

Source:
"2016-2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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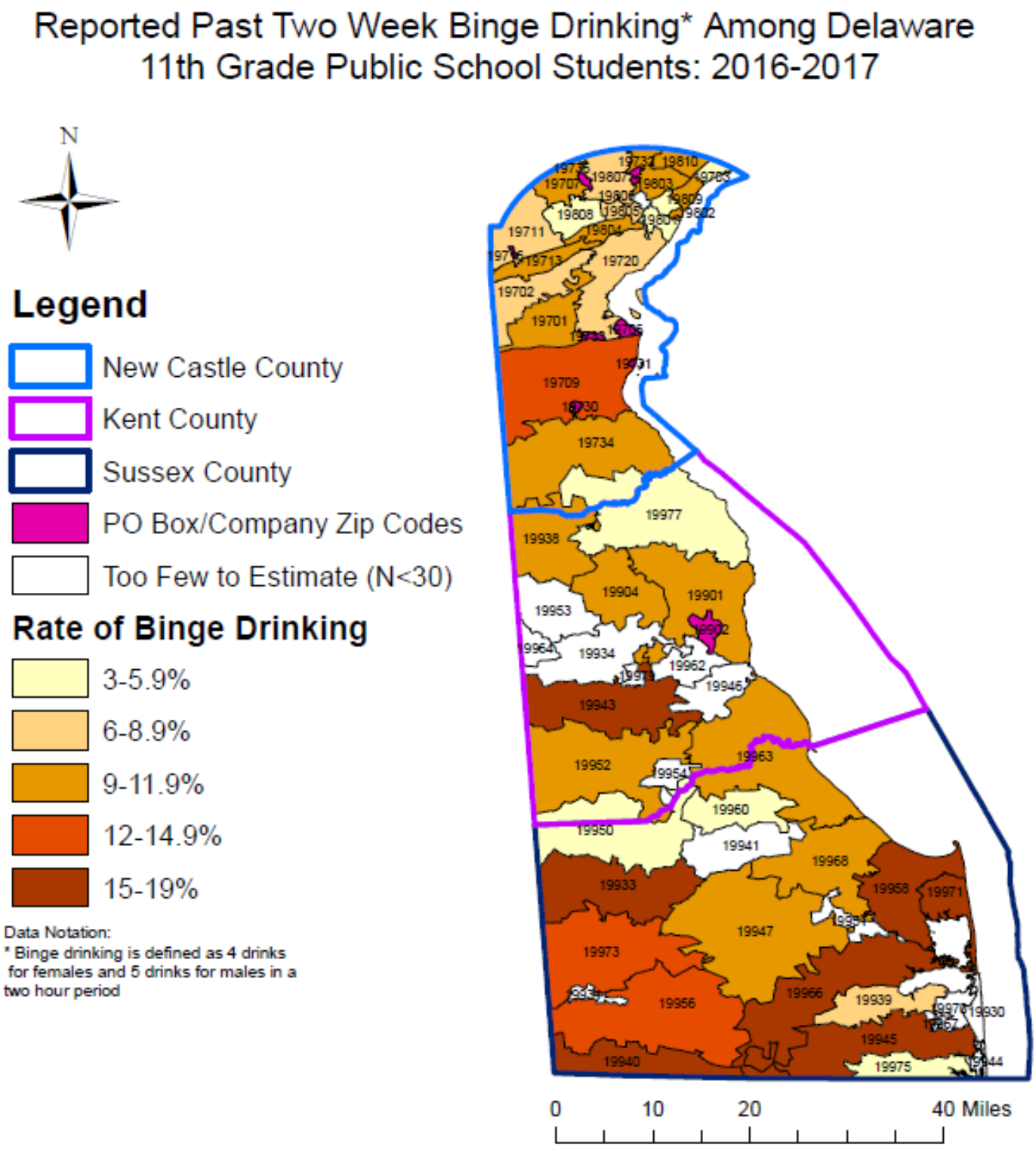

Figure 8 Binge drinking ap, 11th grade

Source:
"2016-2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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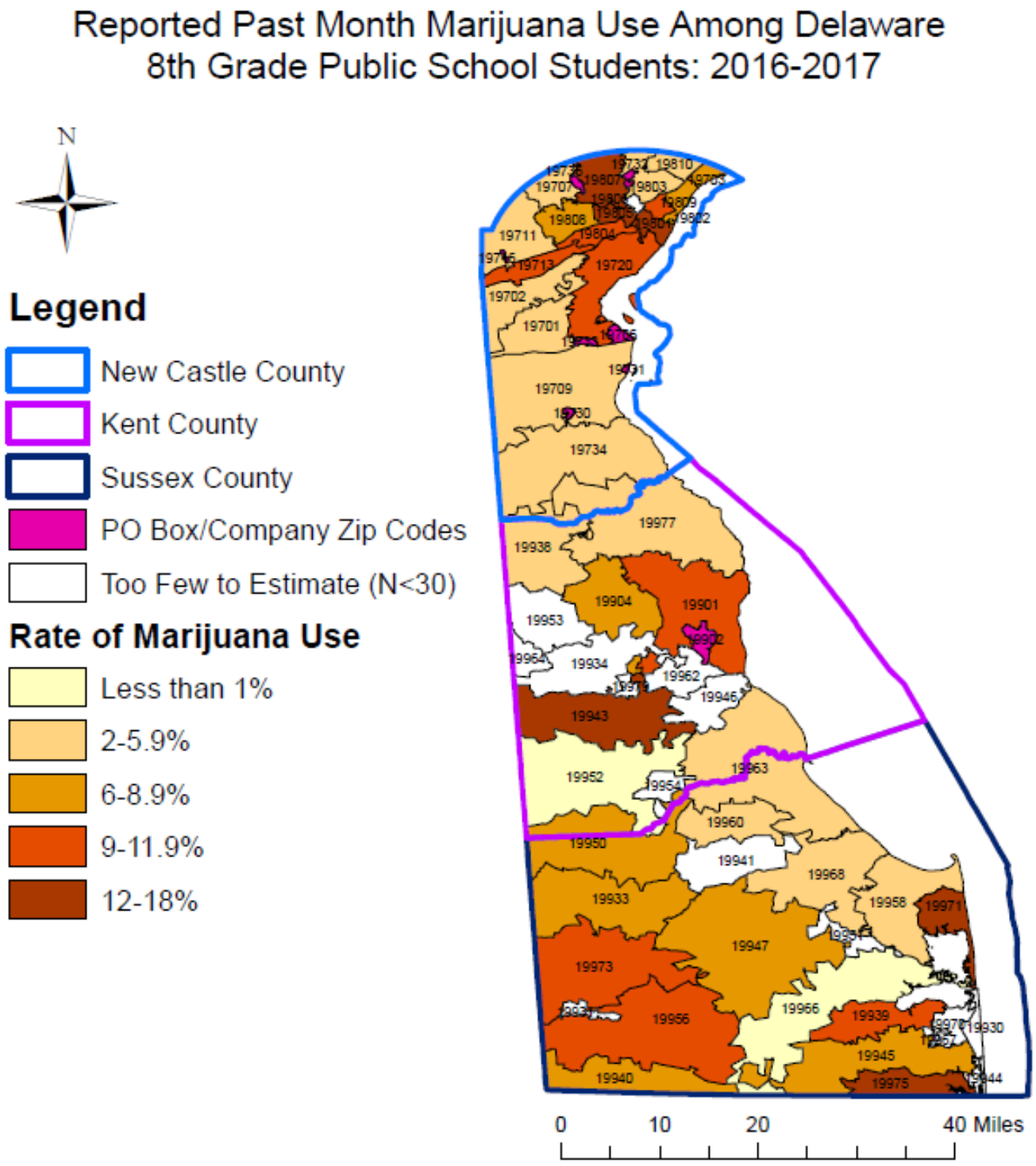

Figure 9 Past month marijuana use map, 8th grade

Source:
"2016-2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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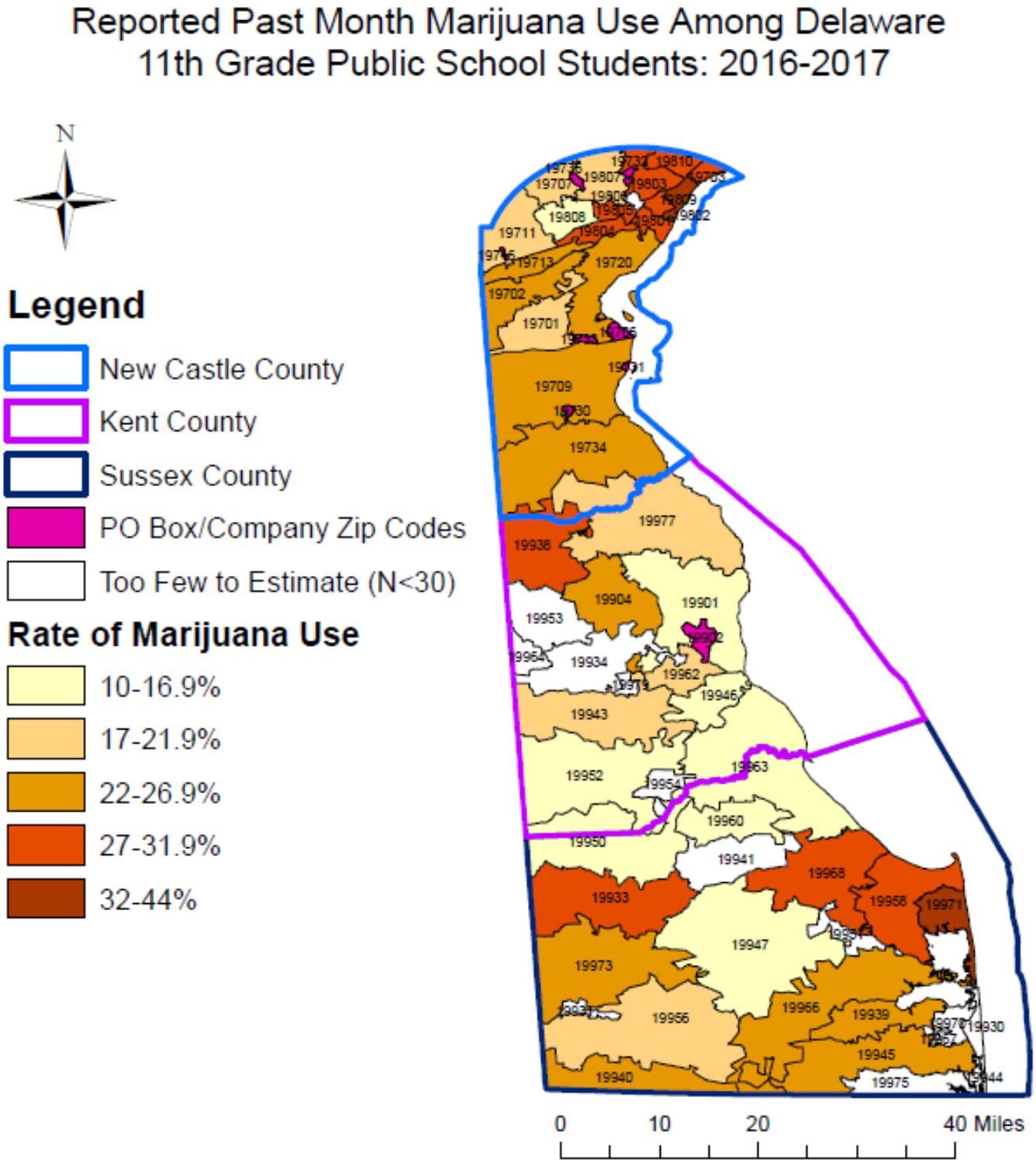

Figure 10 Past month marijuana use map, 11th grade

Source:
"2016-2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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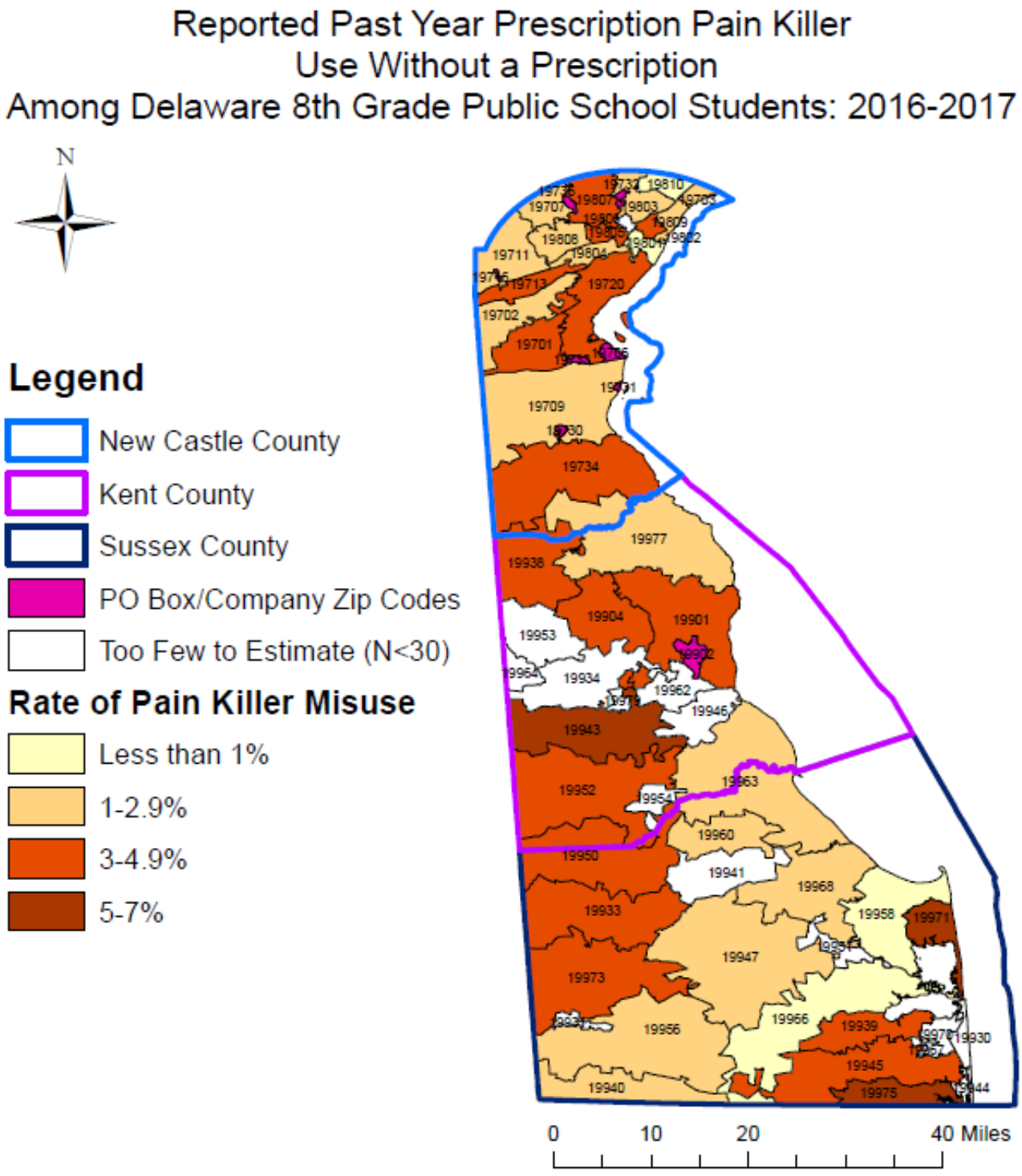

Figure 11 Past month painkiller use map, 8th grade

Source:
"2016-2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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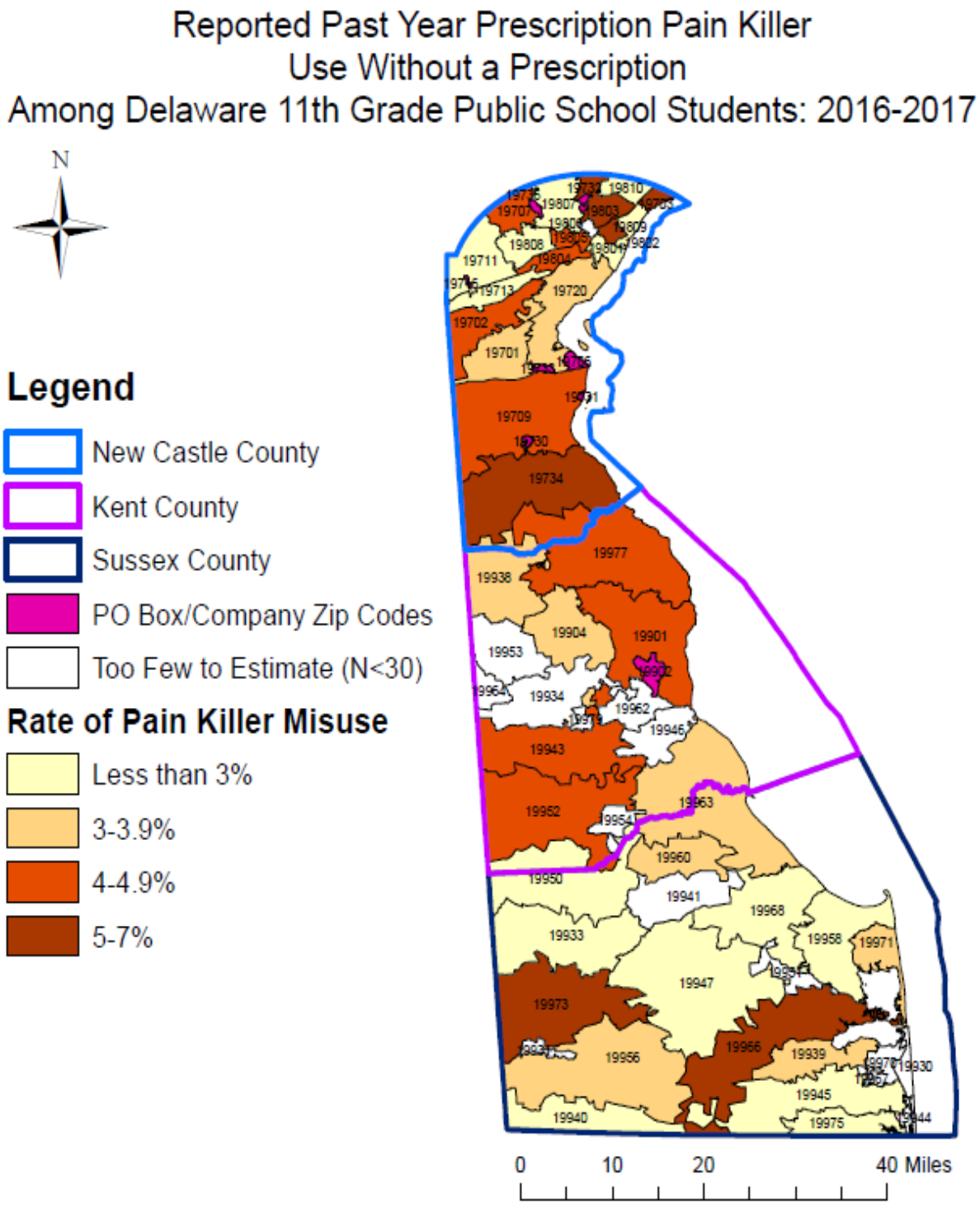

Figure 12 Past month painkiller use map, 11th grade

Source:
"2016-2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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Reported Past Year Prescription Drug Use Without a Prescription Among Delaware 8th Grade Public School Students: 2016-2017

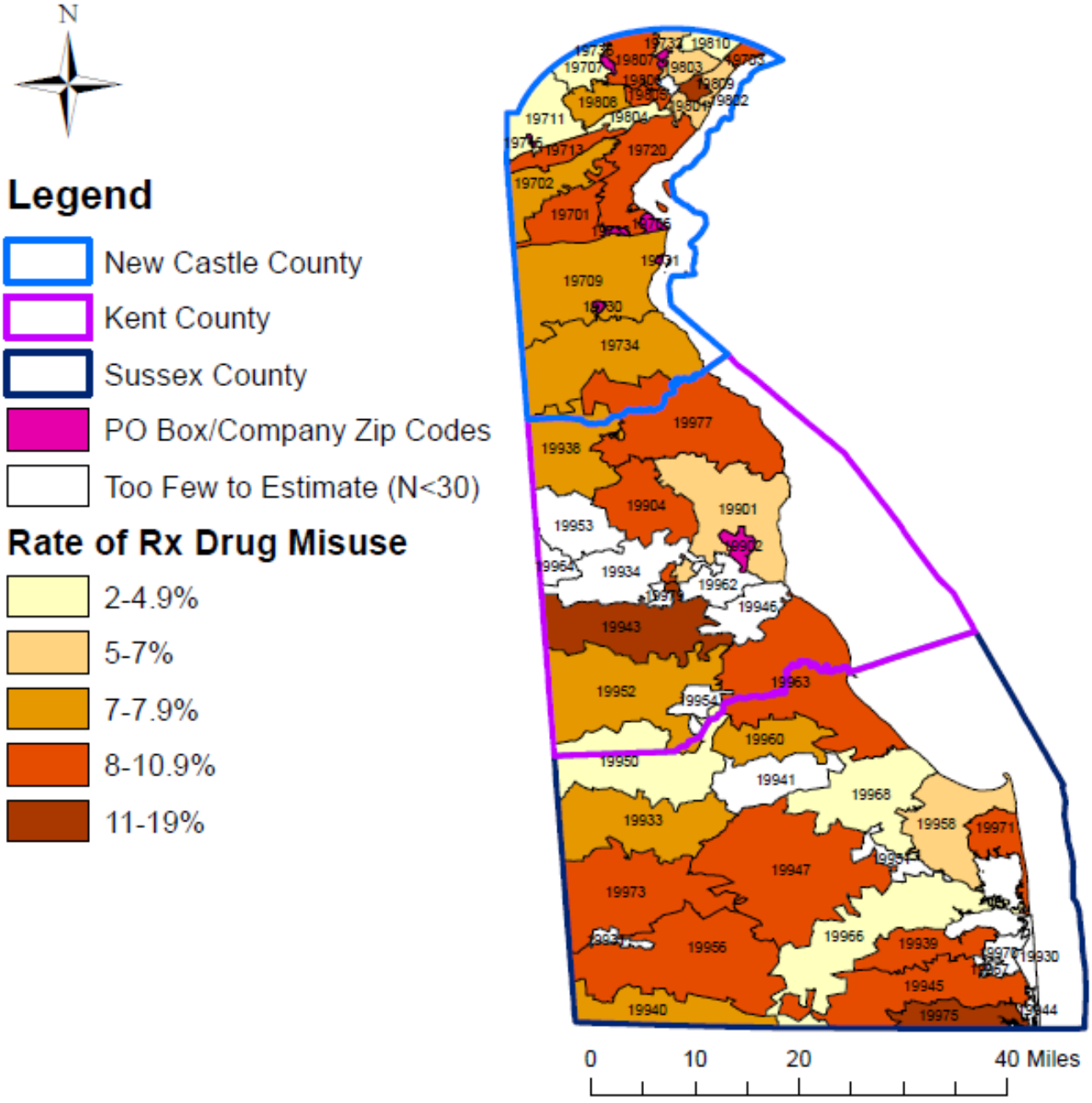

Figure 13 Past month Rx use map, 8th grade

Source:
"2016-2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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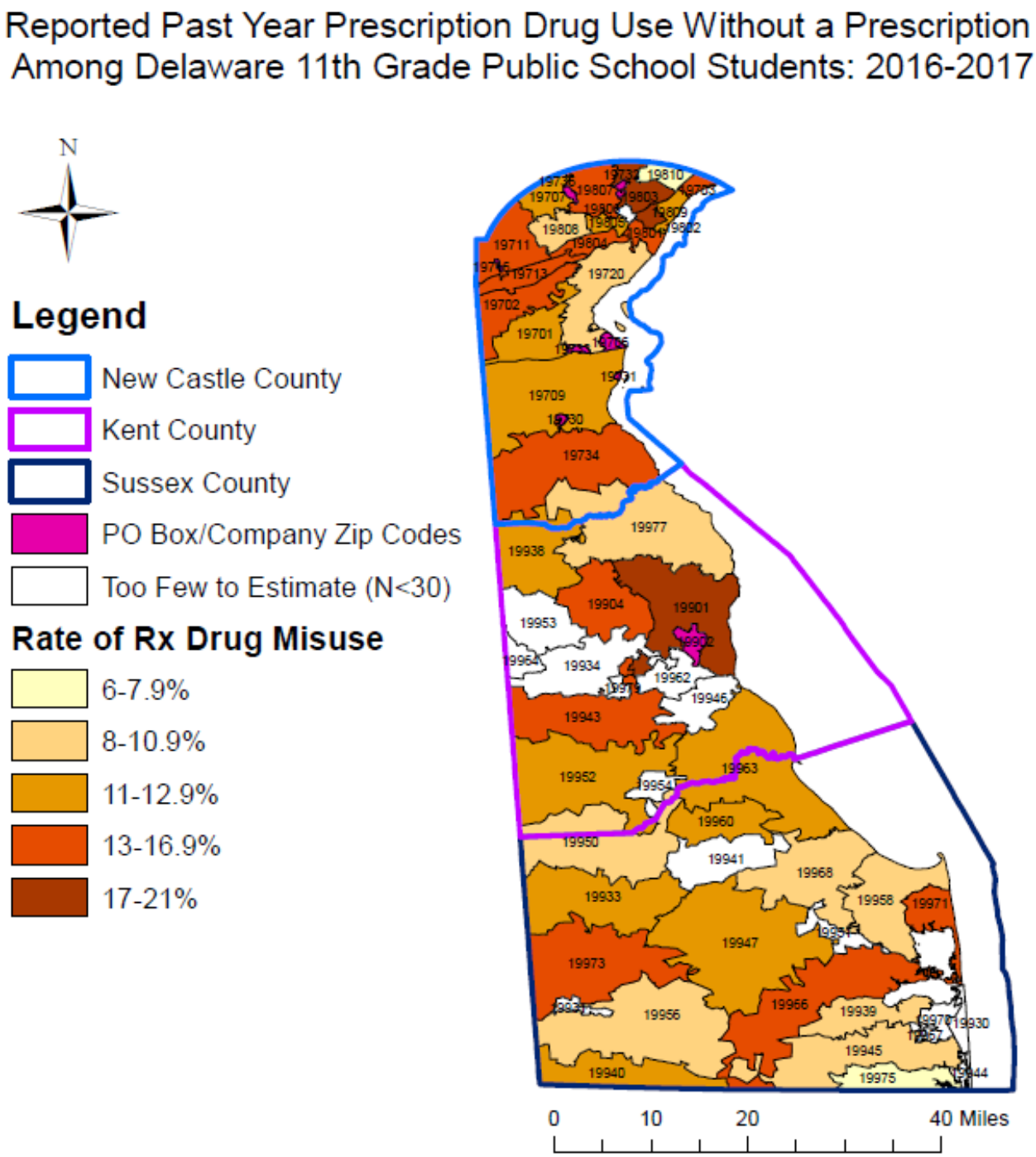

Figure 14 Past month Rx use map, 11th grade

Source:
"2016-2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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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. Between 1965 and 2014, the Center for Disease Control and Prevention (CDC) estimates that more than 20 million Americans have died due to smoking-related causes (US DHSS, Office of the Surgeon General, 2014). 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 the use of tobacco products over the past several decades. In 1965, two out of every five adults surveyed by the National Health Interview Survey (NHIS) reported that they currently smoked, by 2016 that number was reduced to less than one in six adults. Fortunately, tobacco use among youth also reflected this decline (CDC, n.d.). In 2015, 68 percent of adults who smoke, reported that they wanted to quit, yet rates of quitting decreased with age (Babb, Malarcher, Schauer, Asman, & Jamal, 2017). High School respondents to the National Youth Risk Behavior Survey reported current smoking at 28% in 1991 and 9% in 2017 (CDC, 2018). During that same time period the number of high school youth who reported ever trying cigarette smoking declined from approximately 70% of respondents to 29% (CDC, 2018). 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 (US DHSS, Office of the Surgeon General, 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 (Jamal, et al., 2017). A 2016 Surgeon General's report estimated a 900 percent increase in youth use of e-cigarettes between 2011-2015. One analysis of results from the 2016 National Youth Tobacco Survey found that the three main reasons middle and high school students give for using e-cigarettes are: a friend or family member used them; there are multiple flavor options; and there is a perception of lower risk (Tsai, et al., 2018). 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 (Office of the Surgeon General, 2016). New products, such as Juul (a brand featuring small devices that look like flash drives and thus are deceptive in appearance) seem to be specifically designed to appeal to youth.

Data in Action: Age of Purchase Laws

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 (Office of the Surgeon General, 2012). Prevention efforts targeted to youth are essential to curb the public health implications associated with the use of cigarettes and other tobacco products. Cigarettes are highly addictive, and quitting is difficult. Nationally, policymakers have considered raising the age for purchase of tobacco products to the age of 21. Five states and hundreds of cities and municipalities have raised the purchasing age to 21. In Delaware, local jurisdictions cannot

change the age of purchase, as cities are pre-empted by state laws. Any change in the legal age of purchase would have to be made by legislation at the state level.

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 2017 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 five major survey sources (BRFSS, NSDUH, YRBS, DSS, YTS) show that Delaware youth and adults report a steady decline in cigarette use since the late 1990s. Twenty years ago over a third of 11th graders reported regularly using cigarettes; today, only 4% of 11th graders report currently smoking cigarettes (DSS, 1997, 2017). Younger age groups show larger rates of decrease than older cohorts. The BRFSS 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 2017, 11th graders reported an average age of 14.4 years old as first time using tobacco; 8th graders reported 12.3 years of age. Preventing smoking at a younger age should decrease the public health consequences associated with smoking in the future.

The CDC's Youth Tobacco Survey (YTS) is conducted every other year at both state and national levels and allows us to gain insights and correlations regarding tobacco use behaviors. Regardless of declines in cigarette smoking rates, many Delaware youth continue to be exposed to second hand smoke. Findings of the 2016 Delaware Youth Tobacco Survey indicate that 21% of high school and middle school students report someone smoking in their home in the past seven days.

One in four high school students and one in five middle school students report riding in a car with someone who was smoking within the past seven days. Along with the associated health risks of second hand smoke, exposure to cigarette use increases the likelihood of smoking in later in life. Peer pressure can also play a major role; however, according to the 2016 YTS, most students do not believe people who smoke have more friends or that smoking helps you to "fit in." Though about a third of high school students report having a close friend who smokes, for middle school students this number is only 16%.

While the decline in cigarette use in Delaware is promising, there has also been a troubling concern over the past decade 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, and 40% of high school students and 24% of middle school report that at least one of their closest friends uses these products (2016 Delaware Youth Tobacco Survey). A preference for e-cigarettes over cigarettes may be explained by individuals perceiving these products as safer alternatives to cigarettes—only 14% of 11th graders and 8th graders report a perception of "great risk" in the use of e-cigarettes/vaping devices. Fortunately, according to the 2017 Delaware Youth Risk Behavior Survey, high school youth reports of ever trying and current use have declined in the past two years (from 41% to 38% and from 24% to 14%, respectively). The Delaware School Survey, conducted annually, while generally reporting lower rates, has also showed slight declines. 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)

Rates of past month use and perceptions of great risk in Delaware by age group: annual average percentages based on 2015- 2016 NSDUH [a]				
Measure	**Total 12 or Older**	**AGE GROUP**		
		12-17	**18-25**	**26 or Older**
Past month tobacco product use [b]	23.5%	5.3%	29.9%	24.6%
Past month cigarette use	19.1%	3.4%	23.5%	20.2%
Perceived great risk of smoking one or more packs of cigarettes per day	72.8%	69.3%	68.6%	73.9%

Figure 15 Perceptions of great risk, monthly rates of tobacco product use and cigarette use in Delaware

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.

Source:
"National Survey on Drug Use and Health: Comparisons of 2014-2015 and 2015-2016 Population Percentages." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.

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2017 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	57
Males	2	1	0	55
Females	2	1	0	58
Wilmington	2	1	0	52
Males	2	2	1	49
Females	3	1	0	55
New Castle	2	1	0	58
Males	2	1	0	57
Females	1	1	0	60
Kent	2	1	0	56
Males	2	1	1	56
Females	2	0	0	57
Sussex	2	1	0	51
Males	3	1	0	50
Females	2	0	0	52

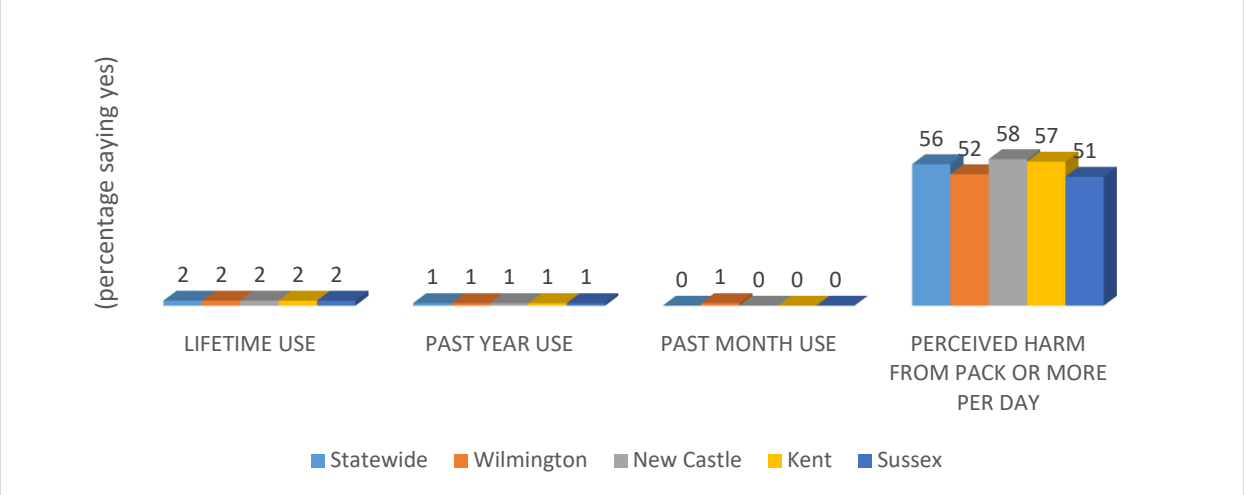

Figure 16 Cigarette use among Delaware 5th graders
Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 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	4	2	1	0	52
Males	4	2	1	0	50
Females	4	2	1	0	54
Wilmington	4	2	1	0	42
Males	4	3	1	0	38
Females	3	1	2	0	47
New Castle	3	2	1	0	55
Males	4	1	1	0	52
Females	3	2	1	0	57
Kent	5	3	2	0	55
Males	5	3	2	0	55
Females	4	2	1	0	54
Sussex	5	2	1	0	47
Males	4	2	0	0	44
Females	6	3	1	0	49

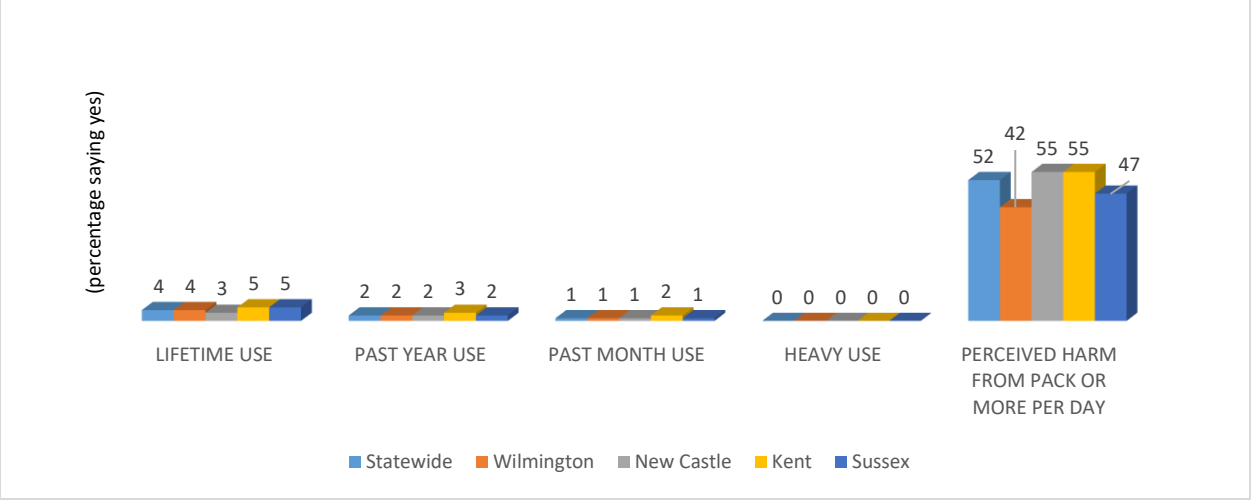

Figure 17 Cigarette use among Delaware 8th graders

Note:
[a] "Heavy Use" is more than one-half pack per day in last thirty days
Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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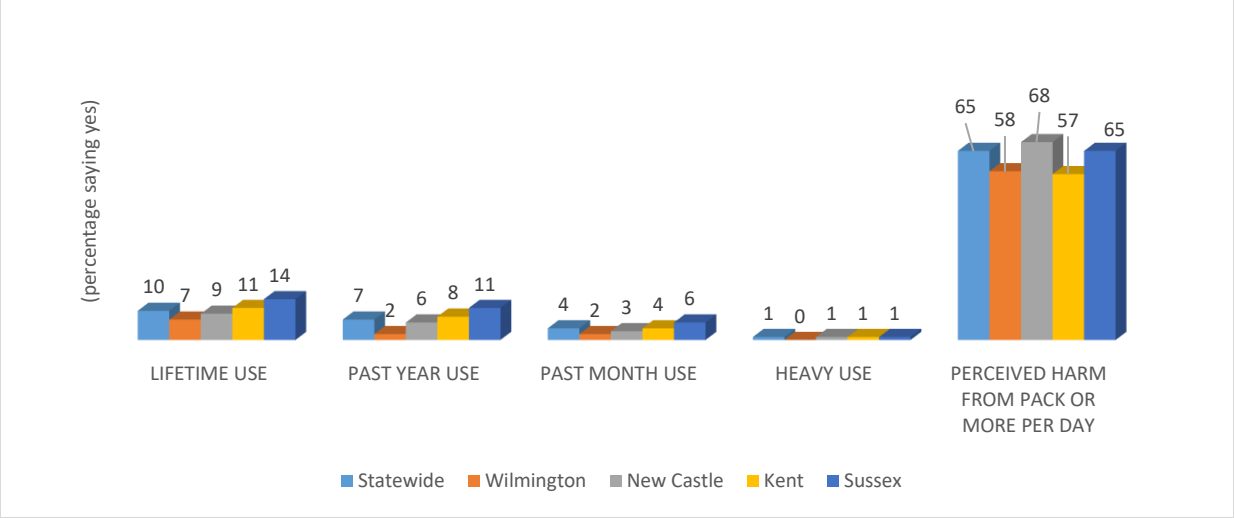
2017 Delaware School Survey

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	10	7	4	1	65
Males	11	7	4	1	63
Females	10	7	3	0	67
Wilmington	7	2	2	0	58
Males	7	4	2	1	50
Females	6	1	2	0	65
New Castle	9	6	3	0	68
Males	8	5	3	1	67
Females	10	6	3	0	70
Kent	11	8	4	1	57
Males	12	8	4	2	54
Females	10	7	3	1	60
Sussex	14	11	6	1	65
Males	17	13	8	1	64
Females	11	9	4	1	65



Note:
[a] "Heavy Use" is more than one-half pack per day in last thirty days.
Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 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	4	1	0
Females	3	1	0
Wilmington	4	1	0
Males	5	0	0
Females	4	2	0
New Castle	3	1	0
Males	3	1	0
Females	2	1	0
Kent	3	1	1
Males	4	2	1
Females	3	1	0
Sussex	5	1	0
Males	6	2	1
Females	4	1	0

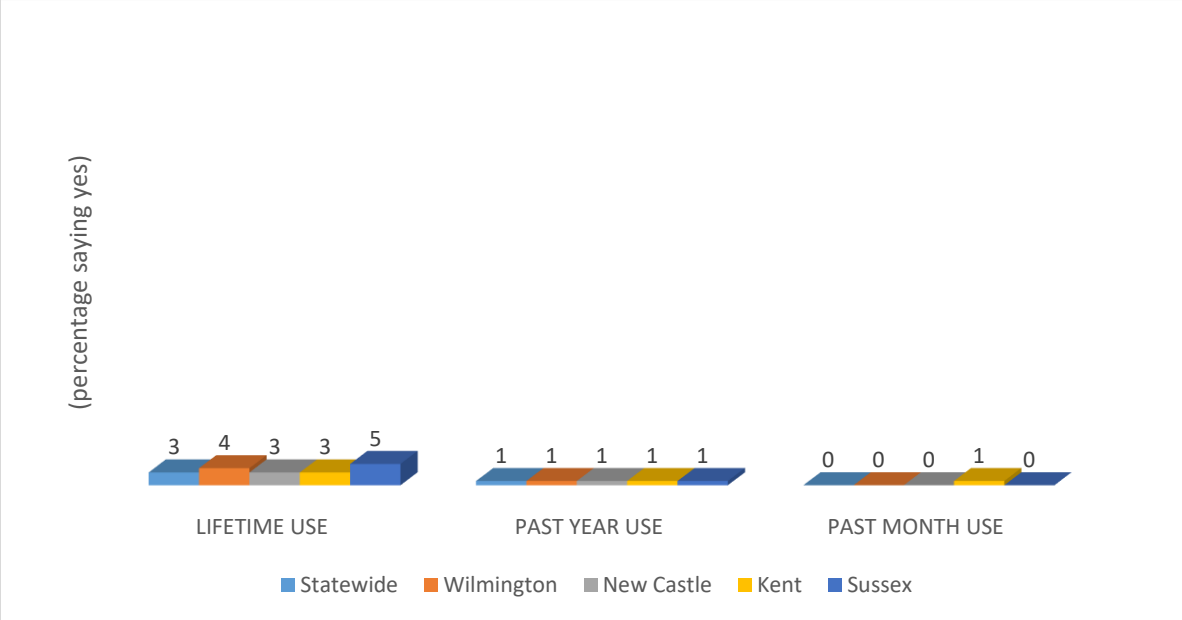

Figure 19 Electronic cigarette/vaping device among Delaware 5th graders

Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 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	14	8	3	15
Males	15	8	3	14
Females	13	8	3	15
Wilmington	12	4	1	8
Males	9	4	2	7
Females	15	4	0	10
New Castle	14	8	3	16
Males	15	8	3	16
Females	13	7	3	16
Kent	12	6	2	13
Males	12	6	2	13
Females	12	6	2	14
Sussex	17	10	4	26
Males	18	10	4	27
Females	17	10	5	24

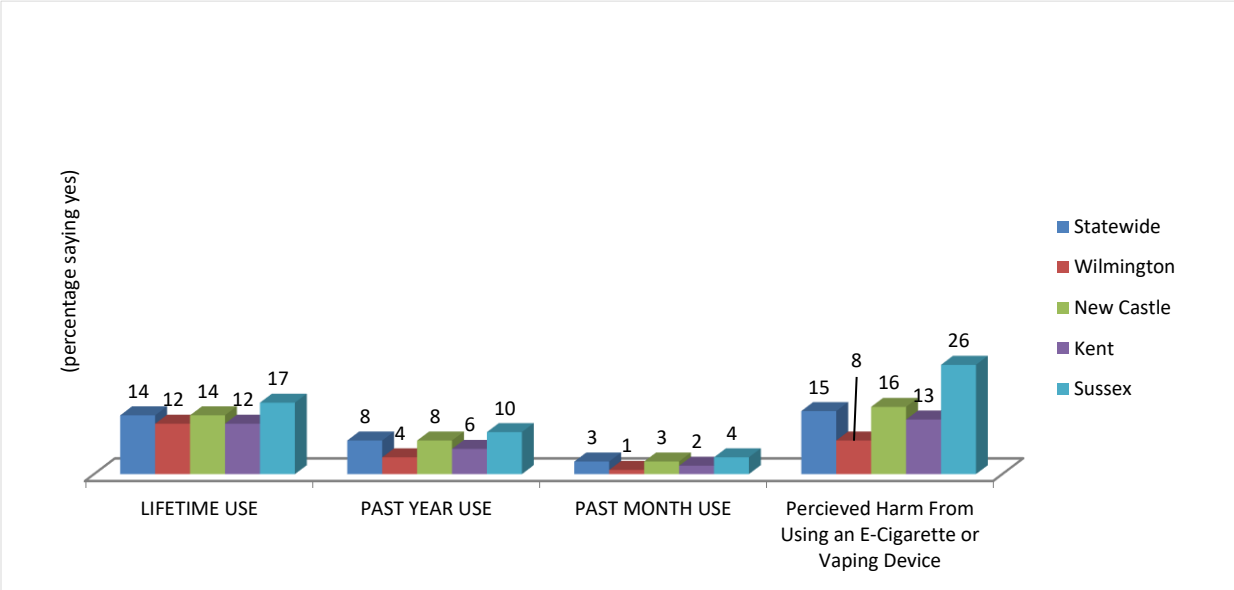

Figure 20 Electronic cigarette/vaping device among Delaware 8th graders
Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 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	24	13	5	14
Males	25	15	6	14
Females	23	11	4	14
Wilmington	18	10	2	12
Males	21	13	3	10
Females	16	8	1	13
New Castle	23	13	5	14
Males	24	15	6	14
Females	22	11	3	14
Kent	22	12	5	13
Males	23	13	6	13
Females	21	10	4	13
Sussex	29	17	7	16
Males	30	19	9	17
Females	29	15	6	16

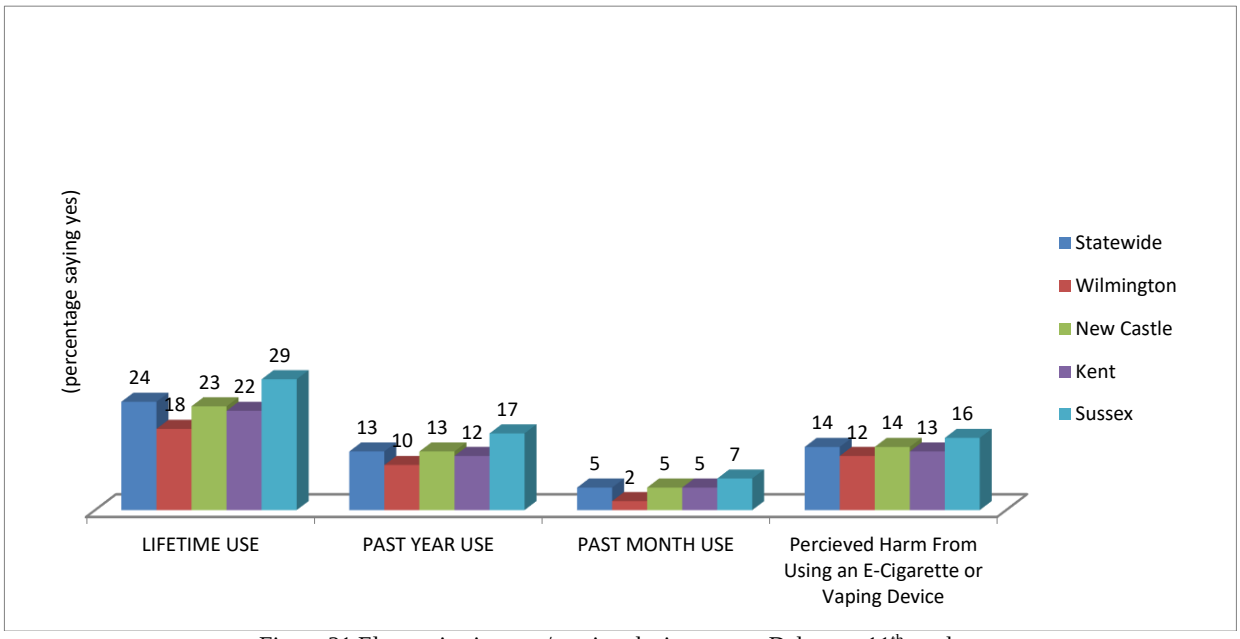

Figure 21 Electronic cigarette/ vaping device among Delaware 11th graders

Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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Delaware Youth Risk Behavior Survey

2017 Middle School Survey

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

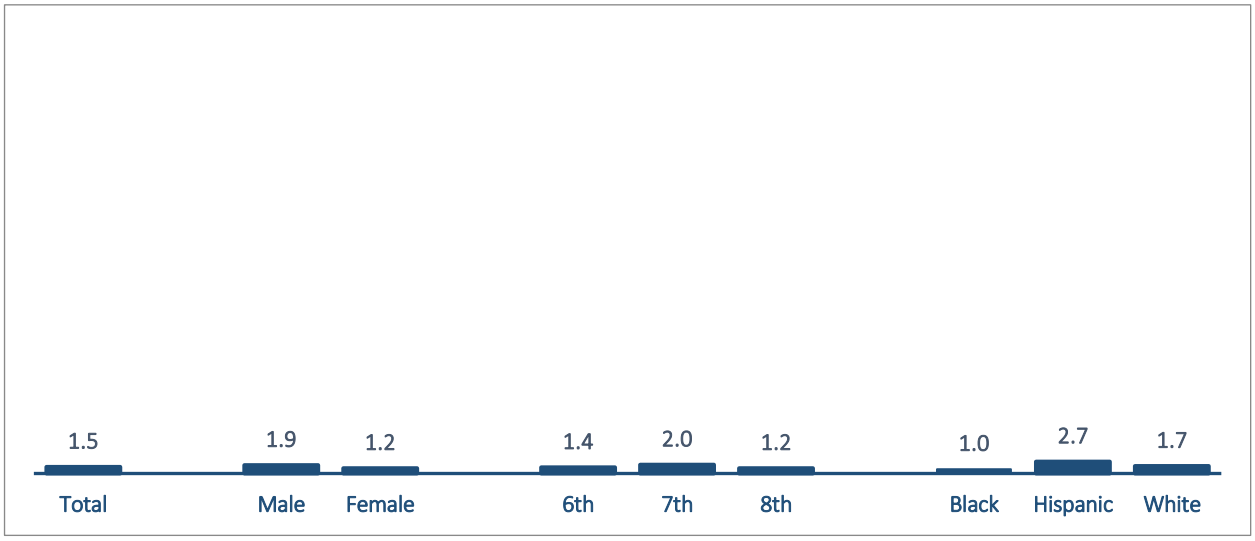

Figure 22 Percentage of middle school students who reported smoking cigarettes in the past 30 days

2017 High School Survey

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

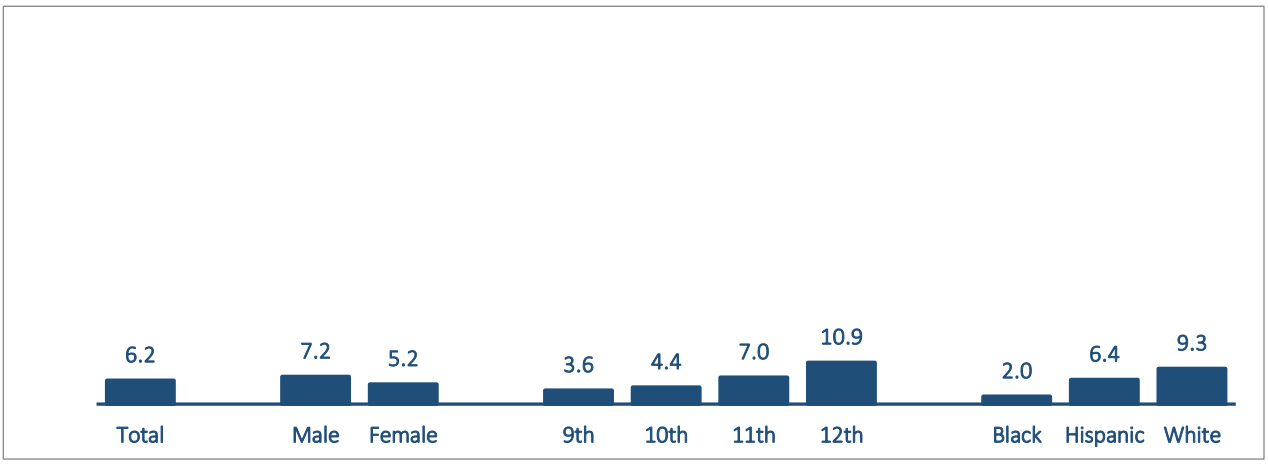

Figure 23 Percentage of high school students who reported smoking cigarettes in the past 30 days

Notes:
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
Weighted data
Source:"2017 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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Delaware Youth Risk Behavior Survey

2017 High School Survey

Percentage of High School students who ever used an Electronic Vapor Product*

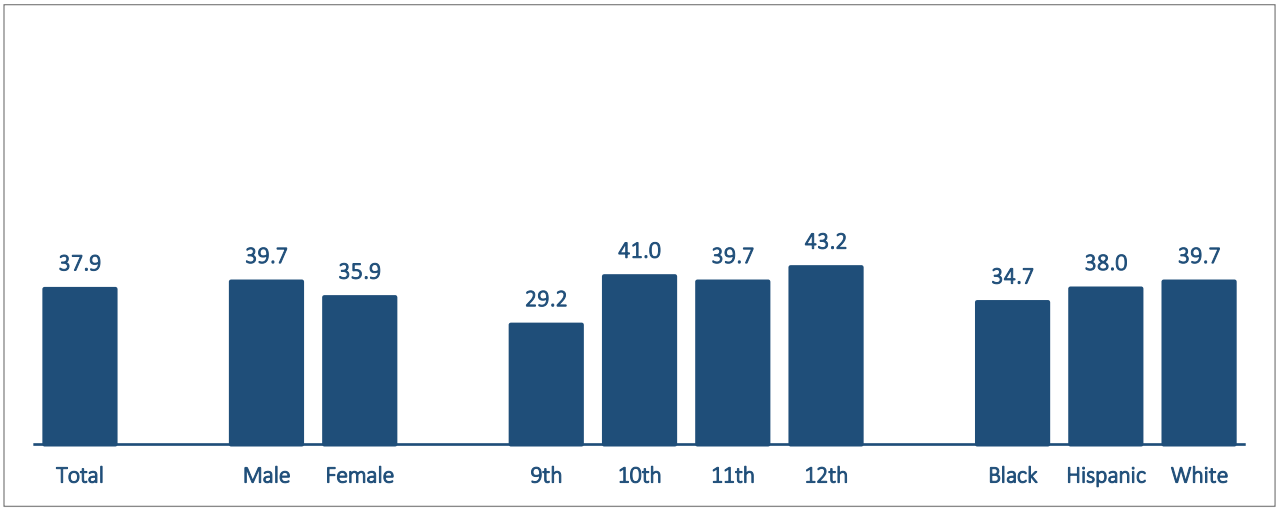

Figure 24 Percentage of high school students who ever used an Electronic Vapor Product

Percentage of High School students who used an Electronic Vapor Product[a] in the past month

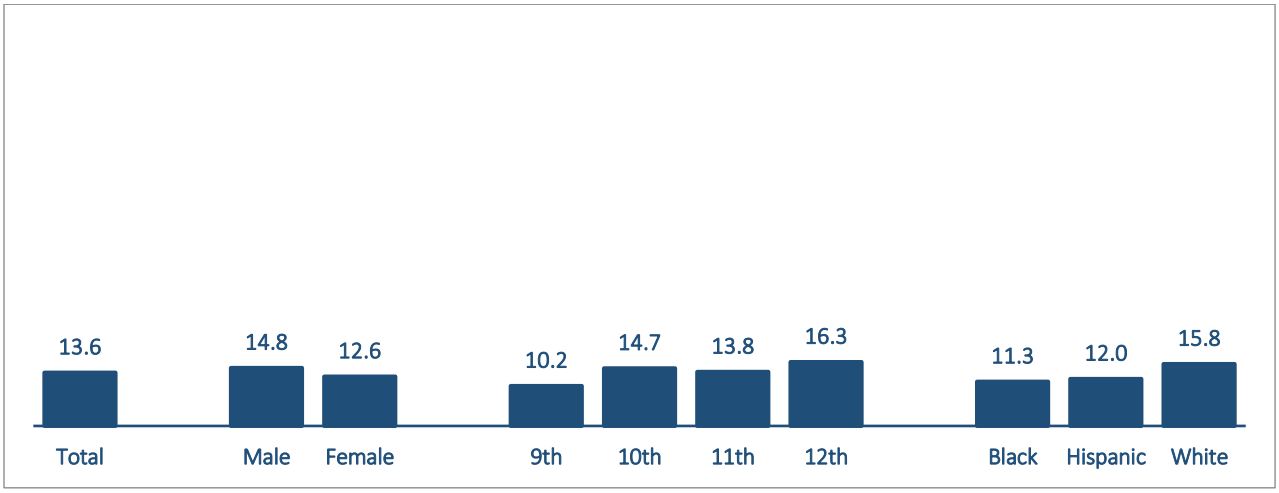

Figure 25 Percentage of high school students who used an electronic vapor product in the past month.

Notes:
[a] Electronic Vapor Products include e-cigarettes, e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs (such as blu, NJOY, Vuse, MarkTen, Vapin Plus, eGo, and Halo)
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
Weighted data
Source: "2017 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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2017 Delaware School Survey

Average Age of Onset for Tobacco Use

8th Grade	11th Grade
12.3 years	14.4 years

Figure 26 Average age of onset for tobacco use

2017 Delaware School Survey

2017 High School Youth Risk Behavior Survey

Percentage of students who smoked a whole cigarette for the first time before age 13 years

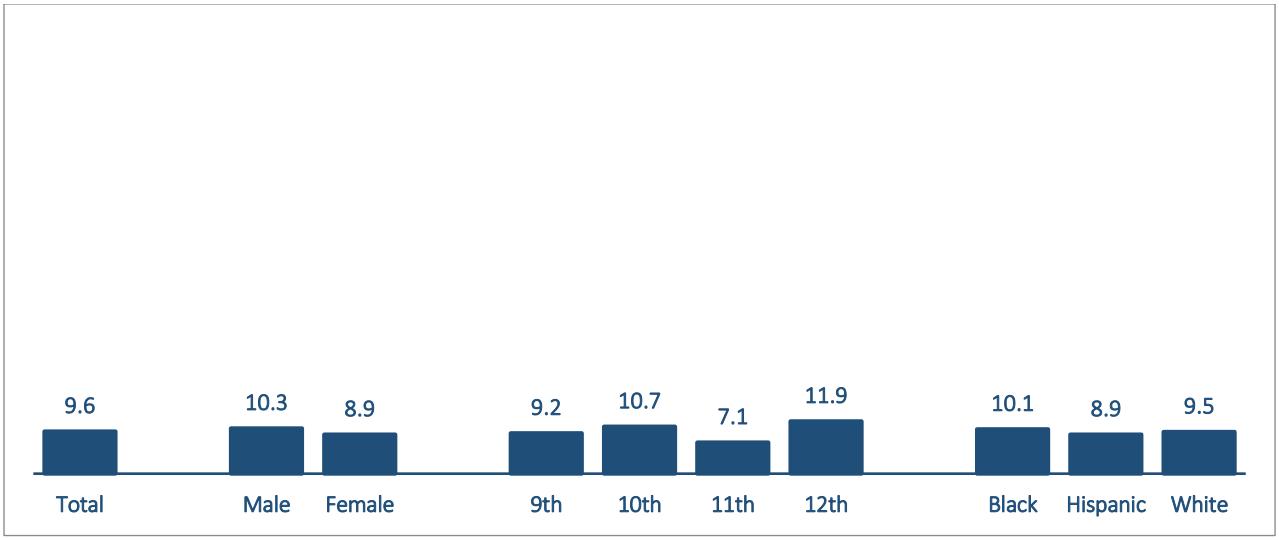

Figure 27 Percentage of high school students who reported smoking a whole cigarette before 13 years of age

Notes:
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
Weighted Data
Sources:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.
"2017 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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Delaware Behavior Risk Factor Surveillance System (BRFSS)

Cigarette smoking by gender, 2016			
Gender	**Current Smokers**	**Smoke Everyday**	**Smoke Some Days**
Male	19%	12.6%	6.4%
Female	16.4%	12.3%	4.1%

Figure 28 Cigarette smoking by gender, adults

Cigarette Smoking by Race/Ethnicity, 2016			
Race/Ethnicity	**Current Smokers**	**Smoke Everyday**	**Smoke Some Days**
White, non-Hispanic	18.9%	13.6%	5.3%
Black, non-Hispanic	16.4%	12.7%	3.7%
Hispanic	10.2%	4.9%	5.3%
Multiracial, non-Hispanic	29.7%	-	-

Figure 29 Cigarette smoking by race/ethnicity, adults

Note:
"-" indicates that the prevalence estimate was not available if the unweighted sample size for the denominator was <50 or the Relative Standard Error (RSE) is >0.3
Source: "2016 Delaware Behavior Risk Factor Surveillance System." BRFSS Prevalence & Trends Data, Centers for Disease Control and Prevention.

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Delaware Behavior Risk Factor Surveillance System (BRFSS)

Cigarette smoking by education, 2016			
Educational Level	**Current Smokers**	**Smoke Everyday**	**Smoke Some Days**
Less Than High School	29.0%	20.3%	8.7%
High School / G.E.D.	21.9%	15.6%	6.2%
Some Post-H.S.	16.8%	12.9%	3.9%
College Graduate	8.5%	5.0%	3.5%

Figure 30 Cigarette smoking by education, adult

Cigarette smoking by age, 2016			
Age Group	**Current Smokers**	**Smoke Everyday**	**Smoke Some Days**
18 - 24	11.8%	-	6.2%
25 - 34	23.3%	17.1%	6.3%
35 - 44	18.8%	13.4%	5.5%
45 – 54	22.7%	16.6%	6.1%
55 - 64	21.2%	15.4%	5.8%
65 and Older	9.4%	6.7%	2.7%

Figure 31 Cigarette smoking by age, adults

Note:
"-" indicates that the prevalence estimate was not available if the unweighted sample size for the denominator was <50 or the Relative Standard Error (RSE) is >0.3

Source: "2016 Delaware Behavior Risk Factor Surveillance System." BRFSS Prevalence & Trends Data, Centers for Disease Control and Prevention.

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Tobacco Exposure and Culture in Delaware

2016 Youth Tobacco Survey

Percentages of students who reported that they think breathing smoke from other people's cigarettes or other tobacco products is harmful

(in percentages)

	Middle School	High School
Statewide	86	82
Males	83	76
Females	90	88
New Castle	85	80
Males	81	74
Females	88	85
Kent	88	85
Males	83	80
Females	91	90
Sussex	90	85
Males	87	79
Females	94	92

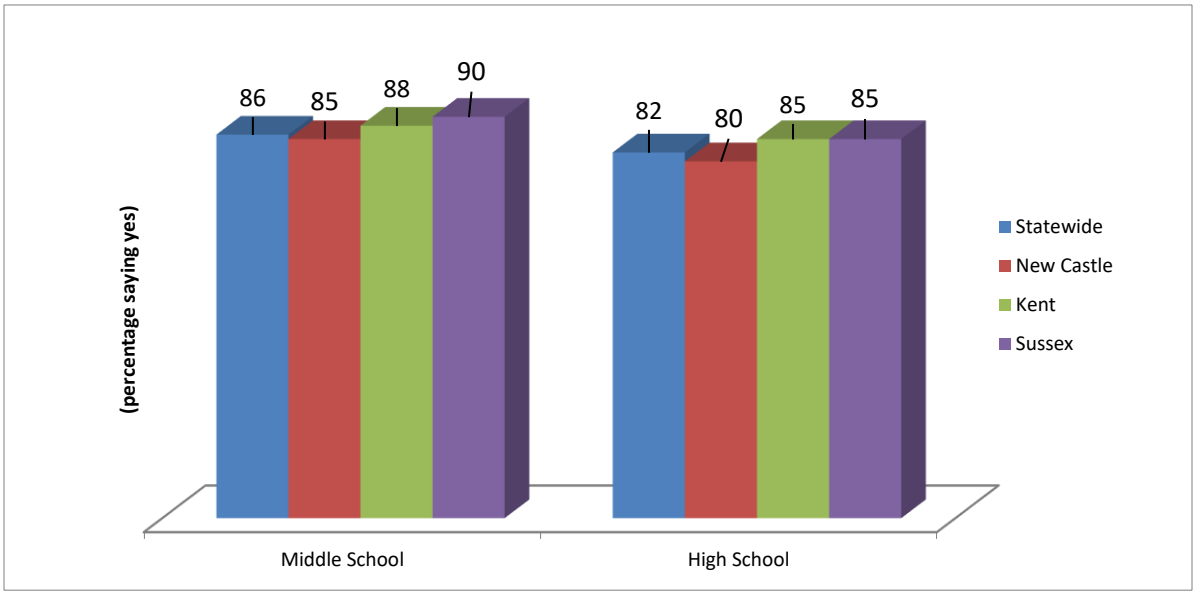

Figure 32 Percentage of students who reported risk of smoking.

Note:
Weighted data
Source: "2016 Delaware Youth Tobacco Survey (YTS)". Centers for Disease Control and Prevention. Administered by the Center for Drug and Health Studies, University of Delaware.

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2016 Youth Tobacco Survey

Reported smoking rules among middle school students

(in percentages)

	Smoking is allowed inside the student's home	Smoking is allowed inside family vehicle
Statewide	16	20
Males	14	15
Females	19	24
New Castle	16	18
Males	13	13
Females	19	23
Kent	17	23
Males	15	19
Females	18	26
Sussex	17	26
Males	15	22
Females	19	28

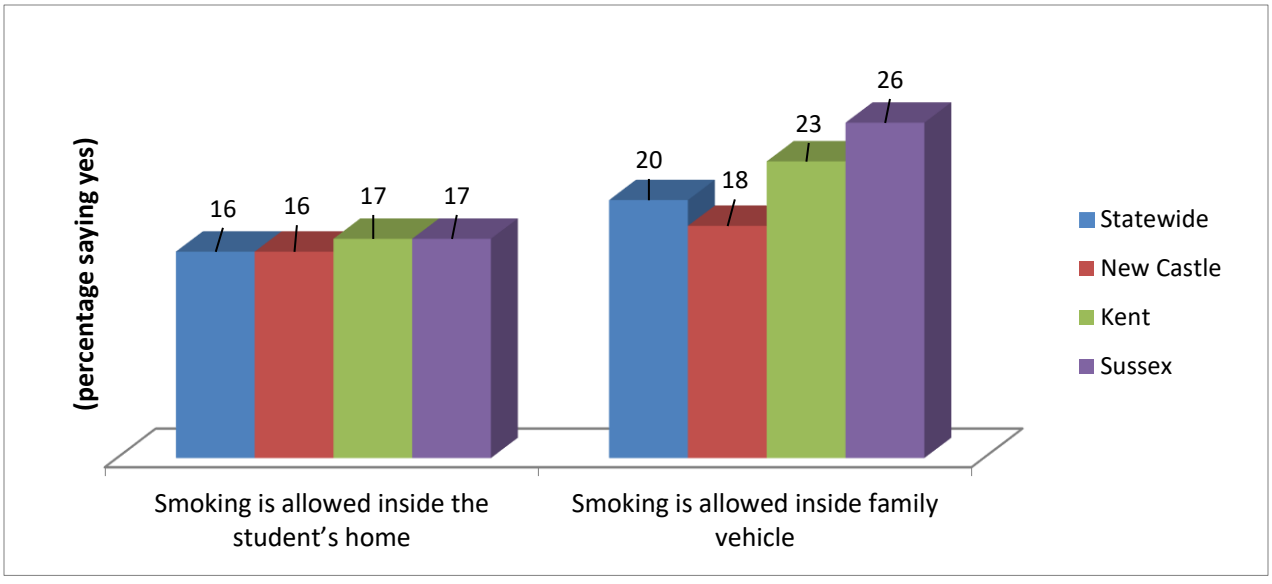

Figure 33 Percentage of middle school students who reported smoking rules.

Note:
Weighted data
Source: "2016 Delaware Youth Tobacco Survey (YTS)". Centers for Disease Control and Prevention. Administered by the Center for Drug and Health Studies, University of Delaware.

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2016 Youth Tobacco Survey

Reported smoking rules among high school students

(in percentages)

	Smoking is allowed inside the student's home	Smoking is allowed inside family vehicle
Statewide	18	24
Males	16	23
Females	19	25
New Castle	16	22
Males	18	22
Females	15	23
Kent	18	24
Males	18	23
Females	17	26
Sussex	21	27
Males	18	25
Females	24	30

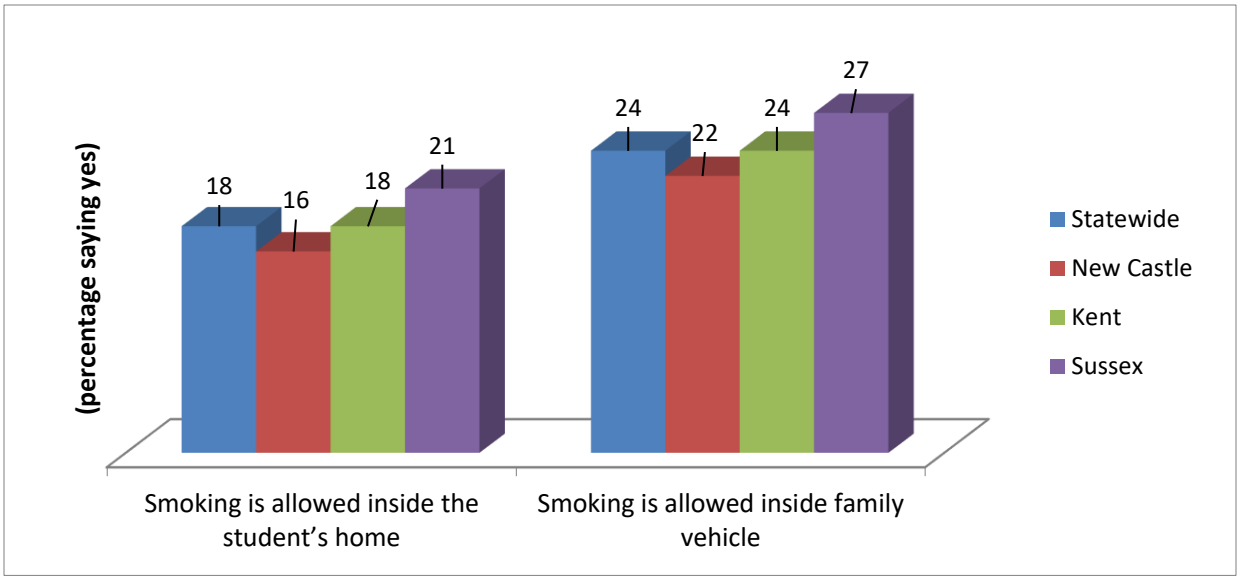

Figure 34 Percentage of high school students who reported smoking rules.

Note:
Weighted data
Source: "2016 Delaware Youth Tobacco Survey (YTS)". Centers for Disease Control and Prevention. Administered by the Center for Drug and Health Studies, University of Delaware.

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2016 Youth Tobacco Survey

Exposure to second hand smoke in the past week among Middle School Students

(in percentages)

	At home	In a vehicle	At school	In an indoor public place last week
Statewide	21	20	12	11
Males	17	18	11	9
Females	25	23	12	13
New Castle	20	18	12	11
Males	16	16	11	8
Females	24	21	14	13
Kent	22	23	9	12
Males	22	22	9	12
Females	21	23	8	12
Sussex	24	26	12	12
Males	20	24	10	9
Females	29	28	11	15

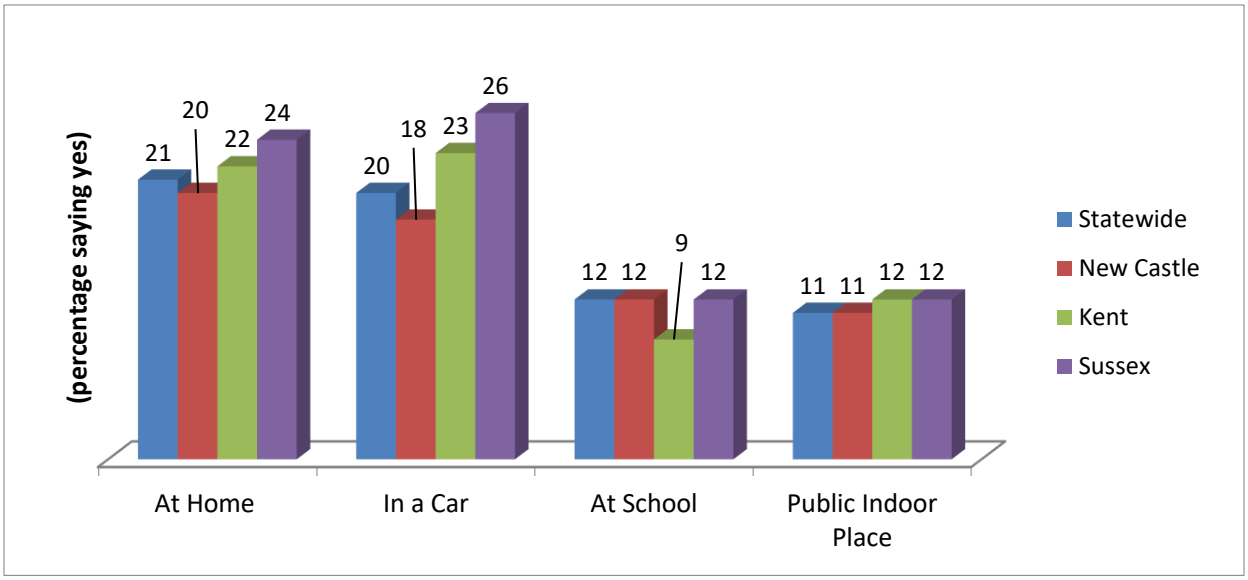

Figure 35 Percentage of middle school students who reported exposure to second hand smoke in the past week.
Note:
Weighted data
Source: "2016 Delaware Youth Tobacco Survey (YTS)". Centers for Disease Control and Prevention. Administered by the Center for Drug and Health Studies, University of Delaware.

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2016 Youth Tobacco Survey

Exposure to second hand smoke in the past week among High School Students

(in percentages)

	At home	In a vehicle	At school	In an indoor public place last week
Statewide	21	25	17	12
Males	20	24	16	11
Females	22	26	17	13
New Castle	25	25	17	13
Males	24	24	17	12
Females	26	26	18	14
Kent	24	24	16	9
Males	25	25	17	8
Females	23	23	15	10
Sussex	26	26	16	12
Males	21	22	14	9
Females	30	30	18	14

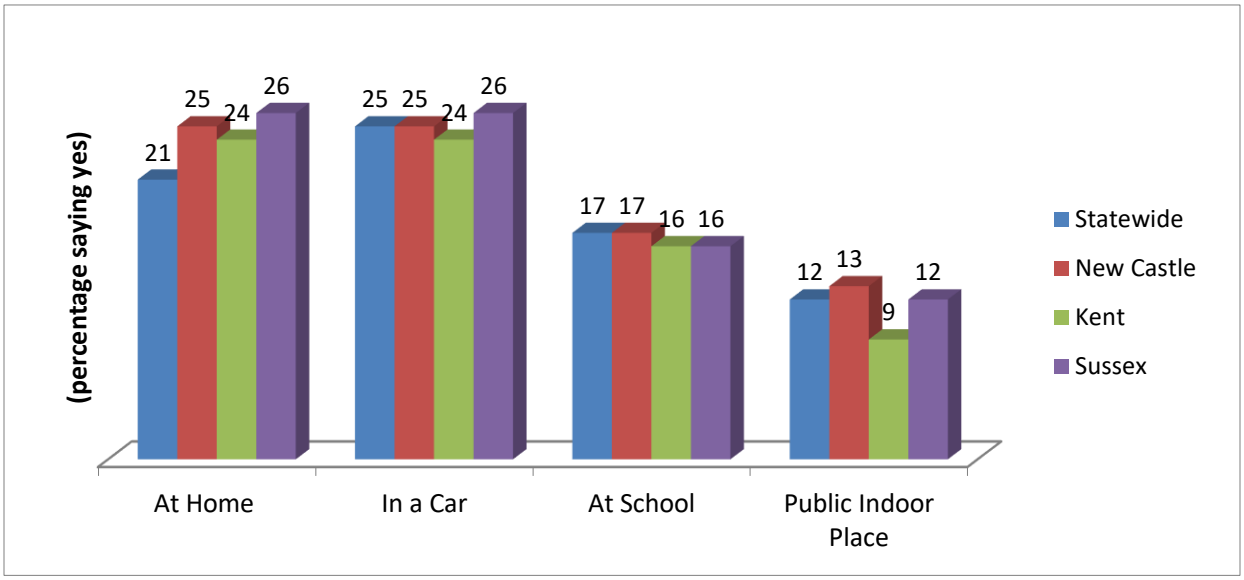

Figure 36 Percentage of high school students who reported exposure to second hand smoke in the past week.

Note:
Weighted data
Source: "2016 Delaware Youth Tobacco Survey (YTS)". Centers for Disease Control and Prevention. Administered by the Center for Drug and Health Studies, University of Delaware.

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2016 Youth Tobacco Survey

Middle School Students who reported one of their four closest friends use a tobacco product

(in percentages)

	Smokes cigarettes	Smokes cigars	Uses vaping device	Uses chewing tobacco
Statewide	8	6	14	4
Males	8	7	13	5
Females	9	5	15	3
New Castle	7	6	13	2
Males	7	7	11	3
Females	8	5	15	2
Kent	7	3	17	3
Males	7	3	15	2
Females	7	3	18	3
Sussex	10	7	18	10
Males	9	7	18	11
Females	10	7	17	8

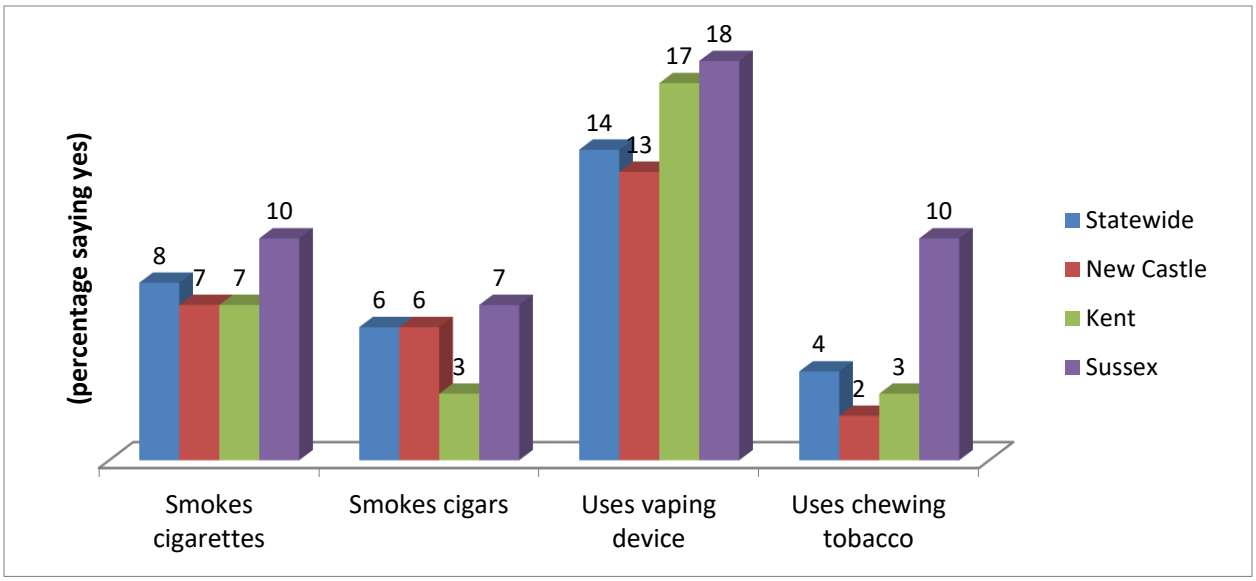

Figure 37 Percentage of middle school students who reported one of their four closest friends use a tobacco product.

Note:
Weighted data
Source: "2016 Delaware Youth Tobacco Survey (YTS)". Centers for Disease Control and Prevention. Administered by the Center for Drug and Health Studies, University of Delaware.

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2016 Youth Tobacco Survey

High School Students who reported one of their four closest friends use a tobacco product

(in percentages)

	Smokes cigarettes	Smokes cigars	Uses vaping device	Uses chewing tobacco
Statewide	22	17	30	13
Males	24	20	31	17
Females	20	14	29	8
New Castle	22	19	29	9
Males	26	23	31	13
Females	18	15	26	5
Kent	20	14	30	16
Males	22	16	30	20
Females	19	12	29	13
Sussex	25	17	35	20
Males	24	19	34	26
Females	27	14	36	14

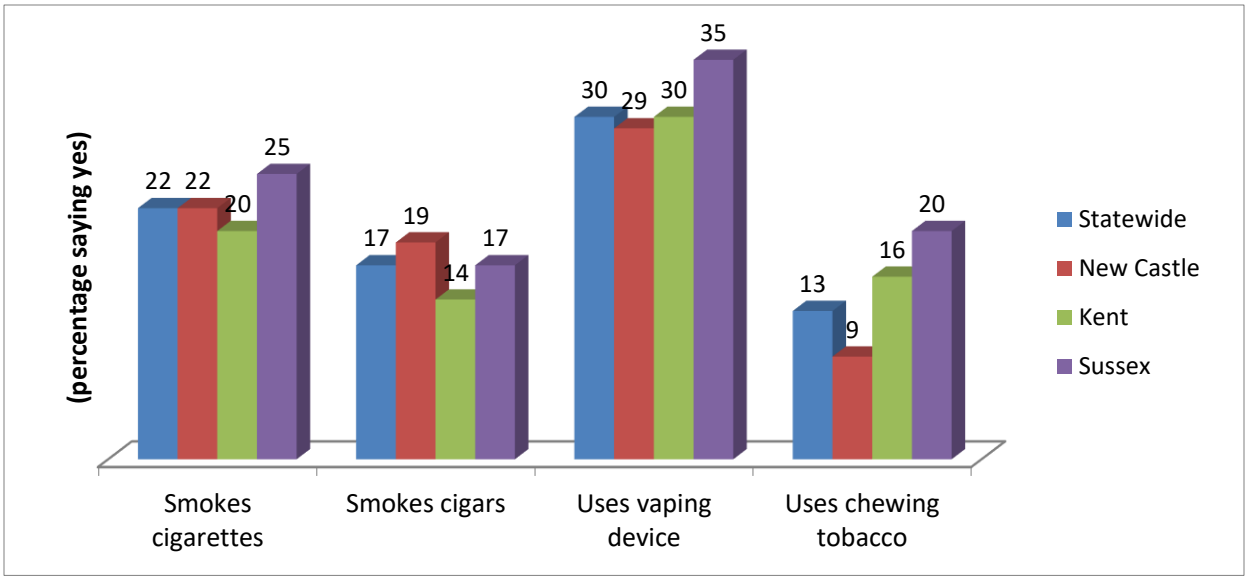

Figure 38 Percentage of high school students who reported one of their four closest friends use a tobacco product.
Note:
Weighted data
Source: "2016 Delaware Youth Tobacco Survey (YTS)". Centers for Disease Control and Prevention. Administered by the Center for Drug and Health Studies, University of Delaware.

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2016 YOUTH TOBACCO SURVEY

Middle School Students who reported smoking makes young people look cool

(in percentages)

	Smoking makes young people look cool or fit in	Young people who smoke have more friends
Statewide	11	20
Males	11	18
Females	10	22
New Castle	10	20
Males	10	17
Females	10	23
Kent	10	17
Males	9	17
Females	11	17
Sussex	12	17
Males	12	18
Females	12	15

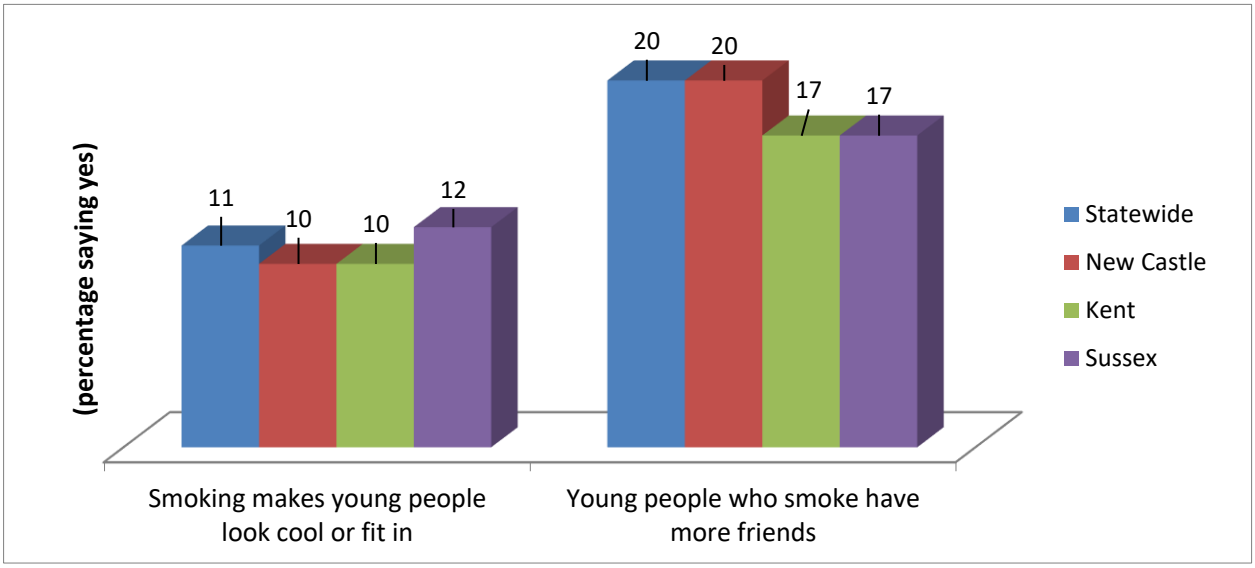

Figure 39 Percentage of middle school students who reported one of their four closest friends use a tobacco product.

Note:
Weighted data
Source: "2016 Delaware Youth Tobacco Survey (YTS)". Centers for Disease Control and Prevention. Administered by the Center for Drug and Health Studies, University of Delaware.

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2016 Youth Tobacco Survey

High School Students who reported smoking makes young people look cool (in percentages)

	Smoking makes young people look cool or fit in	Young people who smoke have more friends
Statewide	12	18
Males	14	20
Females	10	17
New Castle	13	19
Males	15	21
Females	11	16
Kent	10	18
Males	13	19
Females	6	17
Sussex	11	18
Males	13	18
Females	10	17

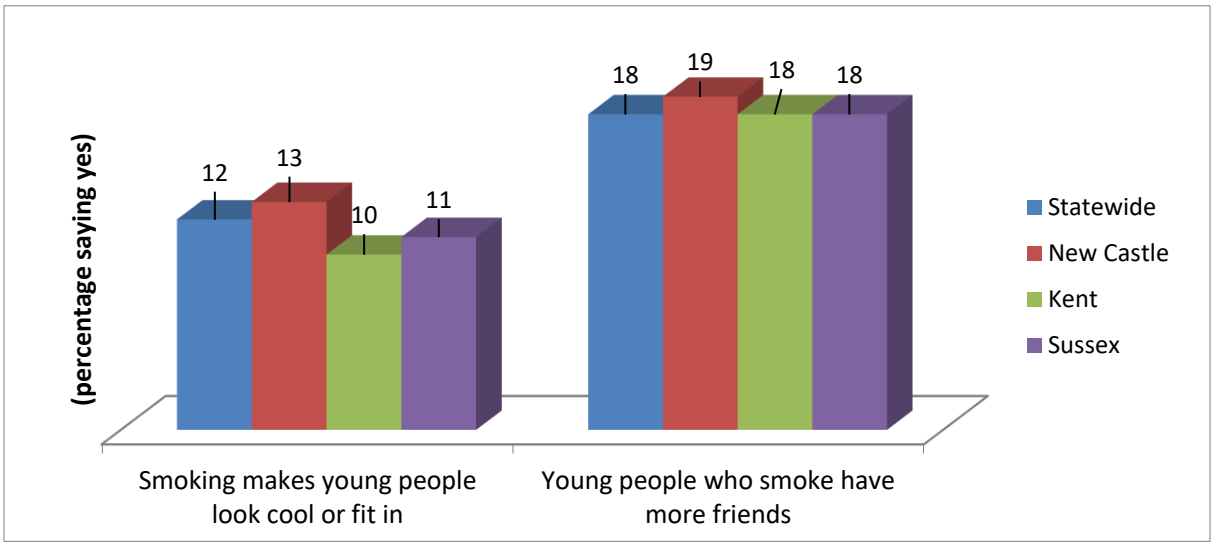

Figure 40 Percentage of high school students who reported one of their four closest friends use a tobacco product.

Note:
Weighted data
Source: "2016 Delaware Youth Tobacco Survey (YTS)". Centers for Disease Control and Prevention. Administered by the Center for Drug and Health Studies, University of Delaware.

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Tobacco Trends and Comparisons to U.S. and Region

2017 Delaware School Survey

Trends in Delaware students' cigarette use by grade self-reported past month use, 1989-present

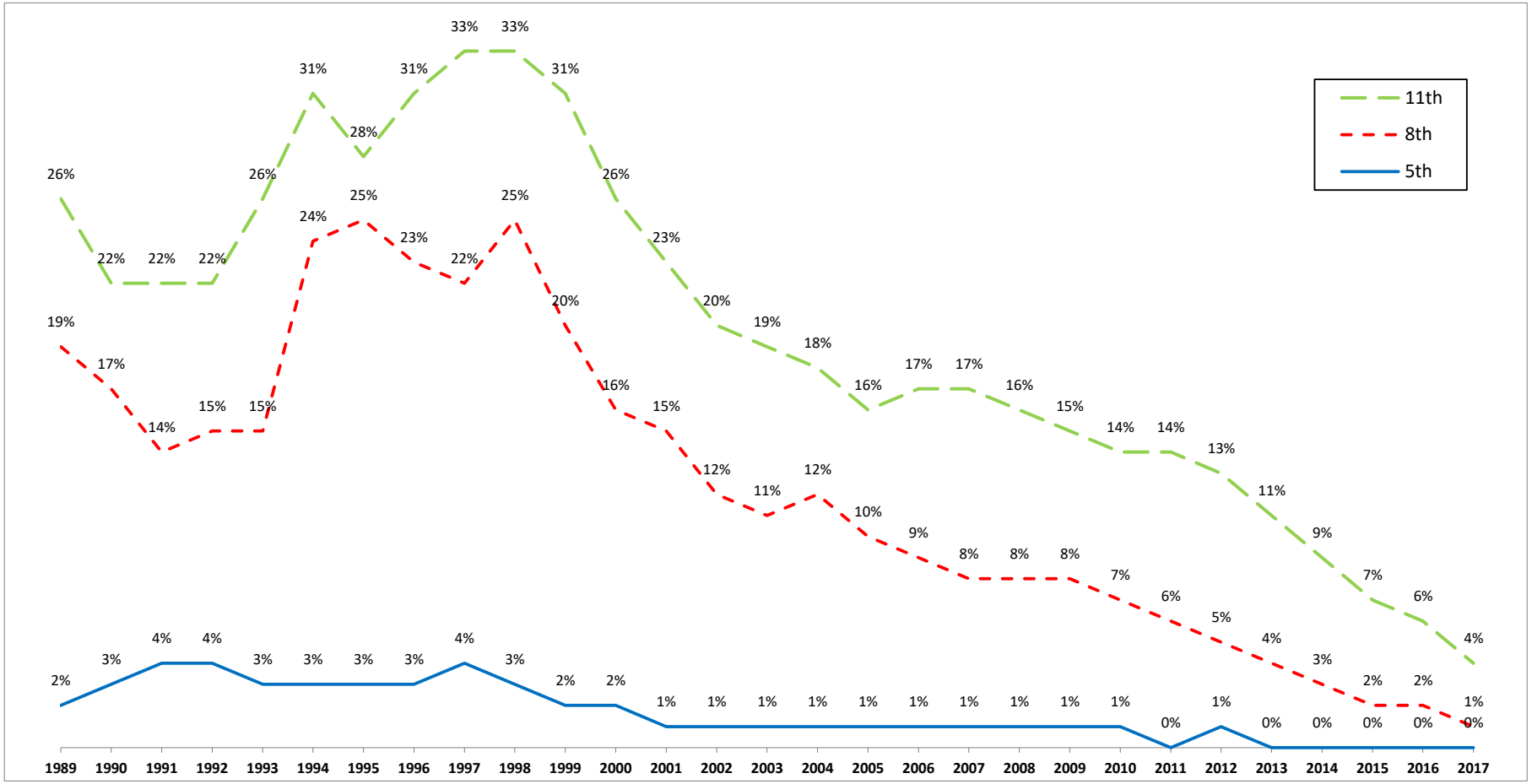

Figure 41 Trends in Delaware students who reported regular cigarette use by grade; 1989- Present

Source: Data Base/DiagnosticsPlus (1989-1993); Department of Public Instruction (1994);
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (1995- Present)

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2017 High School Youth Risk Behavior Survey

Emerging trends in Delaware High School Students' Vaping Device use[a], 2015-2017

	Vaping Device Use	
	Lifetime	**Past Month**
2017 High School Students	38	14
2015 High School Students	41	24

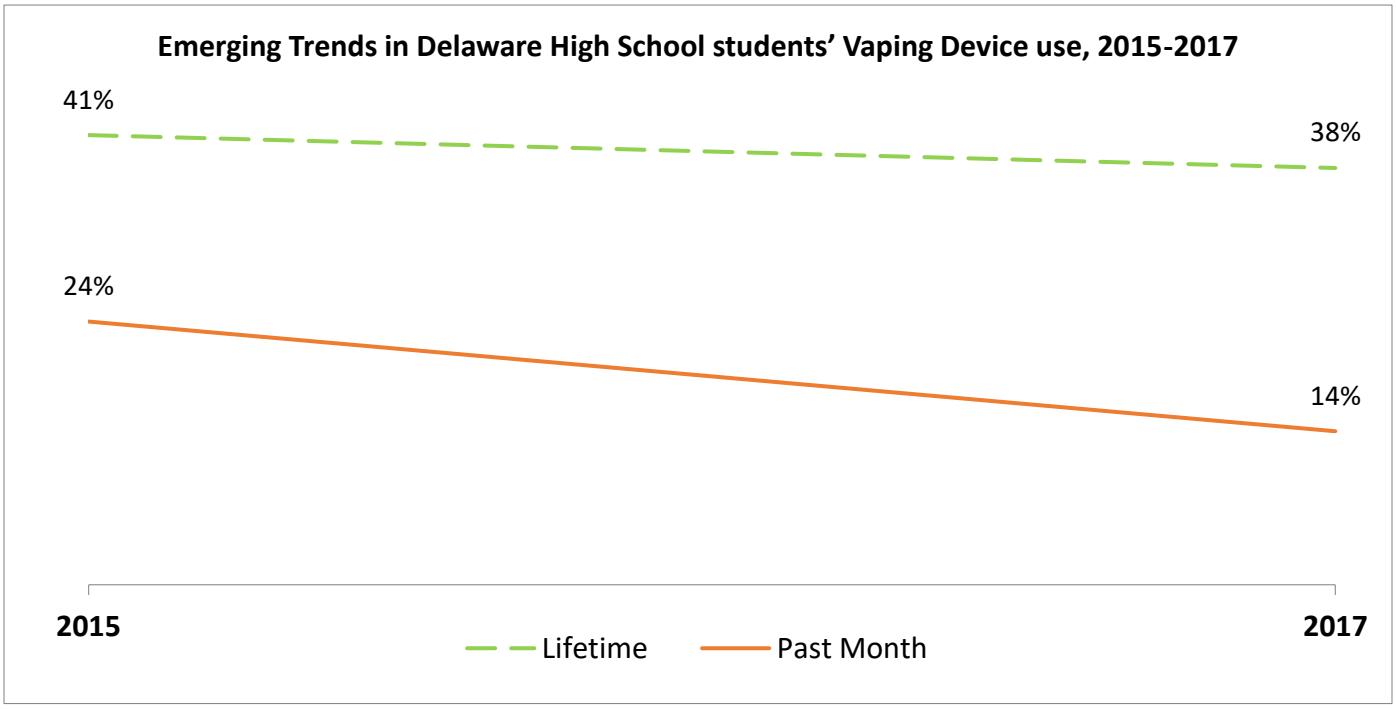

Figure 42 Trends in Delaware students' Vaping Device use.

Notes:
[a]Electronic Vapor Products include e-cigarettes, e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs (such as blu, NJOY, Vuse, MarkTen, Vapin Plus, eGo, and Halo)
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
Weighted data
Source:"2017 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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National Survey on Drug Use and Health (NSDUH)

Tobacco product use in past month, by age group and state: 2014-2015 and 2015-2016 NSDUH

(in percentages)

State	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
	2014-2015	2015-2016	*p* value[b]	2014-2015	2015-2016	*p* value[b]	2014-2015	2015-2016	*p* value[b]	2014-2015	2015-2016	*p* value[b]
Total U.S.	24.56	23.72	.000	6.50	5.66	.000	34.02	31.48	.000	25.14	24.58	.015
Northeast	23.30	22.75	.127	6.22	5.39	.001	32.89	31.65	.054	23.62	23.21	.357
Delaware	26.35	22.55	.000	6.77	4.68	.000	37.20	29.86	.000	26.76	23.37	.005
Maryland	23.79	22.04	.055	6.05	5.57	.428	33.98	31.95	.245	24.21	22.38	.102
New Jersey	20.74	19.25	.065	5.33	4.64	.154	30.95	30.27	.650	21.00	19.31	.090
Pennsylvania	26.54	26.96	.559	7.24	6.36	.102	37.54	36.17	.249	26.89	27.74	.338

Cigarette use in past month, by age group and state: 2014-2015 and 2015-2016 NSDUHs[a]

(in percentages)

State	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
	2014-2015	2015-2016	*p* value[b]	2014-2015	2015-2016	*p* value[b]	2014-2015	2015-2016	*p* value[b]	2014-2015	2015-2016	*p* value[b]
Total U.S.	21.12	19.23	.000	4.53	3.80	.000	27.54	25.12	.000	20.74	20.09	.003
Northeast	19.13	18.46	.046	4.37	3.44	.000	26.89	24.93	.002	19.48	19.05	.314
Delaware	22.46	19.03	.000	4.85	3.22	.000	31.48	23.53	.000	22.95	20.07	.008
Maryland	19.07	17.78	.115	3.93	3.46	.234	25.71	24.05	.306	19.76	18.44	.195
New Jersey	16.69	15.82	.221	3.51	2.90	.086	24.71	25.05	.803	17.02	15.93	.228
Pennsylvania	21.55	21.47	.907	5.03	3.91	.006	29.58	28.06	.197	22.07	22.34	.749

Figure 43 Tobacco product use in past month by age group and state

Notes:

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

[b] *p* value: Bayes significance levels for the null hypothesis of no change between the 2014-2015 and 2015-2016 population percentages

Source: "National Survey on Drug Use and Health: Comparison of 2014-2015 and 2015-2016 Population Percentages (50 States and District of Columbia)." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.

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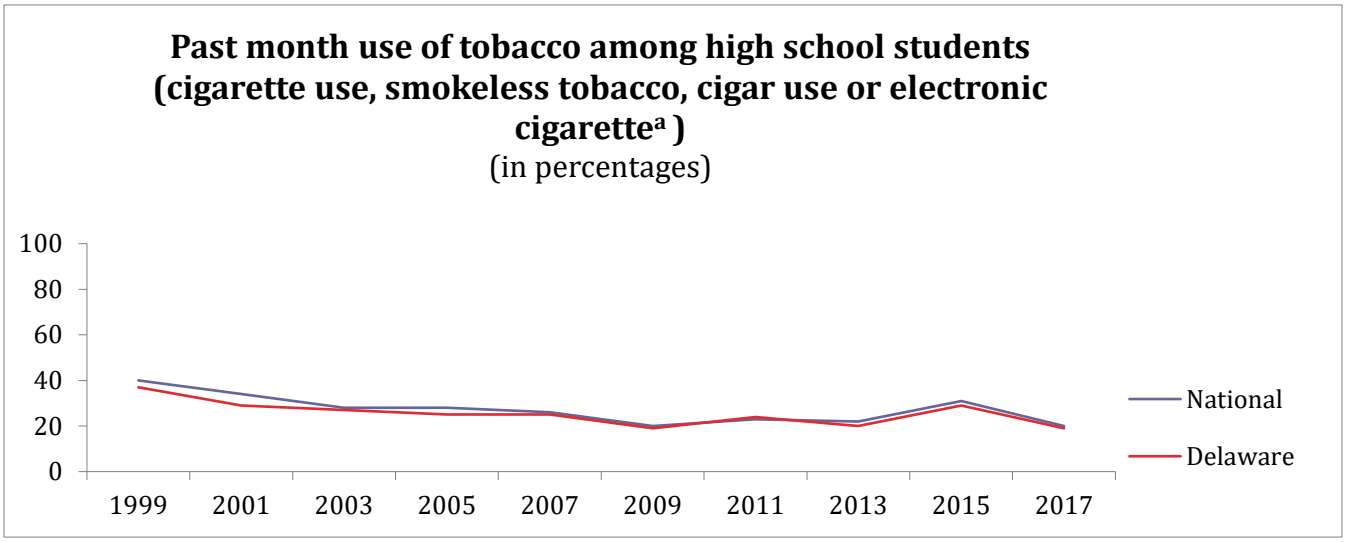
High School Youth Risk Behavior Survey
National and Delaware



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
2017	20	19

Figure 44 Past month use of tobacco among high school students, National and Delaware YRBS

Notes:
[a] Electronic cigarette was added to the overall past month tobacco use measure in 2015, this had a noticeable impact on the past month tobacco rate.
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). (1999-2017)
"National High School Youth Risk Behavior Survey." Center for Disease Control and Prevention. (1999-2017)

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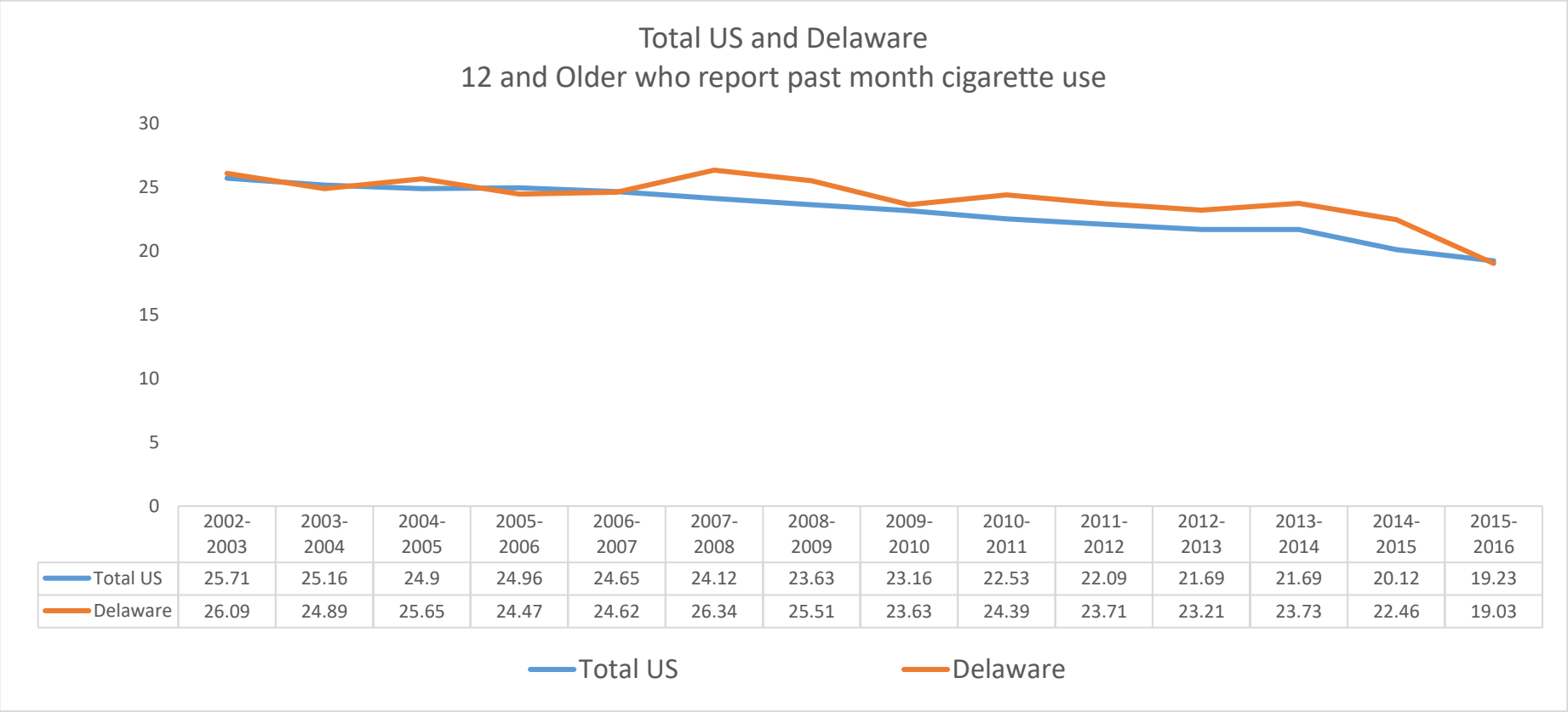
National Survey on Drug Use and Health (NSDUH)

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



	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Total US	25.71	25.16	24.9	24.96	24.65	24.12	23.63	23.16	22.53	22.09	21.69	21.69	20.12	19.23
Delaware	26.09	24.89	25.65	24.47	24.62	26.34	25.51	23.63	24.39	23.71	23.21	23.73	22.46	19.03

Figure 45 Percentage of respondents reporting cigarette use in past month, National and Delaware YRBS

Source:
"National Survey on Drug Use and Health, 2002-2016." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.

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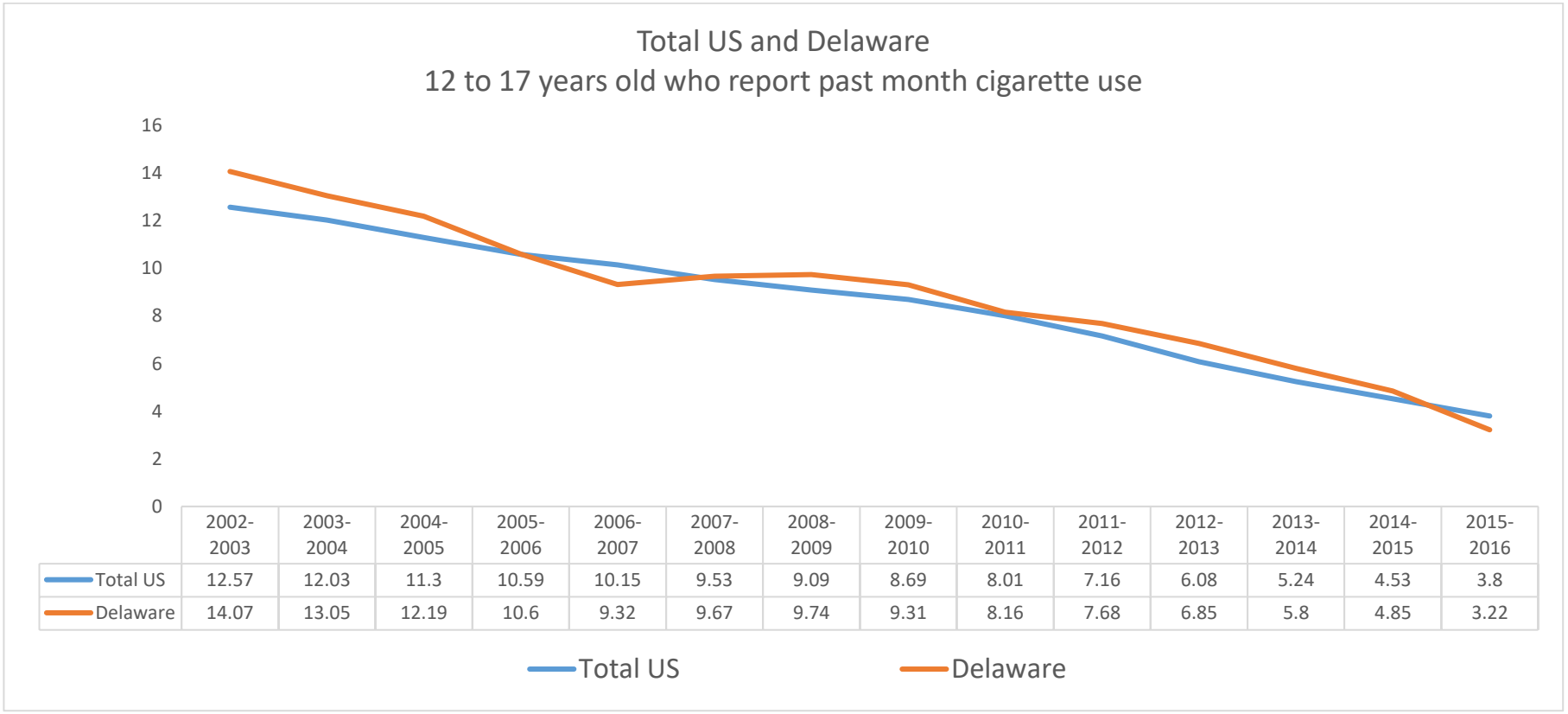
National Survey on Drug Use and Health (NSDUH)

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



	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Total US	12.57	12.03	11.3	10.59	10.15	9.53	9.09	8.69	8.01	7.16	6.08	5.24	4.53	3.8
Delaware	14.07	13.05	12.19	10.6	9.32	9.67	9.74	9.31	8.16	7.68	6.85	5.8	4.85	3.22

Figure 46 Percentage of respondents reporting cigarette use in past month, Delaware and US

Source:
"National Survey on Drug Use and Health, 2002-2016." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.

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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**
2017 11th Grade Delaware	7	4
2016 11th Grade Delaware	9	6
2015 11th Grade Delaware	12	7
2017 9th-12th Grade YRBS Delaware*	--	7
2015 9th-12th Grade YRBS Delaware*	--	11
2017 12th Grade MTF	--	10
2016 12th Grade MTF	--	11

Figure 47 Comparison of recent estimates of cigarette use among high school students, Delaware and National

Notes:
"--" Not Available
*weighted data
Sources:
"Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (2015- 2017)
"Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). (2015-2017)
National Adolescent Drug Trends Press Release: Text and Tables. Monitoring the Future Study (MTF), University of Michigan. (2017)

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Perceived Risks and Consequences

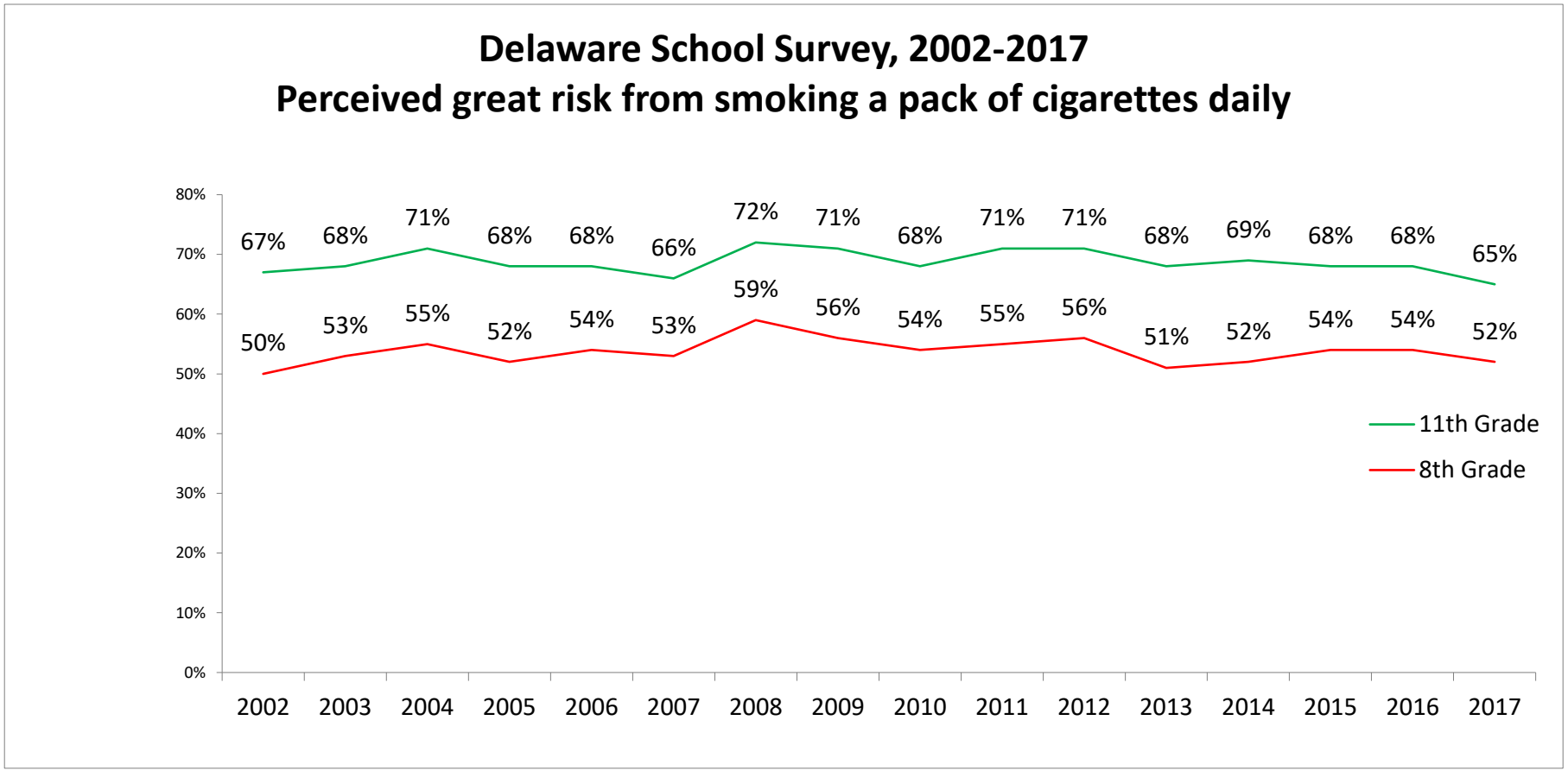

Figure 48 Perceived risks of heavy use of cigarettes in Delaware

Source:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware (2002-2017).

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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: 2014-2015 and 2015-2016 NSDUH

(in percentages) [a]

State	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]
Total U.S.	71.06	72.80	-	65.28	68.71	-	66.43	68.29	-	72.55	74.04	-
Northeast	73.25	74.59	-	66.02	71.53	-	68.15	69.57	-	74.90	75.74	-
Delaware	72.34	71.98	-	64.81	68.02	-	69.76	70.32	-	73.60	72.66	-
Maryland	73.41	76.56	-	67.82	71.55	-	67.55	71.31	-	75.02	77.96	-
New Jersey	75.37	77.37	-	66.60	73.43	-	70.47	70.18	-	77.15	78.91	-
Pennsylvania	69.22	70.22	-	63.03	69.84	-	62.86	67.52	-	70.94	70.68	-

Figure 49 Perceptions of great risk of smoking one or more packs of cigarettes per day, by age group, region, and state

Notes:
"-" p values were not available for this data
[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.
[b] *p* value: Bayes posterior probability of no change.

Source:
"2015-2016 National Survey on Drug Use and Health." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

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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 one in ten 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. Data from the 2016 National Survey of Drug Use and Health indicates that approximately one in eighteen people over the age of 12 have an alcohol use disorder (SAMHSA, 2017). 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). 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. Data from the National Survey on Drug Use and Health show that adult reports of past month use have remained relatively stable over the past six years. High school youth reports of past month use declined from 51 percent in 1999 to 30 percent in 2017 according to the National YRBS (CDC, 2018). While the downward trend of high school 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 39% of fatal car crashes in Delaware in 2016, a decrease of 17% 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 27 fatal pedestrian events in Delaware in 2016, 10 of the victims had been drinking prior to the incident (Delaware State Police, 2016).

Binge drinking is also associated with an increased risk of victimization. Data from the 2017 College Risk Behavior Survey shows that approximately one out of four University of Delaware students who report that they frequently binge drink alcohol (consume five or more drinks in a single sitting) also report that they had been a victim of assault, compared to one out of fourteen students who either did not binge drink, or did not drink at all. Binge drinkers were also twice as likely to be victims of sexual assault (Center for Drug & Health Studies/CDHS, 2017). 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.

Despite the emphasis on opioid misuse, among students, alcohol remains the most commonly used substance reported. According to the DSS, 28% of 11th graders and 8% of 8th graders reported that they drank alcohol in the past month. Though alcohol use among Delaware students declined 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 38% of 11th 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. According to the DSS, nearly one in ten 11th graders reported binge drinking in the past two weeks while one in eight reported drinking and driving at any point in their lifetime in 2017.

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 12.5 years old for 8th graders and 15 years old for 11th graders. The use of alcohol at an early age has been linked to future alcohol dependence and a greater likelihood of using illicit substances later in life (Barry, et al., 2016).

Data in Action: Direct Shipment of Alcohol

Recent proposed state legislation, House Bill 165, would have changed Delaware law related to the direct shipment of wine to consumers. While this legislation would have provided greater flexibility to wineries and to consumers, it raised important concerns about the State's ability to enforce the legal drinking age, despite attempts to address this concerns written into the bill and its amendments. While this ultimately failed legislation required proof of age at the time of purchase, and training on the legal responsibilities of carriers, studies from other states have found that delivery to underage purchasers still occurs, despite policies in place to prevent these deliveries. One study found that 45% of all alcohol purchases attempted by minors were successfully delivered (Williams & Ribisl, 2012). Williams and Schmidt (2013) also found that many online alcohol sellers have screening methods that are unlikely to filter out minors (e.g., checkboxes indicating acknowledgement of their age). They discuss one troubling trend identified from studies of the online cigarette industry: state and federal regulations of the online tobacco industry resulted in a significant movement of sales to international distributors who shipped tobacco illegally using various methods of concealment. They found evidence to support that this trend may already be underway in the online alcohol market. Therefore, it is important not only to enhance strong enforcement policies of underage alcohol sales through legitimate sellers, if similar legislation passes in the future, but also to identify whether Delaware youth may already be purchasing alcohol online, despite the existence of local laws.

According to data from the 2015-2016 NSDUH, young adults between the ages of 18-25 have the highest rates of binge drinking; nearly 40% of adults in this age range reported binge drinking in the past 30 days. Data from the Delaware Behavioral Risk Factor Surveillance System (BRFSS) show a decrease in adult past month drinking, from a high of 60% in 2011, to 56% in 2015,

although Delaware adults drink at a slightly higher rate than the national average. Nearly one in six adults surveyed by DBRFSS in 2016 reported binge drinking; and 17% met the criteria for heavy drinking. Data from the Treatment Episode Data Set (TEDS) indicates that alcohol use was the primary reason for 6% of all 2017 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 2015-2016 NSDUH[a]					
Measure	Total 12 or Older	AGE GROUP			
		12-17	18-25	26 or Older	12-20[c]
ALCOHOL					
Past Month Alcohol Use	52.04	9.05	57.10	55.96	21.03
Past Month Binge Alcohol Use[b]	22.63	4.61	38.98	22.09	13.28
Perceived Great Risk of Drinking 5 or More Drinks Once or Twice a Week	43.71	44.38	38.74	44.40	--

Figure 50 Alcohol use in Delaware, by age group

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 (for males) or four or more drinks (for females) 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. In 2015, the definition for females changed from five to four drinks
[c] Underage drinking is defined for persons aged 12 to 20

Source:
"2015-2016 National Survey on Drug Use and Health," Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

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2017 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	3	1	14	45
Males	9	3	1	14	44
Females	7	2	1	14	46
Wilmington	10	3	1	17	38
Males	10	4	1	19	36
Females	9	2	1	14	40
New Castle	8	3	1	14	46
Males	9	4	1	13	45
Females	7	2	1	14	47
Kent	8	2	0	12	46
Males	10	2	0	14	45
Females	6	2	0	10	47
Sussex	7	2	0	14	43
Males	9	3	1	13	41
Females	5	1	0	15	45

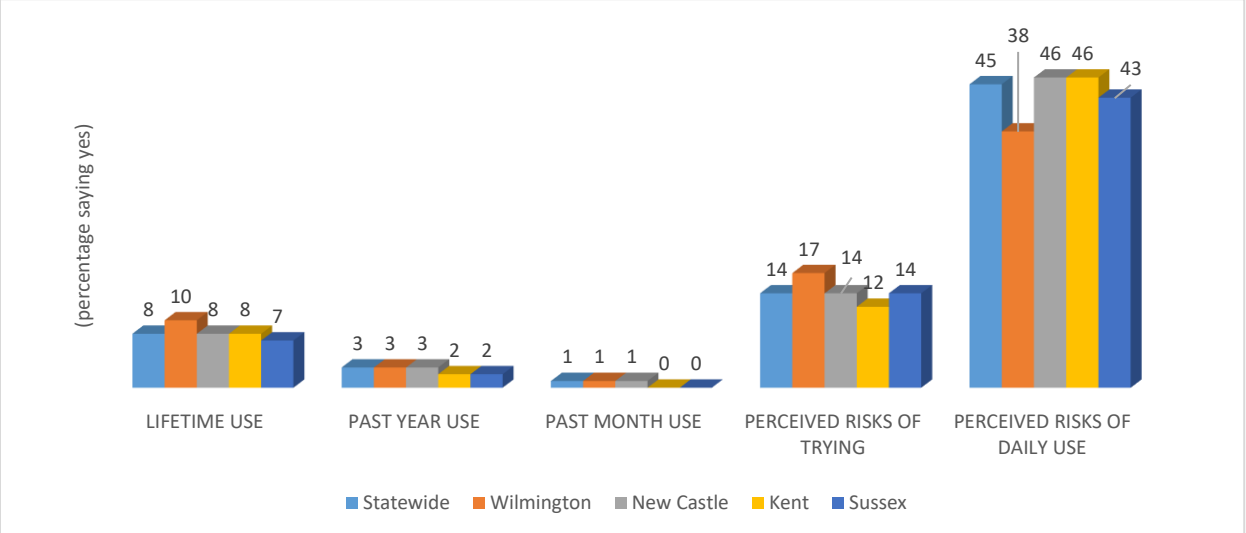

Figure 51 Alcohol use among Delaware 5th graders

Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 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[a]
Statewide	25	18	8	1	34	49
Males	22	15	7	2	33	45
Females	28	21	9	1	34	52
Wilmington	27	20	10	2	31	40
Males	25	16	9	2	27	35
Females	28	23	12	2	36	45
New Castle	24	18	7	1	35	51
Males	22	15	6	1	35	48
Females	27	20	9	1	35	55
Kent	21	15	7	1	34	49
Males	19	13	5	1	33	48
Females	24	18	8	1	34	50
Sussex	29	22	10	2	31	42
Males	25	16	8	2	29	40
Females	32	27	13	2	32	45

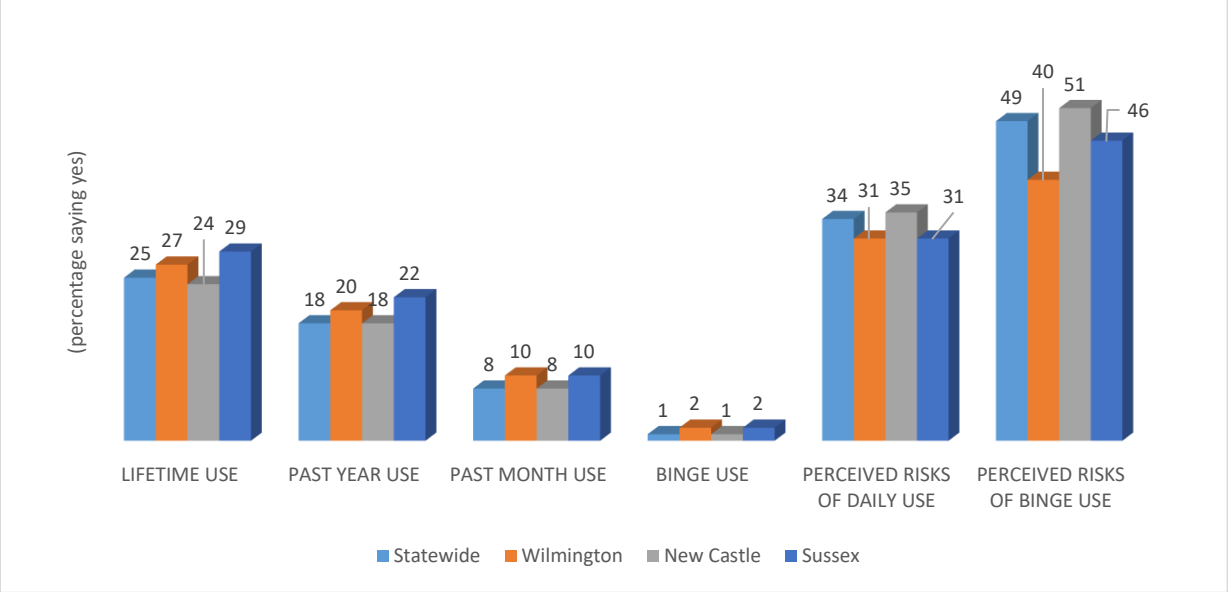

Figure 52 Alcohol use among Delaware 8th graders

Note:
[a] "Binge Use" is defined as five alcoholic drinks at a time in the last two weeks.
Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 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[a]
Statewide	59	51	28	9	38	54
Males	54	46	26	10	34	48
Females	65	56	30	8	42	59
Wilmington	61	49	22	6	35	51
Males	52	38	18	5	29	44
Females	68	57	25	6	40	56
New Castle	58	50	27	8	42	57
Males	52	44	23	8	36	52
Females	64	57	32	9	47	63
Kent	61	52	30	11	31	45
Males	56	49	33	15	27	38
Females	65	55	28	7	35	51
Sussex	60	53	31	12	36	53
Males	56	50	32	15	35	48
Females	63	56	31	10	37	58

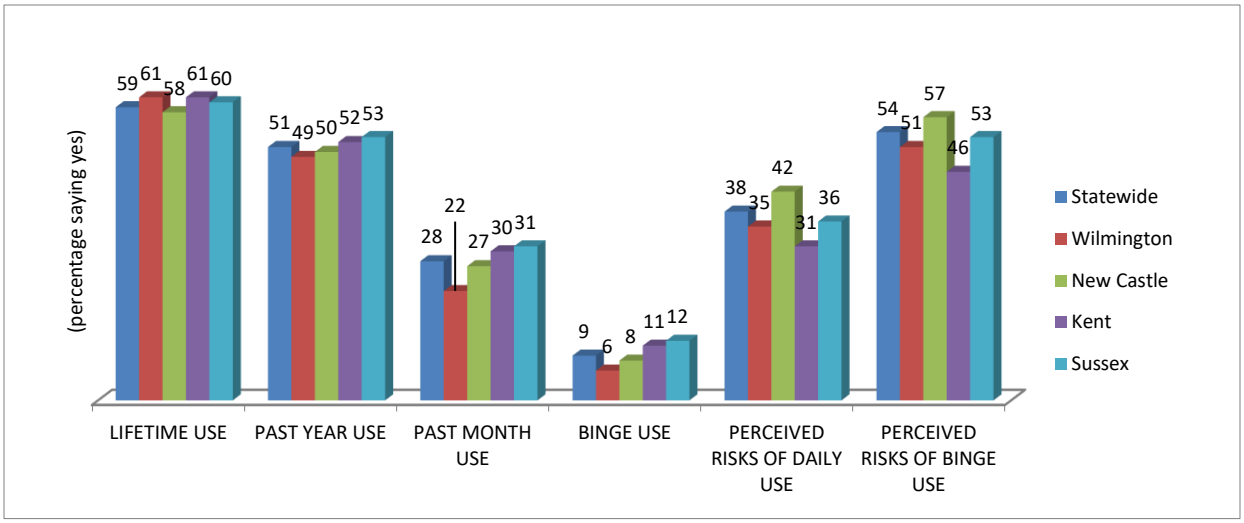

Figure 53 Alcohol use among Delaware 11th graders

Note:
"Binge Use" is defined as five drinks at a time in the last two weeks
Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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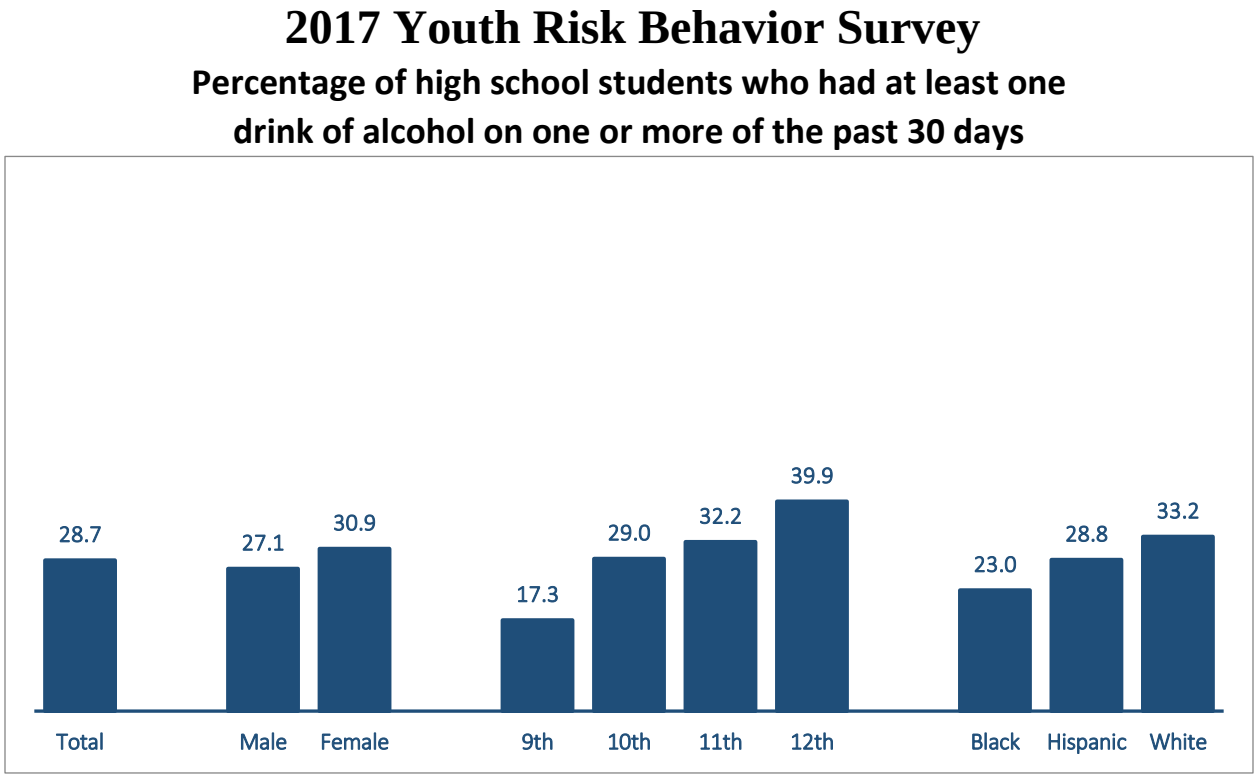

Figure 54 Percentage of high school students who had at least one drink of alcohol on one or more days in the past 30 days

Notes:
Weighted data
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
Source:
"2017 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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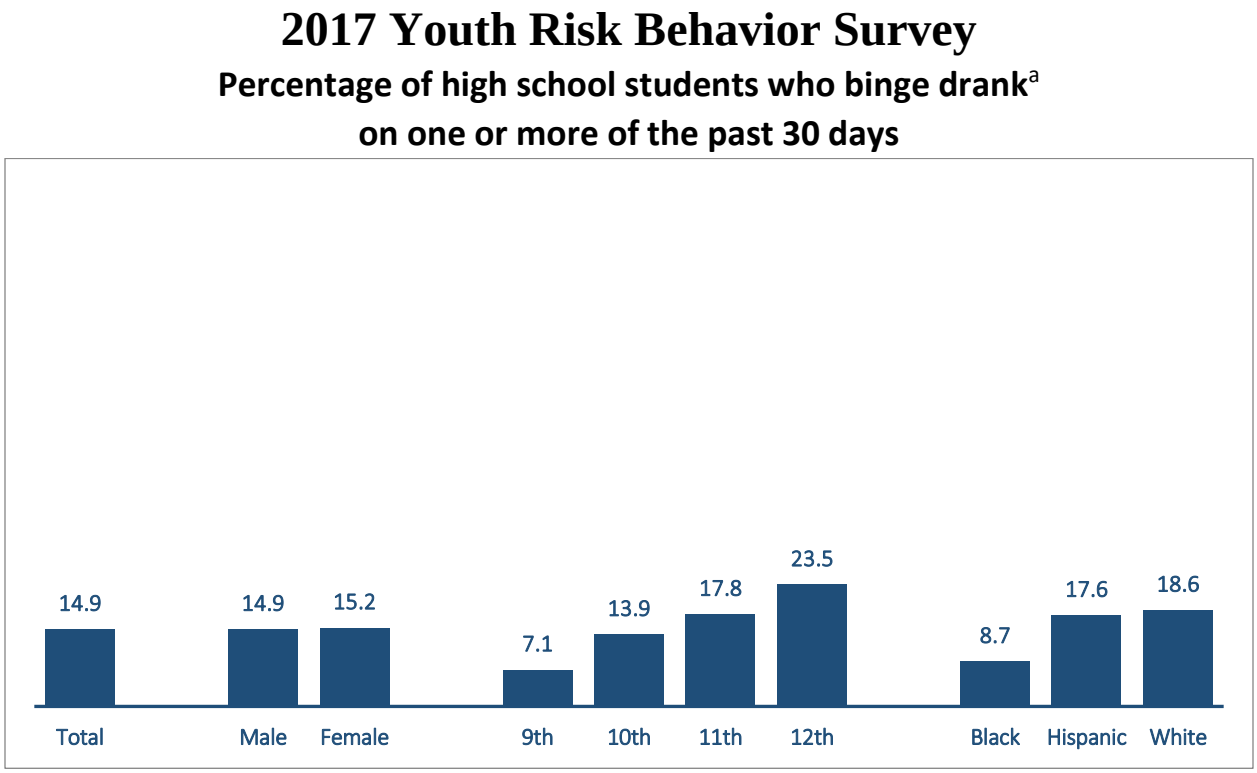

Figure 55 Percentage of high school students who binge drank one or more of the past 30 days

Notes:

[a] Binge drinking defined as four or more drinks of alcohol in a row for female students and five or more drinks of alcohol in a row for male students within a couple hours.
Weighted data.
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

Source:
"2017 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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2017 Delaware School Survey

Average age of onset for alcohol use

8th Grade	11th Grade
12.5 years	15 years

Figure 56 Average age of onset of alcohol use

Source:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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Behavior Risk Factor Surveillance System (BRFSS)

Statewide and sub-state estimates of binge drinking for Delaware adults from the 2016 Delaware Behavior Risk Factor Surveillance System

Binge Drinking [5+ (males) or 4+ (females) Drinks at One Occasion]				
Statewide	**Wilmington**	**New Castle**	**Kent**	**Sussex**
17.0%	--	19.1%	13.7%	14.3%

Figure 57 State and sub-state estimates of binge drinking for Delaware adults

Note:
"--" Data not available for Wilmington.

Source:
Delaware Health and Social Services, Division of Public Health, Behavioral Risk Factor Surveillance System (BRFSS), [2016].

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Alcohol Trends and Comparisons to U.S. and Region

Delaware School Survey

Trends in Delaware students' alcohol use by grade self-reported past month use, 1989-present

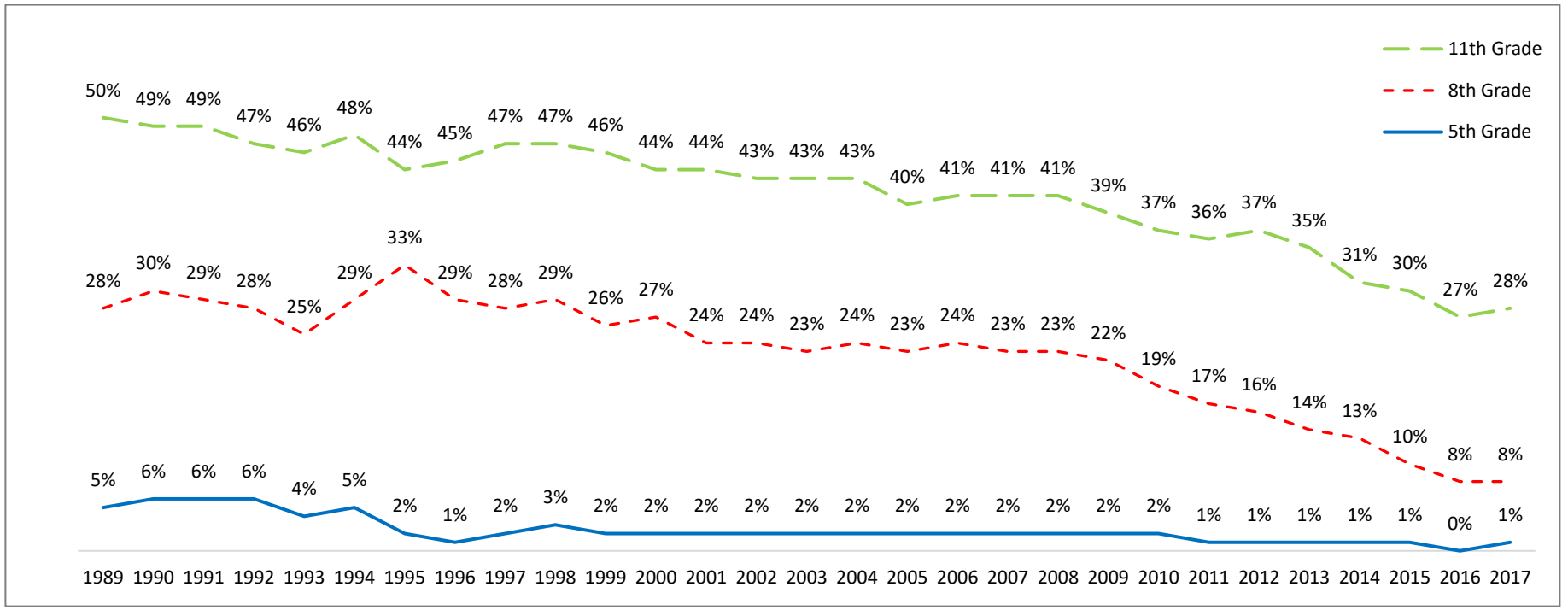

Figure 58 Trends in Delaware students' alcohol use by grade, 1989-present

Source:
Data Base/DiagnosticsPlus (1989-1993); Department of Public Instruction (1994)
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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Delaware School Survey

Trends in Delaware students' self-reported binge alcohol use[a] by grade, 2002-present

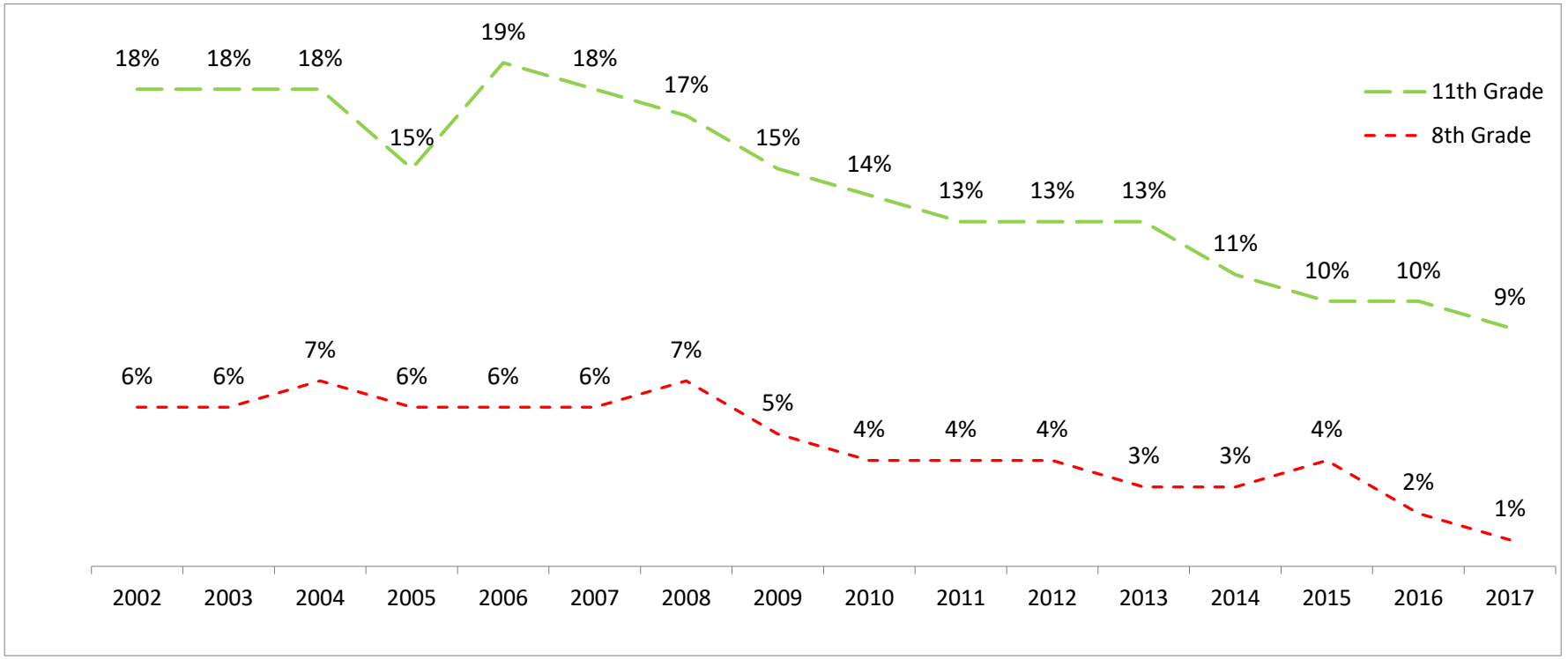

Figure 59 Trends in Delaware students' binge alcohol use by grade, 2002-present

Note:
[a] "Binge use" is defined by the Delaware School Survey as five or more drinks at a time (Previously binge use was reported as 3 or more drinks at a time) in the past two weeks.
Source: "Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (1995- Present)

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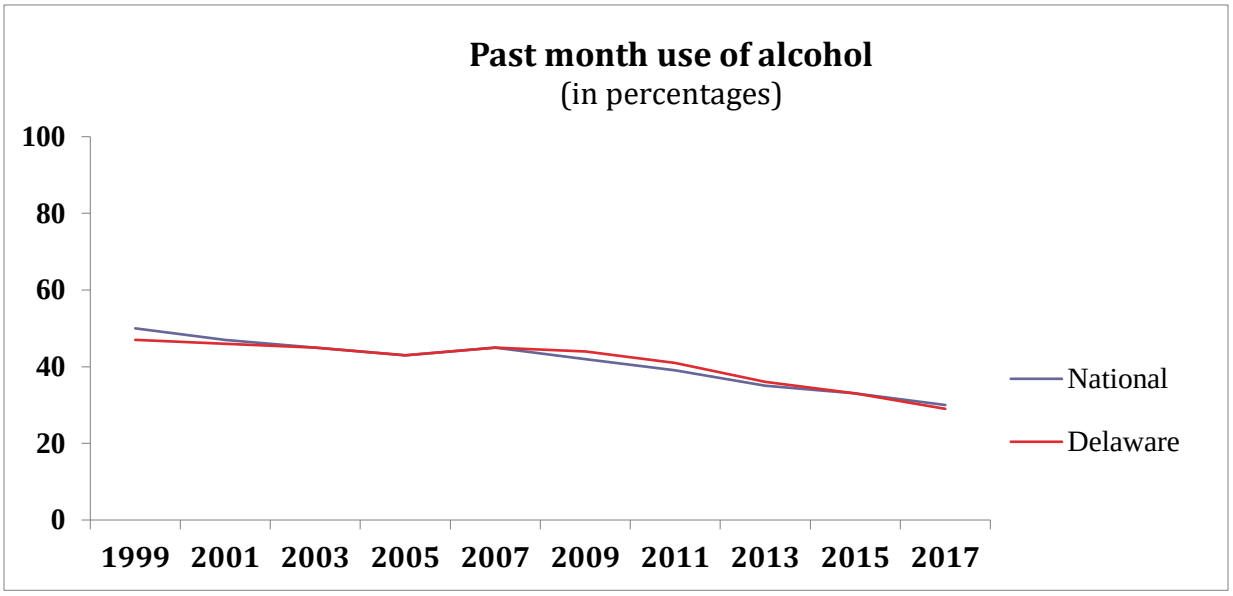
High School Youth Risk Behavior Survey
National and Delaware



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
2017	30	29

Figure 60 Past month alcohol use among high schoolers, Delaware and National

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-Present)
"Trends in the Prevalence of Alcohol Use National YRBS: 1991-2015" Centers for Disease Control and Prevention.
"National Youth Risk Behavior Survey" 2017.

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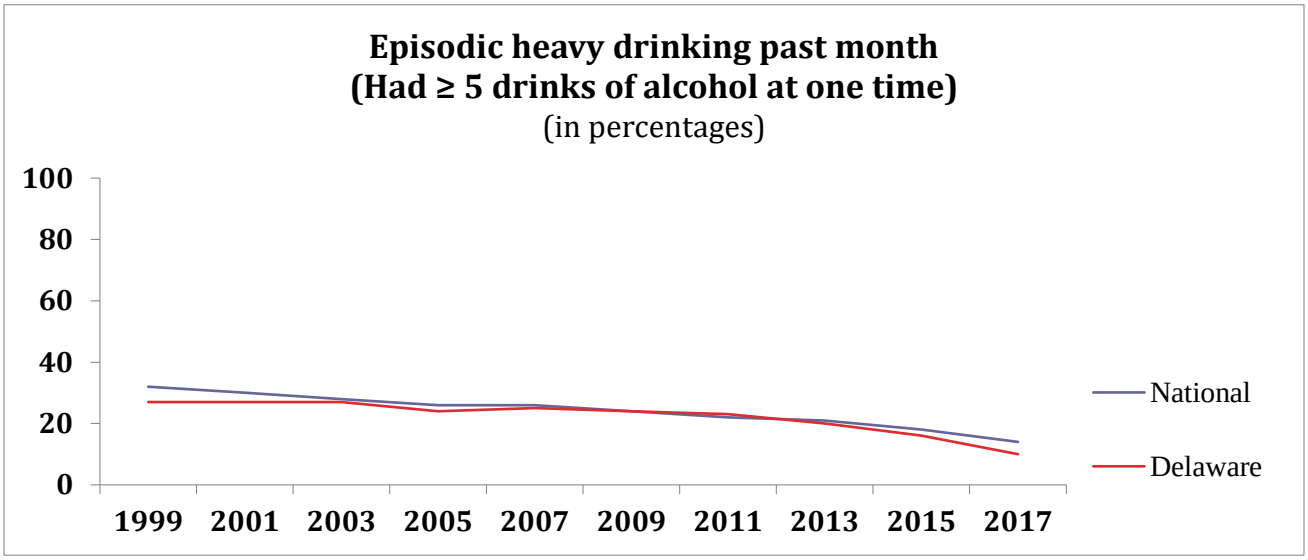
High School Youth Risk Behavior Survey
National and Delaware



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
2017	14	10

Figure 61 Episodic heavy drinking past month, Delaware and National

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). (1999-2017)
"Trends in the Prevalence of Alcohol Use National YRBS: 1991-2015" Centers for Disease Control and Prevention. National Youth Risk Behavior Survey" 2017.

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National Survey on Drug Use and Health

Alcohol use in past month, by age group and state: 2014-2015 and 2015-2016 NSDUH (in percentages) [a]

State	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
	2014-2015	2015-2016	*p* value[b]	2014-2015	2015-2016	*p* value[b]	2014-2015	2015-2016	*p* value[b]	2014-2015	2015-2016	*p* value[b]
Total U.S.	52.18	51.21	.000	10.58	9.40	.000	58.96	57.75	.002	56.04	55.10	.001
Northeast	56.66	56.02	.135	12.57	10.95	.000	64.17	63.92	.731	60.30	59.67	.225
Delaware	53.85	52.04	.110	10.36	9.05	.108	62.37	57.10	.002	57.29	55.96	.342
Maryland	58.38	55.88	.021	12.09	9.73	.013	62.62	62.32	.867	63.07	60.18	.030
New Jersey	56.67	53.56	.002	13.88	10.55	.000	63.69	61.28	.126	60.63	57.40	.011
Pennsylvania	56.56	55.78	.331	11.34	10.02	.061	63.95	62.27	.184	60.32	59.72	.543

Figure 62 Alcohol use in past month by age group and state, 2014-2016

Notes:
[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.
[b] *p* value: Bayes significance levels for the null hypothesis of no change between the 2014-2015 and 2015-2016 population percentages. The "Total U.S." estimates, along with the p values, are based on design-based (direct) estimation methods.
Source:
"National Survey on Drug Use and Health: Comparison of 2014-2015 and 2015-2016 Population Percentages." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

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National Survey on Drug Use and Health

Binge alcohol use[a] in past month, by age group and state: 2014-2015 and 2015-2016 NSDUH (in percentages) [b]

	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
State	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [c]
Total U.S.	22.94	24.58	-	6.16	5.33	-	37.82	38.69	-	22.44	24.52	-
Northeast	23.81	26.28	-	6.99	6.16	-	40.56	44.03	-	22.92	25.61	-
Delaware	23.00	22.63	-	5.55	4.61	-	40.64	38.98	-	22.02	22.09	-
Maryland	22.59	25.75	-	6.25	5.36	-	35.16	43.03	-	22.47	25.38	-
New Jersey	22.56	23.28	-	8.01	5.65	-	38.26	40.29	-	21.92	22.78	-
Pennsylvania	24.43	27.80	-	6.85	5.51	-	42.58	44.66	-	23.43	27.56	-

Figure 63 Binge use in past month by age group and state, 2014-2016

Notes:

[a] "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.

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

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

"-" indicates that p value were not available for this data.

Source: "National Survey on Drug Use and Health: Comparison of 2014-2015 and 2015-2016 Population Percentages." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

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National Survey on Drug Use and Health

Alcohol use and binge alcohol use[a] in past month among persons aged 12 to 20, by state: 2014-2015 and 2015-2016 NSDUH (in percentages)[b]

State	Alcohol Use in Past Month			Binge Alcohol Use in Past Month		
	2014-2015	2015-2016	*p* value[c]	2013-2014	2014-2015	*p* value[c]
Total U.S.	21.57	19.83	.000	-	-	-
Northeast	25.98	23.98	.000	-	-	-
Delaware	23.46	21.03	.013	-	-	-
Maryland	23.50	21.61	.057	-	-	-
New Jersey	25.97	21.18	.000	-	-	-
Pennsylvania	24.79	22.43	.002	-	-	-

Figure 64 Alcohol use and binge use in past month among persons aged 12-20 by state, 2014-2016

Notes:

[a] "Binge Alcohol Use" is defined as drinking five or more drinks on the same occasion for males and four or more drinks for females.

(i.e., at the same time or within a couple hours of each other) on at least 1 day in the past 30 days.

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

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

"-" data not available for this group

Source:

"2015-2016 National Survey on Drug Use and Health," Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

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Delaware School Survey, Youth Risk Behavior Survey, and Monitoring the Future Survey

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

	Alcohol	
	Past Year	**Past Month**
2017 11th Grade Delaware	51	28
2016 11th Grade Delaware	54	27
2015 11th Grade Delaware	54	30
2017 9th-12th Grade YRBS Delaware*	--	29
2015 9th-12th Grade YRBS Delaware*	--	33
2017 12th Grade MTF	56	33
2016 12th Grade MTF	56	33

Figure 65 Comparison of recent National and Delaware estimates of alcohol use among high school students

Notes:

*Weighted Data
"-"Not Available
Sources:
"Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (2015-2017)
"Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). (2015-2017)
"National Adolescent Drug Trends Press Release: Text & Tables." Monitoring the Future Study (MTF), University of Michigan. (2016-2017)

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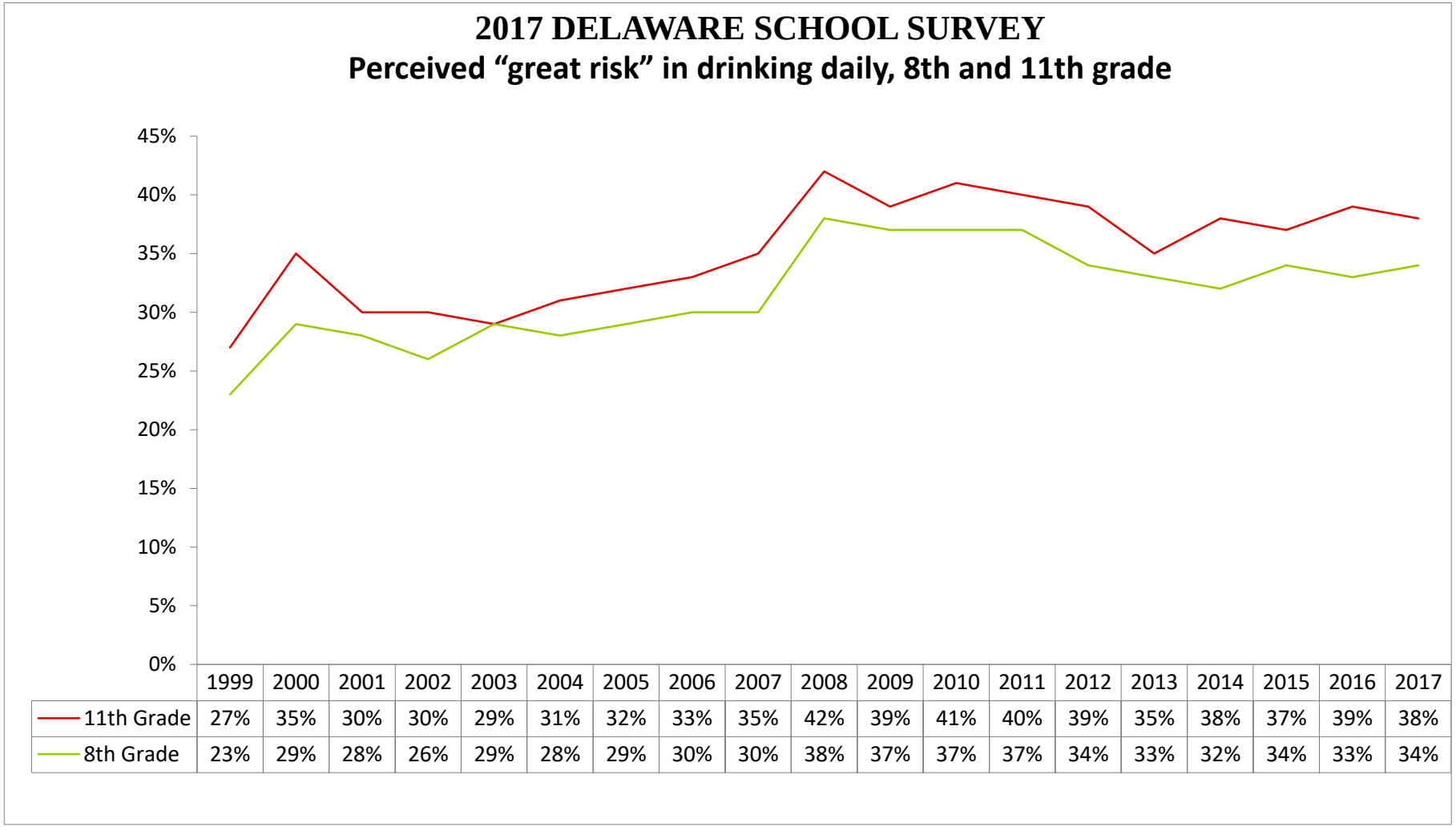
Perceived Risk and Consequences Behavior



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
11th Grade	27%	35%	30%	30%	29%	31%	32%	33%	35%	42%	39%	41%	40%	39%	35%	38%	37%	39%	38%
8th Grade	23%	29%	28%	26%	29%	28%	29%	30%	30%	38%	37%	37%	37%	34%	33%	32%	34%	33%	34%

Figure 66 Perceived "great risk" in drinking daily among 8th and 11th graders

Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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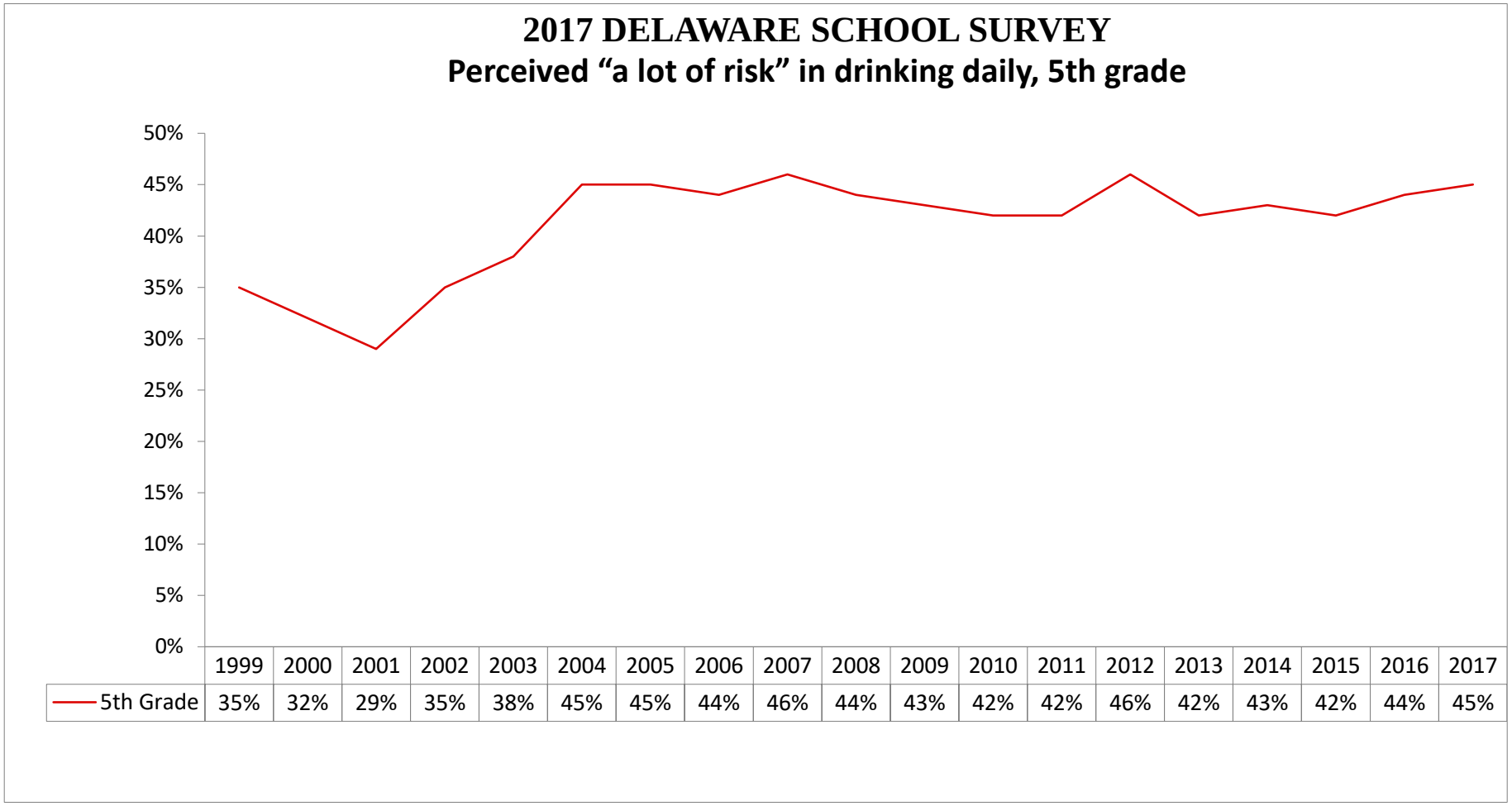

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
5th Grade	35%	32%	29%	35%	38%	45%	45%	44%	46%	44%	43%	42%	42%	46%	42%	43%	42%	44%	45%

Figure 67 Perceived "a lot of risk" in drinking daily among 5th graders

Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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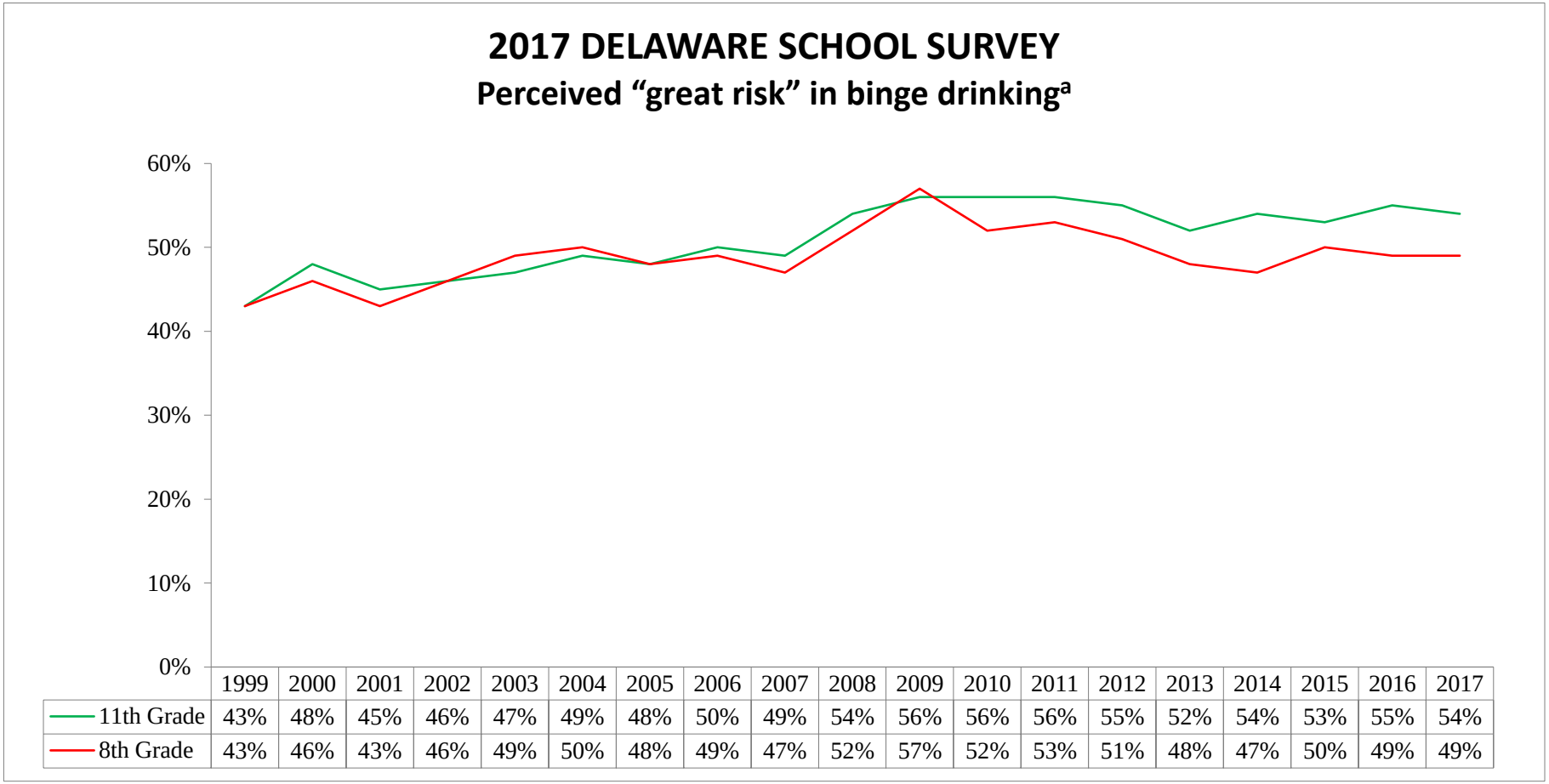

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
11th Grade	43%	48%	45%	46%	47%	49%	48%	50%	49%	54%	56%	56%	56%	55%	52%	54%	53%	55%	54%
8th Grade	43%	46%	43%	46%	49%	50%	48%	49%	47%	52%	57%	52%	53%	51%	48%	47%	50%	49%	49%

Figure 68 Perceived "great risk" in binge drinking

Note:
[a] "Binge drinking" is defined in the survey as five drinks at a time once or twice a week
Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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National Survey of Drug Use and Health (NSDUH)

Perceptions of great risk of binge drinking[a], by age group and state: 2014-2015 and 2015-2016 NSDUH (in percentages)[b]

	12 or Older			AGE GROUP (Years) 12-17			18-25			26 or Older		
State	2014-2015	2015-2016	*p* value[c]	2014-2015	2015-2016	*p* value[c]	2014-2015	2015-2016	*p* value[c]	2014-2015	2015-20146	*p* value[c]
Total U.S.	-	44.30	-	-	43.30	-	-	36.91	-	-	45.66	-
Northeast	-	43.01	-	-	42.95	-	-	34.19	-	-	44.45	-
Delaware	-	43.71	-	-	44.38	-	-	38.74	-	-	44.40	-
Maryland	-	45.97	-	-	46.90	-	-	37.32	-	-	47.22	-
New Jersey	-	47.81	-	-	45.93	-	-	35.69	-	-	49.85	-
Pennsylvania	-	39.32	-	-	42.49	-	-	31.71	-	-	40.17	-

Figure 69 Perceptions of great risk of having five or more drinks of an alcoholic beverage once or twice a week, by age group and state

Notes:

[a] "Binge drinking" is defined here as having five or more drinks of an alcoholic beverage once or twice a week

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

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

"-" indicates data not available for these figures.

Source:

"2015-2016 National Survey on Drug Use and Health: Model-Based Prevalence Estimates." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.

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2017 Delaware School Survey

Reported drinking and driving among Delaware 11th graders

(in percentages)

	LIFETIME	PAST YEAR	PAST MONTH
Statewide	15	10	4
Males	15	9	4
Females	15	10	3
Wilmington	18	12	3
Males	15	10	2
Females	20	14	3
New Castle	14	10	3
Males	15	9	3
Females	14	10	3
Kent	16	10	4
Males	14	8	5
Females	17	10	4
Sussex	15	10	5
Males	17	10	6
Females	13	9	3

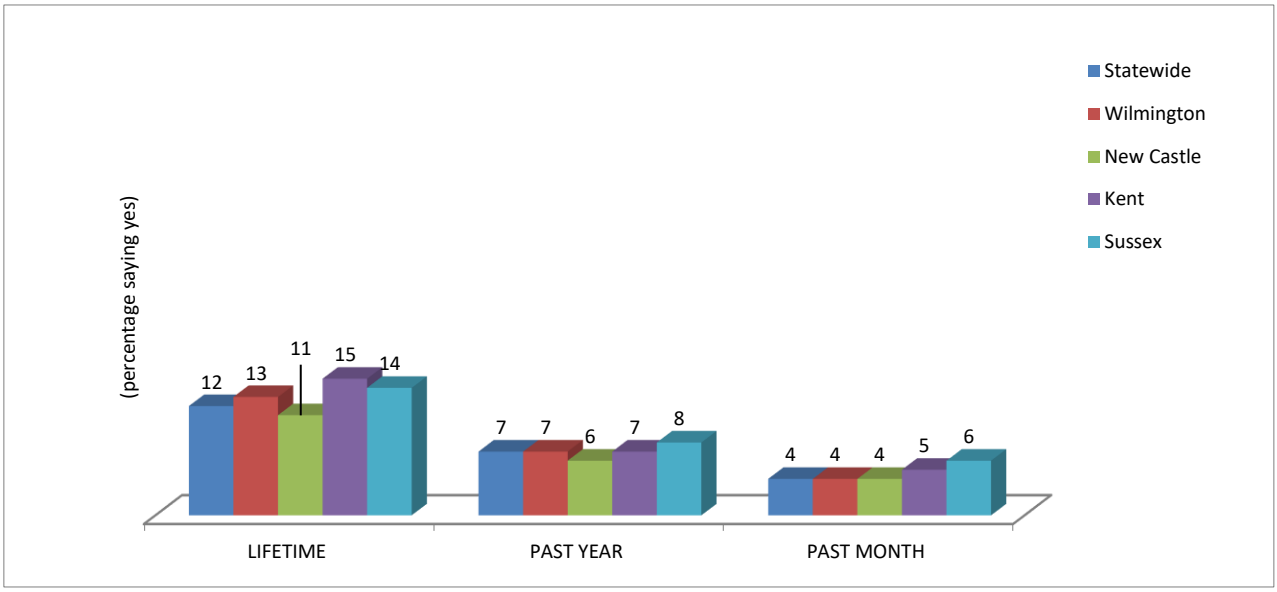

Figure 70 Reported drinking and driving among Delaware 11th graders

Source:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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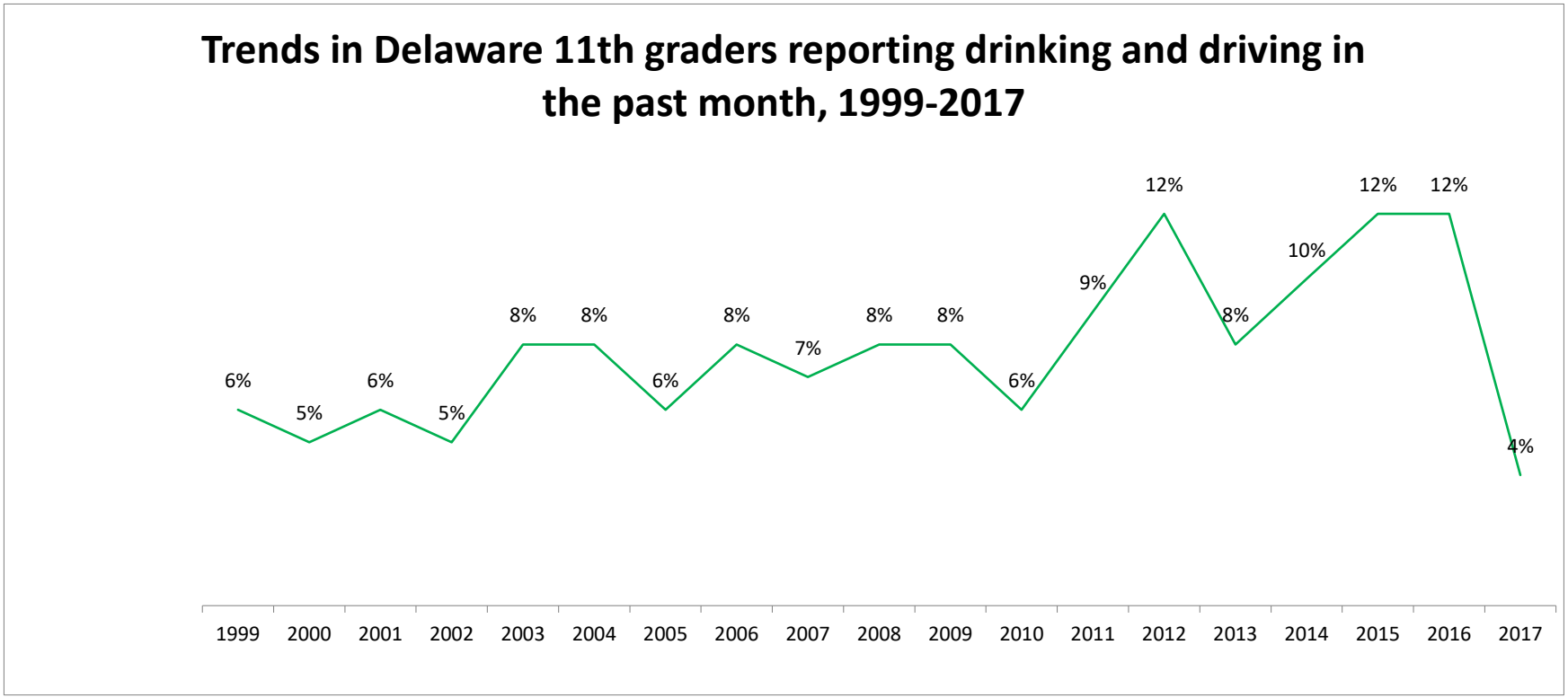

Figure 71 Trends in Delaware 11th Graders reporting drinking and driving in the past month, 1999-2017

Note:
Displayed percentiles are rounded to the nearest whole number.
Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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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 722016 Delaware DUI arrests

Source:
Delaware Criminal Justice Information System (DELJIS)

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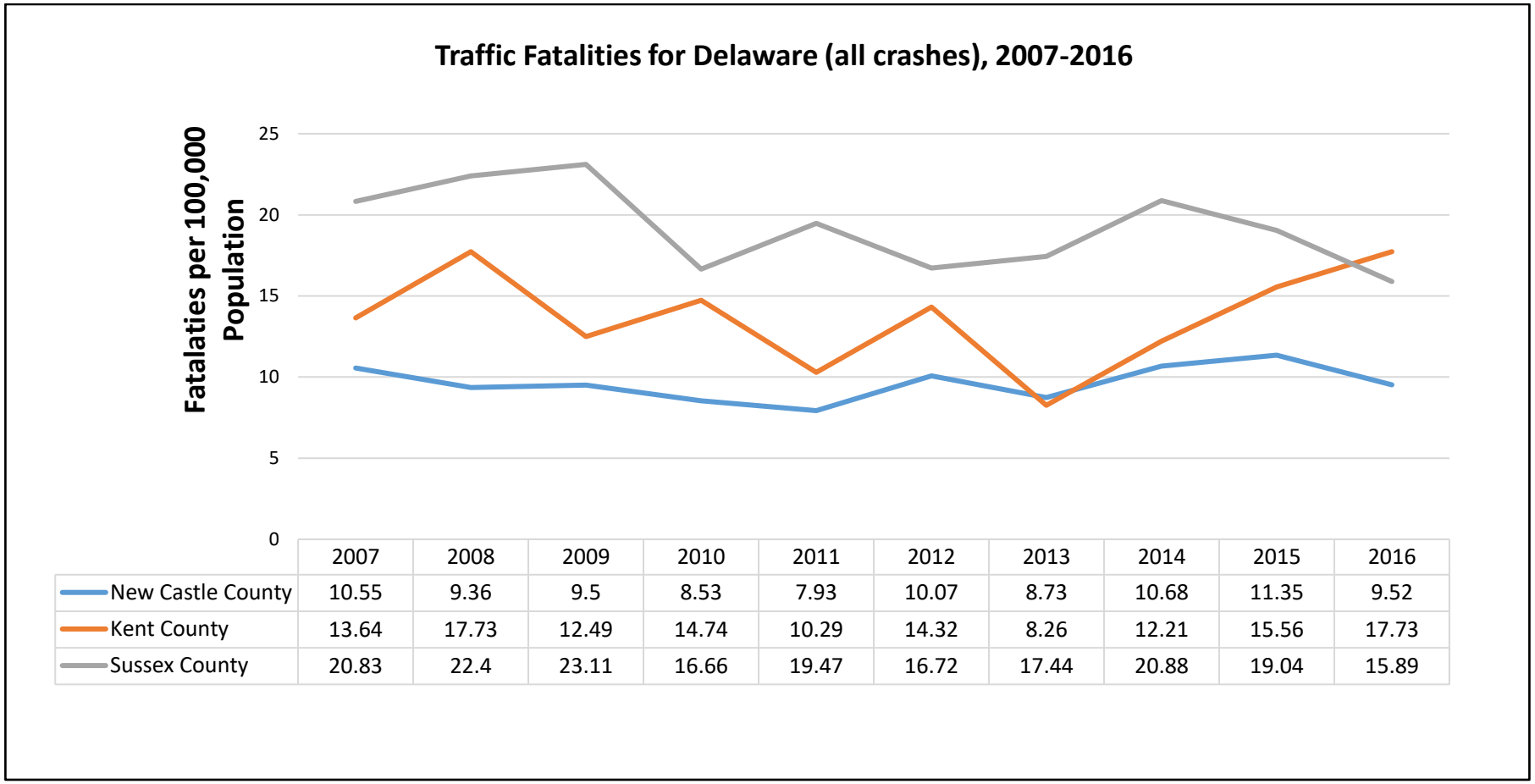
Trends in Delaware Traffic Fatalities



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
New Castle County	10.55	9.36	9.5	8.53	7.93	10.07	8.73	10.68	11.35	9.52
Kent County	13.64	17.73	12.49	14.74	10.29	14.32	8.26	12.21	15.56	17.73
Sussex County	20.83	22.4	23.11	16.66	19.47	16.72	17.44	20.88	19.04	15.89

Figure 73 Delaware traffic fatalities, 2007-2016

Source: National Highway Traffic Safety Administration. Performance Measures, Delaware.

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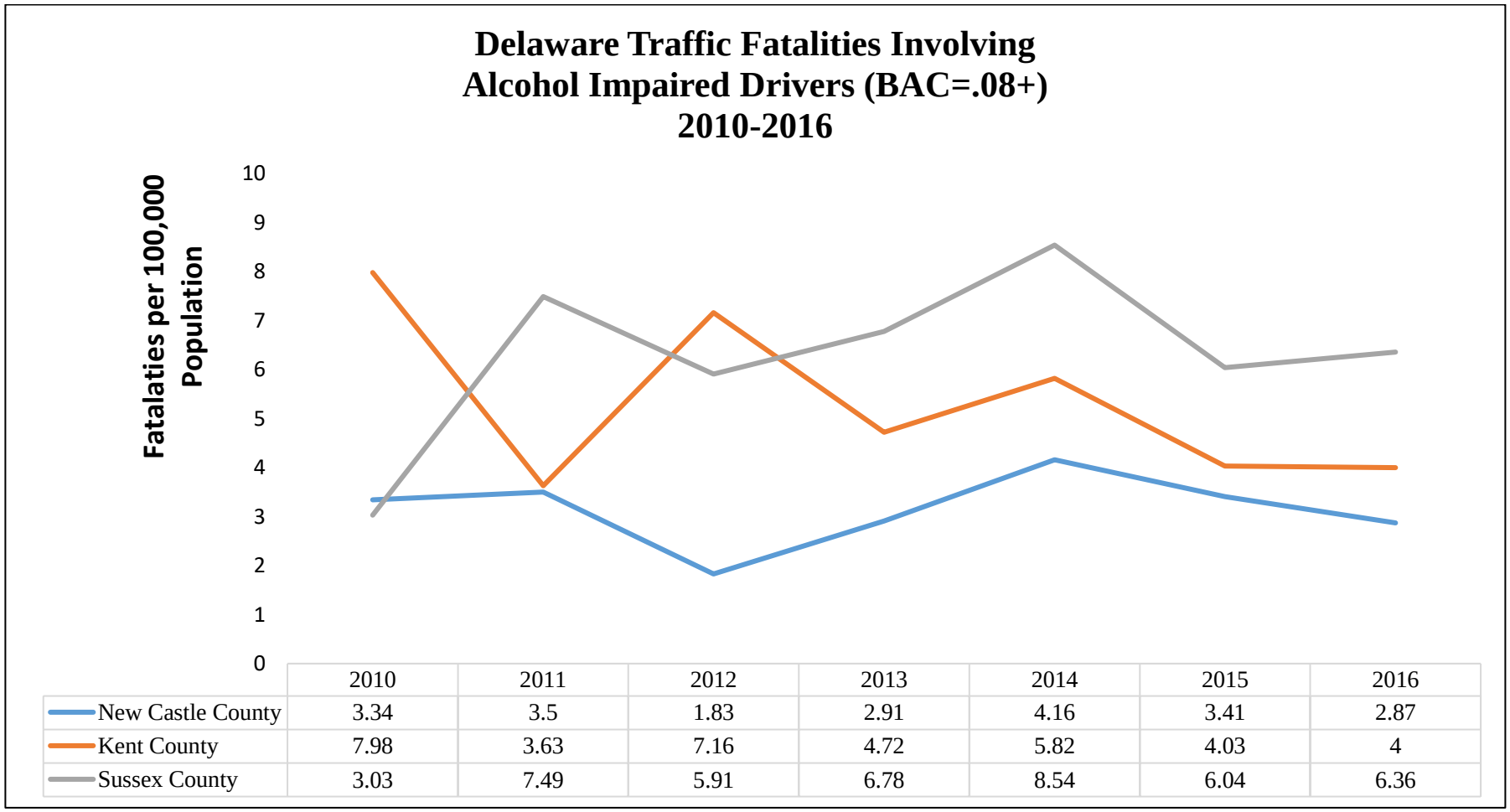

	2010	2011	2012	2013	2014	2015	2016
New Castle County	3.34	3.5	1.83	2.91	4.16	3.41	2.87
Kent County	7.98	3.63	7.16	4.72	5.82	4.03	4
Sussex County	3.03	7.49	5.91	6.78	8.54	6.04	6.36

Figure 74 Delaware traffic fatalities involving alcohol, 2010-2015

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. Thirty states allow comprehensive medical marijuana, 22 states have decriminalized the use of marijuana, and nine states and the District of Columbia allow adult recreational use of marijuana (National Conference of State Legislatures, 2018). 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, n.d.). 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 (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 using 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: Marijuana Concentrates

As the name suggests, marijuana concentrates ("butane honey oil," "dabs," "budder,"and "wax"), which are increasingly available, have extremely high levels of THC, in some cases beyond 75% (the Academies, 2-7). In comparison, marijuana confiscated by the DEA and analyzed for THC content in 2014 had an average THC potency of 12% (ElSohly, et al., 2016). In states that have legalized recreational marijuana, there has been an increase in use of concentrates as well as an increase in some negative consequences related to use, including two cases of drug-induced psychosis, and accidental fires and burns caused by the production and use of these products (Carlini, Garrett, & Harwick, 2017; Bell, et al., 2015). In addition, the health risks of inhaling butane and/ or other solvents used to make these products is problematic. While the production method attempts to remove solvents from the final product, it is likely that residual amounts remain (Meehan-Atrash, Luo, & Strongin, 2017).

Currently Delaware does not have data available about the use of marijuana concentrates, but this could be incorporated into several youth-based surveys. Identifying the rate of use in Delaware should be a priority. In addition, efforts should be made to educate youth about the risks involved with using high-potency concentrates, as well as the risk of physical injury and accidents that accompany attempts to make and use these products at home.

Use of Marijuana in Delaware

Delaware School Survey (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 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, 23% of 11th grade students and 7% of 8th grade students report 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. A comparison of the latest available national YRBS data and the Delaware YRBS data of the same year indicates that in 2017, Delaware high school youth smoked marijuana at a slightly higher rate (26%) than the national average (20%) (CDC, 2017). The 2017 Delaware High School YRBS results indicate that both the rates of lifetime and past month use have increased in the past two years, from 42% to 44% and from 23% to 26%, respectively.

Increasingly, youth are finding alternate ways to ingest marijuana other than smoking, including edibles, concentrates, and vaporizing. According to the 2017 DSS, over 90% of 11th graders who used marijuana in the last month said that they smoked it, less than 10% reported vaping it, and 20% reported eating marijuana. Because vaping eliminates much of the strong odor associated with the use of marijuana, and vape devices (such as Juuls) 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. The same concerns are also relevant for marijuana edibles.

Youth who drive while under the influence of marijuana put themselves, and others, in danger. Over a third of all 11th graders surveyed by the DSS reported that, at some point in their lives, they had ridden in a car after the driver smoked marijuana, and 5% reported that they had driven a car after smoking marijuana in the past year.

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.). Treatment admission data from the TEDS tracking system indicates that nearly 5% of all publicly funded treatment admissions in Delaware in 2017 listed marijuana as the primary substance of use (TEDS, 2017).

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.). Proposed legislation in the Delaware Legislature, House Bill 110, would have legalized adult recreational use of marijuana in Delaware. This bill failed to pass during the last legislation session.

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 2016 NSDUH [a] (in percentages) [b]				
Measure	**Total 12 or Older**	**AGE GROUP**		
		12-17	**18-25**	**26 or Older**
Past Year Marijuana Use	13.18	14.37	35.82	9.57
Past Month Marijuana Use	8.88	7.35	23.29	6.83
Perceived of Great Risk of Smoking Marijuana Once a Month	26.54	24.1	12.77	28.94
Average Annual Rate of First Use of Marijuana [b]	1.93	5.88	7.76	0.37

Figure 75 Marijuana use in Delaware by age group, 2016

Notes:

[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:

"2015-2016 National Survey on Drug Use and Health: Model Based Prevalence Estimates." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.

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2017 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	27	52
Males	2	1	0	29	52
Females	1	0	0	25	53
Wilmington	1	1	1	28	49
Males	2	2	1	29	45
Females	0	0	0	27	52
New Castle	1	0	0	26	52
Males	1	0	0	29	51
Females	1	1	0	24	52
Kent	1	1	0	26	53
Males	2	1	1	28	54
Females	1	1	0	25	52
Sussex	2	1	0	28	53
Males	2	1	0	29	51
Females	1	0	0	27	55

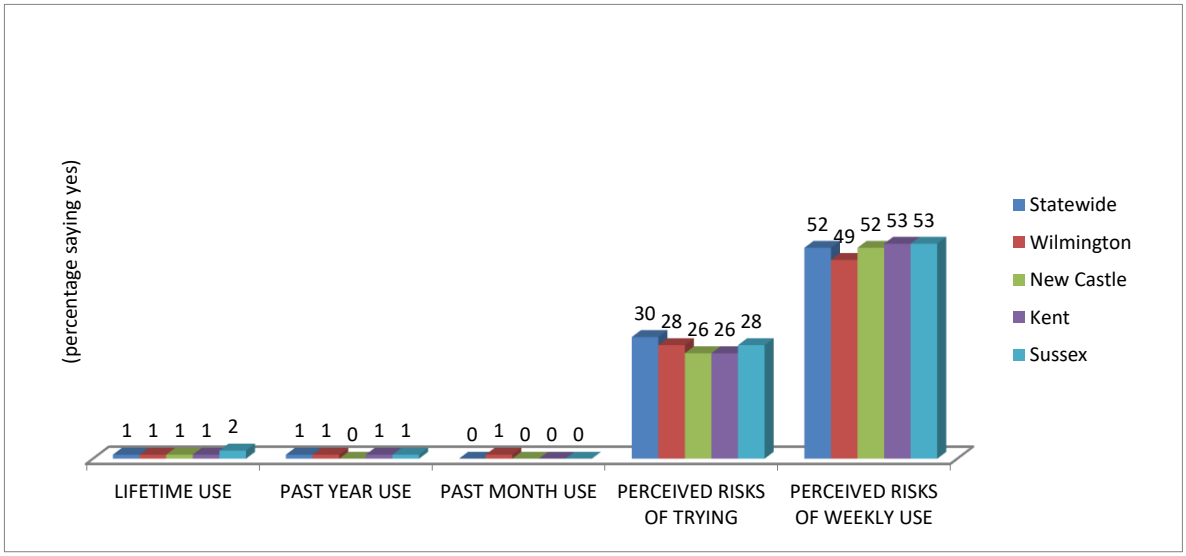

Figure 76 Marijuana use among Delaware 5th graders

Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 Delaware School Survey

Marijuana use among Delaware 8th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	HEAVY USE[a]	PERCEIVED GREAT RISK OF HARM FROM:	
					TRYING	REGULAR[b] USE
Statewide	13	8	7	2	15	46
Males	13	7	7	3	16	41
Females	13	9	7	2	15	51
Wilmington	24	14	13	5	12	35
Males	20	13	15	6	9	29
Females	27	15	11	5	16	42
New Castle	12	8	7	2	17	48
Males	12	7	7	3	17	42
Females	12	8	6	1	17	53
Kent	12	8	6	2	14	44
Males	11	6	5	2	16	40
Females	12	10	7	2	11	48
Sussex	14	9	7	3	13	43
Males	14	8	7	3	16	40
Females	14	10	7	2	10	47

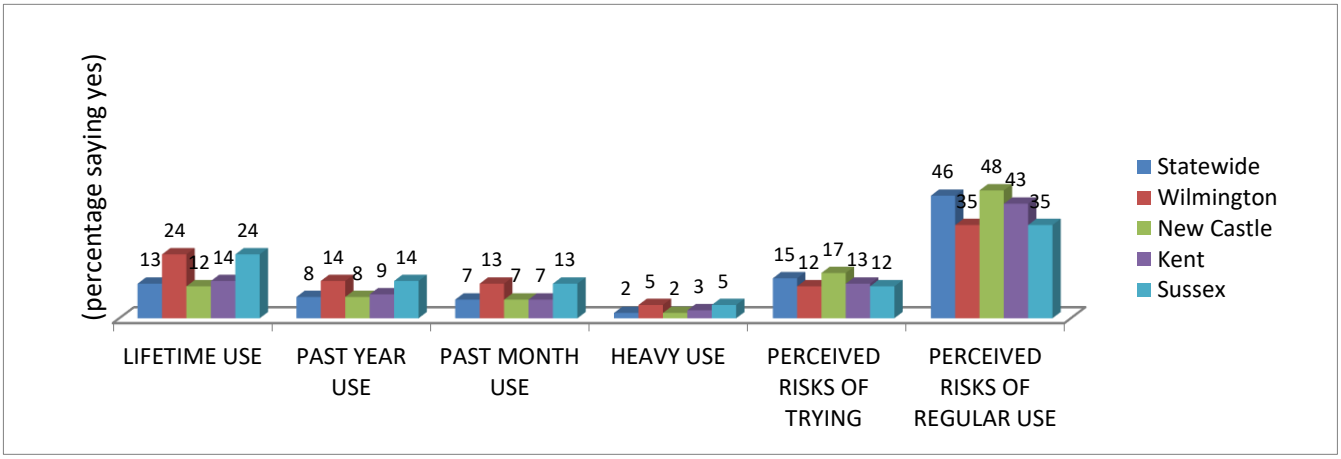

Figure 77 Marijuana use among Delaware 8th graders

Notes:
[a]"Heavy Use" indicates more than six times in the past month.
[b] "Regular use" is self-defined by the respondent.
Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 Delaware School Survey

Marijuana use among Delaware 11th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE	HEAVY USE [a]	PERCEIVED GREAT RISK OF HARM FROM:	
					TRYING	REGULAR[b] USE
Statewide	40	32	23	10	10	33
Males	38	29	22	12	11	30
Females	43	34	23	9	9	35
Wilmington	46	34	29	13	9	31
Males	42	32	27	17	6	25
Females	51	36	30	9	11	36
New Castle	40	32	23	10	9	34
Males	38	28	21	11	10	31
Females	43	36	24	9	8	37
Kent	37	28	19	6	9	31
Males	36	29	22	8	9	27
Females	37	27	16	5	9	33
Sussex	42	33	24	13	11	32
Males	40	32	24	16	13	32
Females	44	35	24	10	8	32

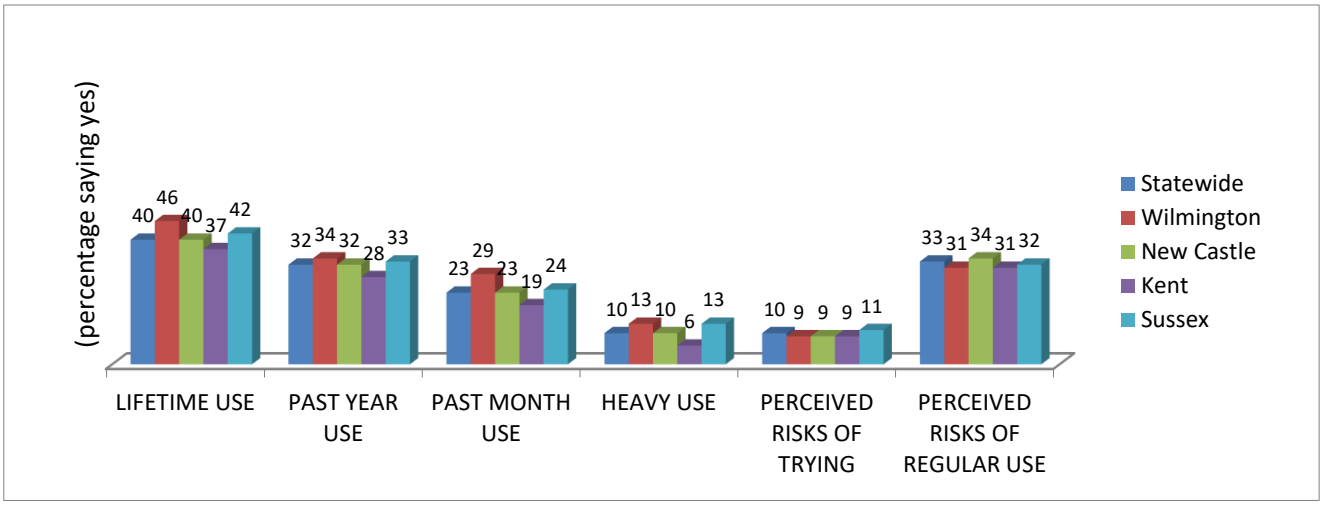

Figure 78 Marijuana use among Delaware 11th graders

Note: [a] "Heavy Use" indicates more than six times in the past month.

[b] "Regular use" is self-defined by the respondent.

Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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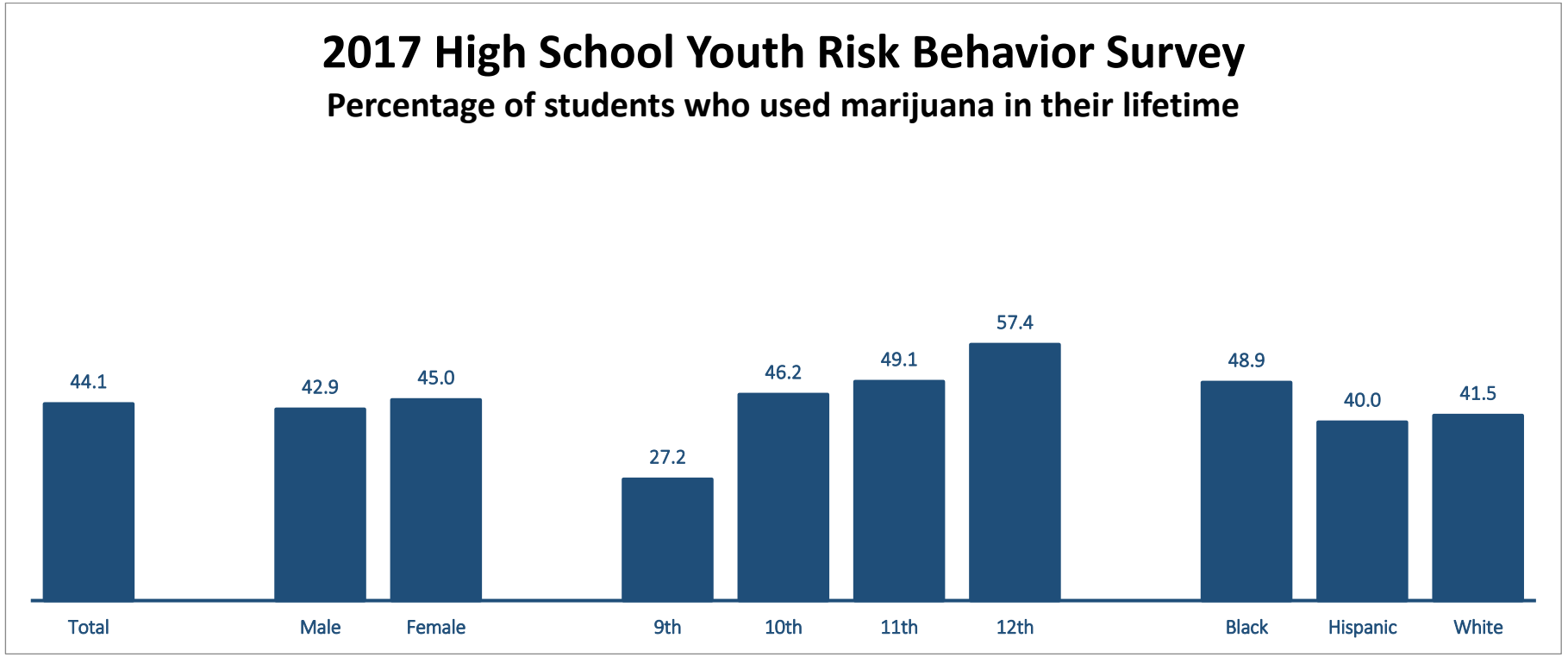

Figure 79 Percentage of high school students who used marijuana in their lifetime

Note:
Weighted data
Source:"2017 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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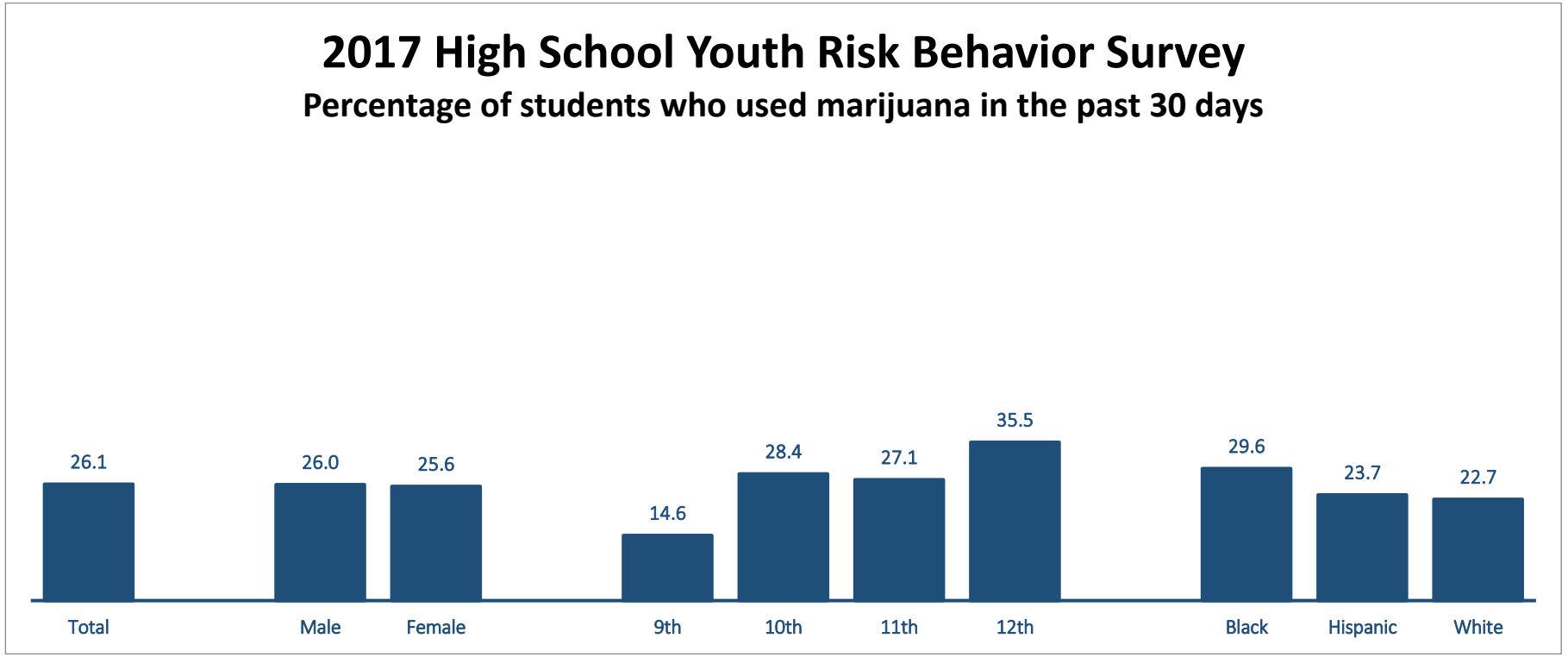

Figure 80 Percentage of high school students who used marijuana in the past 30 days

Note:
Weighted data
Source:"2017 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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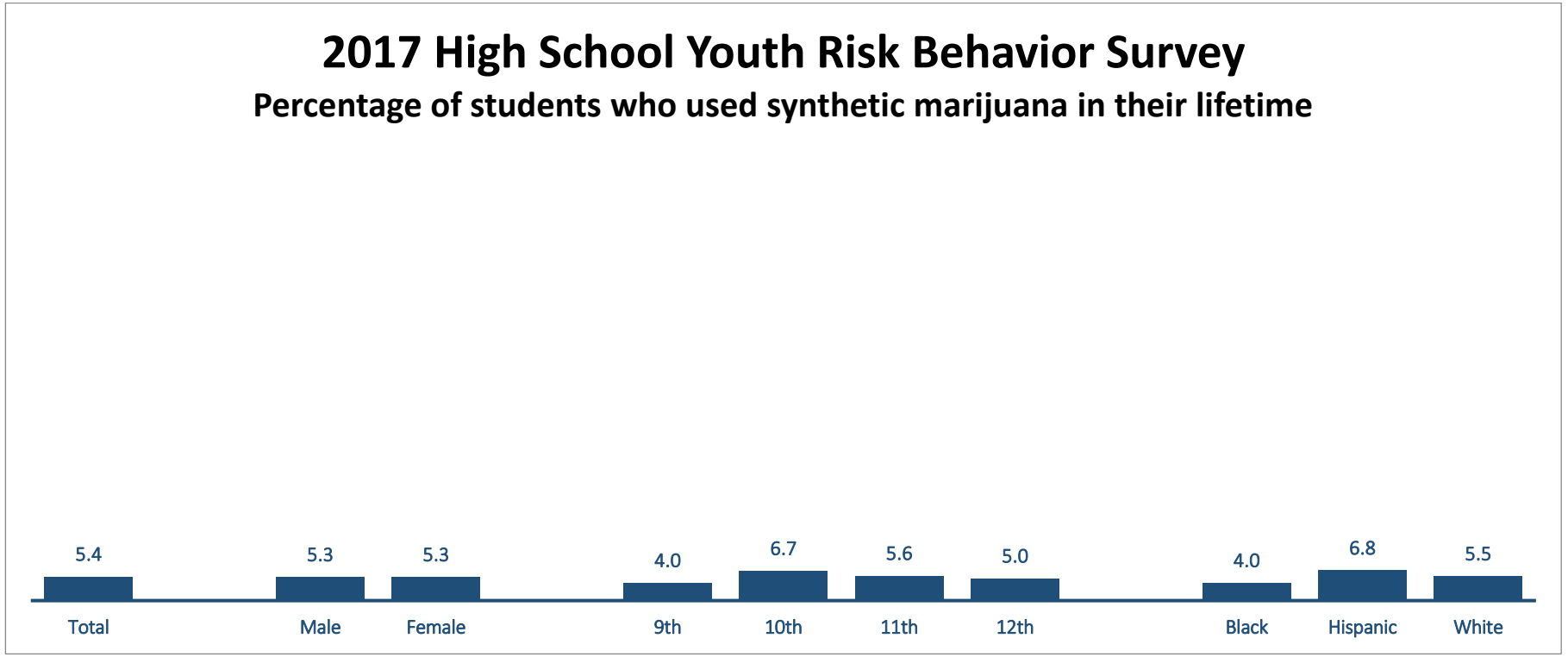

Figure 81 Percentage of high school students who used synthetic marijuana in their lifetime

Note:
Weighted data
Source:"2017 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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2017 Delaware School Survey

Average age of onset for marijuana use

8th Grade	11th Grade
13 years	15.1 years

Figure 82 Average age of onset for marijuana use

Source:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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Marijuana Trends and Comparisons to U.S. and Region

Delaware School Survey

Trends in Delaware students' past month marijuana use by grade, 1989-present

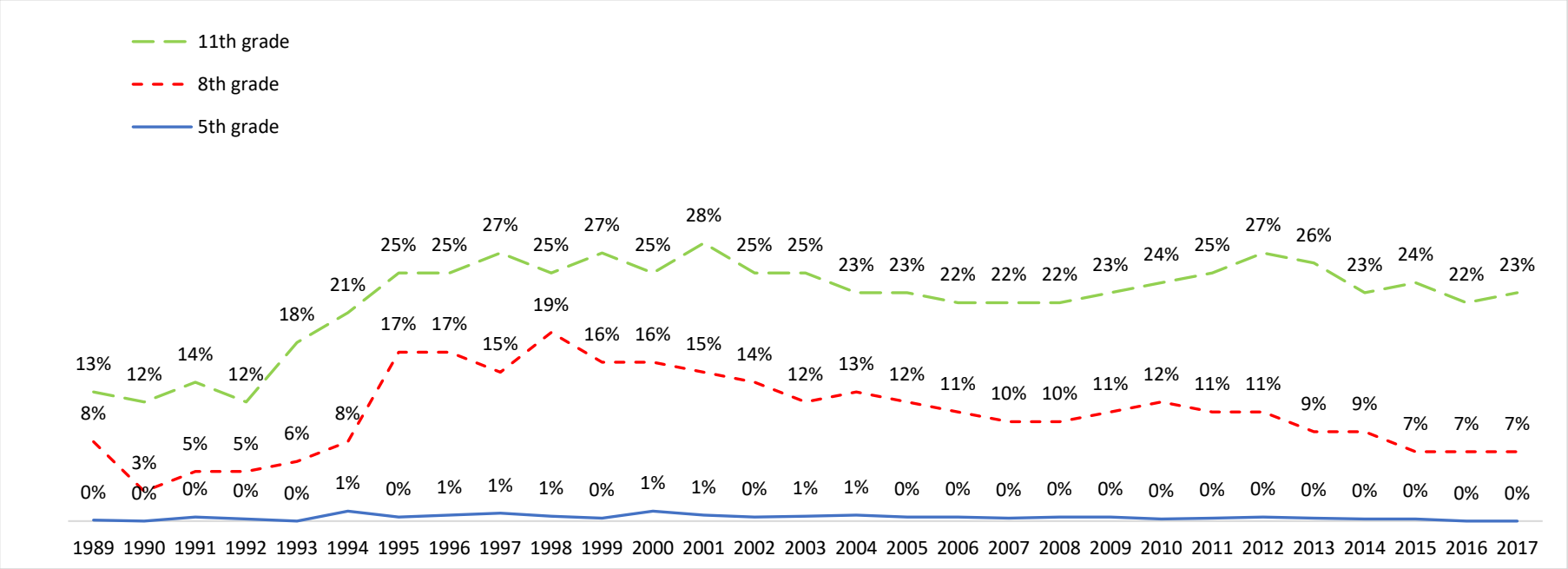

Figure 83 Trends in Delaware students' past month marijuana use by grade, 1989- present

Note:
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)*

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Youth Risk Behavior Survey

Trends in Delaware High School students' marijuana use, 1999-present

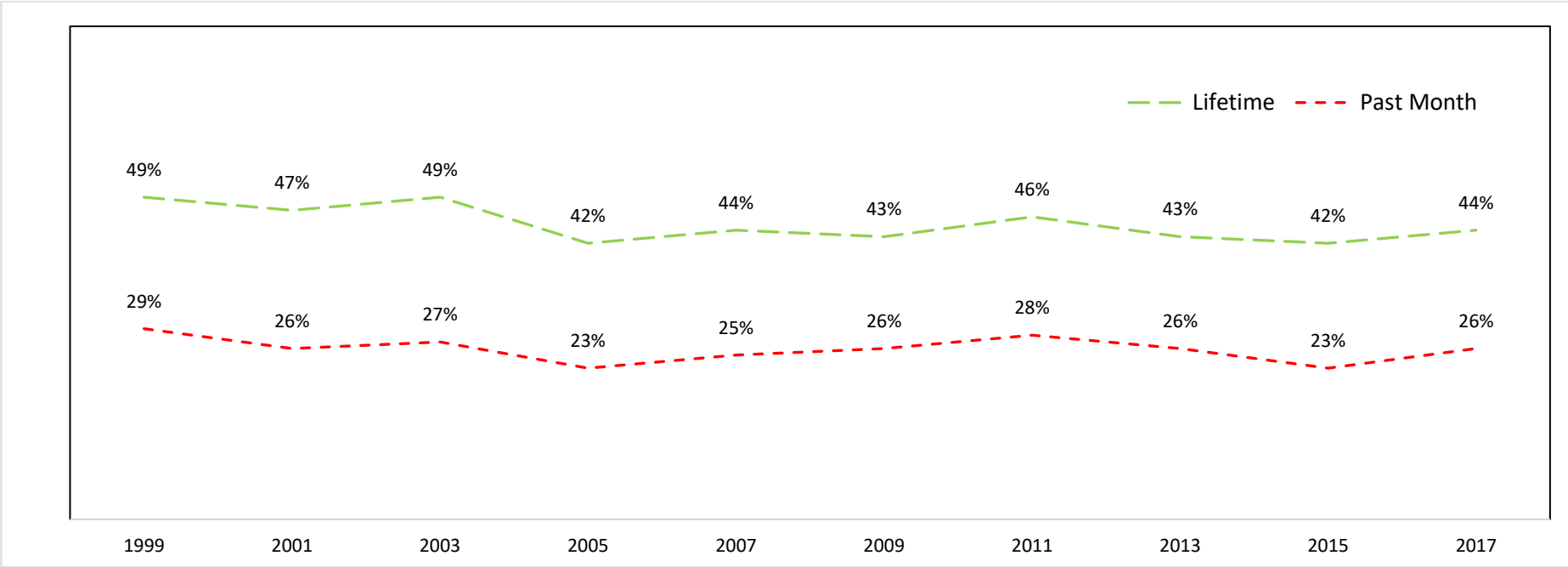

Figure 84 Trends in Delaware students' past month marijuana use by grade, 1989- present

Note:
Weighted Data

Source: "Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). 1999-2017

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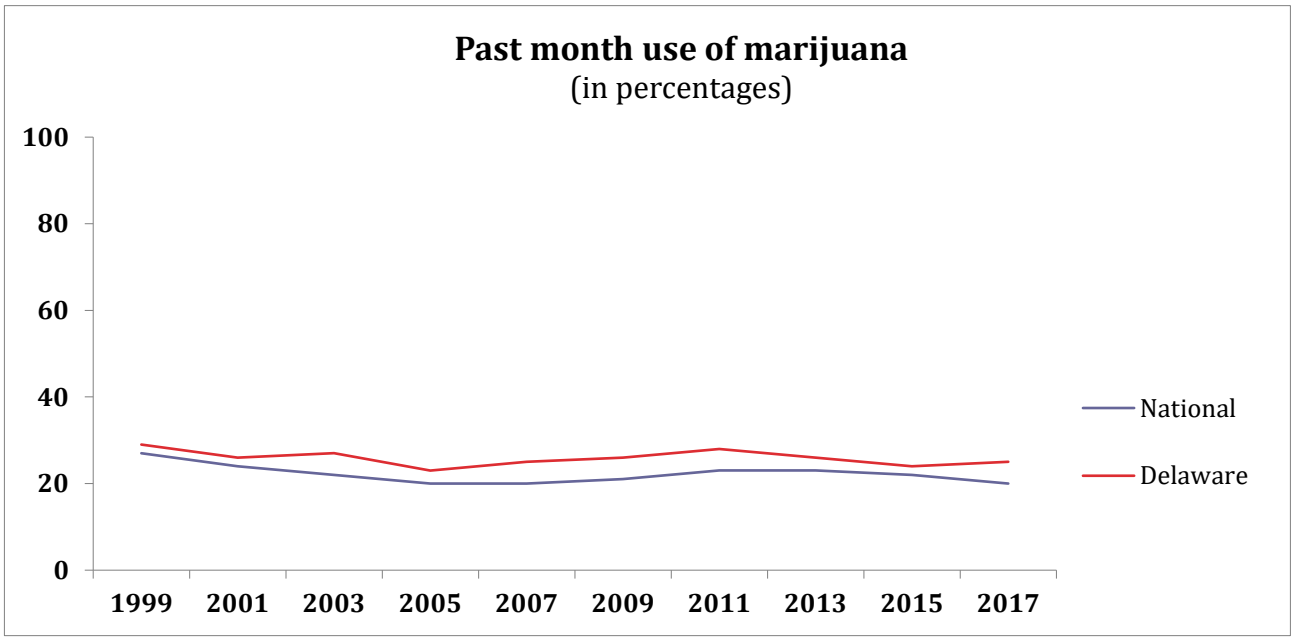
High School Youth Risk Behavior Survey
National and Delaware



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
2017	20	25

Figure 85 Past month use of marijuana among high school students, Delaware and National, 1999-2017

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. 1999-2017
"Trends in the Prevalence of Marijuana, Cocaine, and Other Illegal Drug Use National YRBS: 1991-2015" Centers for Disease Control and Prevention.
"National Youth Risk Behavior Survey" Centers for Disease Control and Prevention. 2017.

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National Survey on Drug Use and Health (NSDUH)

Marijuana use in past year, by age group and state: 2014-2015 and 2015-2016 NSDUHs (in percentages) [a]

State	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]
Total U.S.	13.36	13.71	.016	12.86	12.29	.012	32.07	32.60	.160	10.25	10.73	.003
Northeast	14.66	14.84	.514	13.51	12.39	.005	36.45	37.45	.166	11.22	11.45	.470
Delaware	13.06	13.18	.834	13.04	14.37	.294	37.32	35.82	.391	9.17	9.57	.569
Maryland	15.13	15.50	.559	14.45	13.85	.625	39.01	41.94	.107	11.41	11.56	.840
New Jersey	11.86	12.01	.780	12.41	10.80	.072	32.75	35.35	.103	8.66	8.66	.996
Pennsylvania	12.35	13.05	.101	11.88	10.93	.199	32.36	32.45	.942	9.21	10.24	.041

Figure 86 Marijuana use in past year by age group and state, 2014-2016

Notes:

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

[b] *p* value: Bayes significance levels for the null hypothesis of no change between the 2014-2015 and 2015-2016 population percentages.

Source:

"National Survey on Drug Use and Health: Comparison of 2014-2015 and 2015-2016 Population Percentages." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

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National Survey on Drug Use and Health (NSDUH)

Marijuana use in past month, by age group and state: 2014-2015 and 2015-2016 NSDUH

(in percentages) [a]

State	AGE GROUP (Years)											
	12 or Older			12-17			18-25			26 or Older		
	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]
Total U.S.	8.34	8.60	.023	7.20	6.75	.017	19.70	20.30	.051	6.55	6.88	.013
Northeast	9.28	9.50	.317	7.73	7.15	.069	22.64	23.64	.086	7.27	7.46	.420
Delaware	8.05	8.88	.073	7.42	7.35	.938	21.19	23.29	.134	6.01	6.83	.125
Maryland	9.62	10.22	.248	9.20	7.78	.072	24.87	27.34	.114	7.24	7.83	.332
New Jersey	7.01	6.77	.521	6.81	5.72	.078	18.96	20.55	.267	5.23	4.83	.312
Pennsylvania	7.73	8.20	.146	6.98	6.25	.167	18.97	20.04	.270	6.02	6.55	.148

Figure 87 Marijuana use in past month by age group and state, 2014-2016

Notes:

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

[b] *p* value: Bayes significance levels for the null hypothesis of no change between the 2014-2015 and 2015-2016 population percentages.

Source:

"National Survey on Drug Use and Health: Comparison of 2014-2015 and 2015-2016 Population Percentages." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

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National Survey on Drug Use and Health (NSDUH)

Average annual rate of first use of marijuana, by age group and state: 2014-2015 and 2015-2016 NSDUH

(in percentages) [a]

State	AGE GROUP (Years)											
	12 or Older			12-17			18-25			26 or Older		
	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]
Total U.S.	1.95	1.96	.810	5.41	5.25	.182	7.88	7.74	.529	0.31	0.39	.002
Northeast	2.04	2.07	.596	5.55	5.34	.253	8.67	8.85	.608	0.34	0.44	.015
Delaware	1.83	1.93	.352	5.29	5.88	.285	7.73	7.76	.971	0.29	0.37	.101
Maryland	2.33	2.24	.472	6.12	5.93	.721	9.86	10.13	.783	0.38	0.46	.233
New Jersey	1.74	1.72	.894	4.99	4.50	.210	7.83	8.18	.627	0.30	0.35	.253
Pennsylvania	1.76	1.80	.675	4.74	4.56	.596	7.65	8.08	.475	0.29	0.35	.226

Figure 88 Average annual rate of first use of marijuana by age group and state, 2014-2016

Notes:

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

[b] *p* value: Bayes significance levels for the null hypothesis of no change between the 2014-2015 and 2015-2016 population percentages.

Source:

"National Survey on Drug Use and Health: Comparison of 2014-2015 and 2015-2016 Population Percentages." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

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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**
2017 11th Grade Delaware	32	23
2016 11th Grade Delaware	35	22
2015 11th Grade Delaware	35	24
2017 9th-12th Grade YRBS Delaware*	--	25
2015 9th-12th Grade YRBS Delaware*	--	22
2017 12th Grade MTF	37	23
2016 12th Grade MTF	36	23

Figure 89 Comparison of recent National and Delaware estimates of marijuana use among high school students

Notes:
"--" Not Available
*Weighted data

Sources:
"Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (2015-2017)
"Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). 2015-2017.

"National Adolescent Drug Trends Press Release: Text and Tables." Monitoring the Future Study (MTF), University of Michigan. 2016-2017.

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Perceived Risk and Consequences

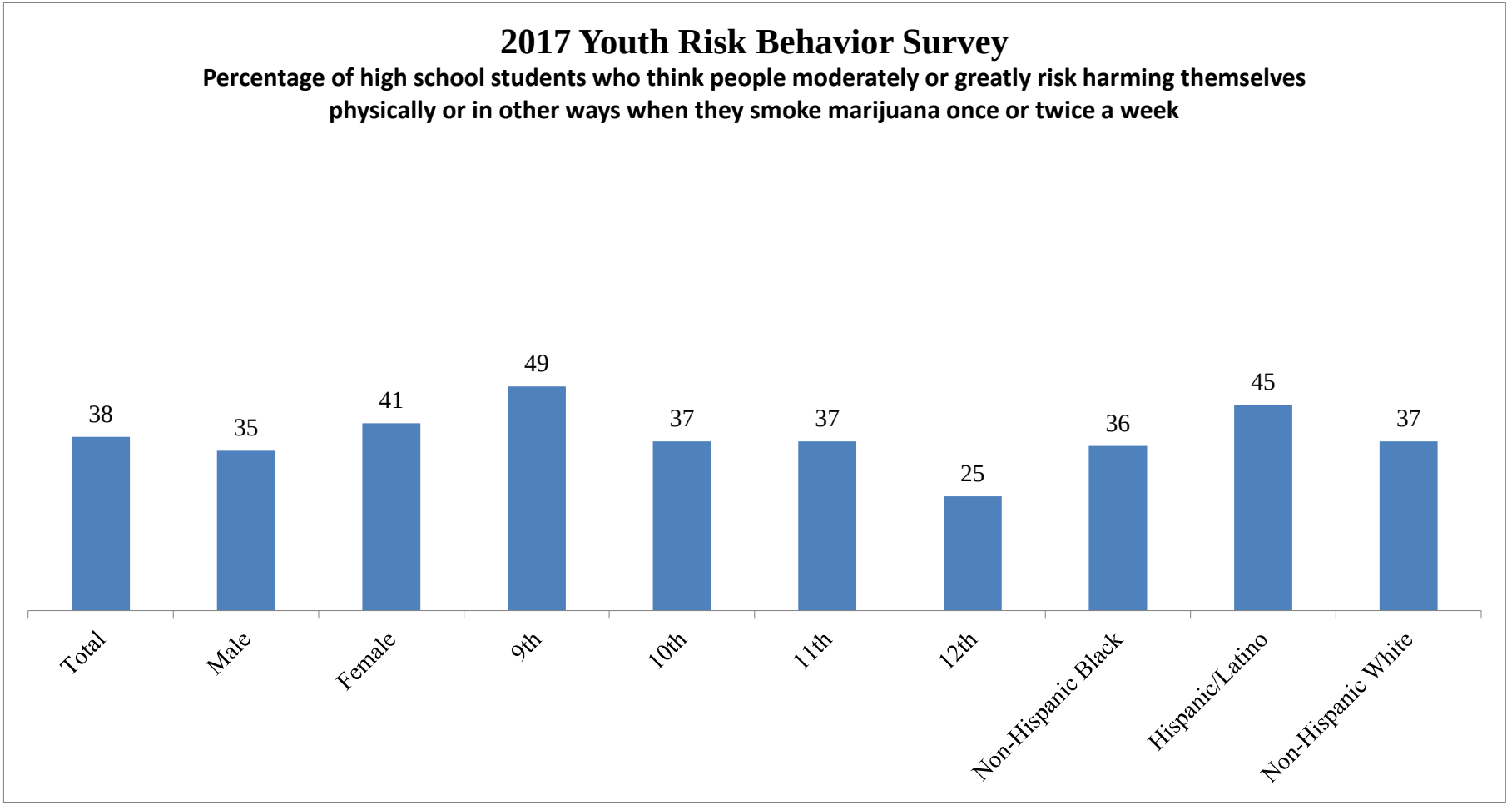

Figure 90 Percentage of high school student who report the risk of smoking marijuana.

Note:
Weighted data
Source:"2017 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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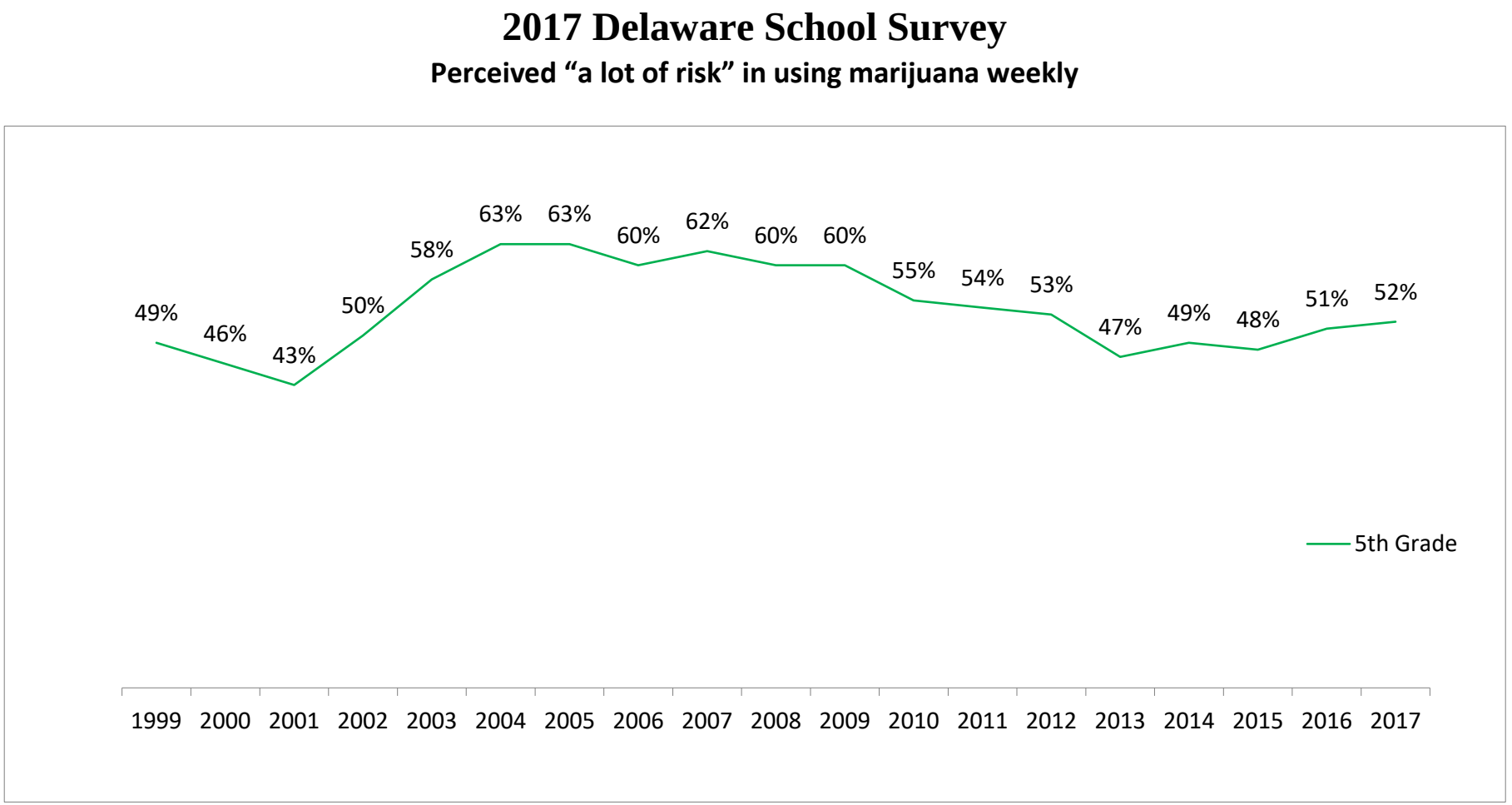

Figure 91 Perceived "a lot of risk" in using marijuana weekly among 5th graders

Source:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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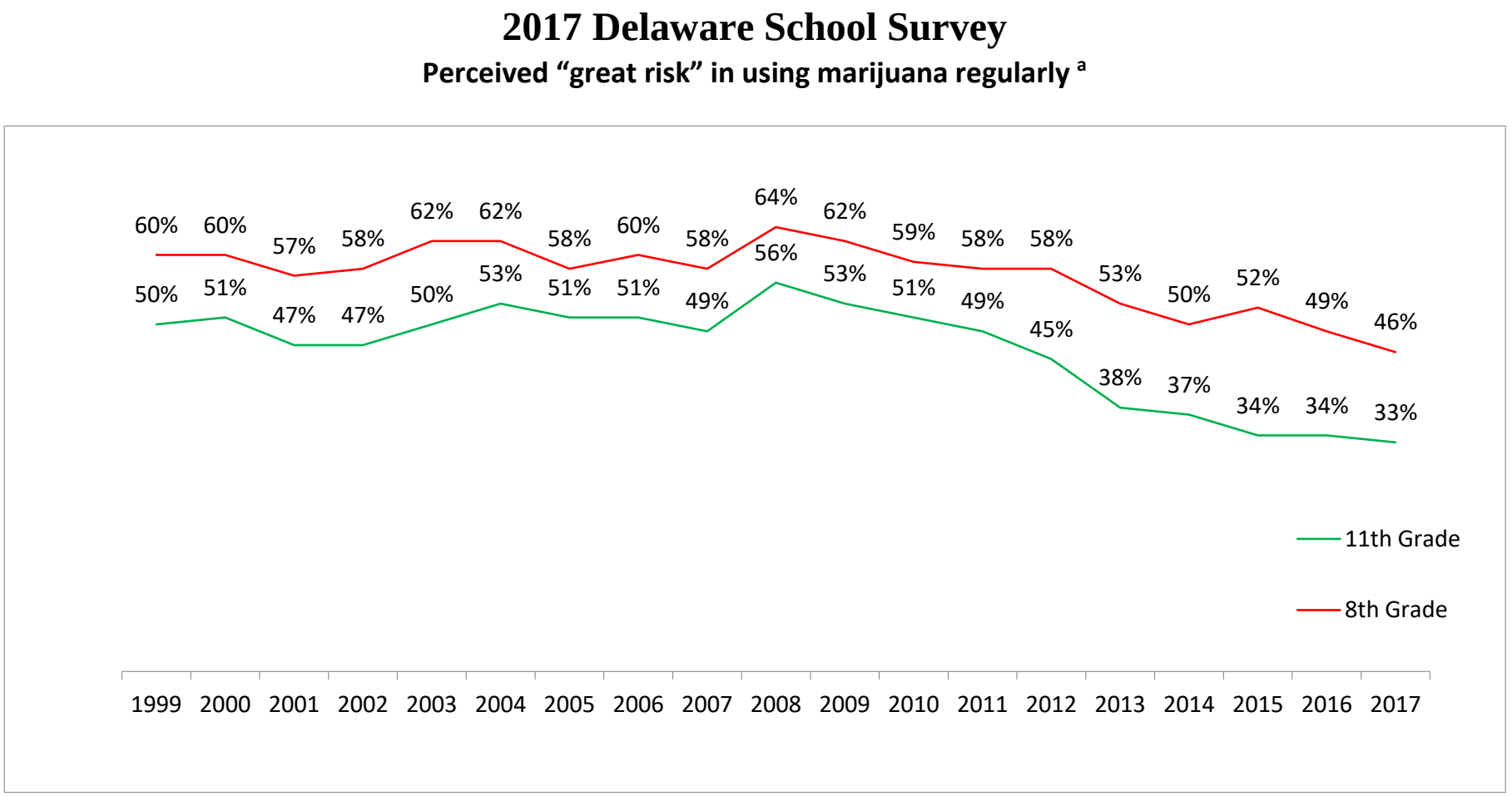

Figure 92 Perceived "great risk" in using marijuana regularly[a] among 8th and 11th graders

Note:
[a] "Regularly" is self-defined in the survey
Source:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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National Survey on Drug Use and Health (NSDUH)

Perceptions of great risk of smoking marijuana once a month, by age group and state: 2014-2015 and 2015-2016 NSDUH (in percentages) [a]

State	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]
Total U.S.	27.35	28.41	--	23.54	27.17	--	14.22	14.32	--	30.09	30.92	--
Northeast	25.53	26.44	--	22.31	26.85	--	11.92	12.56	--	28.18	28.67	--
Delaware	26.47	26.54	--	23.02	24.10	--	11.96	12.77	--	29.29	28.94	--
Maryland	26.78	25.89	--	23.63	26.24	--	13.50	11.60	--	29.33	28.11	--
New Jersey	28.55	32.12	--	22.93	30.66	--	13.44	14.16	--	31.52	35.00	--
Pennsylvania	26.49	24.78	--	25.68	26.68	--	12.96	10.88	--	28.81	26.78	--

Figure 93 Perceptions of great risk of smoking marijuana once a month, by age group and state, 2014-2016

Notes:
[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.
[b] *p* value: Bayes posterior probability of no change.
"--" Data not available
Source:
"2015-2016 National Survey on Drug Use and Health: Model-Based Prevalence Estimates." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.

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2017 Delaware School Survey

Reported smoking marijuana and driving among Delaware 11th graders (in percentages)

	LIFETIME	PAST YEAR	PAST MONTH
Statewide	15	6	6
Males	15	7	7
Females	14	5	5
Wilmington	14	4	4
Males	13	5	5
Females	14	4	4
New Castle	15	6	6
Males	14	7	6
Females	15	5	5
Kent	12	4	4
Males	15	6	5
Females	10	3	3
Sussex	18	8	8
Males	18	10	9
Females	17	6	6

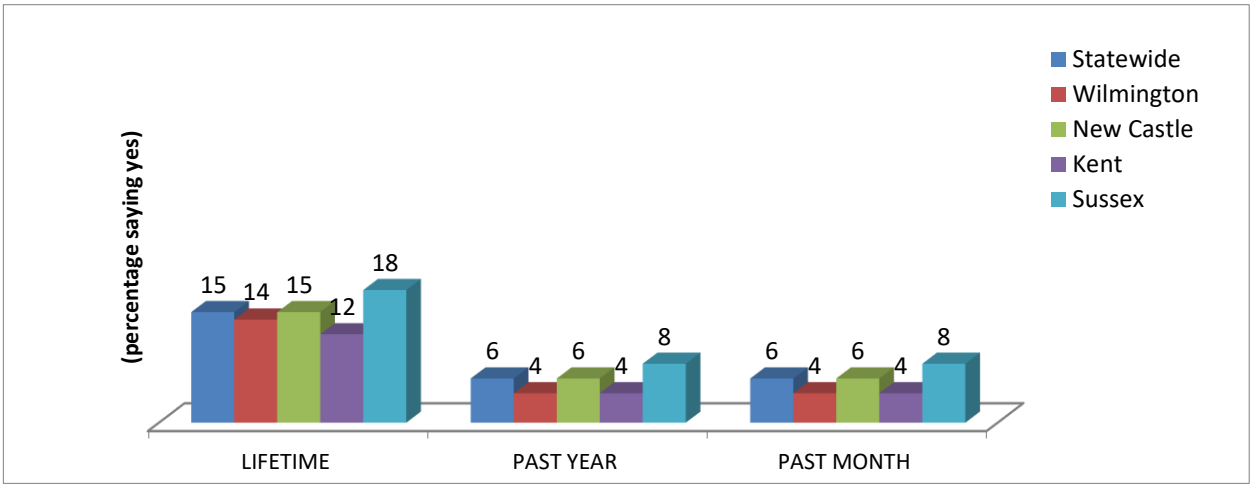

Figure 94 Reported smoking marijuana and driving among Delaware 11th graders

Source:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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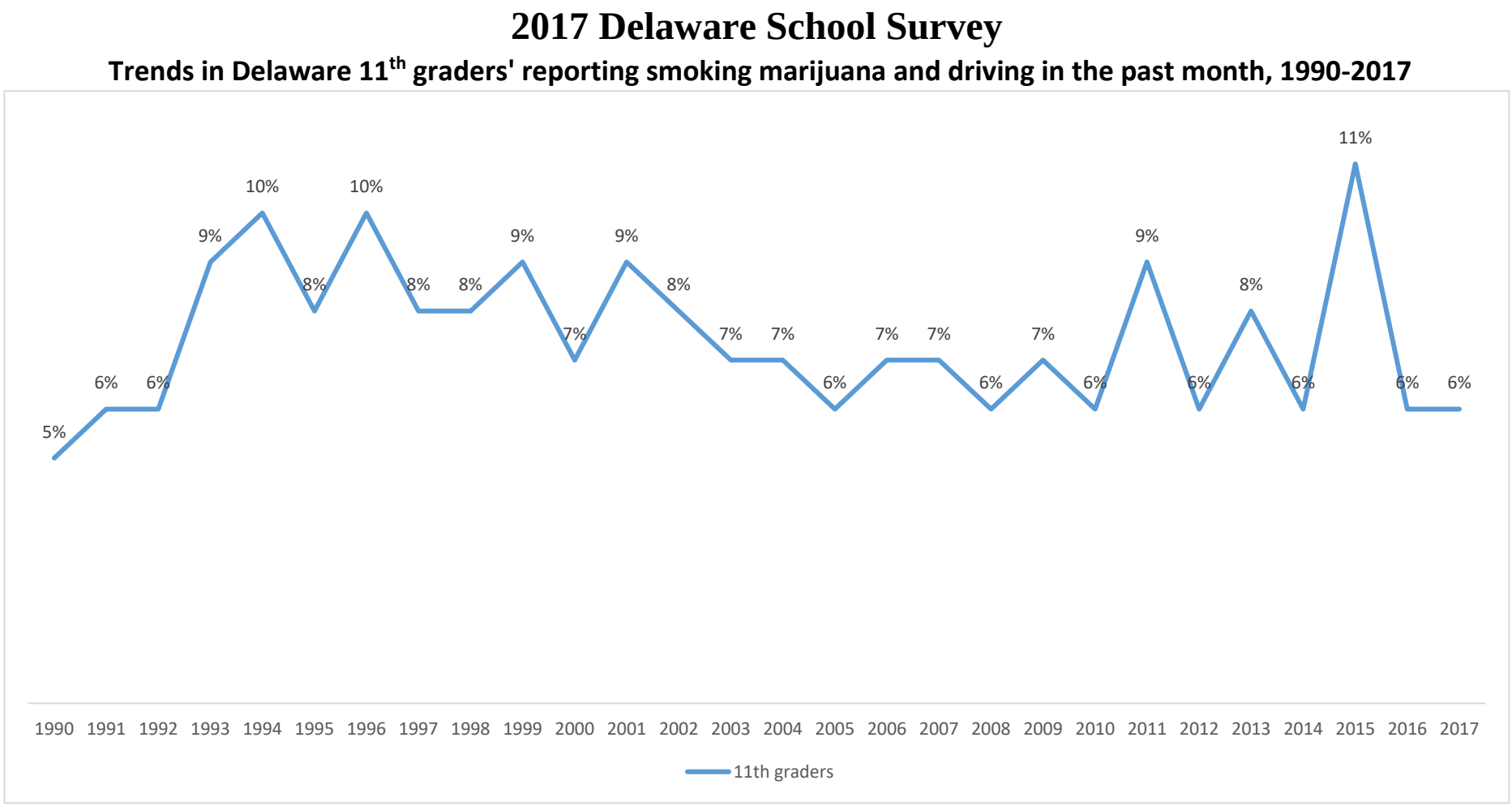

Figure 95 Trends in Delaware 11th graders' reporting smoking marijuana and driving in the past month, 1990-2017

Source:
"Delaware School Survey." Center for Drug and Health Studies, University of Delaware. (1990-2017).

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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. The opioid class of drugs includes prescription pain medications as well as heroin. Opioids can be highly addictive and potent; their use often leads to tragic outcomes including drug overdose deaths, infants born with neonatal abstinence syndrome, 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 pain medications 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 have consistently increased across the United States; between 2014-2015 overdose deaths 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.). Heroin makes up an increasing proportion of all drug overdose deaths that occur nationally; in 2010, 8% of drug overdose deaths were attributable to heroin, and by 2015 nearly a quarter of drug overdose deaths were due to heroin. Heroin overdoses tripled between 2010 and 2015 (Hedegaard, Warner, & Minio, 2017), though misidentification of fentanyl (another potent synthetic opioid) 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 misuse and overdose on prescription opioids, as well as reduce the number of people transitioning to dangerous illicit opioid use.

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 frequently found mixed with heroin or cocaine, with often deadly results. From 2014 to 2015, the death rate associated with people who overdosed on synthetic opioids including fentanyl increased over 70% (CDC, n.d.). A recent 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. People who inject drugs and share or reuse needles risk spreading infectious diseases such as HIV and Hepatitis C, in addition to other health complications. In response, 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 use disorder 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, difficulty feeding, developmental delays, future behavioral problems, and Sudden Infant Death Syndrome (DHHS, 2016). In Delaware, 450 cases of substance exposed infants, or SEI, had been reported to the Division of Family Services and analyzed in 2017 (Donahue, 2018), many of whom were exposed to opioids (see the SEI chapter in this publication).

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). This rate has not substantially improved relative to other states; in 2016, Delaware had the 9th highest drug overdose death rate of the 50 states and District of Columbia (Hedegaard, Warner, & Minio, 2017). Delaware's drug overdose rate, across all categories of drugs, has increased in the past few years. In 2017, 61% of overdose deaths involved fentanyl, 39% involved heroin, and 29% involved other opioids, often in combination with other opioids or other types of substance (Delaware Division of Forensic Science, 2018). Fentanyl-related overdoses are a major public health concern; fentanyl was identified in 210 deaths in 2017, up from 32 in 2015 (Delaware Division of Forensic Science, 2018). Emergency responders in Delaware have addressed the increase in opioid-related overdoses by carrying the opioid antagonist, Naloxone, which can reverse the effects of an opioid overdose and potentially save the life of a person suffering an overdose. Emergency responders used Naloxone on 2,714 occasions in 2017 (DHSS, 2018). Yet, even with increased access to potentially life-saving medication, fatal overdoses still occur frequently in Delaware. In May 2018, the Delaware Online *News Journal* reported in just one weekend there were 47 suspected overdoses that emergency responders were called to; seven of those people died (Horn, 2018).

In 2017, heroin was the primary drug at admission in approximately 48% of publicly funded treatment center stays in Delaware (TEDS, 2018). A SWOT (Strengths, Weaknesses Opportunities, Threats) analysis by the Opiate and Heroin Dependency Committee, prepared for 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). 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 this population 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.

Data in Action: Safe Injection Sites

With overdose death rates across many states in the northeast, including Delaware, continuing to rise, more organizations are starting to advocate for harm reduction strategies to reduce the rate of overdose deaths. One such strategy that is being considered in Philadelphia and New York currently is the implementation of supervised injection services (SIS) (Gordon, 2018; Neuman, 2018). Also known as "safe injection sites" or "comprehensive user engagement sites" (CUES), these are sites where drug users can go to inject drugs in a safe and clean environment without fear of prosecution. SIS programs are designed to promote safer drug injection practices and health behaviors among people who inject drugs (PWID), as well as connect them with external health and social services. Programs such as these have been in operation in Canada, Australia, and Western Europe with various levels of success. While SIS programs are often controversial and opponents have expressed concerns that sites will encourage drug use and drug trafficking, a meta analysis of research conducted on SIS has found that, in general, these programs reduce needle sharing and other drug-related harms including the spread of infectious diseases, as well as reduce overdose deaths, emergency calls, and hospital costs related to drug overdose. These sites also functioned as access points for PWID to access treatment services for their opioid dependence. SISs have not been found to increase drug use or crime in any of the areas where they have been implemented (Potier, Laprevote, Dubois-Arber, Cottencin, & Rolland, 2014).

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 of the Prescription Drug Monitoring Program conducted by University of Delaware researchers found 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 areas of the state with higher rates of 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 2012-2015 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 2017 DSS show that in the past year, less than 1% of 8th and 11th grade students in school reported using heroin, and only 2% of 8th graders and 3% of 11th grade students reported misusing prescription pain medications. Data from the 2015-2016 NSDUH show that for adults in

Delaware, age 18 to 25, past year use of pain relievers without a prescription or in ways other than prescribed was comparable to the national average. In Delaware approximately 7.3% of adults in this age range reported misusing these drugs in the past year, while nationally approximately 7.8% of 18-25 year olds reported misusing pain relievers in the past year. The 2017 Youth Risk Behavior Survey (YRBS) indicates that while rates of heroin use among high school students has declined to 1.6% over the past twenty years, nearly one in ten students report using prescription pain medications that they were not prescribed or in ways that were not prescribed at least once in their lifetime, and 5.8% report such misuse in the previous month.

2017 Delaware School Survey

Prescription painkiller 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	49
Males	3	2	1	47
Females	3	2	1	52
Wilmington	7	3	1	46
Males	7	2	0	47
Females	7	5	3	45
New Castle	3	2	1	51
Males	3	2	1	48
Females	3	2	1	54
Kent	3	2	1	46
Males	3	2	0	44
Females	4	3	1	47
Sussex	4	2	1	43
Males	3	1	1	38
Females	5	3	0	48

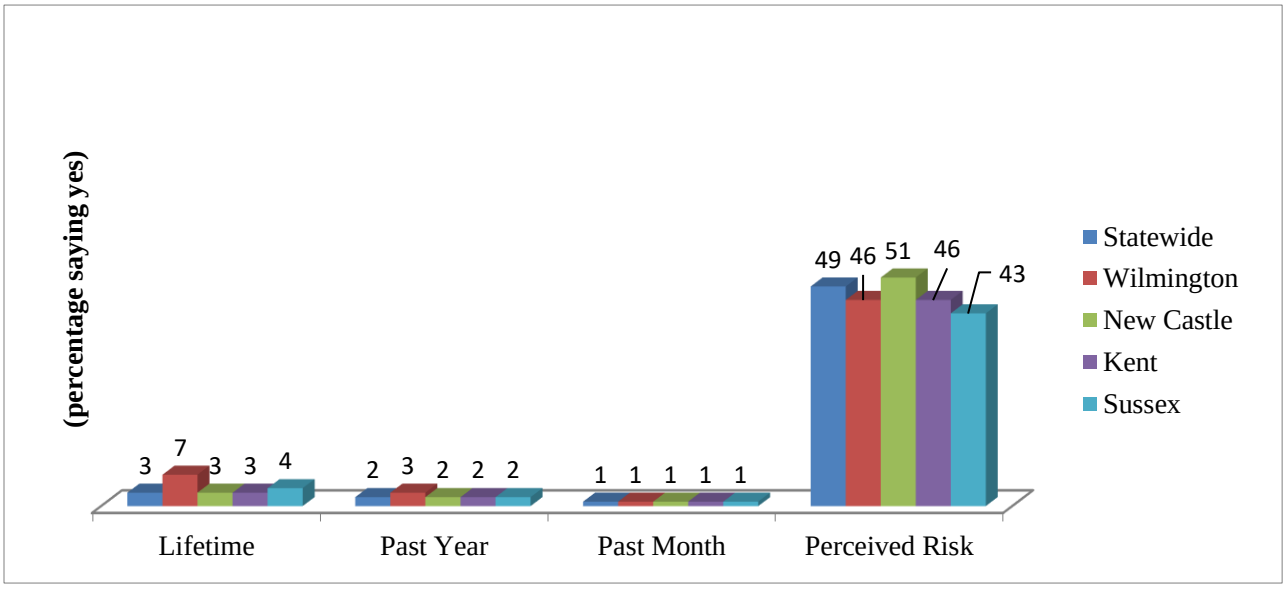

Figure 96 Prescription painkiller use among Delaware 8th graders

Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 Delaware School Survey

Prescription painkiller use among Delaware 11th graders

(in percentages)

	Lifetime	Past Year	Past Month	Perceived Great Risk of Using Prescription Drugs without a Prescription
Statewide	5	3	1	62
Males	5	3	1	59
Females	5	3	1	65
Wilmington	6	4	2	57
Males	4	2	2	50
Females	8	6	2	63
New Castle	5	3	1	64
Males	4	2	1	61
Females	5	3	1	67
Kent	6	4	1	56
Males	7	4	1	52
Females	4	3	1	59
Sussex	6	4	1	61
Males	8	5	1	59
Females	4	3	1	63

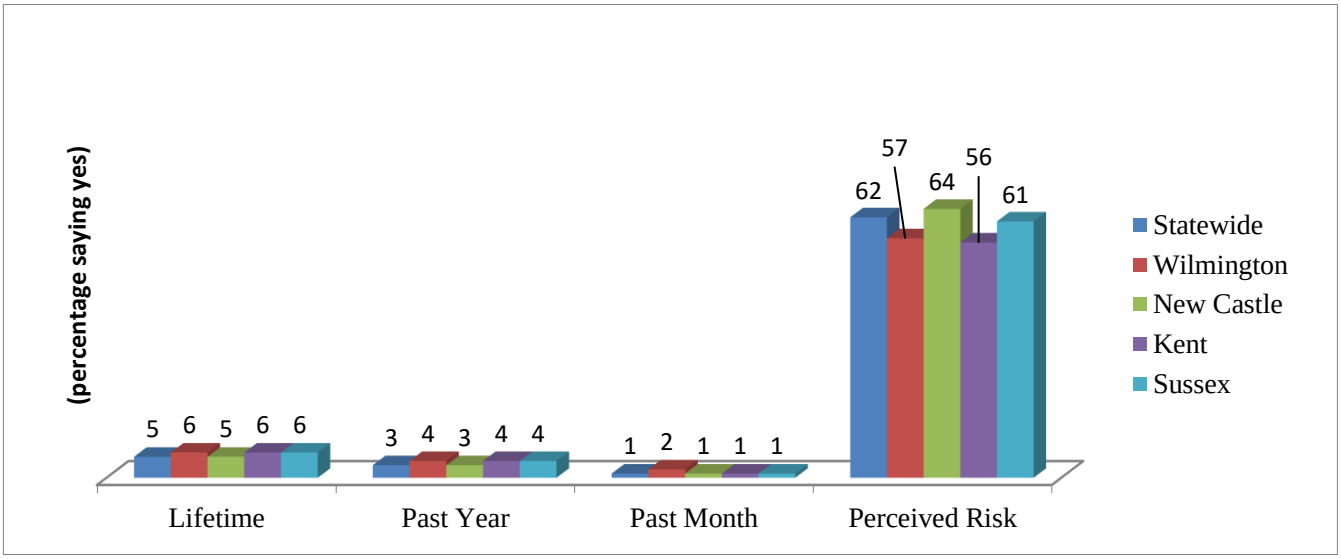

Figure 97 Prescription painkiller use among Delaware 11th graders

Source:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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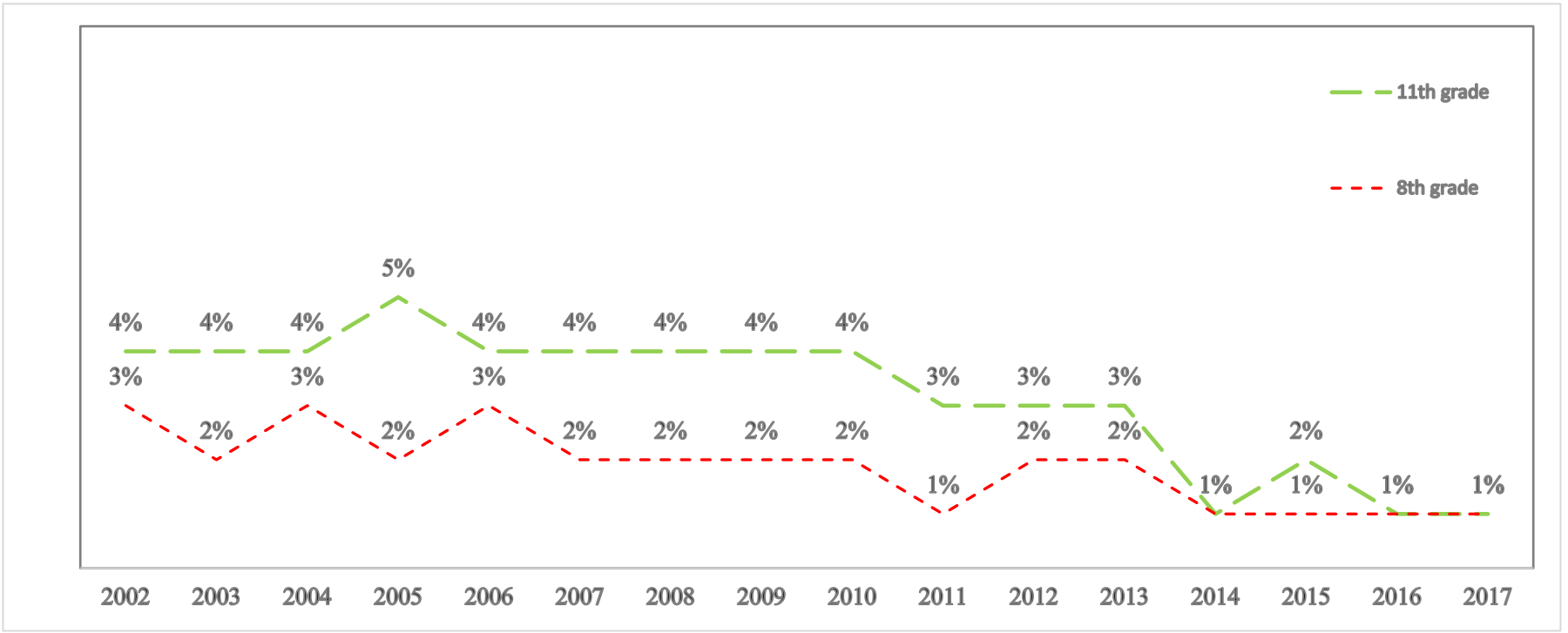

Figure 98 Trends in monthly use of prescription painkillers among Delaware 8th and 11th graders, 2002- present

Source:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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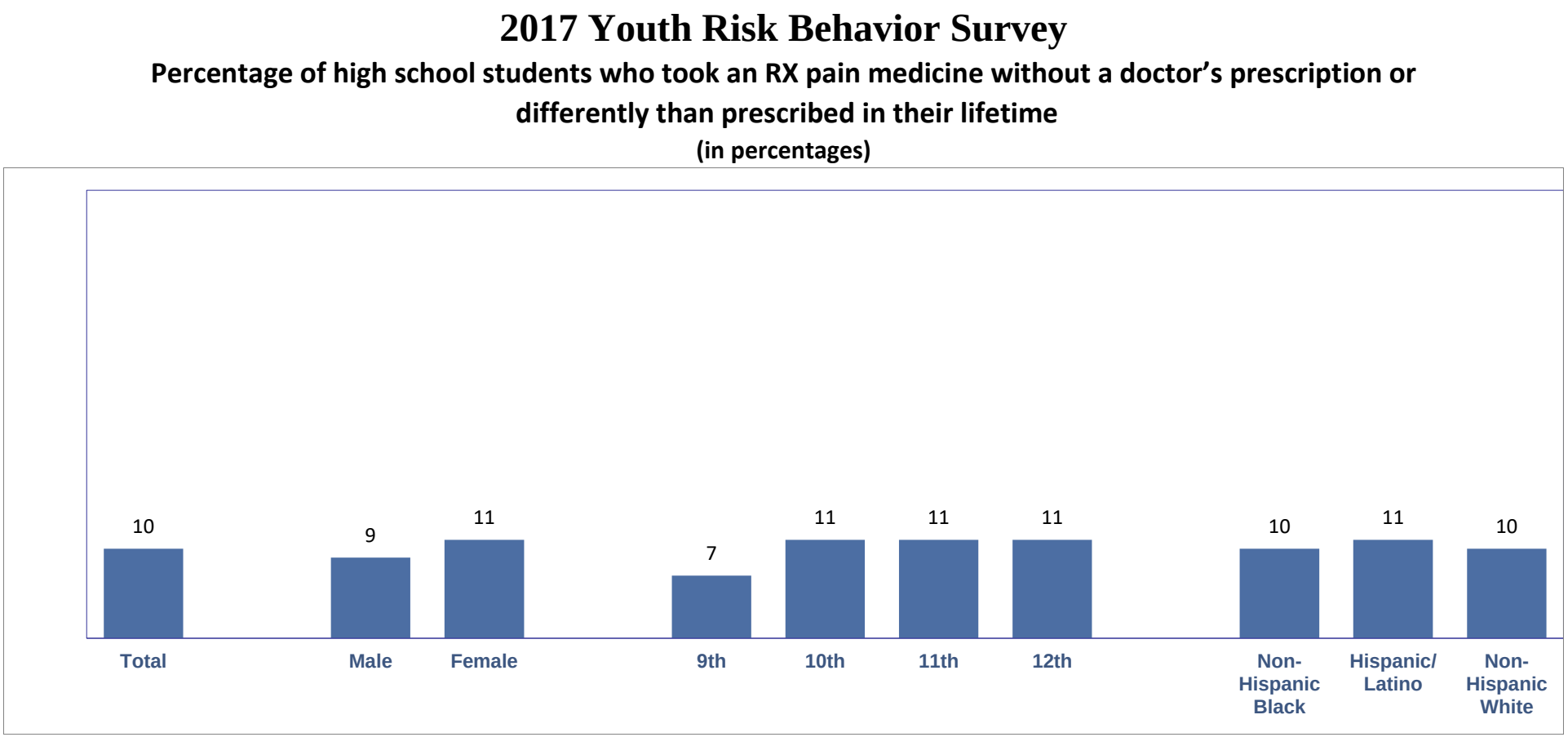

Figure 99 Percentage of high school students who ever took an RX medicine without a prescription or differently than prescribed

Note:
Weighted data
Source:
"2017 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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2017 Youth Risk Behavior Survey

Percentage of high school students who took an RX pain medicine without a doctor's prescription or differently than prescribed in the past month

(in percentages)

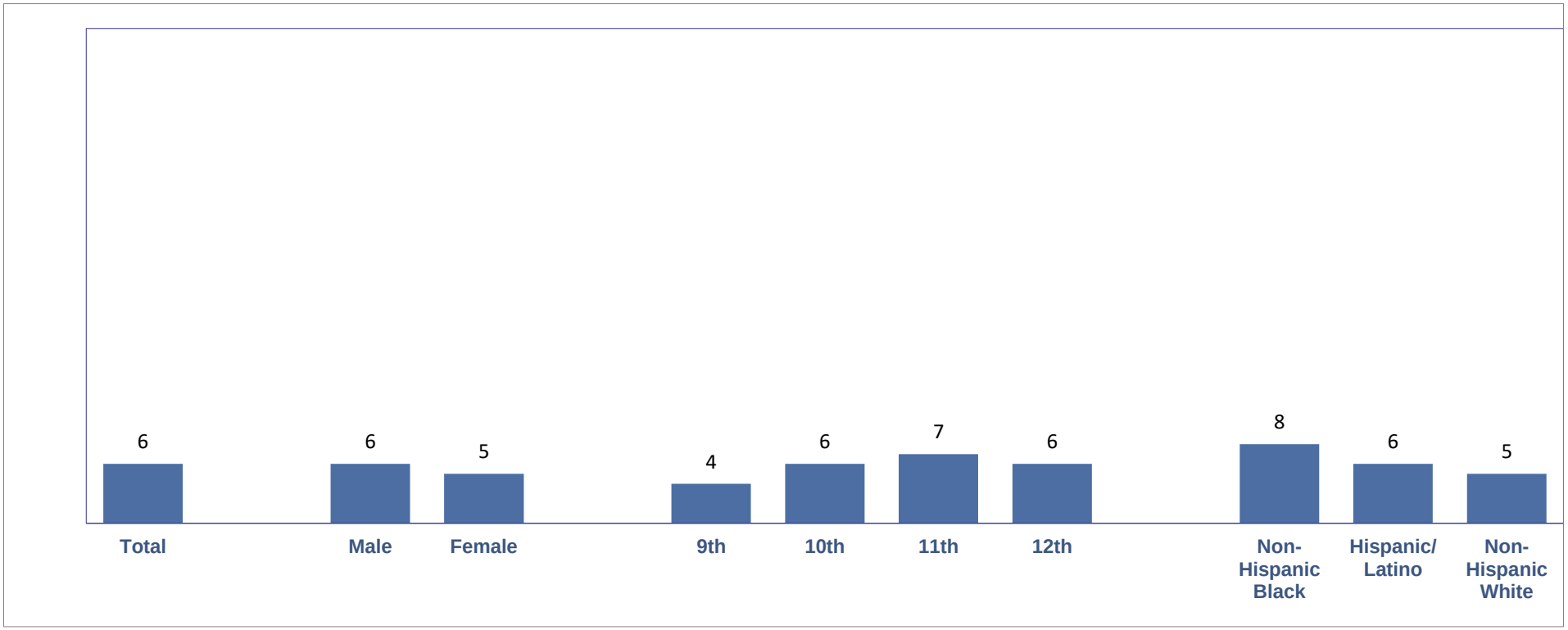

Figure 100 Percentage of high school students who in the past 30 days took an RX medicine without a prescription or differently than prescribed

Note:
Weighted data
Source:"2017 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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National Survey of Drug Use and Health (NSDUH)

Pain reliever misuse in past year, by age group and state: 2014-2015 and 2015-2016 NSDUH (in percentages) [a]												
	AGE GROUP (Years)											
	12 or Older			12-17			18-25			26 or Older		
State	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-20164	*p* value [b]
Total U.S.	4.06	4.46	--	4.67	3.72	--	8.32	7.82	--	3.26	4.00	--
Northeast	3.65	4.05	--	4.03	2.82	--	7.84	7.19	--	2.91	3.68	--
Delaware	4.34	4.45	--	4.66	3.07	--	9.52	7.34	--	3.44	4.16	--
Maryland	4.50	4.15	--	4.57	3.40	--	9.13	7.82	--	3.74	3.66	--
New Jersey	3.51	3.75	--	3.80	2.57	--	7.83	7.06	--	2.82	3.39	--
Pennsylvania	3.93	4.38	--	4.48	2.91	--	8.73	7.65	--	3.08	4.03	--

Figure 101 Pain reliever misuse in the past year by age group and state, 2014-2016

Notes:
[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.
[b] *p* value: Bayes posterior probability of no change.
"--" Data not available
Source:
"2015-2016 National Survey on Drug Use and Health: Model--Based Prevalence Estimates." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration

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Rate of Opioid Prescriptions by Delaware Census Tracts

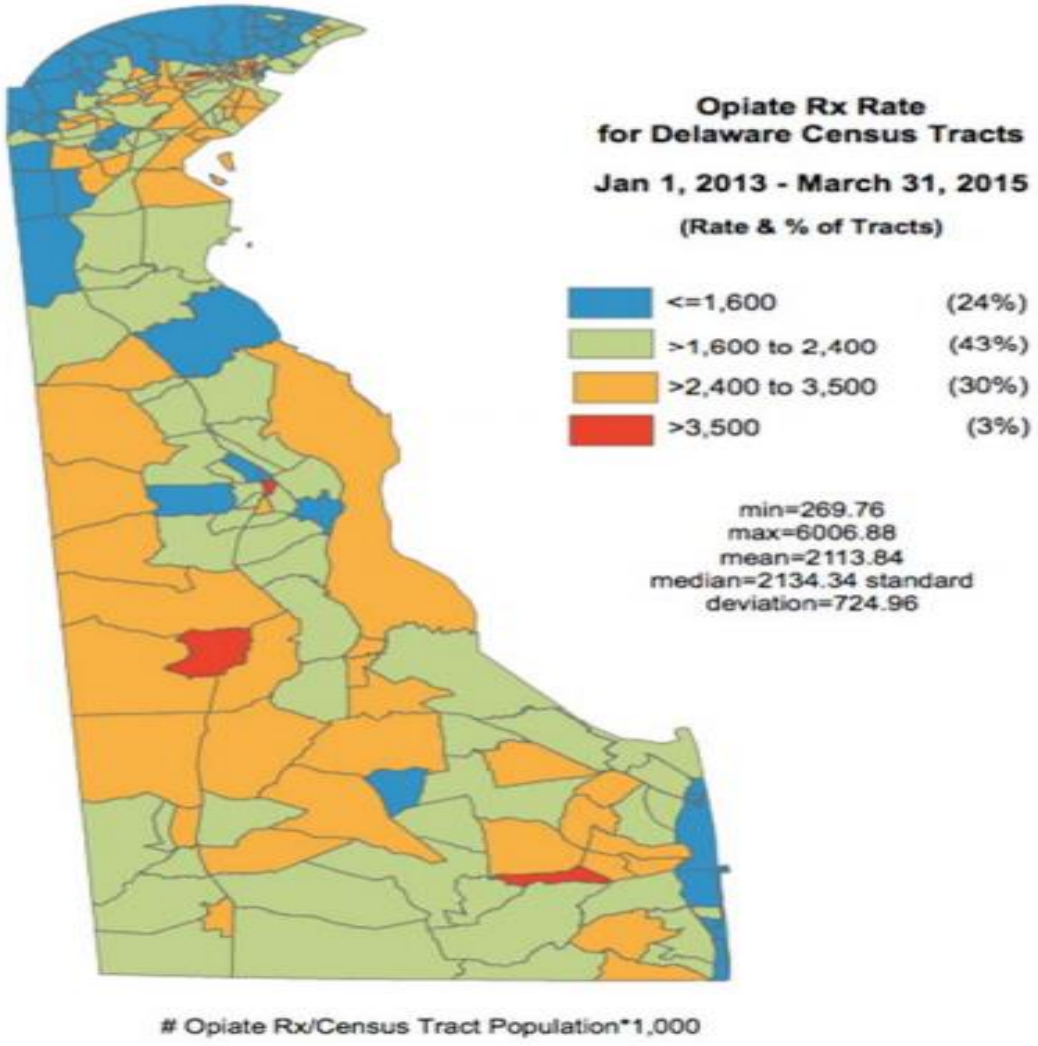

Figure 102 Rate of Opioid Prescriptions by Delaware Census Tracts

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 Illicit Drug Use

National Overview

The bulk of this report has primarily focused on the four most pressing substance use issues facing the State of Delaware (tobacco, alcohol, marijuana, and opioids) with attention to several groups of youth at disproportionate risk in subsequent chapters. However, many other illicit and prescription drugs are misused in addition to these four primary substances. These other drugs fall into four broad categories, which can include both prescription and street drugs. This list of examples is not exhaustive:

- Depressants: barbiturates, benzodiazepines, GHB, Rohypnol
- Stimulants: cocaine, methamphetamine, Adderall, Ritalin
- Hallucinogens: LSD, mescaline, salvia, “mushrooms”
- Other drugs: Ecstasy, Ketamine, bath salts, DXM, steroids, inhalants

Although misuse of these drugs impact fewer people than that of alcohol or opioids, abuse of these substances comes with steep risks, such as: overdose; addiction; potential for the drugs to be mixed with other dangerous products (such as fentanyl in cocaine); and serious mental impairment that can negatively impact one’s judgment, increase one’s vulnerability, or increase the likelihood of dangerous accidents, physical altercations, 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 (29%) 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 National Survey on Drug Use and Health (NSDUH) 2015-2016 estimates, in Delaware, approximately 10% of all people over the age of 12 used an illicit drug in the past year. Broken down by age, 10% of Delaware youth under the age of 18 reported past illicit drug use in the previous year, nearly a quarter of adults age 18-25 reported past year illicit drug use, and 8% of adults over the age of 26 used illicit drugs during the past year. Illicit drugs defined by the NSDUH include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used non medically. Data from the 2017 DSS shows that 4% of 5th grade students report use of inhalants within the past year. The DSS also indicates that 5% of 8th grade students and 9% of 11th grade students report use of illicit drugs, other than marijuana, during the past year. This analysis includes questions regarding student use of "street uppers," "downers," Ecstasy, hallucinogens, synthetic marijuana, heroin, and cocaine/crack.

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 approximately 1% of the total US population are current users of cocaine. In Delaware, 6% of adults between the ages of 18-25 reported using cocaine in the past year during the 2015-2016 time-period; 1.5% 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). Over 4 percent of all drug treatment admissions in the state were due to cocaine dependence (TEDS).

Prescription Drugs

While it may seem that students who misuse prescription drugs are doing so to get high, data analysis previously conducted indicates that there are many reasons students use prescription drugs not prescribed to them, or in ways differently than as prescribed (CDHS, 2016). These data suggest that many students are using prescription drugs to self-medicate, among other reasons. 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. (Please note that prescription pain medication use is addressed in the chapter on opioid use of this report.)

The Delaware School Survey asks students about past month and past year use of certain drugs. With the exception of prescription drugs, including pain medication, and synthetic marijuana, past month use of these drugs is fairly low, with only one percent of 11th 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 2015-2016 NSDUH

(in percentages) [a]

Measure	Total 12 or Older	AGE GROUP		
		12-17	18-25	26 or Older
ILLICIT DRUGS				
Past Month Illicit Drug Use[b]	10.25	9.50	25.33	8.01
Past Month Use of Illicit Drugs Other Than Marijuana [c]	3.47	2.48	7.22	3.00
Past Year Cocaine Use	1.93	0.41	6.10	1.46
Past Year Pain Reliever Misuse	4.45	3.07	7.34	4.16

Figure 103 Select drug use in Delaware, by age group, 2015-2016

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:

https://www.samhsa.gov/data/sites/default/files/NSDUHsaeShortTermCHG2016/NSDUHsaeShortTermCHG2016.htm

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2017 Delaware School Survey

Inhalant Use among Delaware 5th graders

(in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE
Statewide	8	4	2
Males	7	3	1
Females	9	5	2
Wilmington	7	3	1
Males	5	1	1
Females	8	6	2
New Castle	8	4	2
Males	6	3	1
Females	9	5	2
Kent	8	4	2
Males	5	2	1
Females	10	5	3
Sussex	8	4	2
Males	8	4	2
Females	8	3	2

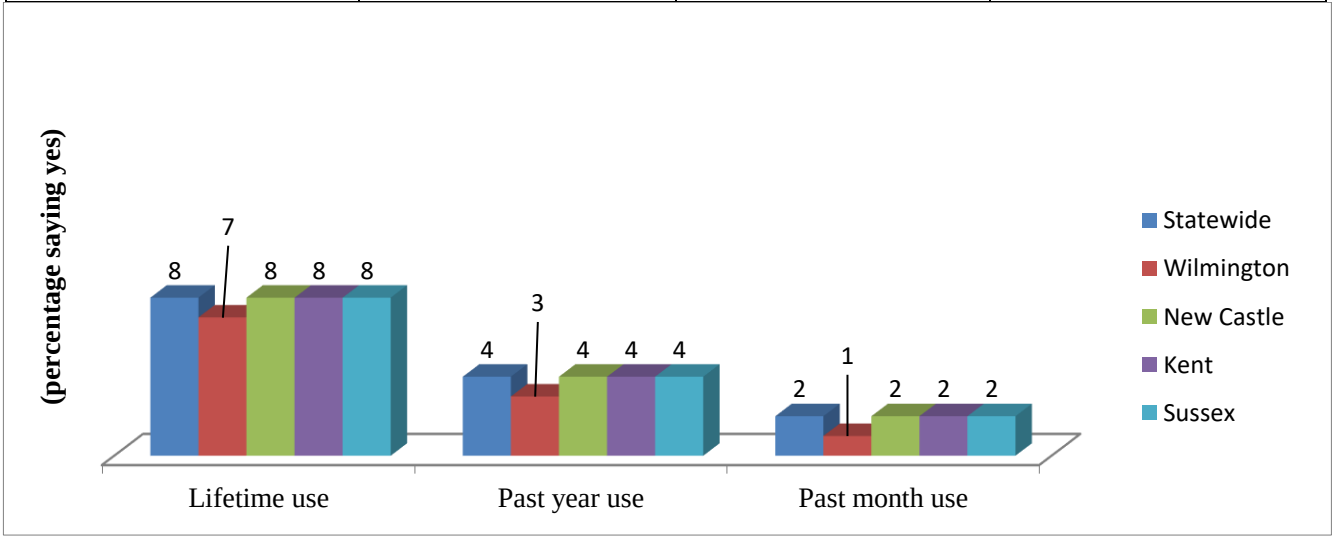

Figure 104 Inhalant use among Delaware 5th graders

Source:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 Delaware School Survey

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

(in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE
Statewide	8	5	3
Males	8	5	3
Females	8	5	2
Wilmington	12	7	5
Males	13	7	5
Females	10	7	5
New Castle	7	5	3
Males	8	5	2
Females	6	4	3
Kent	7	4	1
Males	8	4	1
Females	7	5	1
Sussex	10	7	3
Males	9	6	3
Females	11	8	4

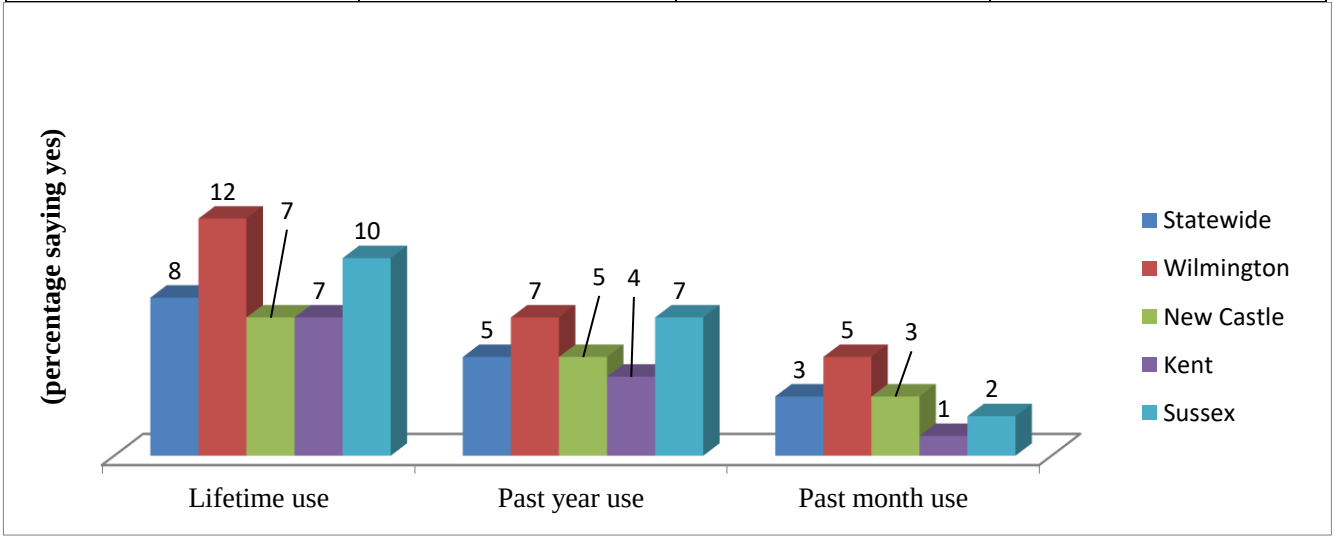

Figure 105 Other illegal drug use among Delaware 8th graders

Note:

[a] "Other illegal drugs" includes ecstasy, hallucinogens, street uppers, inhalants, cocaine, crack, heroin and synthetic marijuana used to get high.

"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 Delaware School Survey

Other illegal drug[a] use among Delaware 11th graders (in percentages)

	LIFETIME USE	PAST YEAR USE	PAST MONTH USE
Statewide	14	9	4
Males	13	8	4
Females	14	9	4
Wilmington	11	6	3
Males	11	6	3
Females	10	6	3
New Castle	14	9	4
Males	13	8	3
Females	16	11	5
Kent	10	6	3
Males	11	6	4
Females	10	5	2
Sussex	16	11	5
Males	18	13	4
Females	15	9	5

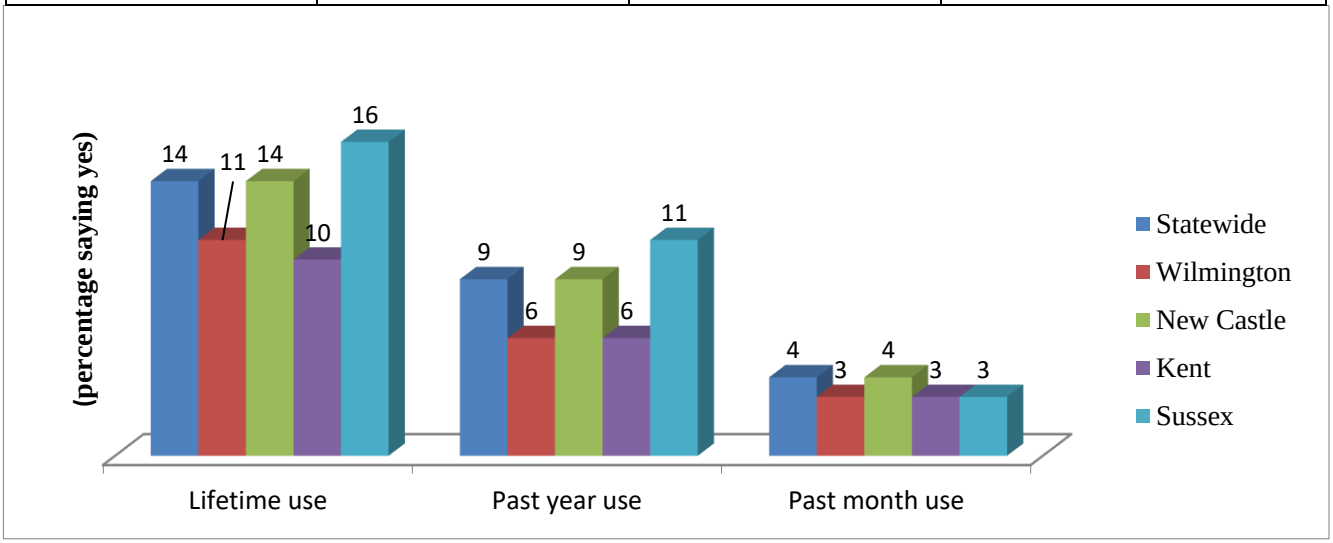

Figure 106 Other illegal drug use among Delaware 11th graders

Note:
[a] "Other illegal drugs" includes ecstasy, hallucinogens, street uppers, inhalants, cocaine, crack, heroin and synthetic marijuana used to get high.
Source:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 Delaware School Survey

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

	Street Uppers	Downers	Ecstasy	Hallucinogen	Synthetic Marijuana	Heroin	Crack/ Cocaine
STATEWIDE	0	1	0	0	4	0	0
Males	0	1	1	1	4	0	0
Females	0	0	0	0	3	0	0
Wilmington	0	1	0	0	6	1	0
Males	0	2	0	0	6	1	0
Females	0	0	1	1	6	1	0
New Castle	0	1	0	0	3	0	0
Males	0	1	1	0	4	0	0
Females	0	0	0	0	2	0	0
Kent	0	1	0	0	3	0	0
Males	0	0	1	0	3	0	0
Females	0	1	0	0	3	0	0
Sussex	0	0	0	1	5	0	0
Males	0	0	1	1	5	0	0
Females	0	0	0	0	6	0	0

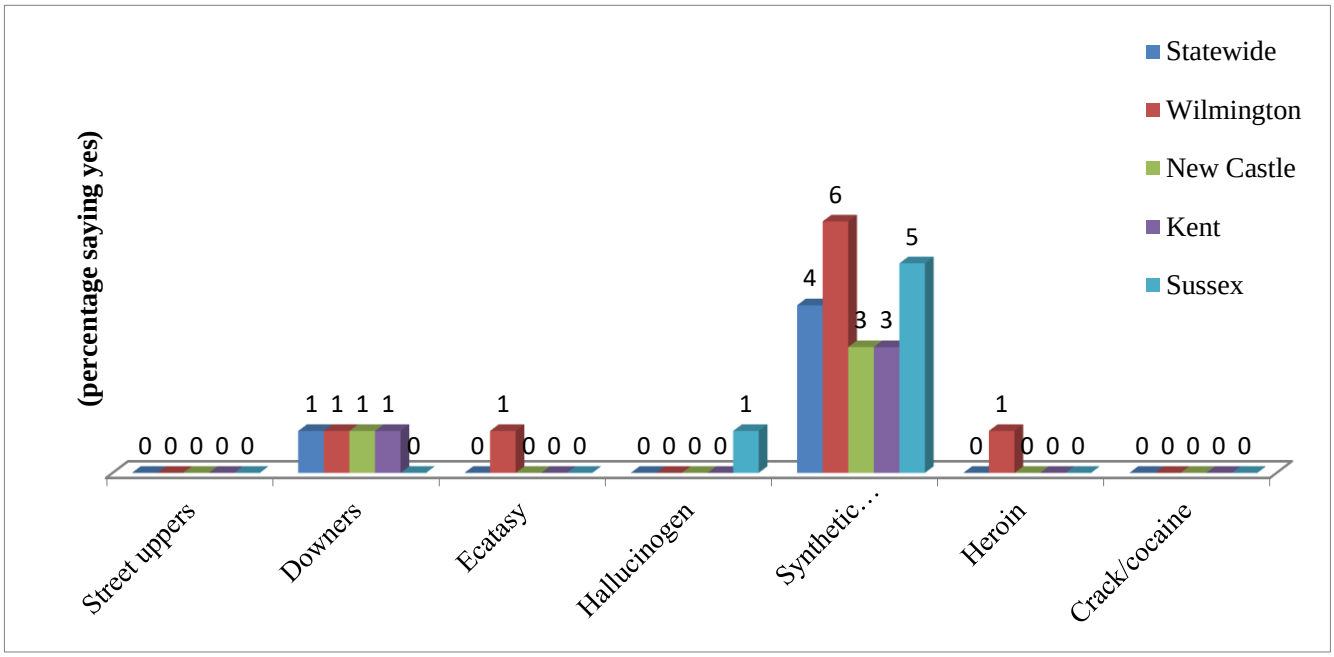

Figure 107 Past year use of other illegal substances among Delaware 8th graders

Source:
"2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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2017 Delaware School Survey

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

	Street Uppers	Downers	Ecstasy	Hallucinogens	Synthetic marijuana	Heroin	Crack/ Cocaine
Statewide	0	2	1	2	7	0	1
Males	1	2	1	2	5	1	2
Females	0	1	1	2	8	0	1
Wilmington	0	1	1	0	4	0	0
Males	0	1	1	0	4	1	1
Females	0	1	1	0	5	0	0
New Castle	0	2	1	2	8	0	1
Males	0	2	0	1	5	0	1
Females	0	1	1	2	10	0	1
Kent	0	1	0	1	4	0	1
Males	0	1	1	1	4	0	1
Females	0	1	0	1	4	1	1
Sussex	1	3	2	4	7	1	2
Males	2	4	2	6	7	1	3
Females	0	1	1	3	8	0	1

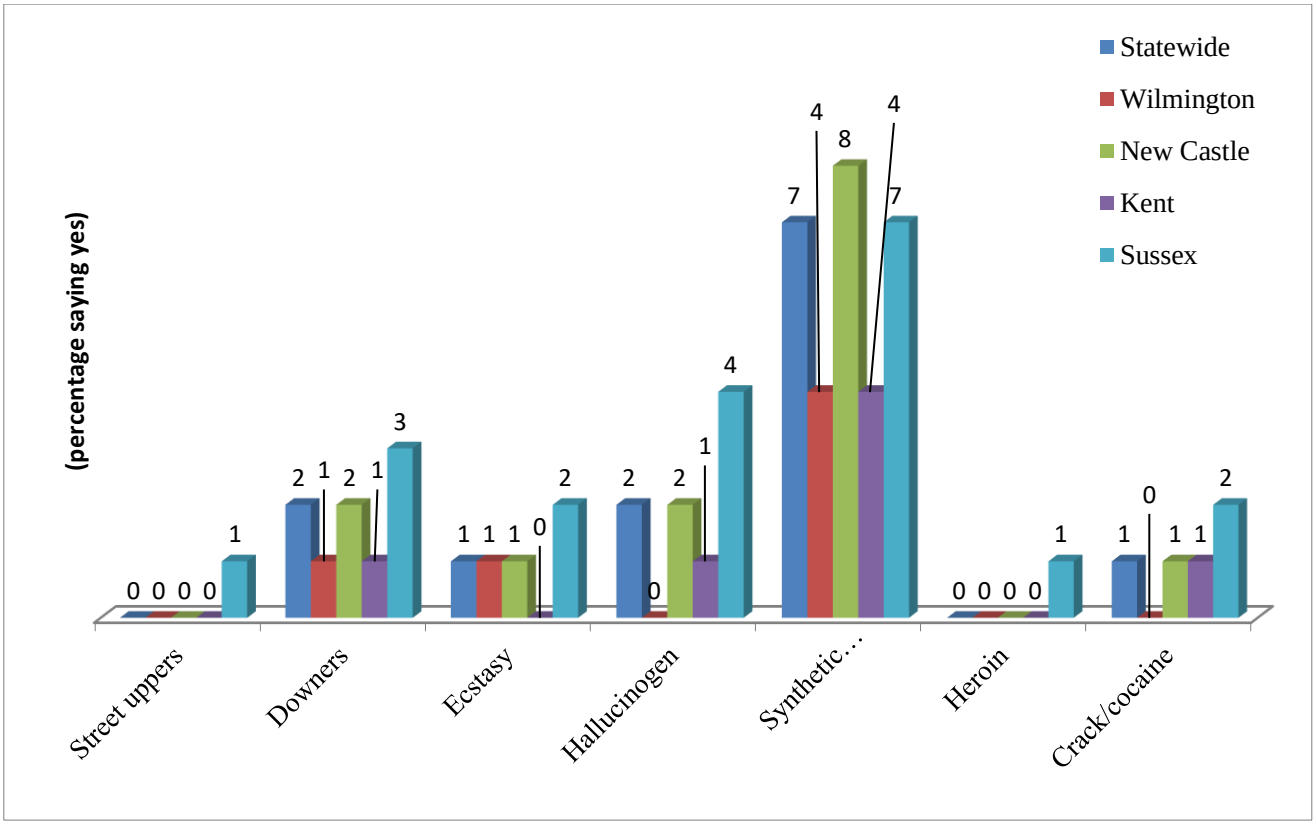

Figure 108 Past year use of other illegal substances among Delaware 11th graders

Source: "2017 Delaware School Survey." Center for Drug and Health Studies, University of Delaware.

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Trends and Comparisons of Other Illegal Drug Use

2017 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	2017
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	1
Hallucinogens	1	0	1	1	1	1	2	2	1	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diet Pills	4	2	2	2	2	2	2	1	2	2	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Cocaine	1	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heroin	na	na	na	na	na	na	na	na	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Designer Drugs/ Ecstasy[b]	na	na	na	na	na	na	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Figure 109 Trends in monthly use of other illegal drugs among Delaware 8th graders, 1989-present

Notes:

'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" includes Ritalin, Adderall, Cylert, and Concerta "to get high".

[d] "Painkillers" includes OxyContin, Codeine, Percocet, and Tylenol 3 "to get high".

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)

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2017 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	2017
Inhalants[a]	3	2	1	2	1	4	2	3	3	2	3	3	3	2	2	2	1	1	-	1	-	-	-	-	-	-	-	0	0
Hallucinogens	2	1	3	2	3	4	3	3	3	3	2	2	2	1	-	-	1	1	1	-	-	-	1	-	-	-	-	1	0
Diet Pills	3	2	3	3	3	4	2	2	4	3	2	3	2	1	2	1	1	1	-	-	1	-	-	-	-	-	-	-	0
Cocaine	3	2	1	1	-	1	1	2	2	2	1	1	1	-	1	-	1	1	1	1	1	-	-	-	-	-	-	0	0
Heroin	1	-	1	-	-	na	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	0	0
Designer Drugs/ Ecstasy[b]	na	na	na	na	na	na	-	1	1	1	1	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0

Figure 110 Trends in monthly use of other illegal drugs among Delaware 11th graders, 1989- present

Notes:
[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" includes Ritalin, Adderall, Cylert, and Concerta "to get high".
[d] "Painkillers" includes OxyContin, Codeine, Percocet, and Tylenol 3 "to get high".
'na' indicates question was not asked that year.

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)

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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]

	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
State	**2014-2015**	**2015-2016**	***p* value** [b]	**2014-2015**	**2015-2016**	***p* value** [b]	**2014-2015**	**2015-2016**	***p* value** [b]	**2014-2015**	**2015-2016**	***p* value** [b]
Total U.S.	3.30	3.42	-	3.30	2.71	-	6.58	7.32	-	2.73	2.86	-
Northeast	3.16	3.46	-	2.88	2.25	-	6.50	7.73	-	2.63	2.90	-
Delaware	3.39	3.47	-	3.16	2.48	-	9.02	7.22	-	2.94	3.00	-
Maryland	3.52	3.31	-	3.78	2.92	-	6.22	7.22	-	3.05	2.75	-
New Jersey	2.73	2.91	-	2.61	2.14	-	6.27	7.48	-	2.22	2.32	-
Pennsylvania	3.19	3.59	-	3.02	2.20	-	6.69	7.61	-	2.63	3.11	-

Figure 111 Illicit drug use other than marijuana in past month, by age group, and state, 2014-2016

Notes:
[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.
[b] p value: Bayes posterior probability of no change.
"-" p value not available for this data

Source:
"2015-2016 National Survey on Drug Use and Health: Model-Based Prevalence Estimates." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.

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National Survey of Drug Use and Health (NSDUH)

Illicit drug use in past month, by age group and state: 2014-2015 and 2015-2016 NSDUH (in percentages) [a]

State	12 or Older			AGE GROUP (Years)								
				12-17			18-25			26 or Older		
	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]	2014-2015	2015-2016	*p* value [b]
Total U.S.	9.77	10.36	-	9.11	8.34	-	21.75	22.75	-	7.81	8.54	-
Northeast	10.31	11.20	-	9.24	8.45	-	23.65	25.93	-	8.23	9.11	-
Delaware	10.59	10.25	-	10.24	9.50	-	25.63	25.33	-	8.13	8.01	-
Maryland	10.76	11.52	-	10.79	9.54	-	25.52	29.44	-	8.37	8.95	-
New Jersey	7.96	8.13	-	7.95	6.90	-	19.19	23.31	-	6.27	6.01	-
Pennsylvania	9.20	10.51	-	8.88	7.60	-	22.24	22.97	-	7.11	8.87	-

Figure 112 Illicit drug use in past month by age group and state, 2014-2016

Notes:
[a] Estimates are based on a survey-weighted hierarchical Bayes estimation approach.
[b] p value: Bayes posterior probability of no change.
" - " p value not available for this data

Source:
"2015-2016 National Survey on Drug Use and Health: Model-Based Prevalence Estimates." Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.

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Other Illegal Drug Perceived Risks and Consequences

Substance Abuse Treatment Admissions by Primary Substance of Abuse, by Sex, Age Group, Race and Ethnicity; 2017

STATE: Delaware		Total	PRIMARY SUBSTANCE														
			Alcohol only	Alcohol with secondary drug	Heroin	Other opiates	Cocaine (smoked)	Cocaine (other route)	Marijuana	Amphetamines	Other stimulants	Tranquilizers	Sedatives	Hallucinogens	PCP	Inhalants	Other/Unknown
Total	No.	11,097	676	715	5,371	530	299	192	541	45	9	49	4	10	31	5	2,620
	%	100.0	6.1	6.4	48.4	4.8	2.7	1.7	4.9	0.4	0.1	0.4	0.0	0.1	0.3	0.0	23.6
GENDER																	
Male	%	66.1	72.0	74.3	63.7	57.0	55.5	59.4	73.2	64.4	66.7	53.1	50.0	40.0	58.1	20.0	69.9
Female	%	33.8	27.7	25.6	36.3	43.0	44.5	40.6	26.8	35.6	33.3	46.9	50.0	60.0	41.9	80.0	29.8
Unknown	%	0.1	0.3	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	0.2
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	100.0
AGE AT ADMISSION																	
12-17 years	%	1.1	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1
18-20 years	%	3.9	1.5	1.5	2.4	2.5	0.7	1.6	20.3	4.4	0.0	2.0	0.0	10.0	0.0	0.0	6.0
21-25 years	%	15.5	4.9	7.6	16.3	13.2	6.4	9.4	27.2	17.8	0.0	34.7	25.0	50.0	0.0	40.0	18.0
26-30 years	%	22.2	8.0	14.0	26.4	21.9	14.4	17.2	18.3	20.0	55.6	22.4	50.0	20.0	51.6	0.0	21.2
31-35 years	%	17.8	9.6	10.9	21.4	23.2	12.0	13.5	13.7	11.1	11.1	18.4	0.0	0.0	19.4	60.0	15.4
36-40 years	%	13.0	11.8	16.5	13.9	14.3	11.0	20.8	7.0	22.2	11.1	8.2	0.0	10.0	19.4	0.0	11.2
41-45 years	%	7.8	14.2	10.8	7.0	8.5	10.4	10.4	5.0	17.8	0.0	8.2	25.0	0.0	6.5	0.0	6.8
46-50 years	%	8.0	14.2	17.1	7.0	7.2	18.4	12.0	2.4	4.4	22.2	0.0	0.0	10.0	3.2	0.0	6.1
51-55 years	%	5.4	16.1	12.0	3.3	4.5	14.4	7.3	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	4.9
56-60 years	%	3.2	12.3	6.0	1.6	1.7	10.4	5.2	1.8	0.0	0.0	2.0	0.0	0.0	0.0	0.0	3.4
61-65 years	%	1.2	4.3	2.7	0.4	2.1	1.0	2.1	0.4	2.2	0.0	0.0	0.0	0.0	0.0	0.0	1.9
66 years and over	%	0.7	2.8	0.6	0.3	0.8	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Unknown	%	0.1	0.3	0.4	0.0	0.2	0.3	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.1
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	100.0
RACE																	
White	%	70.9	73.8	66.4	82.8	74.5	46.2	64.1	39.6	93.3	55.6	67.3	50.0	70.0	9.7	100.0	56.4
Black or African-American	%	24.9	20.9	28.7	13.6	23.6	46.8	33.3	54.2	2.2	44.4	28.6	25.0	30.0	80.6	0.0	38.7
American Indian or Alaska Native	%	0.7	0.9	1.1	0.5	0.2	2.3	0.0	1.1	2.2	0.0	0.0	0.0	0.0	3.2	0.0	0.6
Asian or Native Hawaiian or Other Pacific Islander	%	1.3	1.2	1.7	1.2	0.6	1.3	0.5	2.2	2.2	0.0	0.0	25.0	0.0	0.0	0.0	1.5
Unknown	%	2.3	3.3	2.1	2.0	1.1	3.3	2.1	3.0	0.0	0.0	4.1	0.0	0.0	6.5	0.0	2.8
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	100.0
ETHNICITY																	
Hispanic or Latino	%	4.8	4.6	3.5	5.3	2.8	1.3	4.2	5.5	0.0	0.0	0.0	25.0	0.0	6.5	0.0	4.9
Not Hispanic or Latino	%	92.4	92.6	94.1	92.5	94.2	95.0	94.8	90.9	95.6	100.0	79.6	75.0	80.0	90.3	100.0	91.3
Unknown	%	2.8	2.8	2.4	2.2	3.0	3.7	1.0	3.5	4.4	0.0	20.4	0.0	20.0	3.2	0.0	3.8
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	100.0

Figure 113 Substance abuse treatment admissions by primary substance of abuse, by sex, age group, race and ethnicity; 2017

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

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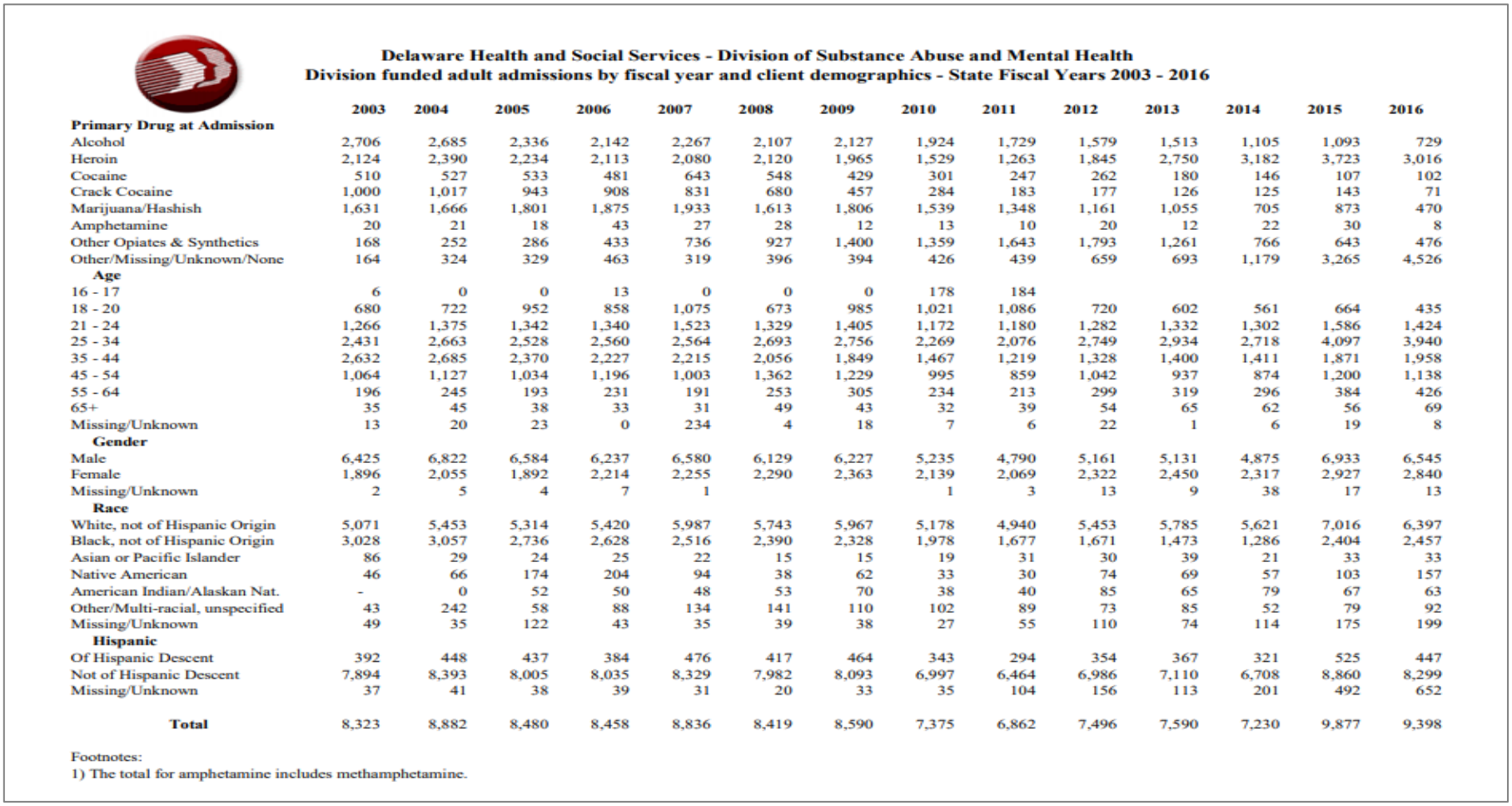

Delaware Health and Social Services - Division of Substance Abuse and Mental Health
Division funded adult admissions by fiscal year and client demographics - State Fiscal Years 2003 - 2016

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Primary Drug at Admission														
Alcohol	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	729
Heroin	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	3,016
Cocaine	510	527	533	481	643	548	429	301	247	262	180	146	107	102
Crack Cocaine	1,000	1,017	943	908	831	680	457	284	183	177	126	125	143	71
Marijuana/Hashish	1,631	1,666	1,801	1,875	1,933	1,613	1,806	1,539	1,348	1,161	1,055	705	873	470
Amphetamine	20	21	18	43	27	28	12	13	10	20	12	22	30	8
Other Opiates & Synthetics	168	252	286	433	736	927	1,400	1,359	1,643	1,793	1,261	766	643	476
Other/Missing/Unknown/None	164	324	329	463	319	396	394	426	439	659	693	1,179	3,265	4,526
Age														
16 - 17	6	0	0	13	0	0	0	178	184					
18 - 20	680	722	952	858	1,075	673	985	1,021	1,086	720	602	561	664	435
21 - 24	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	1,424
25 - 34	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	3,940
35 - 44	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	1,958
45 - 54	1,064	1,127	1,034	1,196	1,003	1,362	1,229	995	859	1,042	937	874	1,200	1,138
55 - 64	196	245	193	231	191	253	305	234	213	299	319	296	384	426
65+	35	45	38	33	31	49	43	32	39	54	65	62	56	69
Missing/Unknown	13	20	23	0	234	4	18	7	6	22	1	6	19	8
Gender														
Male	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	6,545
Female	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	2,840
Missing/Unknown	2	5	4	7	1			1	3	13	9	38	17	13
Race														
White, not of Hispanic Origin	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	6,397
Black, not of Hispanic Origin	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	2,457
Asian or Pacific Islander	86	29	24	25	22	15	15	19	31	30	39	21	33	33
Native American	46	66	174	204	94	38	62	33	30	74	69	57	103	157
American Indian/Alaskan Nat.	-	0	52	50	48	53	70	38	40	85	65	79	67	63
Other/Multi-racial, unspecified	43	242	58	88	134	141	110	102	89	73	85	52	79	92
Missing/Unknown	49	35	122	43	35	39	38	27	55	110	74	114	175	199
Hispanic														
Of Hispanic Descent	392	448	437	384	476	417	464	343	294	354	367	321	525	447
Not of Hispanic Descent	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	8,299
Missing/Unknown	37	41	38	39	31	20	33	35	104	156	113	201	492	652
Total	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	9,398

Footnotes:
1) The total for amphetamine includes methamphetamine.

Figure 114 Delaware Adult Admission by Fiscal Year and Client Demographics, 2003-2016

Source: Delaware Department of Health and Social Services

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Number of Alcohol and Prescription Drug Suspected Poisoning Calls, Ages 12-24, Delaware 2012-2017

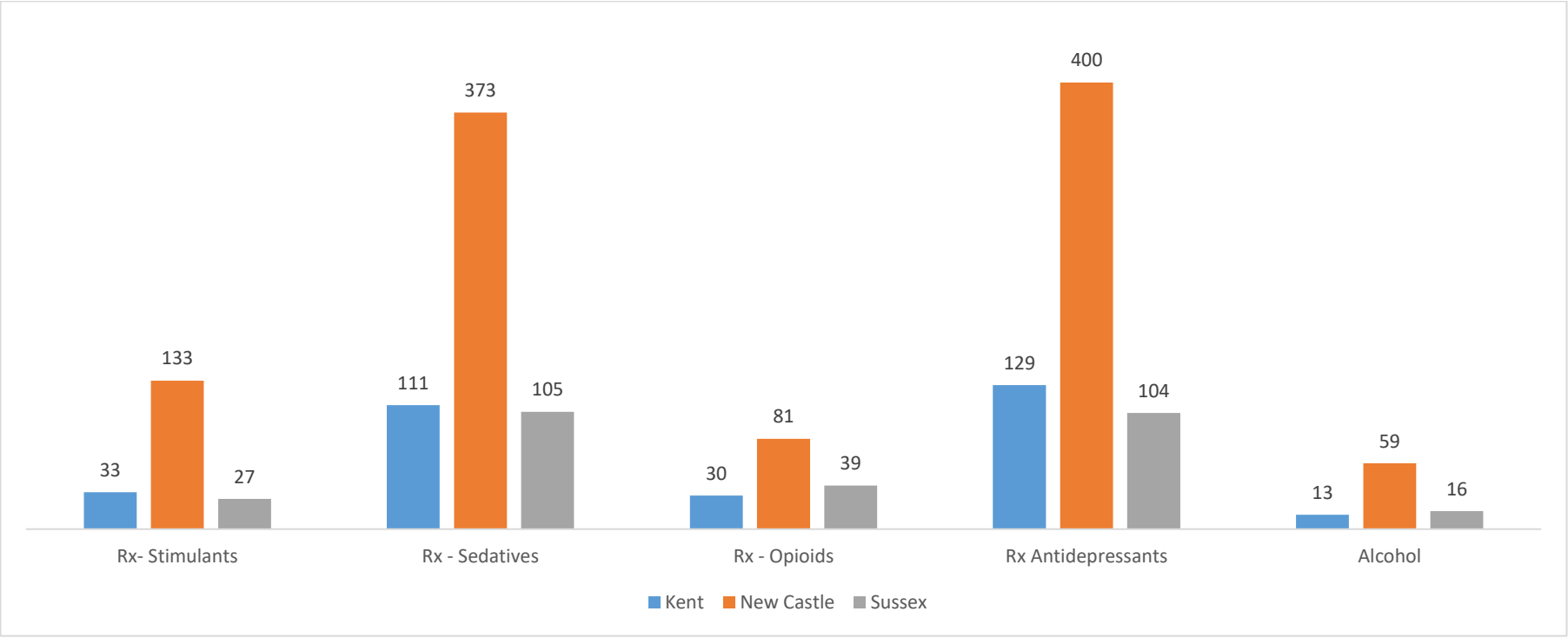

Figure 115 Number of alcohol and prescription drug suspected poisoning calls, 12-24, Delaware 2012-2017

Source: National Poison Data System

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Drug Overdose Deaths in Delaware for 2014-2016 by Selected Demographic Characteristics

	2014 N=225	2015 N=234	2016 N=306	2017 N=345
LOCATION:				
NEW CASTLE	56%	59%	44%	72%
KENT	18%	16%	18%	19%
SUSSEX	18%	13%	19%	9%
OTHER[a]	8%	7%	18%	-
GENDER:				
MALE	64%	61%	69%	69%
FEMALE	36%	39%	31%	31%
RACE:				
WHITE	85%	83%	84%	75%
BLACK	12%	13%	14%	19%
HISPANIC	3%	3%	2%	5%
OTHER	-	-	-	1%
AGE:				
39 OR YOUNGER	45%	48%	44%	50%
40-50	28%	21%	24%	23%
51 AND OLDER	27%	30%	32%	27%

Figure 116 Drug overdose deaths in Delaware by Selected Demographic Characteristics.

Notes:

a 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

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Overdose Death Rate in 2016 by Census Tract in Delaware

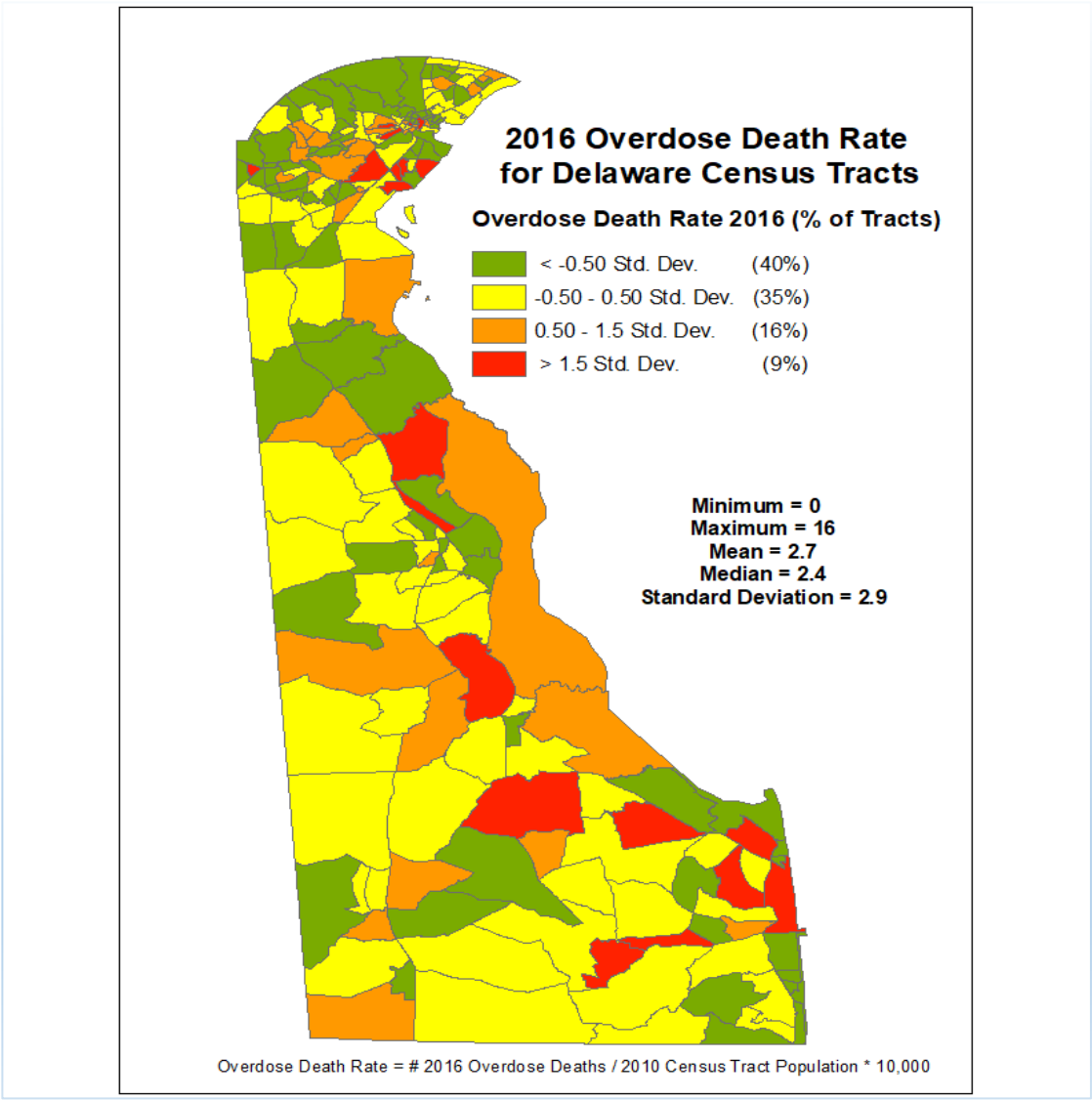

Figure 117 Drug overdose deaths in Delaware by census tracts.

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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Substance Exposed Infant Births (SEI) in Delaware

Infants who are born exposed to opioids and other illicit substances are at increased risk for a host of challenges to healthy development. In addition to physical health risks related to direct substance exposure, continued substance use by the parent or caregiver may likely contribute to an unstable home life for the infant. Substance use is often identified in cases of child abuse and neglect cases within child welfare systems (Child Welfare Information Gateway, 2014). Such traumas, in turn, are associated with increases in risk behaviors and negative health outcomes throughout the lifespan.

In Delaware, the Office of the Child Advocate has been tracking notifications of SEI and examining the characteristics associated with these births. As of 2017, 450 notifications of substance exposed infant births had been reported. While marijuana is the most commonly identified substance among infants who had been exposed to a single substance, opioids are the most commonly identified substance among cases where the infant had been exposed to two or more substances. Among the more dramatic findings is that 40% of the mothers who gave birth to substance exposed infants reported a history of involvement with family services as youths themselves (Delaware Office of the Child Advocate, 2018). Early intervention and family support are critical to ameliorating negative impacts.

Recent developments at the state level hold promise for effectively dealing with this issue. In October 2016, Delaware received a Substance Exposed Infants – In-Depth Technical Assistance (SEI-IDTA) grant from the National Center on Substance Abuse and Child Welfare. In Spring 2018, the Delaware General Assembly passed *Aiden's Law*, which requires healthcare professionals to notify the Division of Family Services of substance exposed births, and to provide for a collaborative, coordinated, and multidisciplinary plan of safe care (POSC) for the infant and their affected family or caregivers.

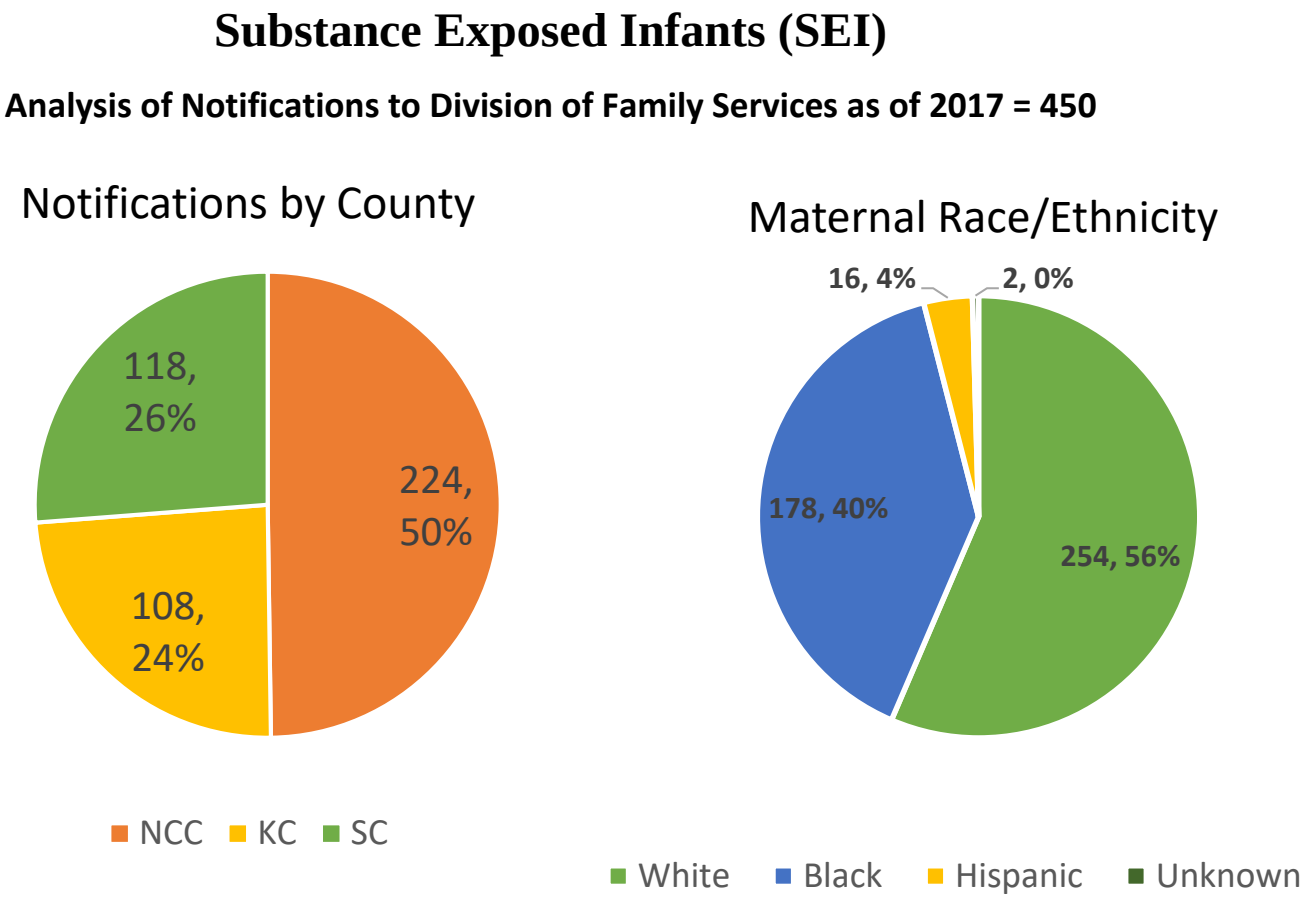

Figure 118 Substance exposed infants by county and race.

Source: Delaware, Investigation Coordinator Data, Office of the Child Advocate 2017

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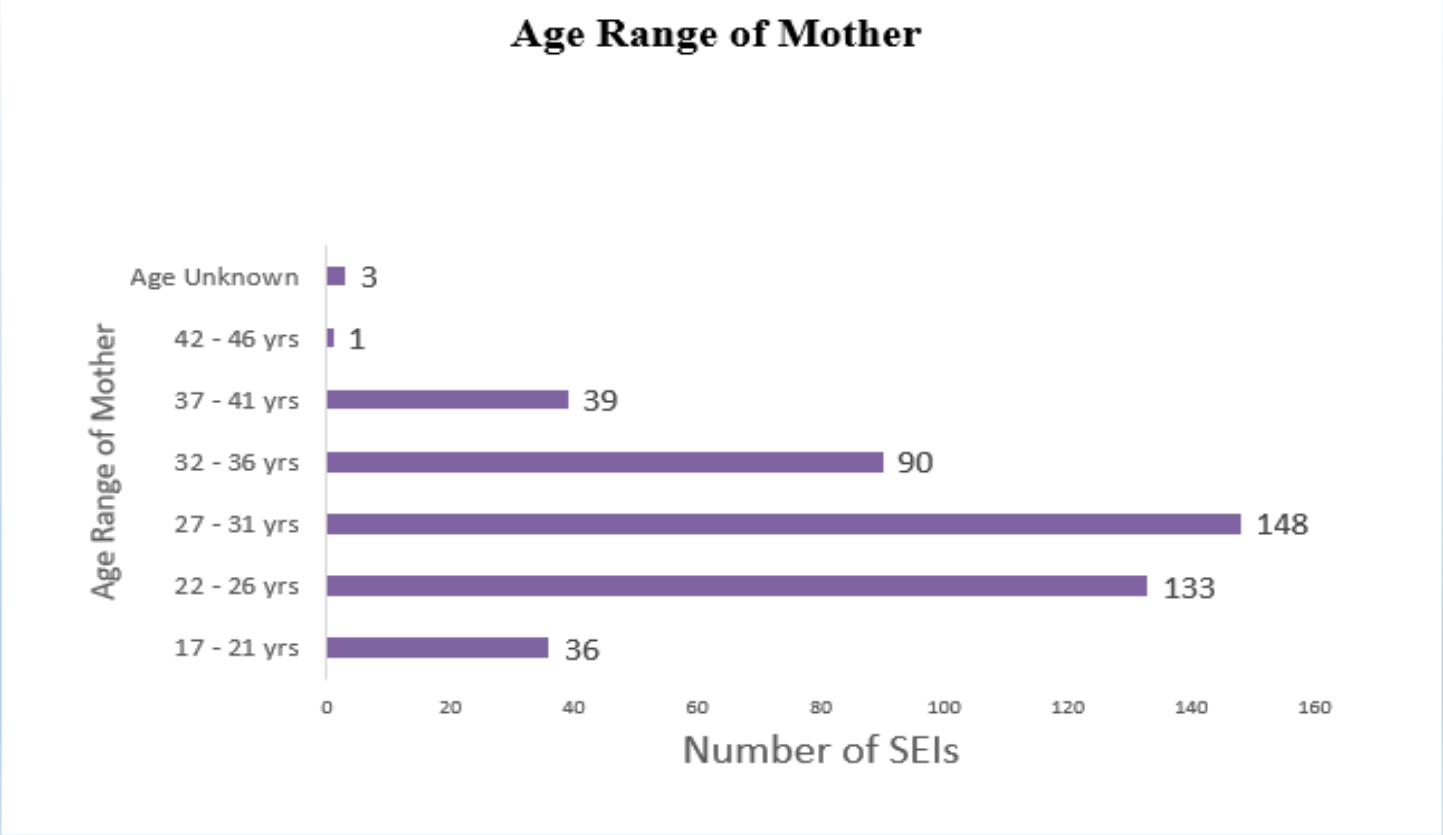

Figure 119 Substance exposed infants by the age range of mother.

Source: Delaware, Investigation Coordinator Data, Office of the Child Advocate, 2017

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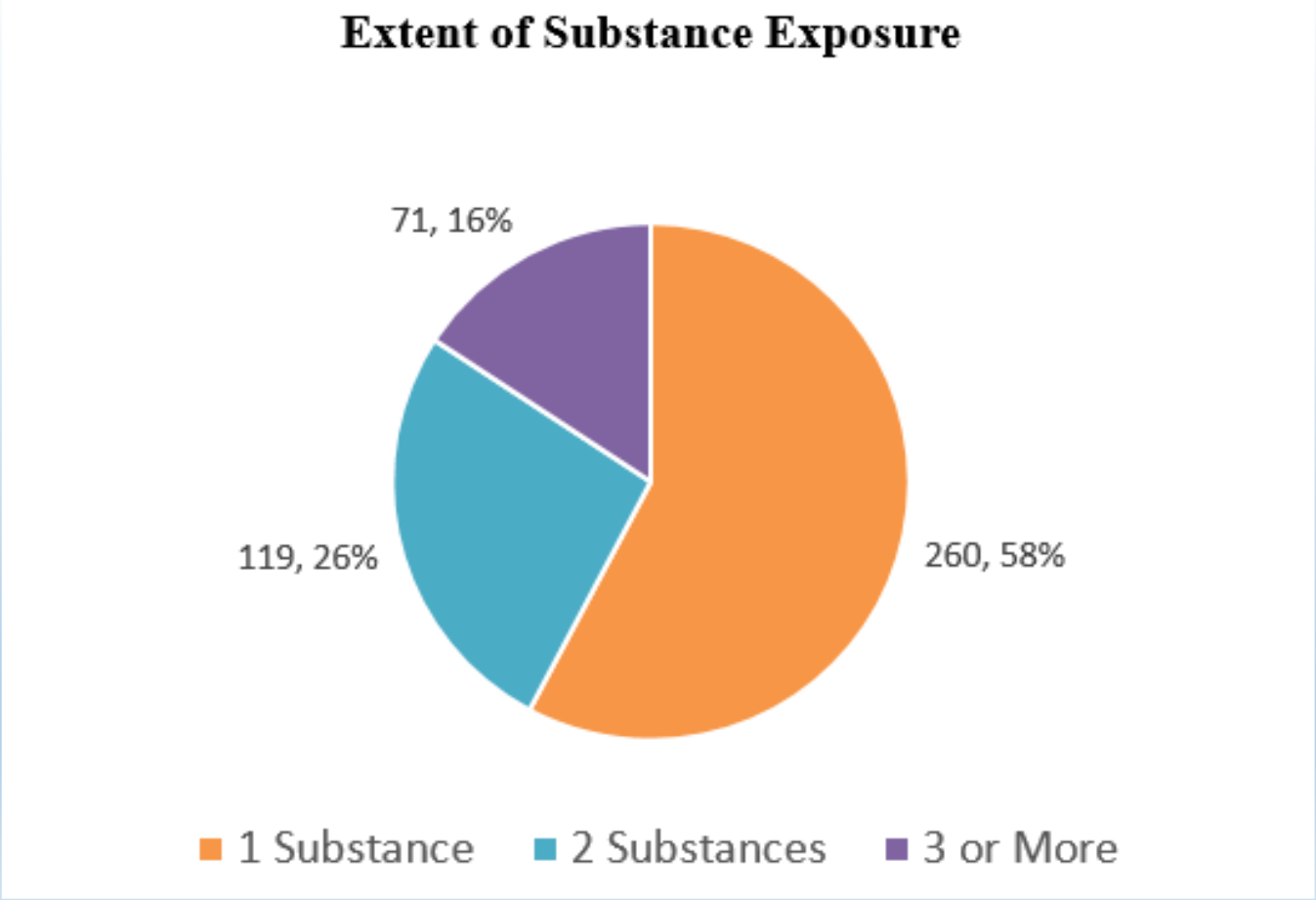

Figure 120 Substance exposed infants by the extent of substance exposure.

Source: Delaware, Investigation Coordinator Data, Office of the Child Advocate, 2017

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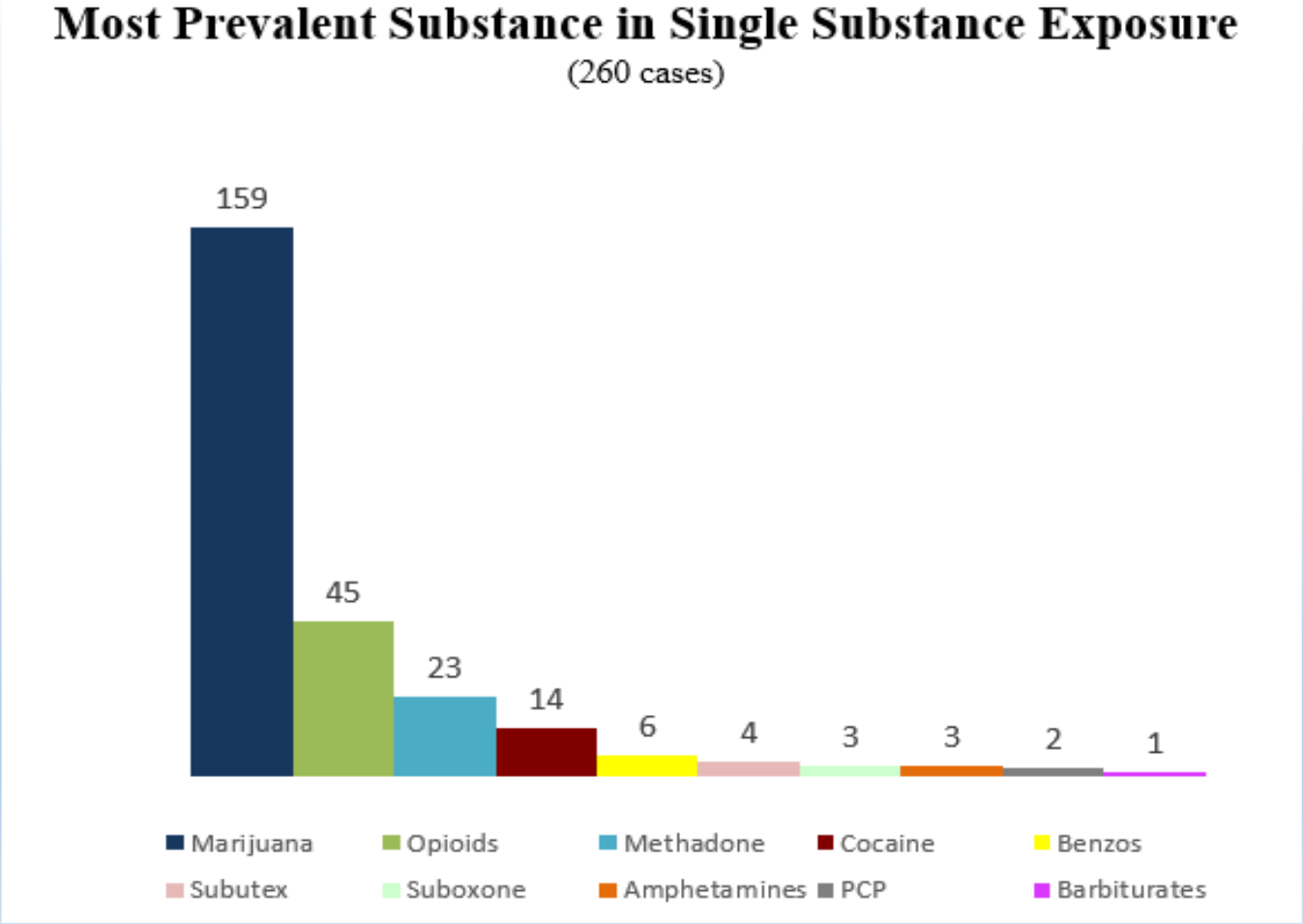

Figure 121 Substance exposed infants by the type of substance.

Source: Delaware, Investigation Coordinator Data, Office of the Child Advocate, 2017

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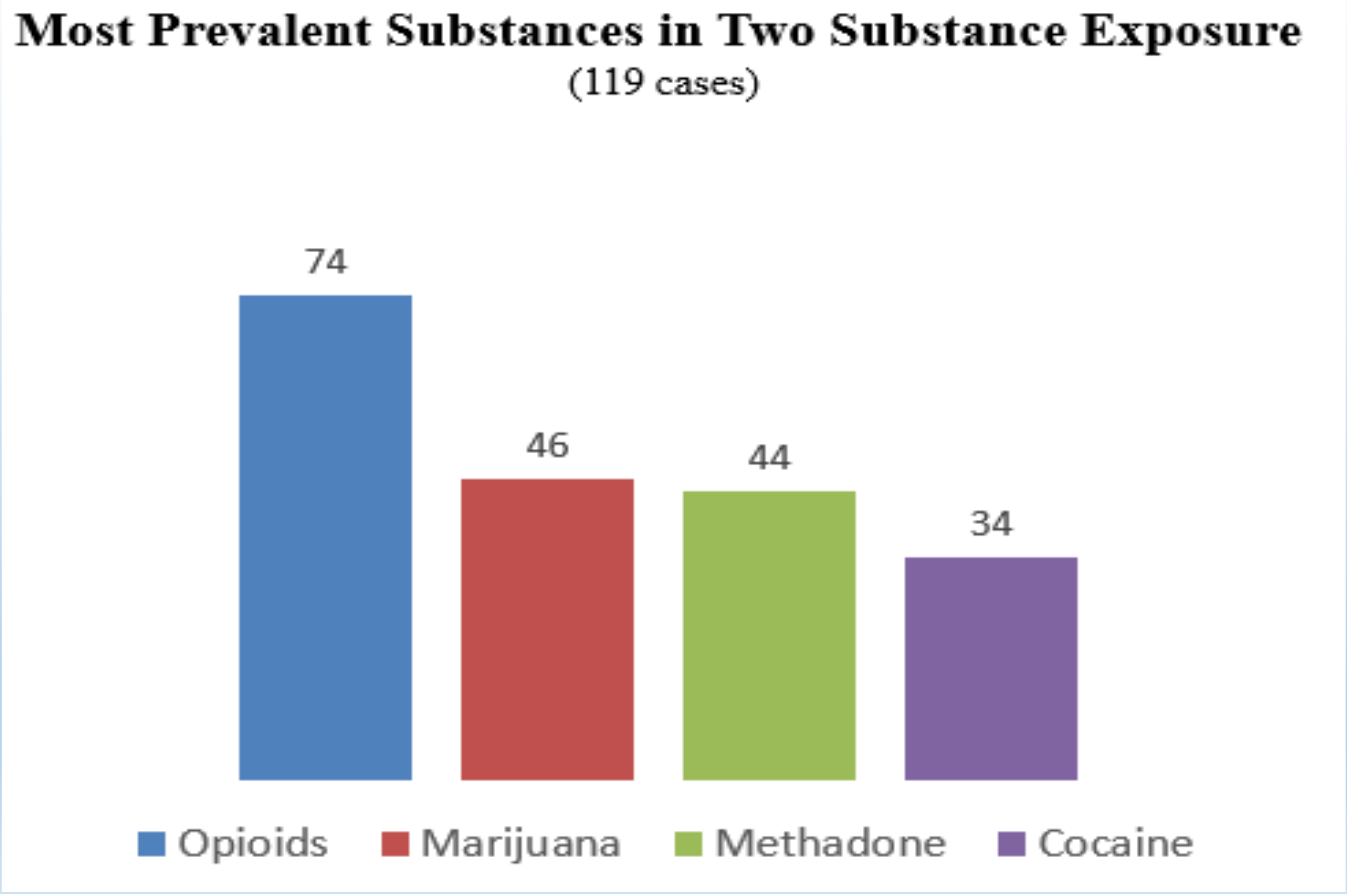

Figure 122 Substance exposed infants by four types of substance.

Source: Delaware, Investigation Coordinator Data, Office of the Child Advocate, 2017

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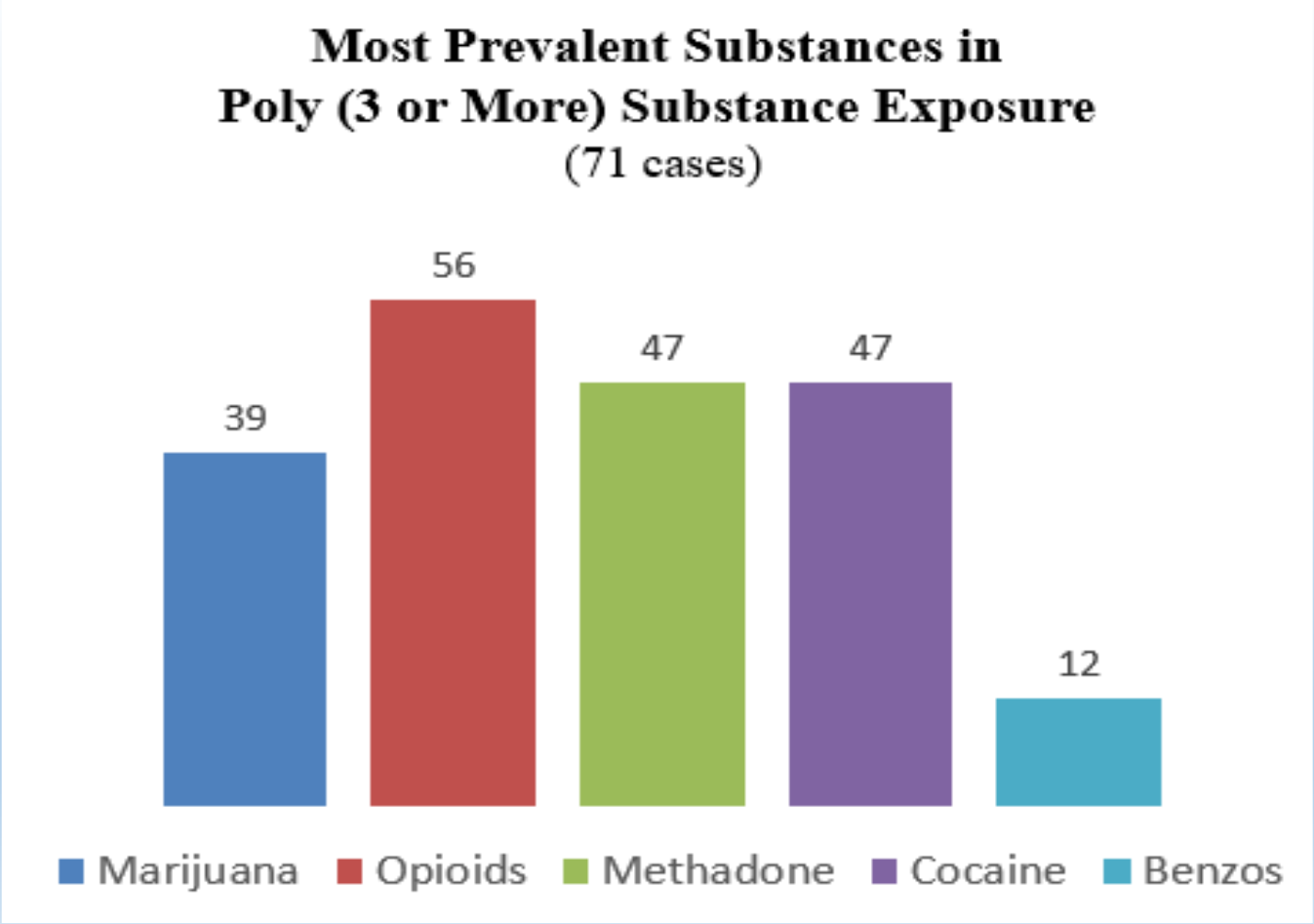

Figure 123 Substance exposed infants by types of poly-substance.

Source: Delaware, Investigation Coordinator Data, Office of the Child Advocate, 2017

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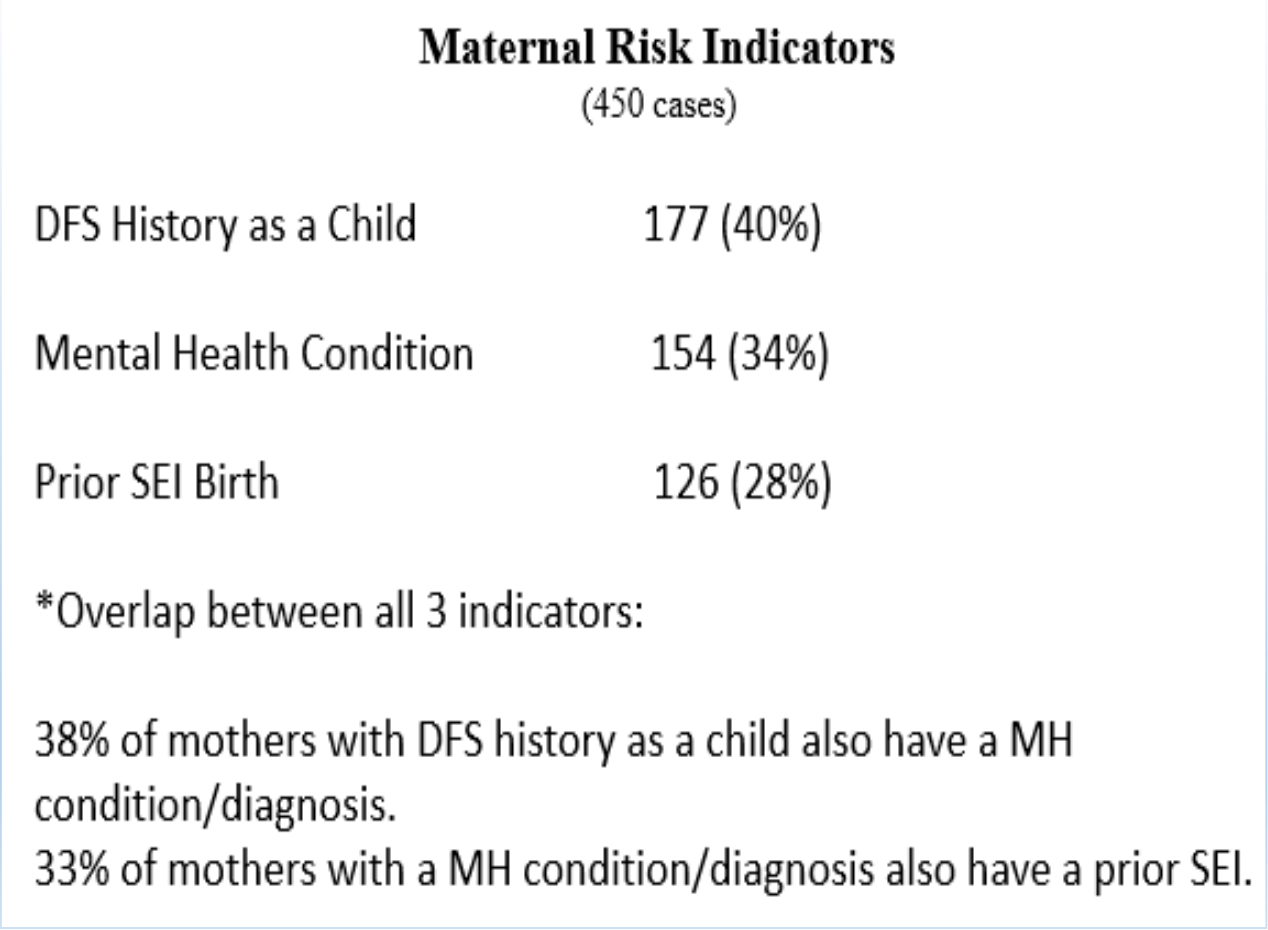

Figure 124 Maternal risk indicators.

Source: Delaware, Investigation Coordinator Data, Office of the Child Advocate, 2017

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Gambling

Overview

Gambling is defined as risking money, or something else of value, on the outcome of an event that is at least partially determined by chance (SAMHSA, 2014). In the United States, gambling regulations can vary from state to state; in the state of Delaware most forms of gambling are allowed and there are multiple casinos. However, there are different age restrictions for certain gambling behaviors. Delaware residents must be 18 or older to play charity bingo, purchase lottery tickets, scratch-offs, or make a bet on horses. Individuals must be 21 or older to gamble in casinos, slot machines, or on the internet (Delaware Council on Gambling Problems, 2018). In June 2018, Delaware became the second state to legalize all other sports gambling following the May Supreme Court decision Murphy v. National Collegiate Athletic Association (Domonoske, 2018). Previously, the only other state to allow sports gambling was Nevada, which had legalized the practice in the early 1990s.

While gambling can provide entertainment and function as a pleasurable pastime for many individuals, problem gambling and gambling disorders can present numerous challenges and negative consequences for others. A gambling disorder is defined when four of the following nine criteria are met: preoccupation with gambling; inability to cut back or control gambling; irritability or restlessness when attempting to cut back or control gambling; risking more money to achieve the desired level of excitement; gambling to cope with emotional problems; “chasing one’s losses” by gambling even more after losing; lying about gambling; jeopardizing relationships or employment due to gambling; and relying on others to solve financial issues caused by gambling (American Psychiatric Association, 2013).

Gambling disorders also correlate with other demographic and behavioral health factors, suggesting that certain populations are more at risk to developing gambling problems. According to a meta-analysis of gambling studies in the United States and Canada, researchers from Harvard reported that disordered gambling was most prevalent among young people rather than the general adult

population, males rather than females, and among those with concurrent psychiatric disorders (Shaffer, Hall, & Built, 1997). An analysis of data from the National Epidemiologic Survey on Alcohol and Related Conditions found that among individuals who met the criteria for gambling disorder, roughly three-quarters had a co-occurring alcohol use disorder, nearly 40% had another substance use disorder, and the majority also had nicotine dependence. In this same sample, the majority of disordered gamblers also had a mood disorder, anxiety disorder, and/or a personality disorder (Petry, Stinson, & Grant, 2005).

Gambling and problem gambling has also been associated with heightened substance use and mental health disorders among younger populations. Studies focusing on the co-occurrence of substance use disorders, mental health disorders, and disordered or problem gambling in college student populations found that among the roughly 5% of students who met the criteria for problem gambling, there were much higher rates of problem drinking, anxiety, and depression compared to the general population of college students (Martin, Usdan, Cremeens, & Vail-Smith, 2014; Martens, Rocha, Cimini, Diaz-Myers, Rivero, & Wulfert, 2009).

Delaware Youth

The 2017 Delaware YRBS asked respondents how many times in the past year they had gambled (such as betting on a sports team; playing cards or a dice game; playing the lottery or scratch off tickets; gambling on the internet; or betting on a game of personal skill such as pool or a video game). Among those who responded, half of all middle school students and approximately 40% of high school students reported that they gambled at least once in the past year. Students who reported gambling were also more likely to report substance use than their non-gambling peers at both the middle and high school levels.

2017 Delaware Youth Risk Behavior Survey

Gambling Among Middle School Students (in percentages[a])

	Gambled One or More Times in The Past Year[b]
Statewide	50
Males	55
Females	44
New Castle	49
Males	52
Females	45
Kent	56
Males	61
Females	50
Sussex	48
Males	56
Females	40

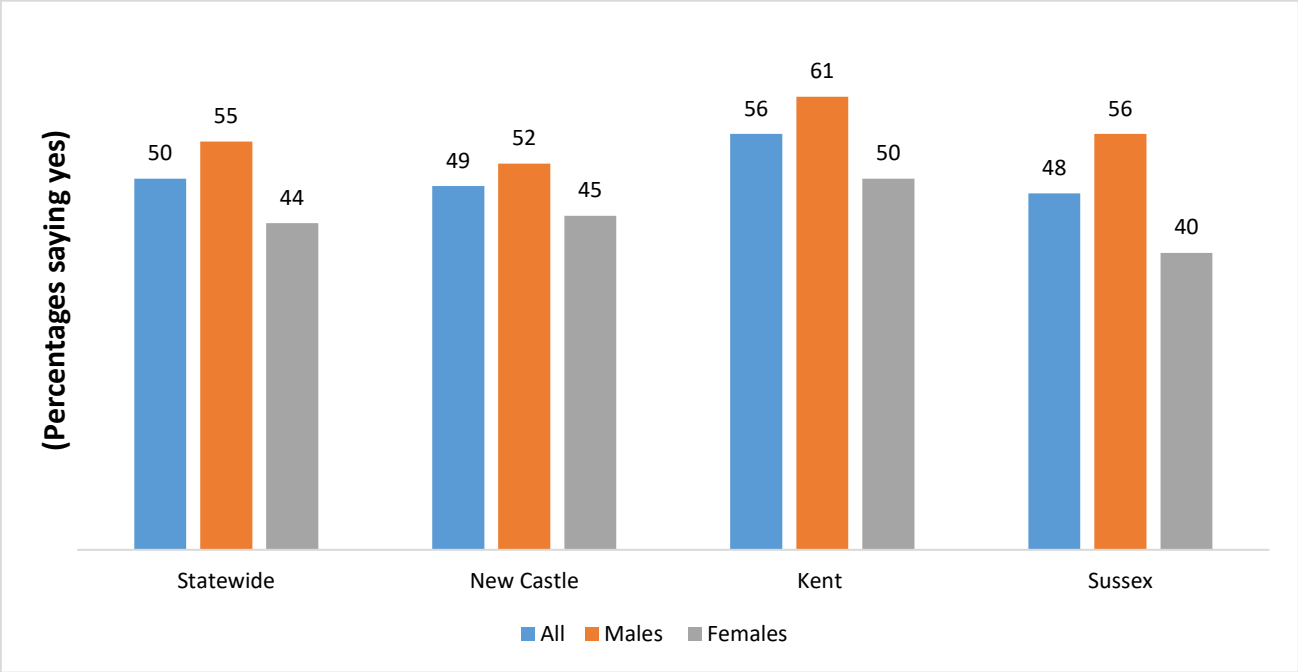

Figure 125 Gambling among middle school students.

Notes:
[a] Percentages are from unweighted data from 2017 Middle School YRBS.
[b] Gambling refers to one or more of the following activities: Gambling on a sports team; playing cards or playing a dice game; playing the lottery or scratch off tickets; gambling on the internet; betting on a game of personal skill such as pool or a video game.
Source:
"2017 Delaware Youth Risk Behavior Survey." Center for Drug and Health studies, University of Delaware.

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2017 Delaware Youth Risk Behavior Survey

Gambling and Substance Use of Middle School Students (in Percentages[a])

	Did Not Gamble[b]	Gambled One or More Times in the Past Year
Smoked Cigarettes in the Past Month	1	3
Drank Alcohol in the Past Month	5	11
Smoked Marijuana in the Past Month	3	8
Used Prescription Painkillers in the Past Month	1	4

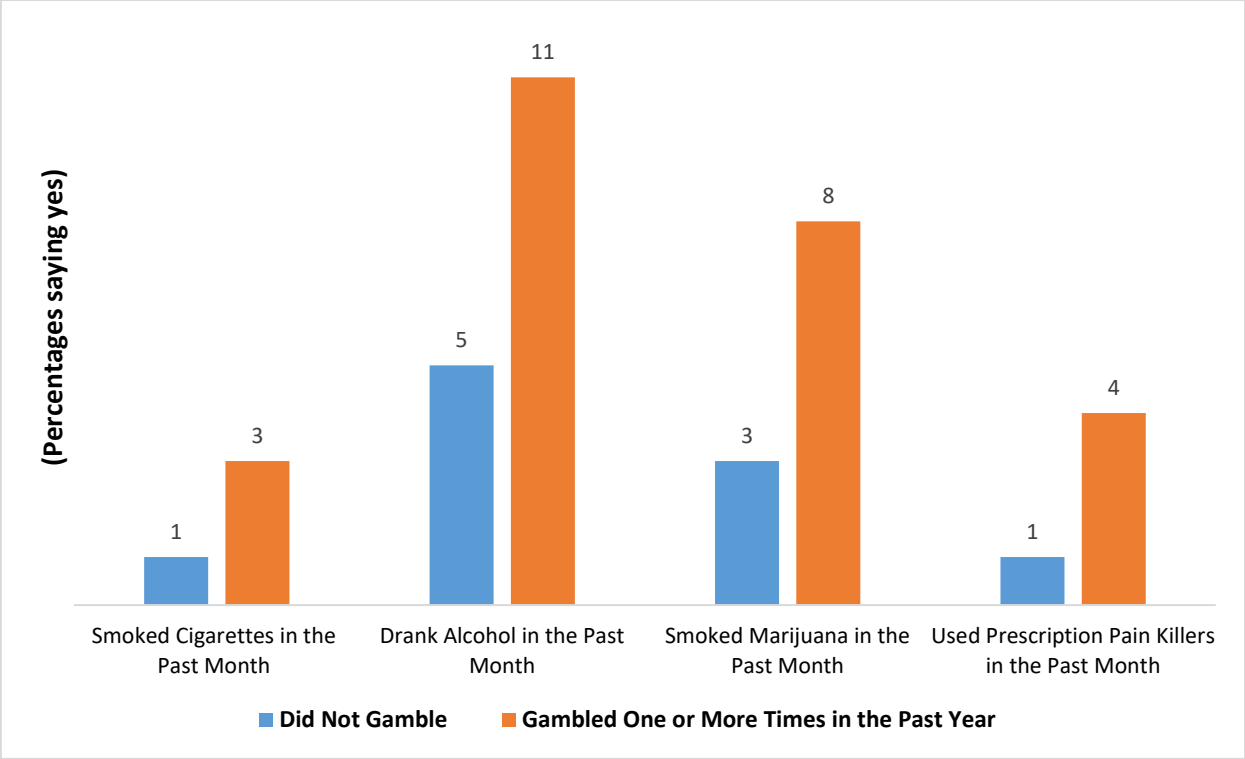

Figure 126 Gambling and substance use of middle school students.

Notes:
[a] Percentages are from unweighted data from 2017 Middle School YRBS.
[b] Gambling refers to one or more of the following activities: Gambling on a sports team; playing cards or playing a dice game; playing the lottery or scratch off tickets; gambling on the internet; betting on a game of personal skill such as pool or a video game.
Source:
"2017 Delaware Youth Risk Behavior Survey." Center for Drug and Health studies, University of Delaware.

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2017 Delaware Youth Risk Behavior Survey
Gambling Among High School Students (in Percentages[a])

	Gambled One or More Times in The Past Year[b]
Statewide	40
Males	49
Females	31
New Castle	39
Males	47
Females	31
Kent	39
Males	50
Females	29
Sussex	42
Males	51
Females	34

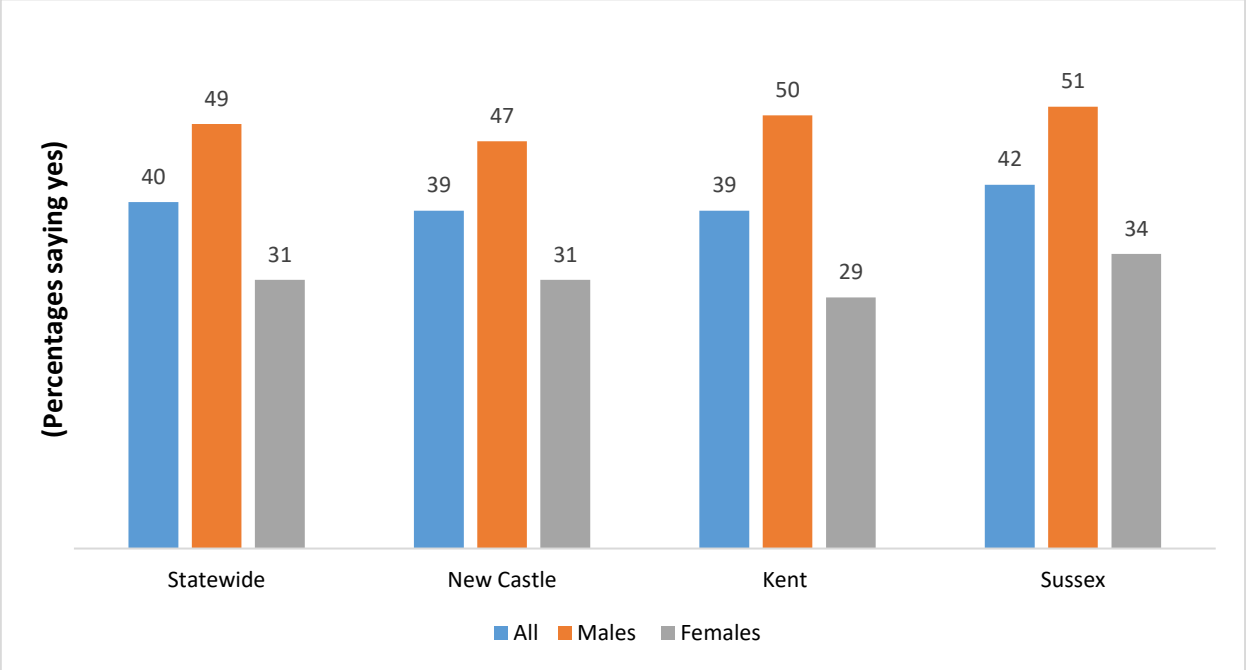

Figure 127 Gambling among high school students.

Notes:
[a] Percentages are from unweighted data from 2017 High School YRBS.
[b] Gambling refers to one or more of the following activities: Gambling on a sports team; playing cards or playing a dice game; playing the lottery or scratch off tickets; gambling on the internet; betting on a game of personal skill such as pool or a video game.
Source:
"2017 Delaware Youth Risk Behavior Survey." Center for Drug and Health studies, University of Delaware.

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2017 Delaware Youth Risk Behavior Survey

Gambling and Substance Use of High School Students (in Percentages[a])

	Did Not Gamble[b]	Gambled One or More Times in the Past Year
Smoked Cigarettes in the Past Month	5	9
Drank Alcohol in the Past Month	24	36
Binge Drank in the Past Month	11	21
Smoked Marijuana in the Past Month	20	31
Used Prescription Painkillers in the Past Month	3	9

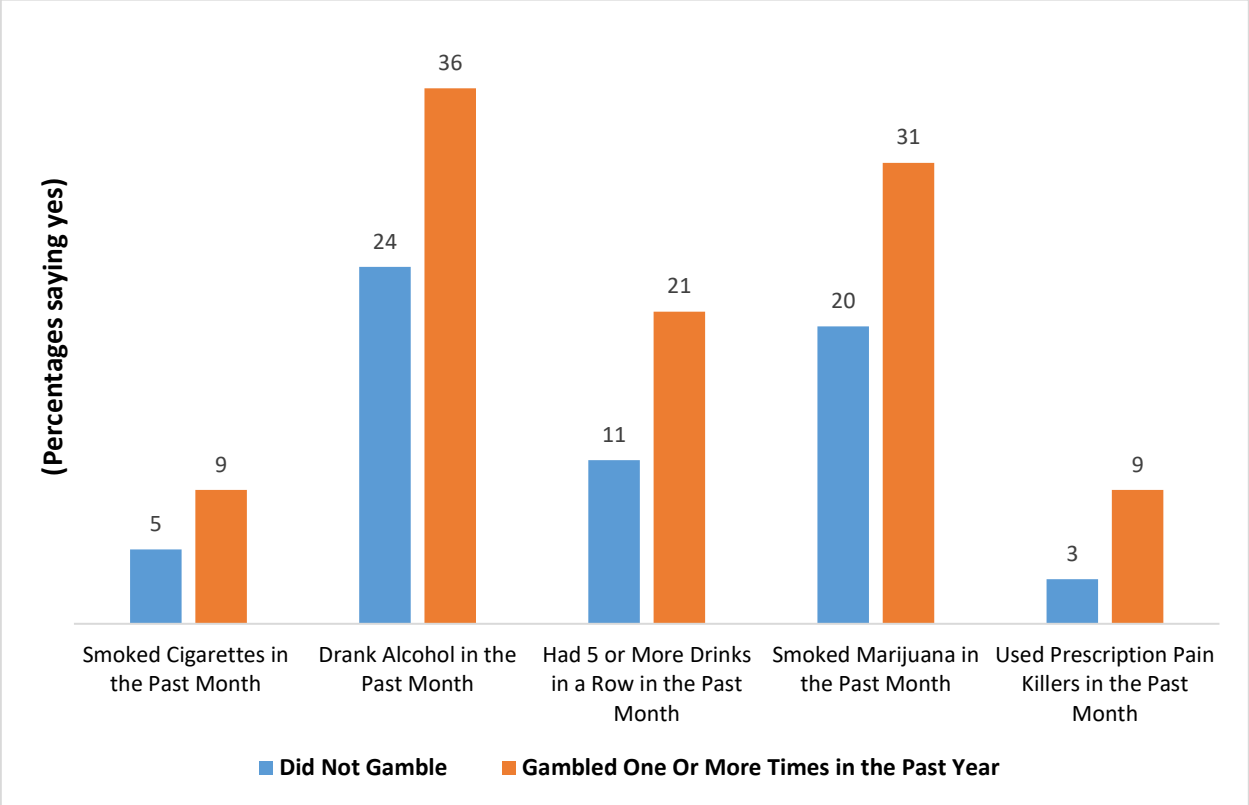

Figure 128 Gambling and substance use of high school students.

Notes:
[a] Percentages are from unweighted data from 2017 High School YRBS.
[b] Gambling refers to one or more of the following activities: Gambling on a sports team; playing cards or playing a dice game; playing the lottery or scratch off tickets; gambling on the internet; betting on a game of personal skill such as pool or a video game.
Source:
"2017 Delaware Youth Risk Behavior Survey." Center for Drug and Health studies, University of Delaware.

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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, in 2015 only one in five adults ages 21-64 served by Delaware's public mental health system were employed (SAMHSA, n.d.). Untreated mental illness can have fatal results. Annual averages from 2014-2015 indicate that 4% of all adults in Delaware seriously contemplated suicide. In 2016, the suicide rate in Delaware was 11.5 deaths per 100,000, which is slightly lower than the national suicide rate of 13.5 during the same time period (CDC, n.d.). Centers for Disease Control and Prevention estimates from 2016 indicate that Sussex County had the highest rate of suicide in the state (PolicyMap [CDC data], n.d.).

According to the Behavioral Risk Factor Surveillance System (BRFSS), 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.).

From 2014-2015, approximately 3.8% of adults in Delaware suffered from a serious mental illness, compared to 4.1% of adults in the United States. A little less than half (48.8%) of the people surveyed who reported having any mental illness received treatment or counseling within the past year (SAMHSA, n.d.).

Delaware Youth

In 2015, Delaware had 228 mental health providers per 100,000 people. The Department of Services for Children, Youth and their Families has also deployed behavioral health consultants in most middle schools throughout the state since 2013 to provide screening and other preventative services on site. Nonetheless the needs remain great, particularly for specialized services and for southern Delaware; 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 2017 High School Delaware Youth Risk Behavior Survey indicate that approximately 27% of Delaware high schoolers report they had felt sad or hopeless for two weeks or more in the past year. Additionally, nearly 14% of high school students in Delaware reported that they had purposely hurt or cut themselves during the past year. An even greater percent of students (16%) reported they had seriously considered attempting suicide during the past year, while 12% of students reported having a plan for suicide, and 7% reported that they had actually attempted suicide in the past year. Among middle school students, more than one in ten report having made a plan to attempt suicide, and almost 7% indicate they have attempted suicide. These numbers illustrate that there is a profound need for mental health services for youth as well as adults in Delaware.

2017 Youth Risk Behavior Survey

Percentage of High School Students who felt sad or hopeless for almost every day for two weeks or more in the past year

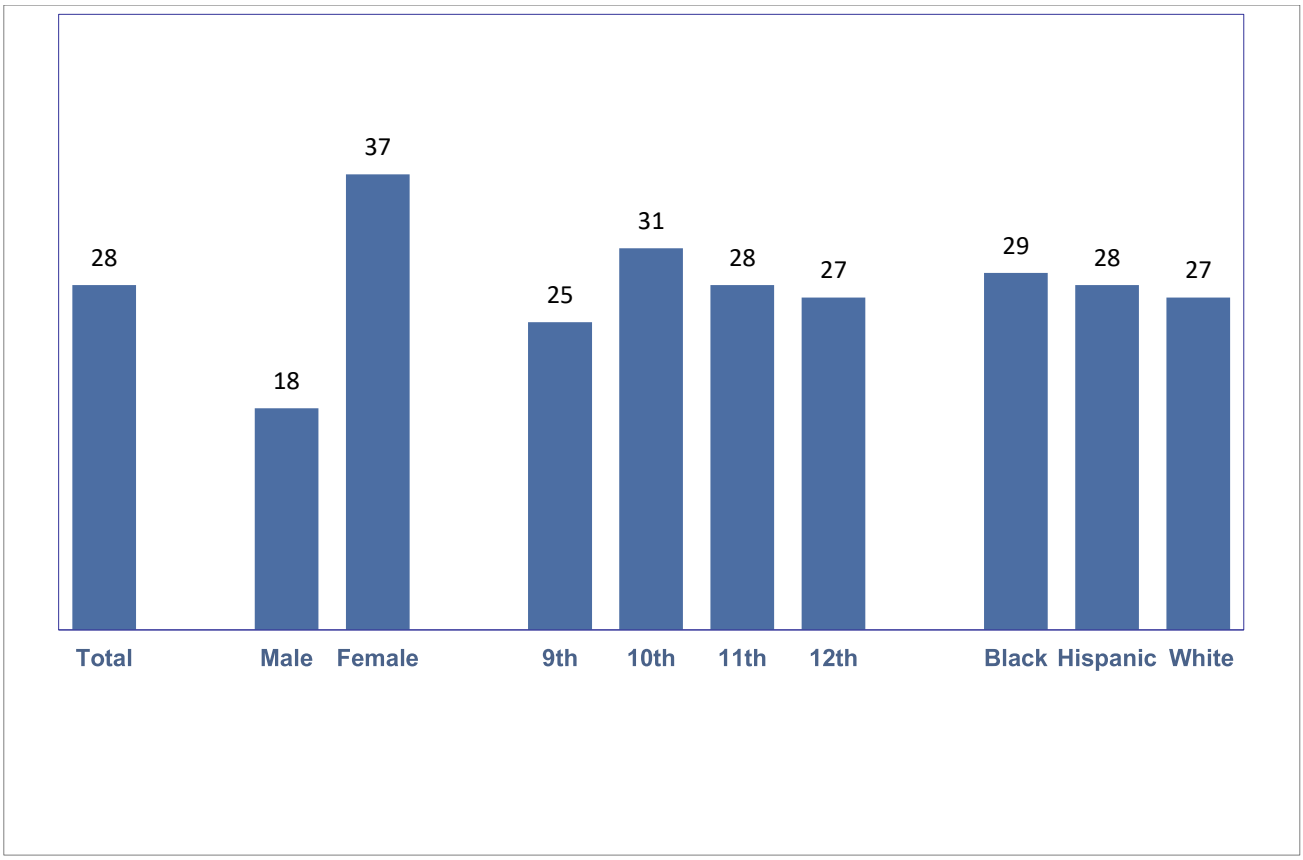

Figure 129 Percentage of high school students who felt sad or hopeless for almost every day for two weeks or more in the past year

Note:
Weighted data

Source:
"2017 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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2017 Youth Risk Behavior Survey

Percentage of High School Students who felt sad or hopeless for almost every day for two weeks or more in the past year

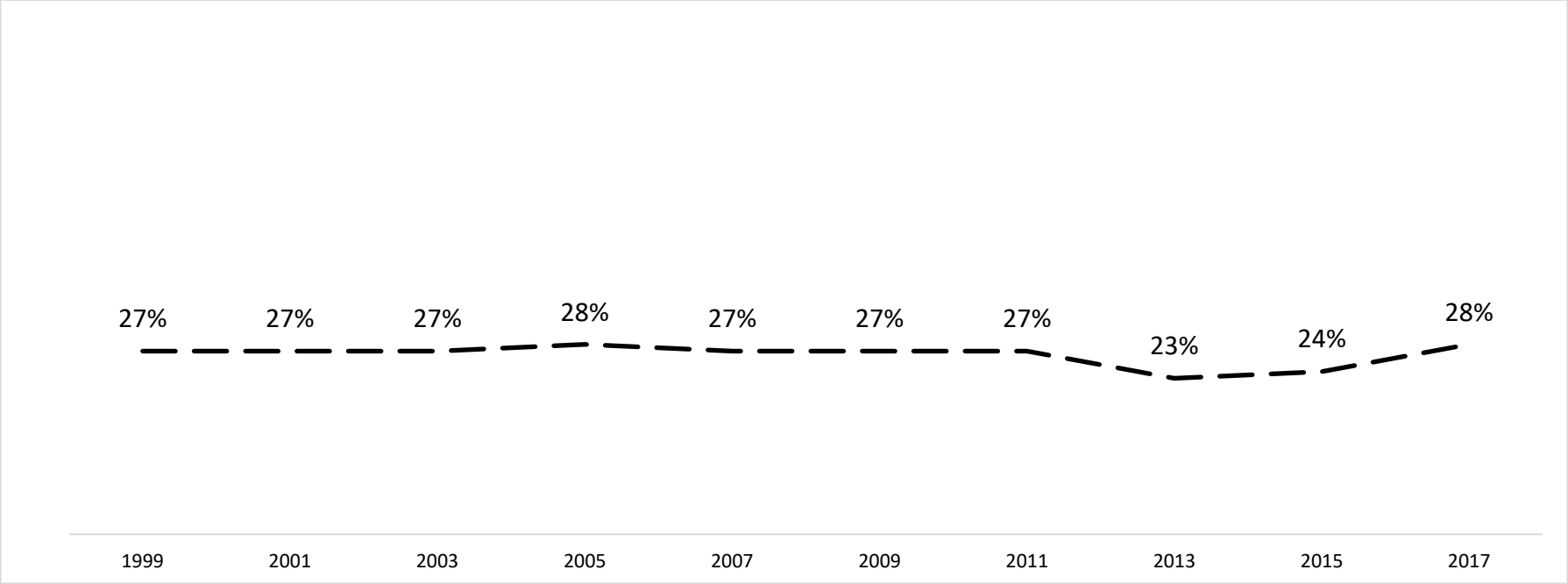

Figure 130 Trends in the percentage of high school students who felt sad or hopeless for almost every day for two weeks or more in the past year

Note:
Weighted Data

Source: "Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). 1999-2017.

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2017 Youth Risk Behavior Survey

Percentage of High School Students who seriously considered attempting suicide in the past year

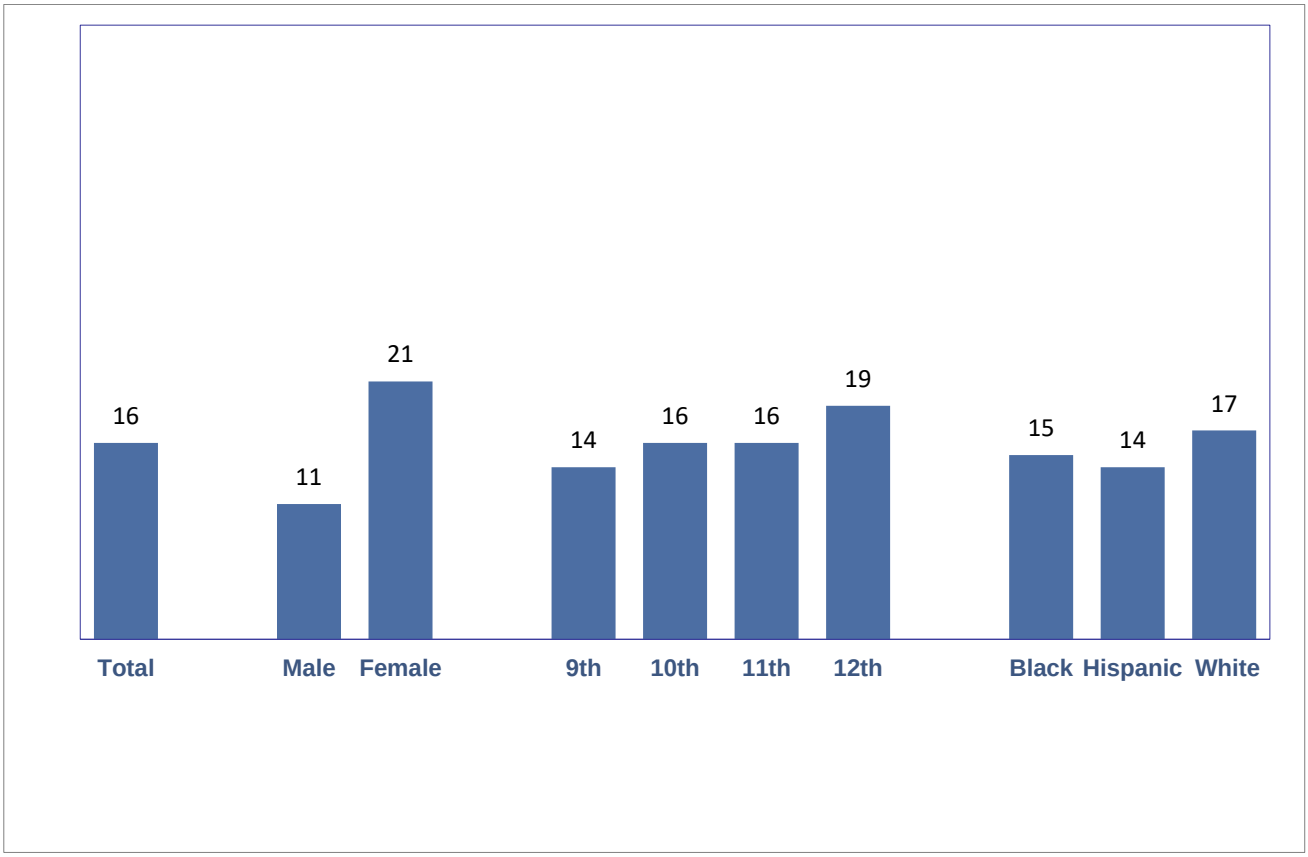

Figure 131 Percentage of high school students who seriously considered attempting suicide in the past year

Note:
Weighted data
Source:
"2017 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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2017 Youth Risk Behavior Survey

Percentage of Middle School Students who made a plan about how they would attempt suicide in their lifetime

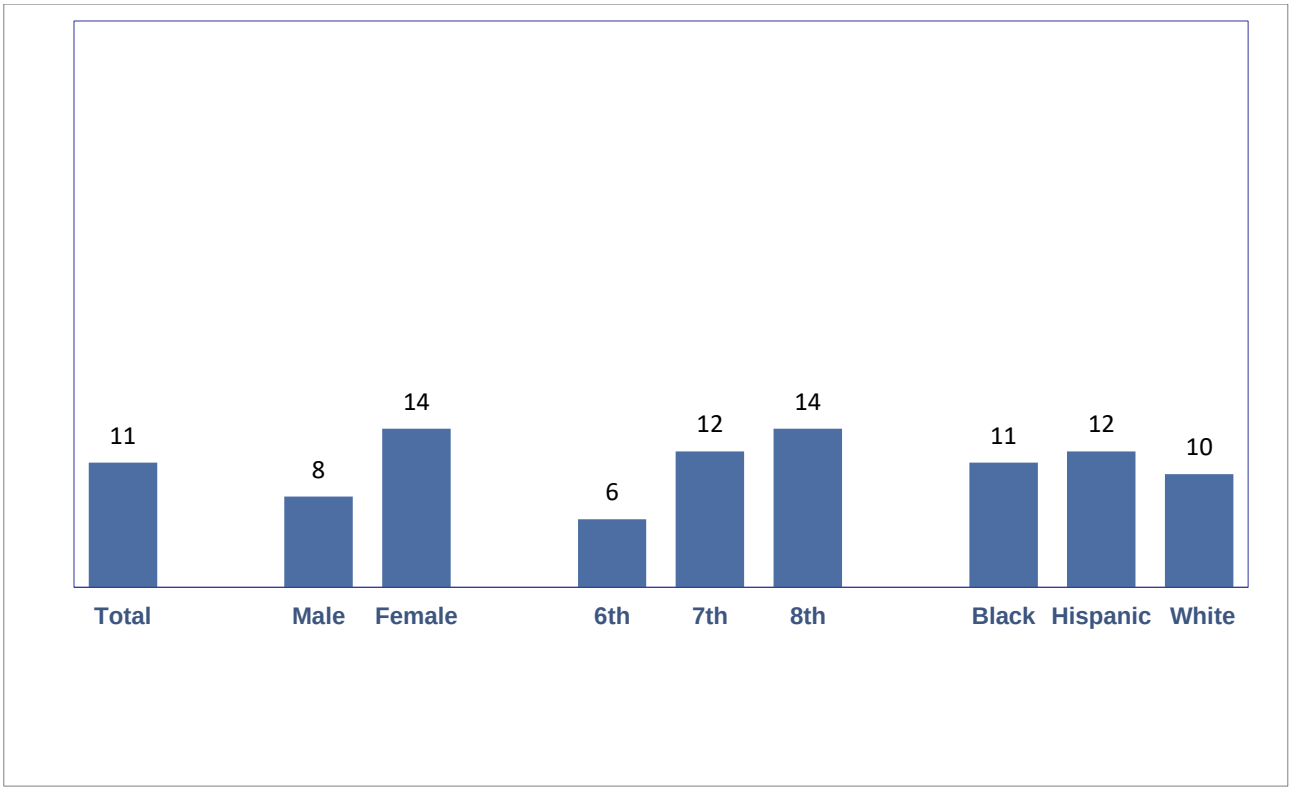

Figure 132 Percentage of middle school students who made a plan about how they would attempt suicide in their lifetime

Note:
Weighted data

Source:
"2017 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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2017 Youth Risk Behavior Survey

Percentage of High School Students who made a plan about how they would attempt suicide in the past year

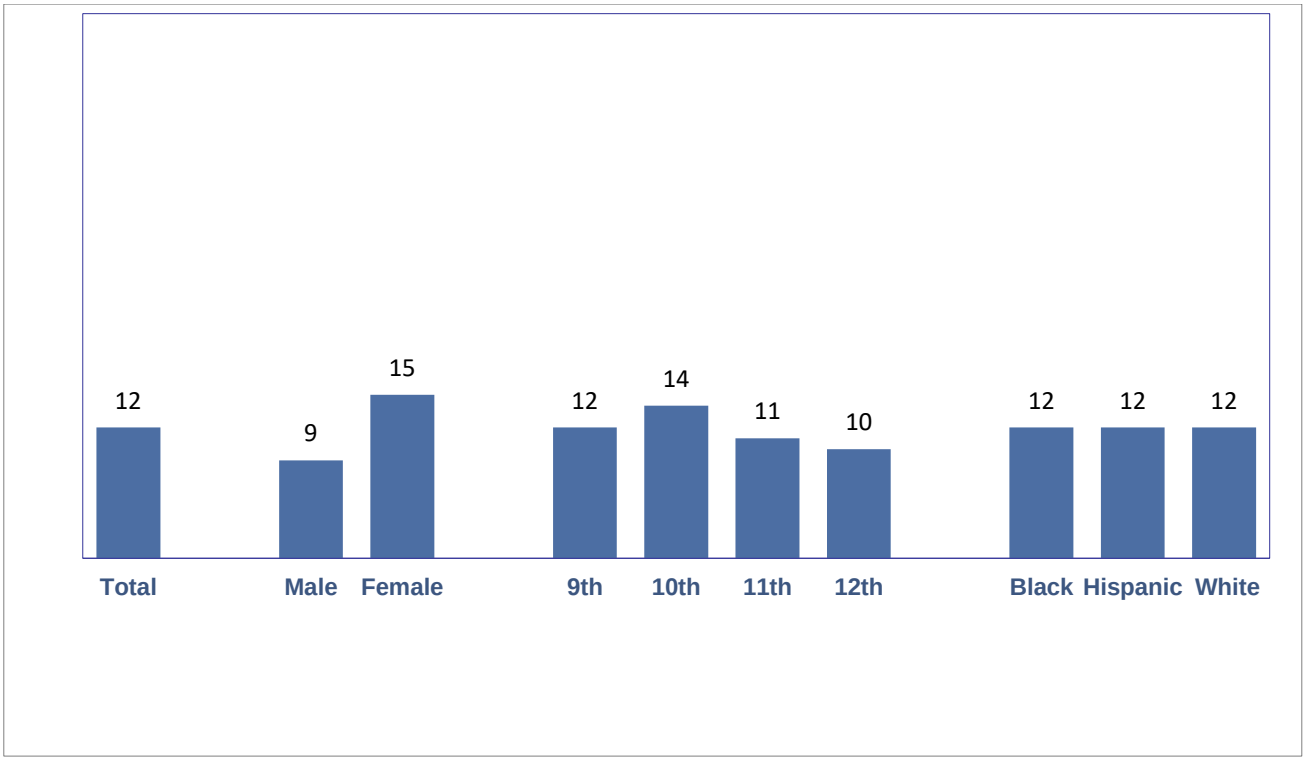

Figure 133 Percentage of high school students who made a plan about how they would attempt suicide in the past year

Note:
Weighted data
Source:
"2017 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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2017 Youth Risk Behavior Survey

Trends in the Percentage of High School Students who made a plan about how they would attempt suicide in the past year

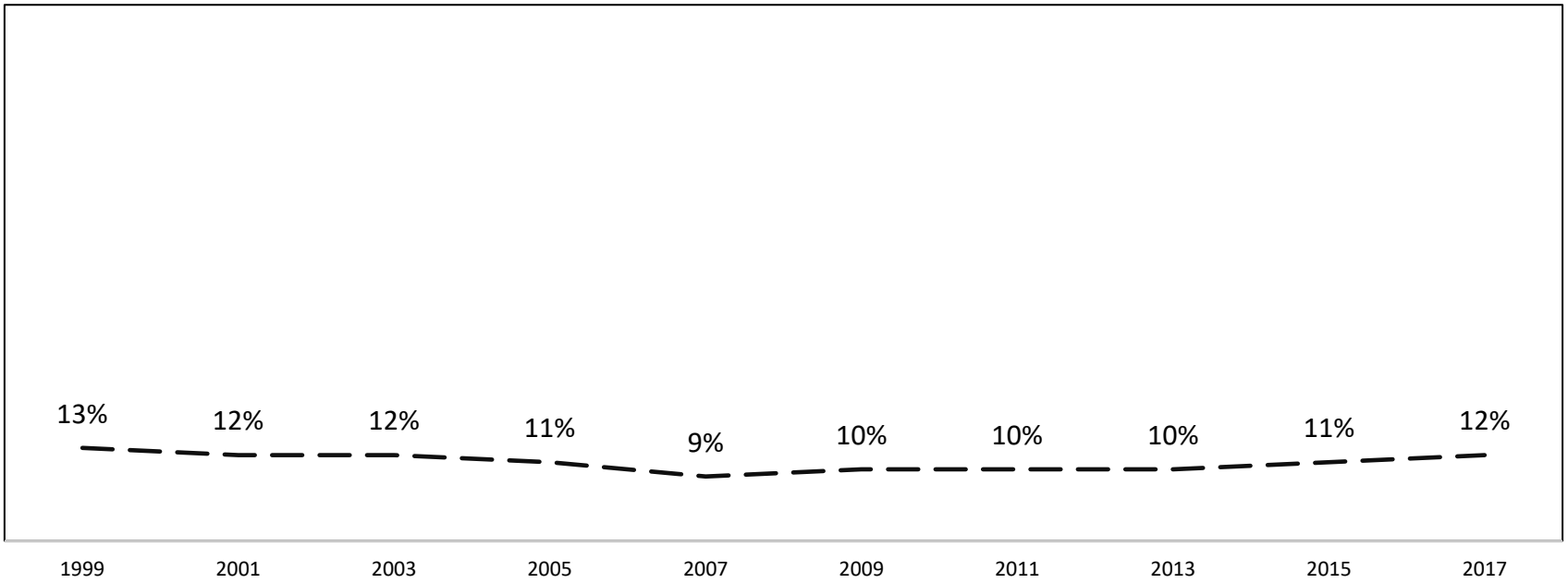

Figure 134 Trends in the percentage of high school students who made a plan about how they would attempt suicide in the past year

Note:
Weighted Data

Source: "Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). 1999-2017.

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2017 Youth Risk Behavior Survey

Percentage of Middle School Students who attempted to kill themselves in their lifetime

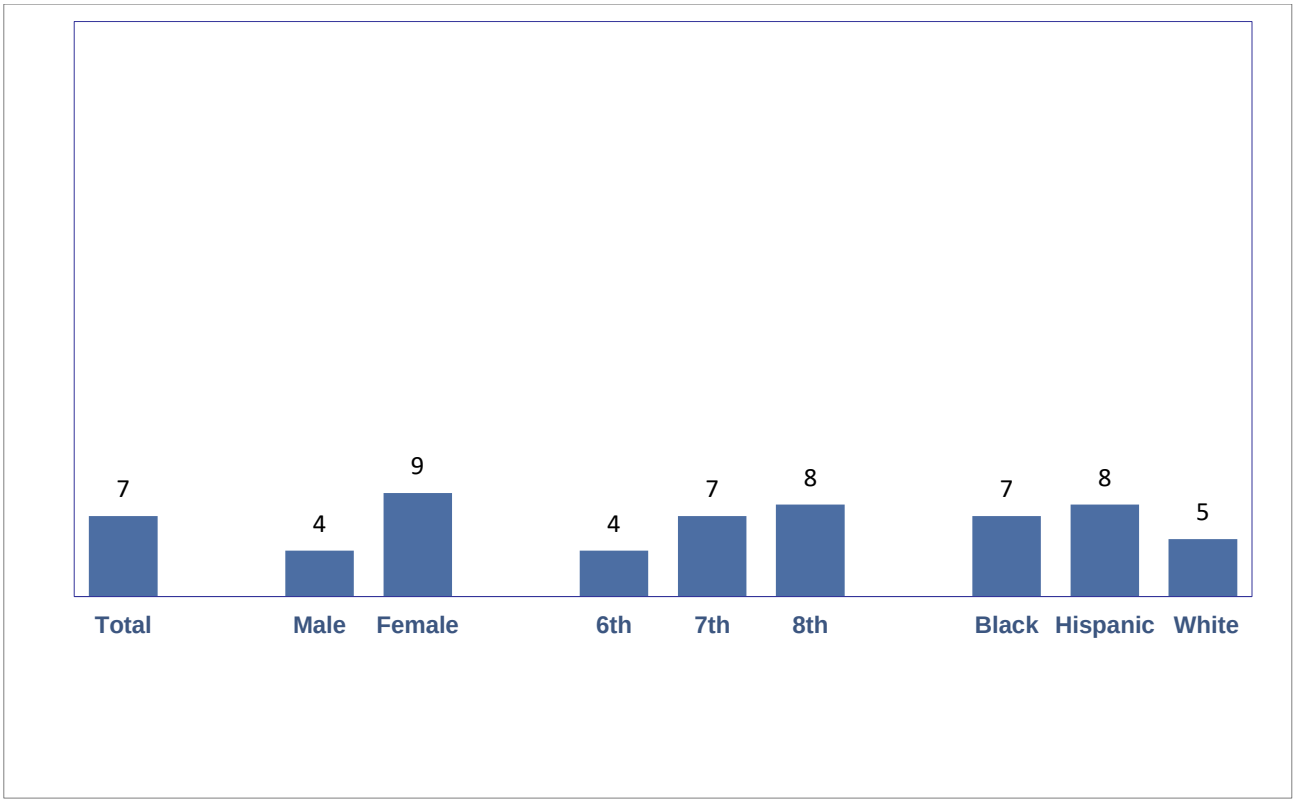

Figure 135 Percentage of middle school students who attempted to kill themselves in their lifetime

Note:
Weighted data

Source:
"2017 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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2017 Youth Risk Behavior Survey

Percentage of High School Students who attempted suicide in the past year

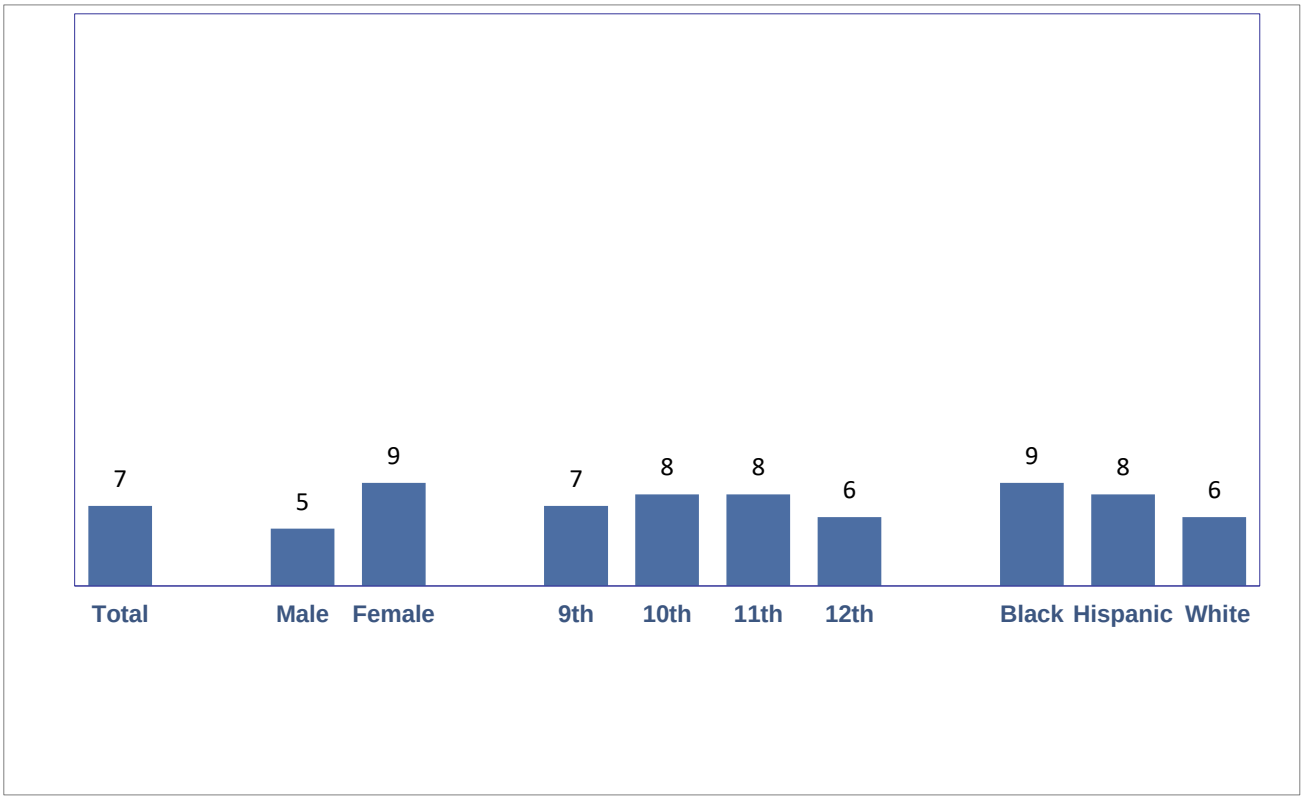

Figure 136 Percentage of high school students who attempted suicide in the past year

Note:
Weighted data

Source: "2017 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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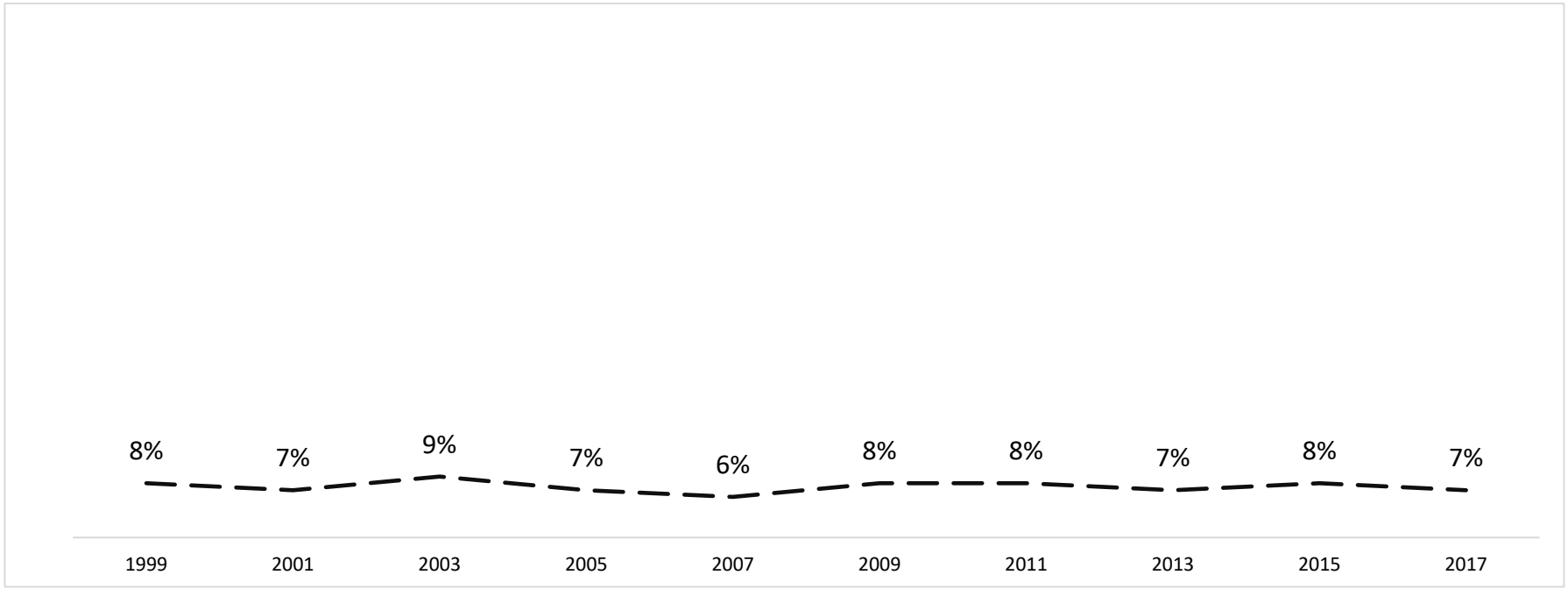

Figure 137 Trends in the percentage of high school students who attempt suicide in the past year

Note:
Weighted Data

Source: "Delaware Youth Risk Behavior Survey (YRBS)." Centers for Disease Control and Prevention (Administered by the Center for Drug and Health Studies, University of Delaware). 1999-2017.

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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 that 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).

For the second time, in an effort to assess the prevalence of ACEs among youth, the 2016 National Survey of Children's Health (NSCH) included a number of indicators relating to trauma and resiliency within the household. However, the survey, administered to parents who report on the health of their children, did not include questions on abuse or neglect. As in 2011-2012, the 2016 cohort indicates that 48% of children in Delaware experience at least one ACE, most commonly divorced/separated parents (25%) and economic hardship (23%). The third most commonly ACE, which impacts one in ten children in Delaware, is parental incarceration. Findings also suggest that nearly 8% of Delaware youth live with someone in the household who suffers from a mental illness, and the same number live with a household member who a drug or alcohol problem. Almost one in four experience one ACE, and more than one in five are exposed to 2 or more (Hussaini, 2017).

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. The results of the 2017 YRBS again illustrate that 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 are nearly twice as likely to be current alcohol drinkers (46%) than students who were not homeless (28%), and six times as likely to abuse prescription pain medication in the past month (30% compared to 5%). They are also at greater risk for symptoms of depression than those who are not homeless (36% compared to 27%), and four times as likely to have attempted suicide within the past year (24% compared to 6%). 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 and universally employed trauma informed approaches 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

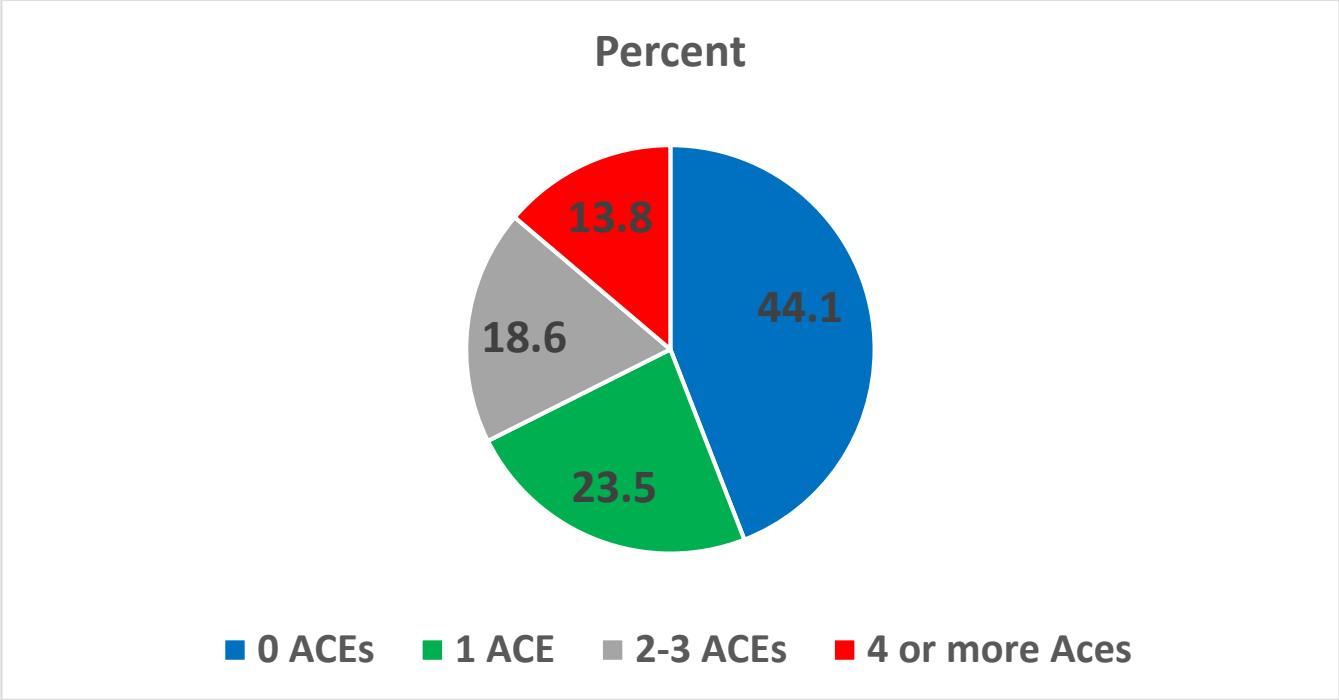

Figure 138 Adverse childhood experiences

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

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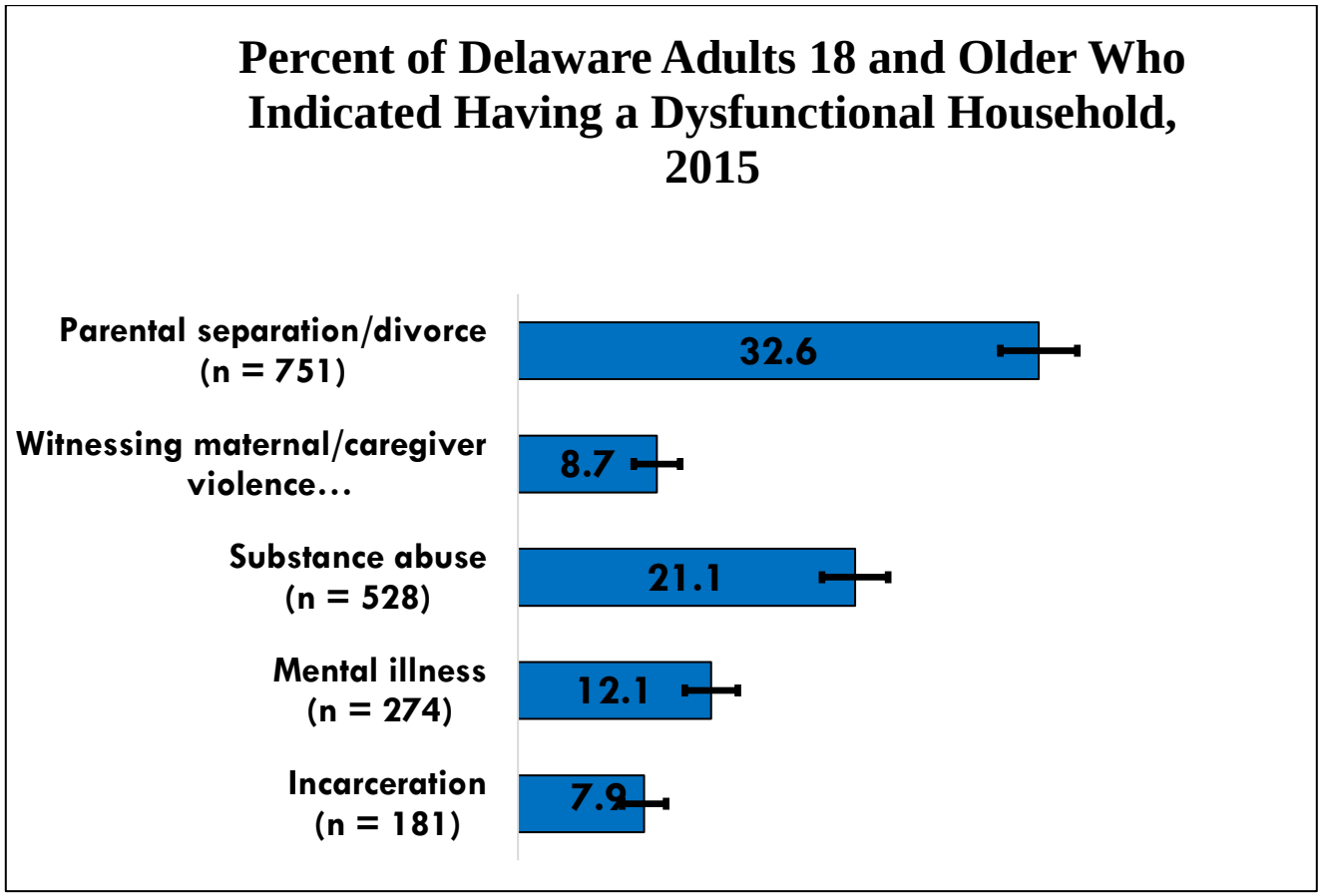

Figure 139 Delaware adults who indicated having a dysfunctional household, 2015

Source:
"2015 Delaware Household Health Survey (DHHS)." The Delaware Public Health Institute; Husseini, 2016.

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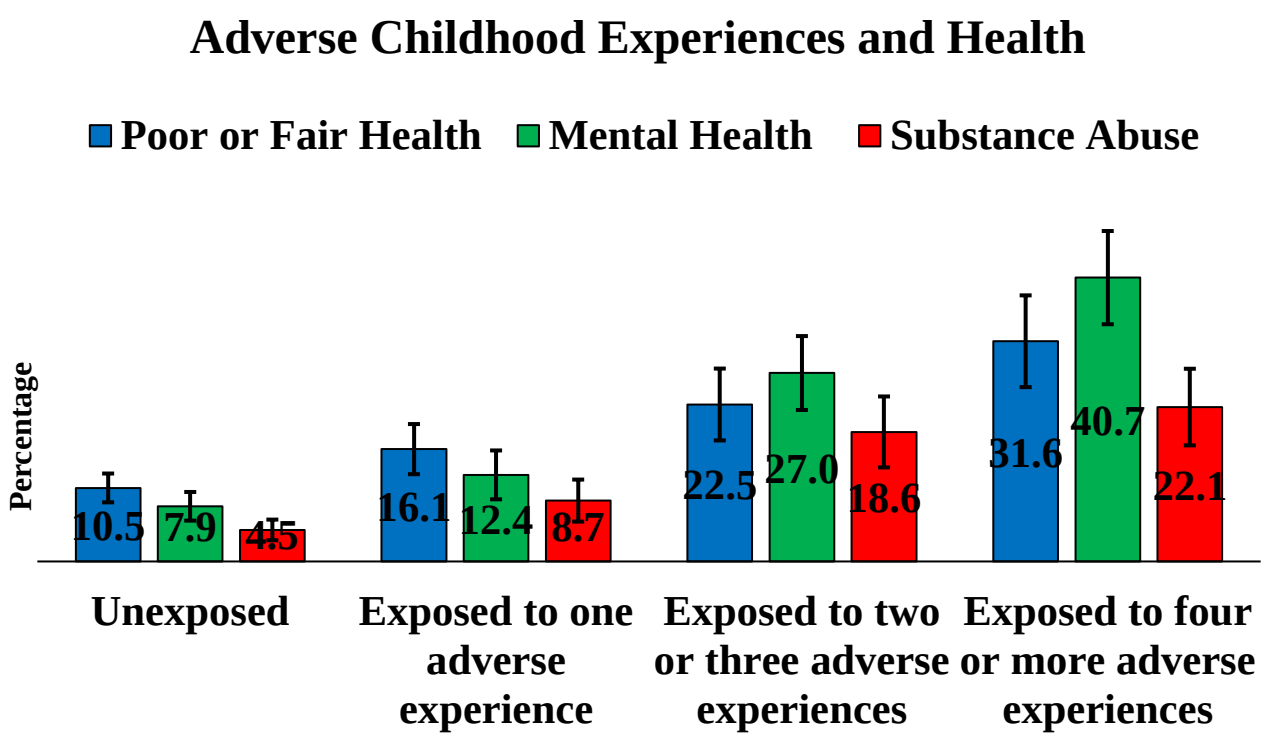

Figure 140 Breakdown of adverse childhood experience

Sources:
"2015 Delaware Household Health Survey (DHHS)." The Delaware Public Health Institute.; Husseini, 2016.

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Adverse Childhood Experiences Among Children 0-17 Years of Age in the U.S. and Delaware, 2016

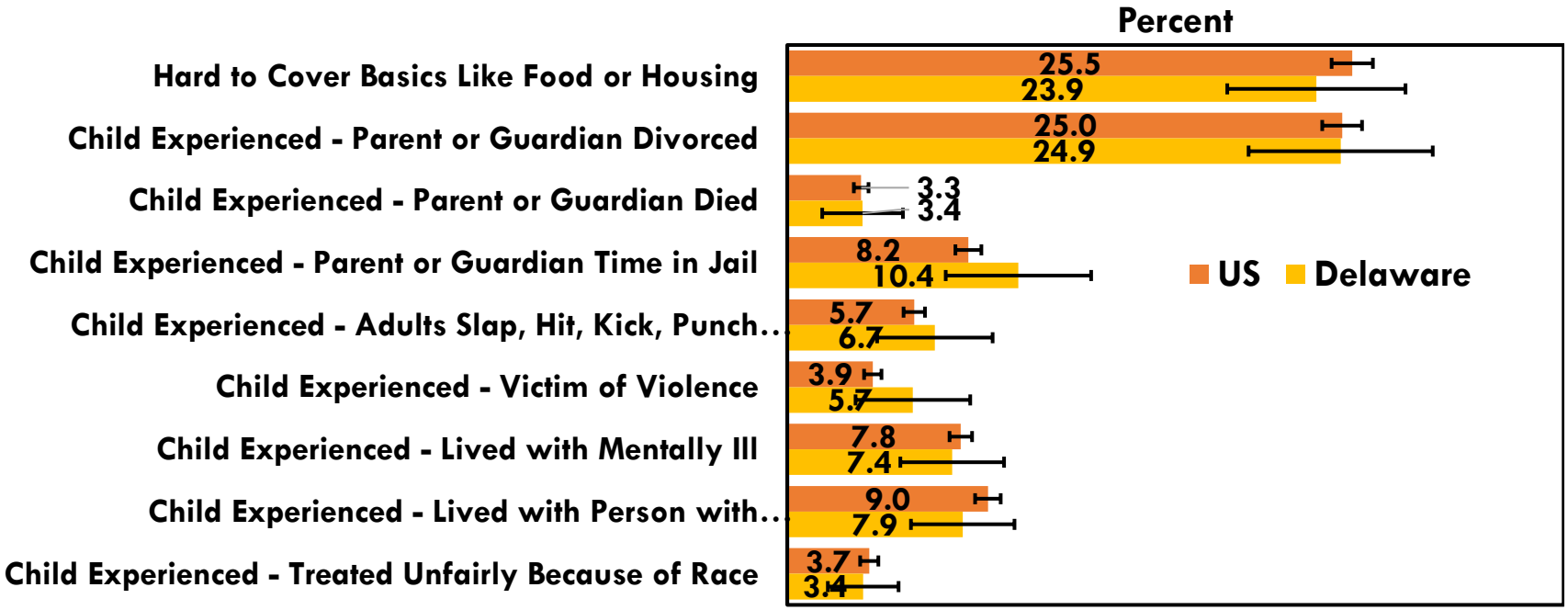

Figure 141 Breakdown of adverse childhood experience by children's age

Source: National Survey of Children's Health (NSCH), 2016; Husseini, 2018.
*Adverse Childhood Experiences (ACE)

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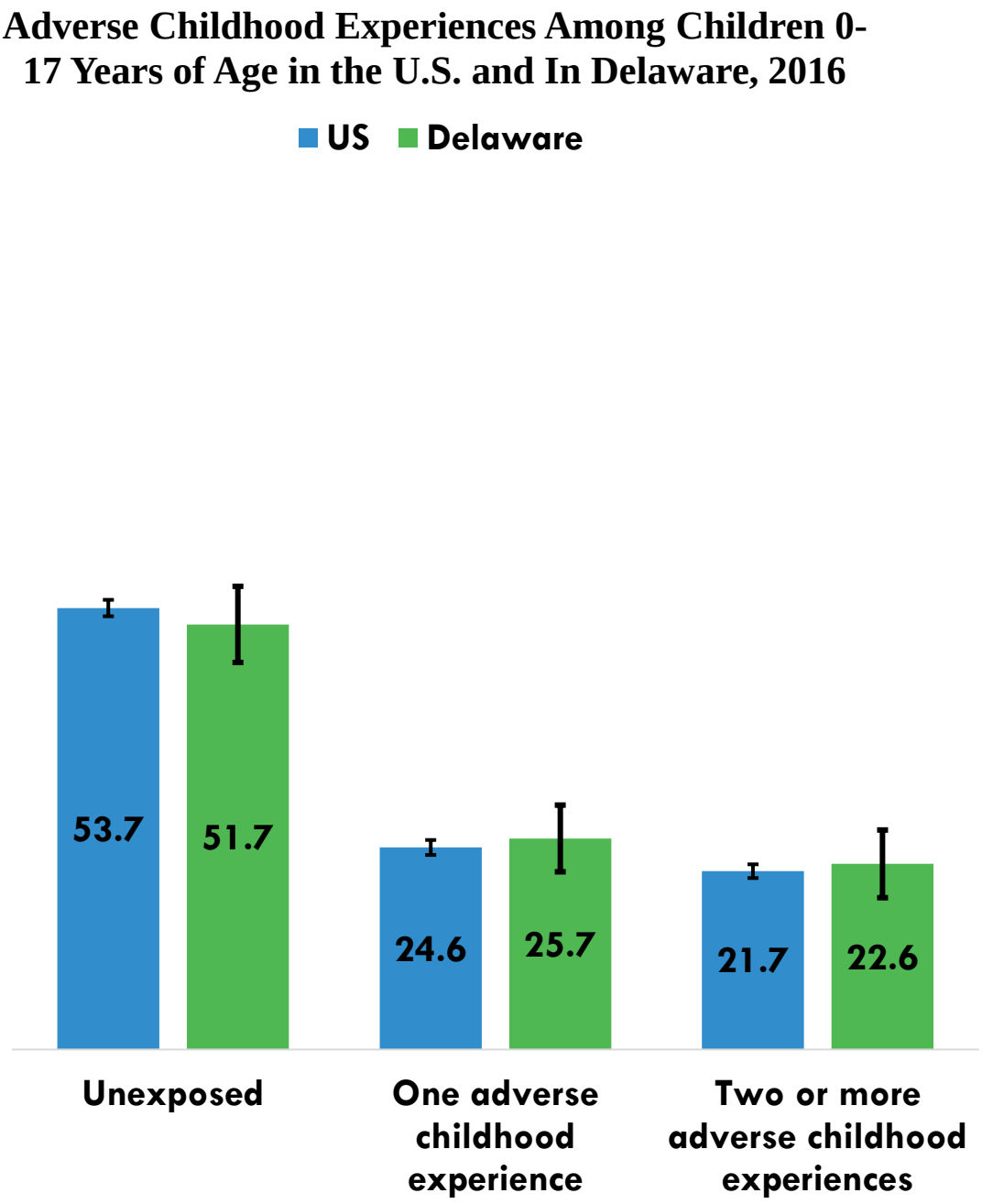

Figure 142 Adverse childhood experience at the state and national level.

Source: National Survey of Children's Health (NSCH), 2016;

*Adverse Childhood Experiences (ACE)

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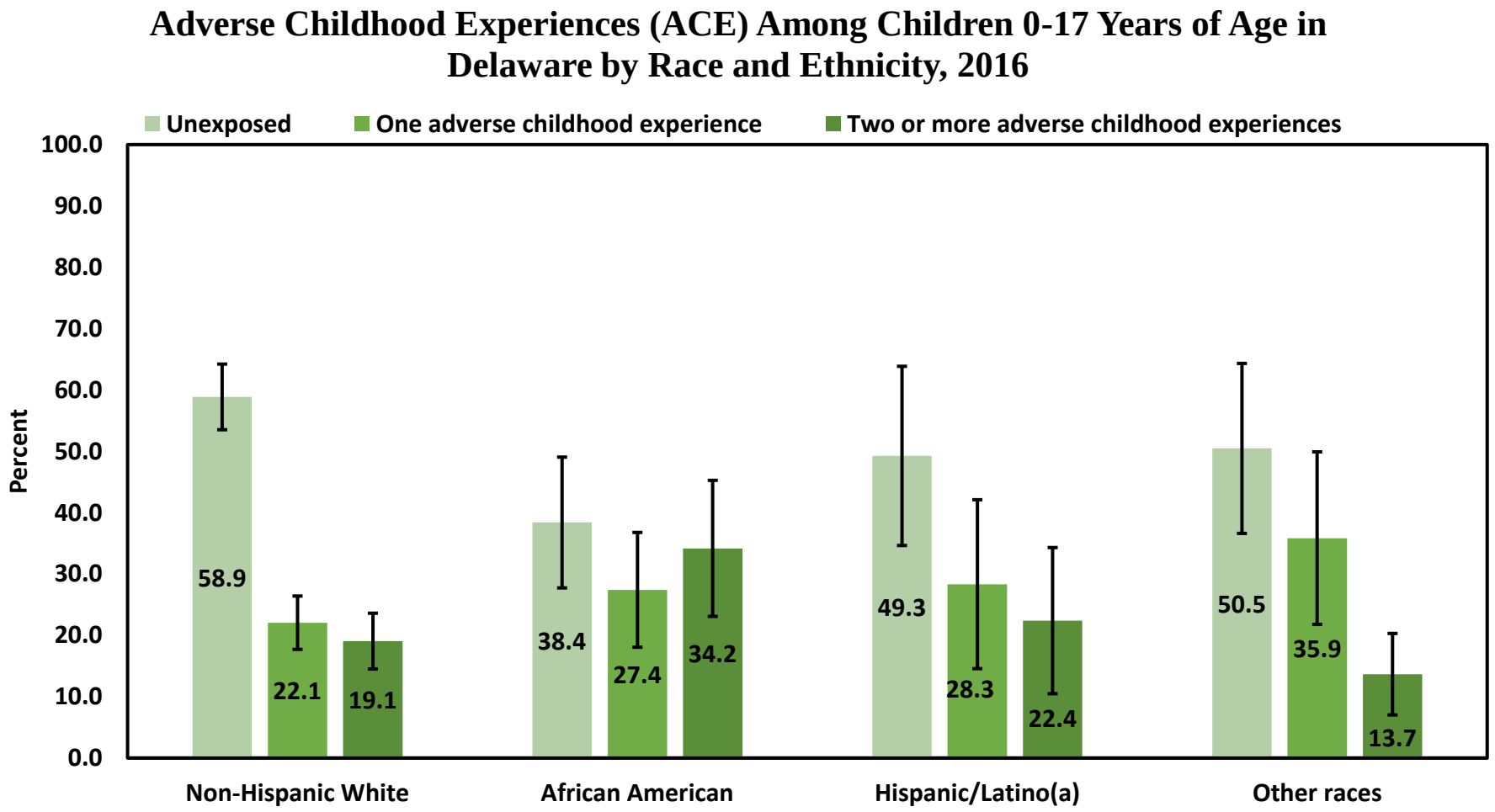

Figure 143 Adverse childhood experience by age and race and ethnicity.
Source: National Survey for Children's Health (NSCH), 2016; Husseini, 2018.

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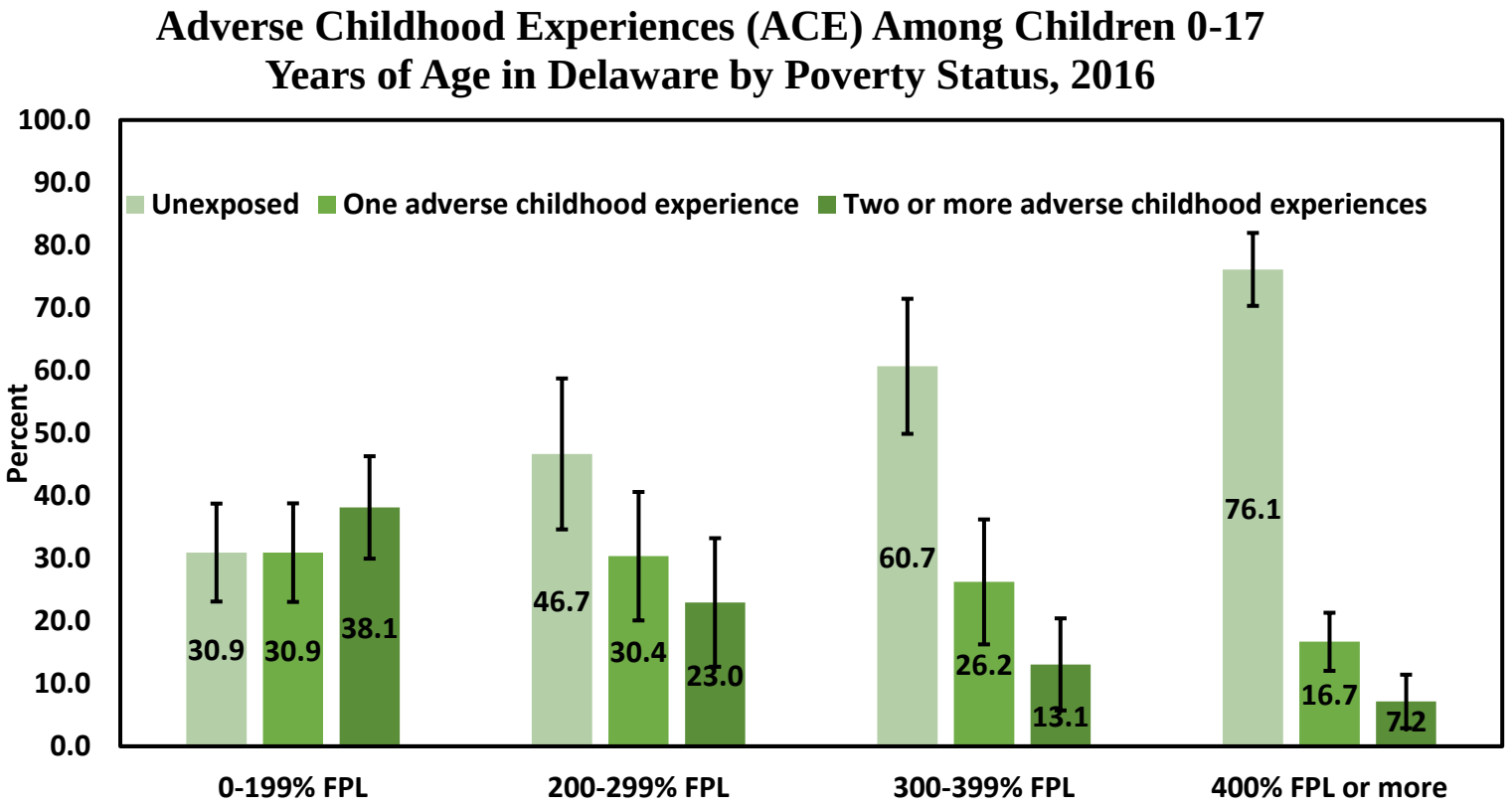

Figure 144 Adverse childhood experience by poverty status.

Source: National Survey for Children's Health (NSCH), 2016; Husseini, 2018.

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2017 High School Youth Risk Behavior Survey

Homelessness[a]: where do you typically sleep at night? (in percentages)

	At home with your parents or guardian	Other
Male	95	5
Female	98	2
Total	96	4

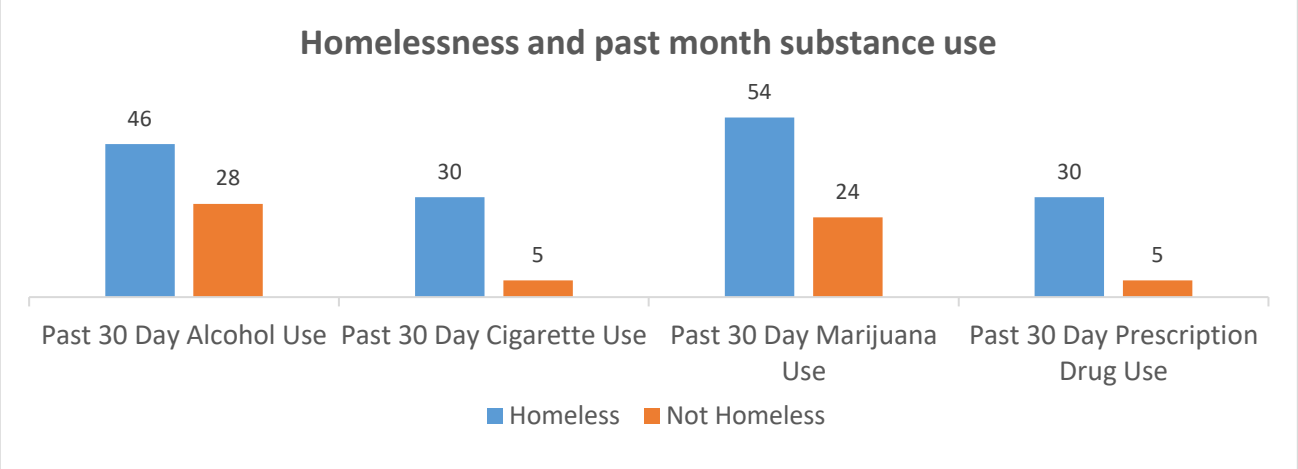

Figure 145 Homelessness and substance use

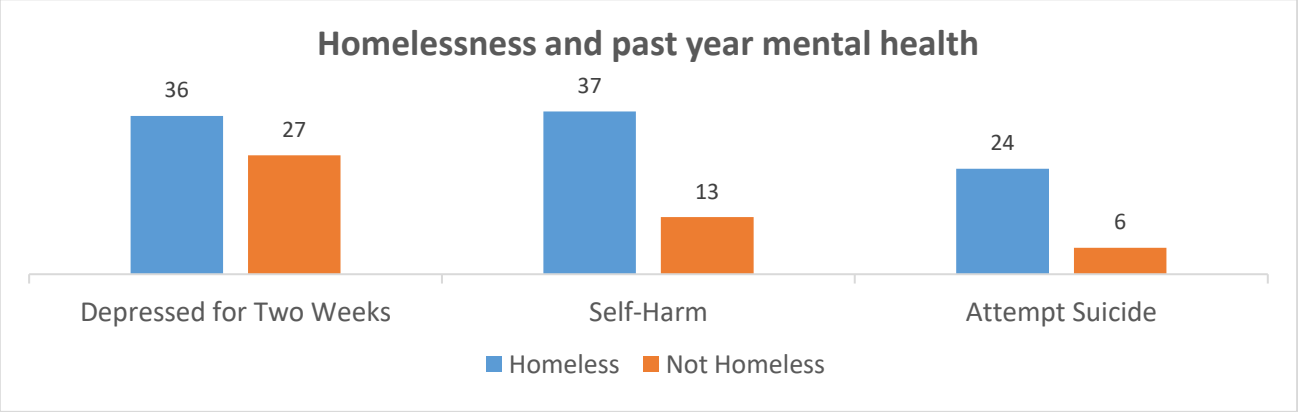

Figure 146 Homelessness and mental health

Note:
[a] "Homeless" defined here as usually sleeping anywhere other than at home with parents/guardians
Source: "2017 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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2017 High School Youth Risk Behavior Survey

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

(in percentages)

	No	Yes
Male	93	7
Female	91	9
Total	92	8

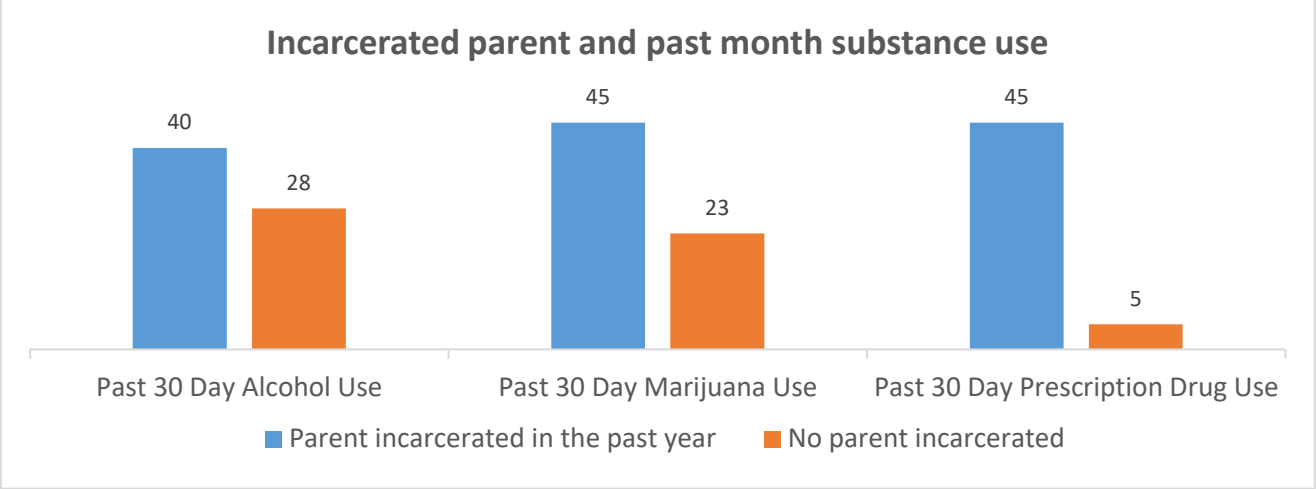

Figure 147 Parental incarceration and substance use

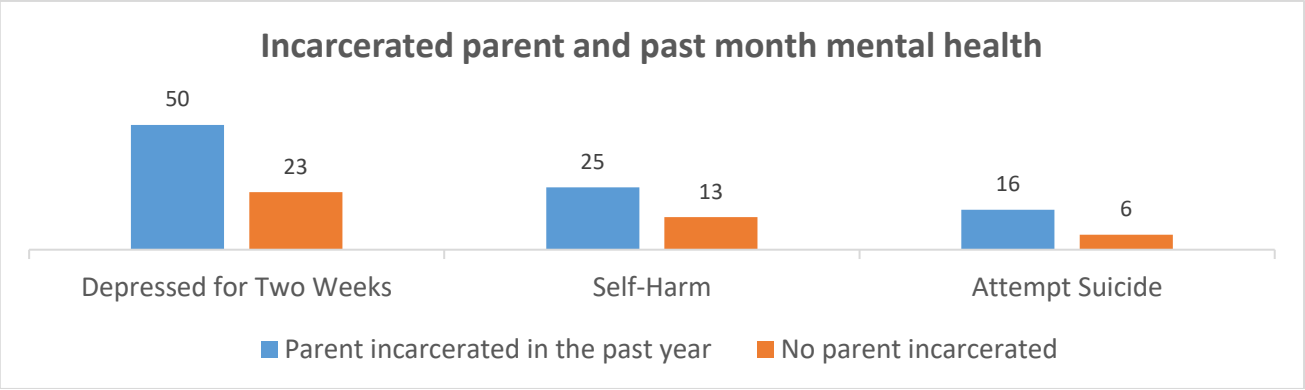

Figure 148 Parental Incarceration and mental health

Note:
Unweighted data
Source: "2017 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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2017 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 with a weapon on school property in the past 12 months	I have been bullied on school property in the past year
Male	24	7	11
Female	14	4	17
Total	19	5	14

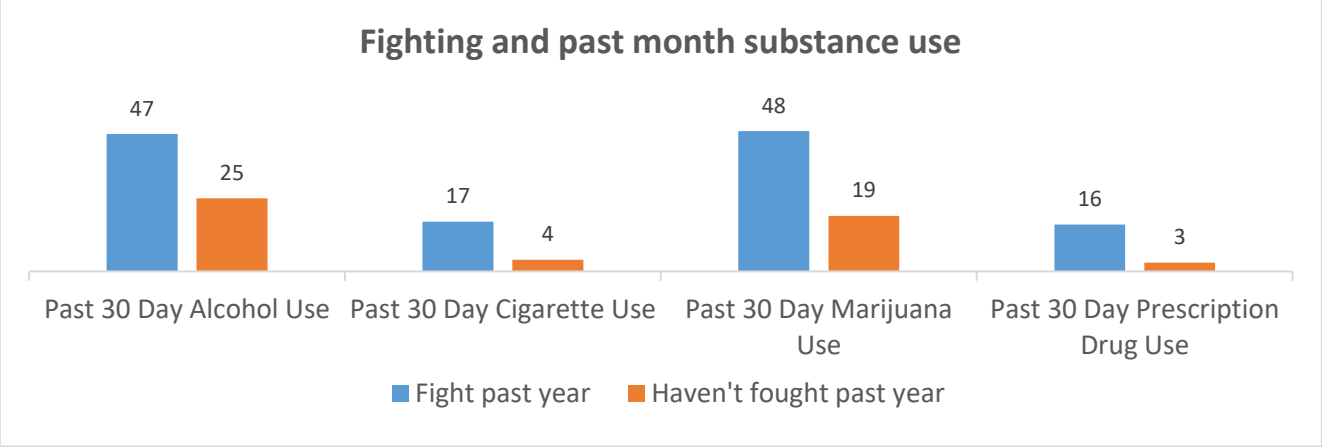

Figure 149 Fighting and substance use

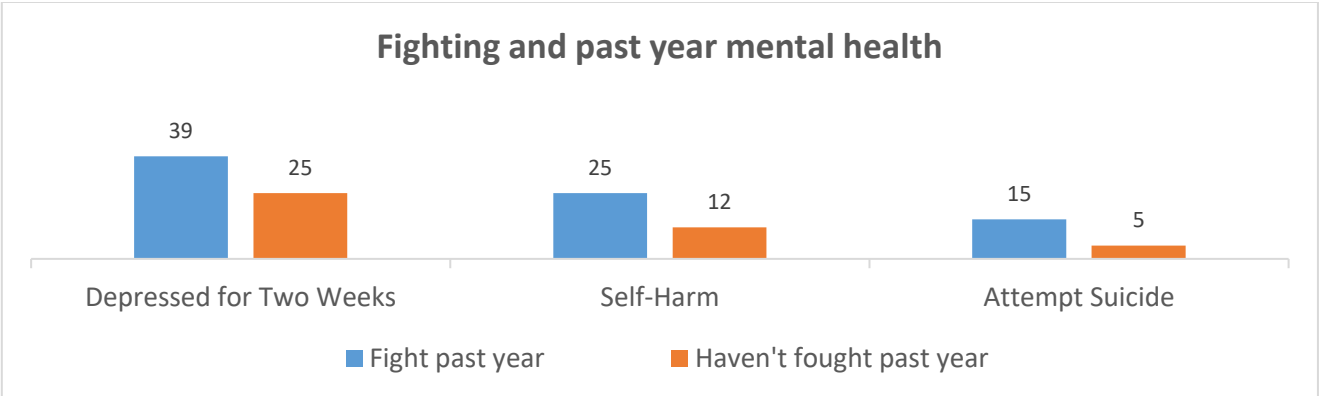

Figure 150 Fighting and mental health

Note:
Unweighted data
Source: "2017 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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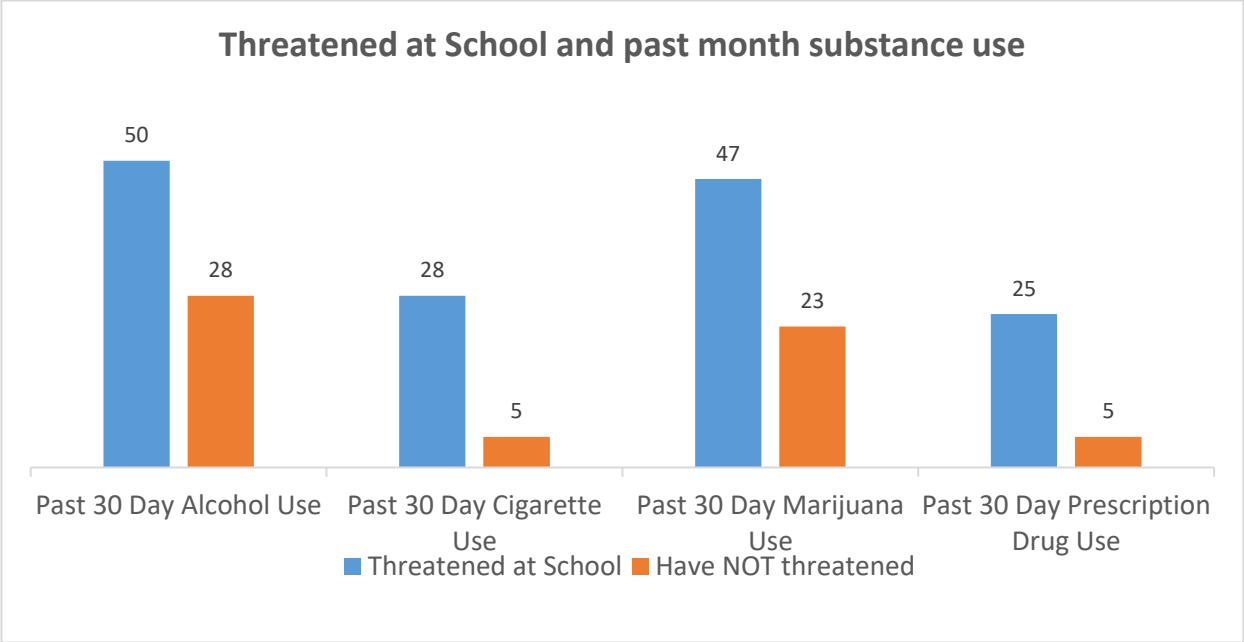

Figure 151 Threatened at school and substance use

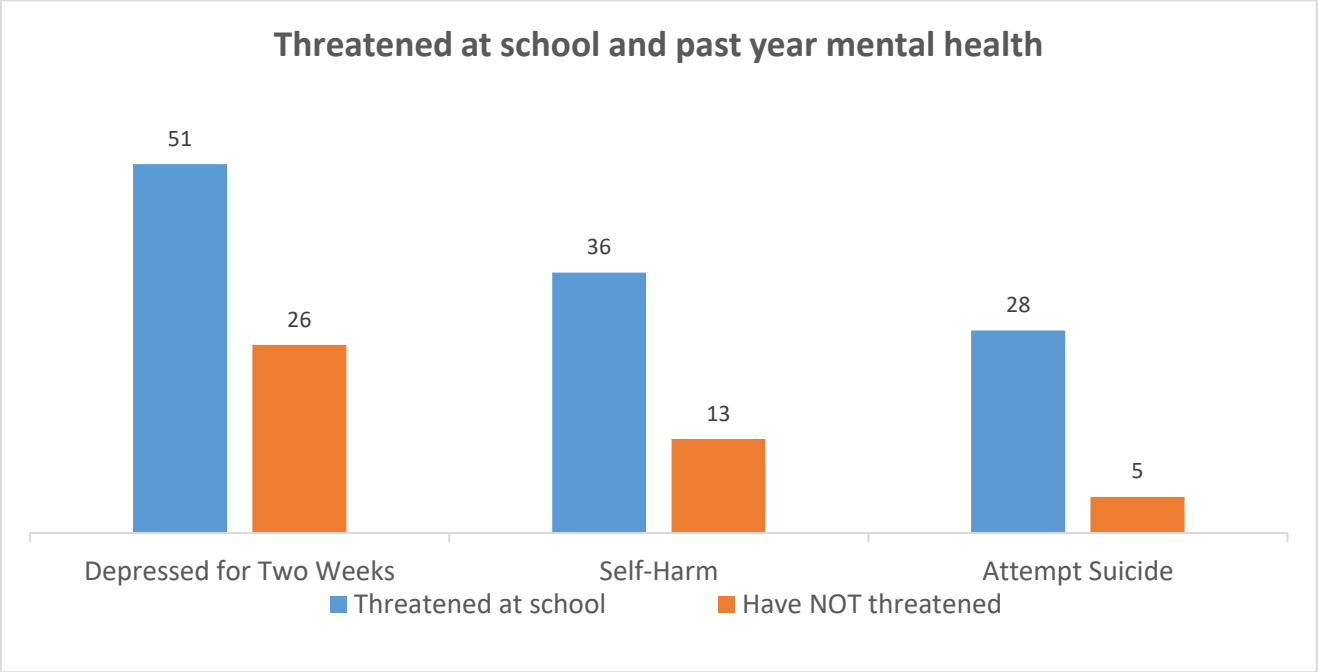

Figure 152 Threatened at school and mental health

Note:
Unweighted data
Source: "2017 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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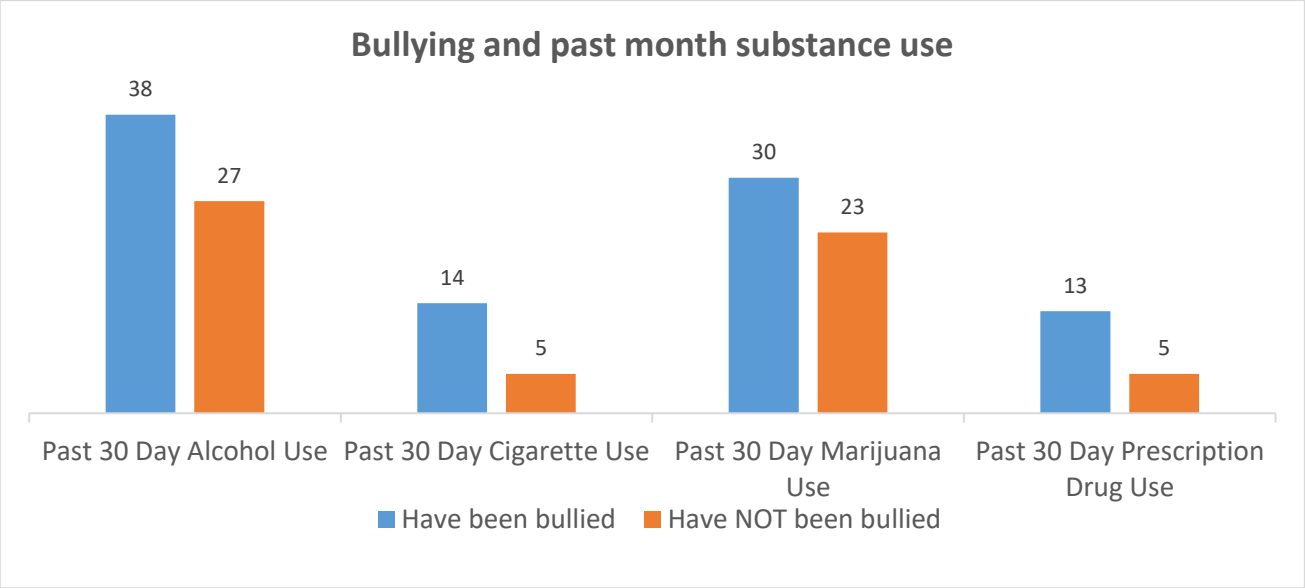

Figure 153 Bullying and substance use

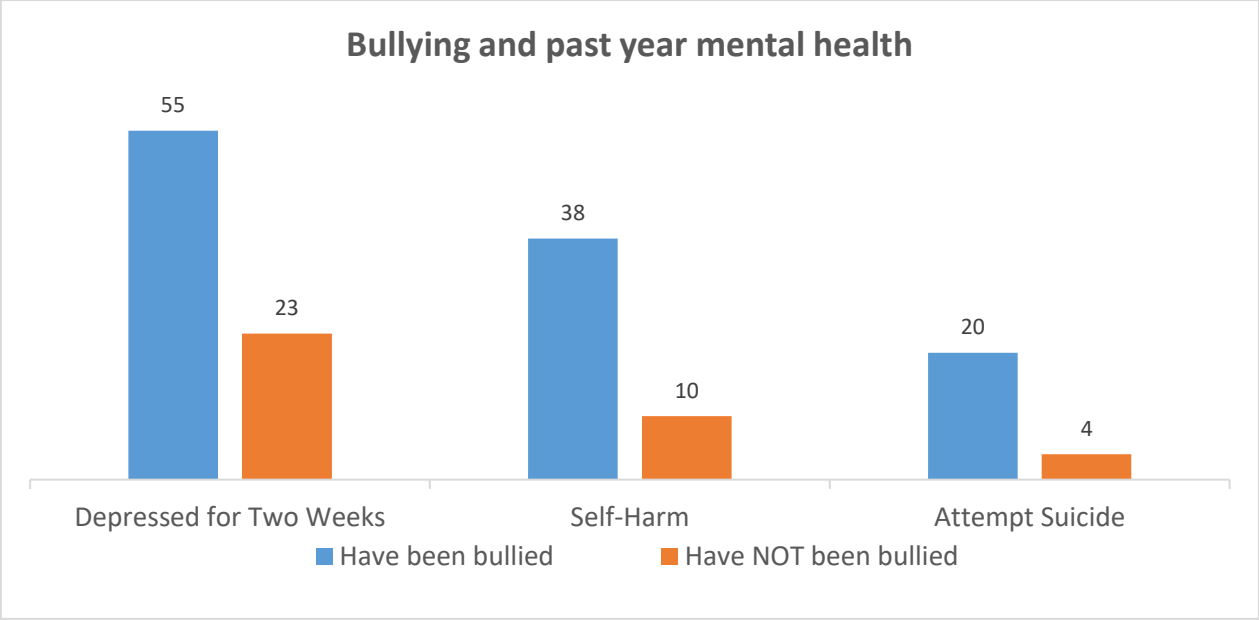

Figure 154 Bullying and mental health

Note:
Unweighted data
Source: "2017 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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2017 High School 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 things that you did not want to do? (Sexual TDV)
Male	10	4	3
Female	19	7	7
Total	15	6	5

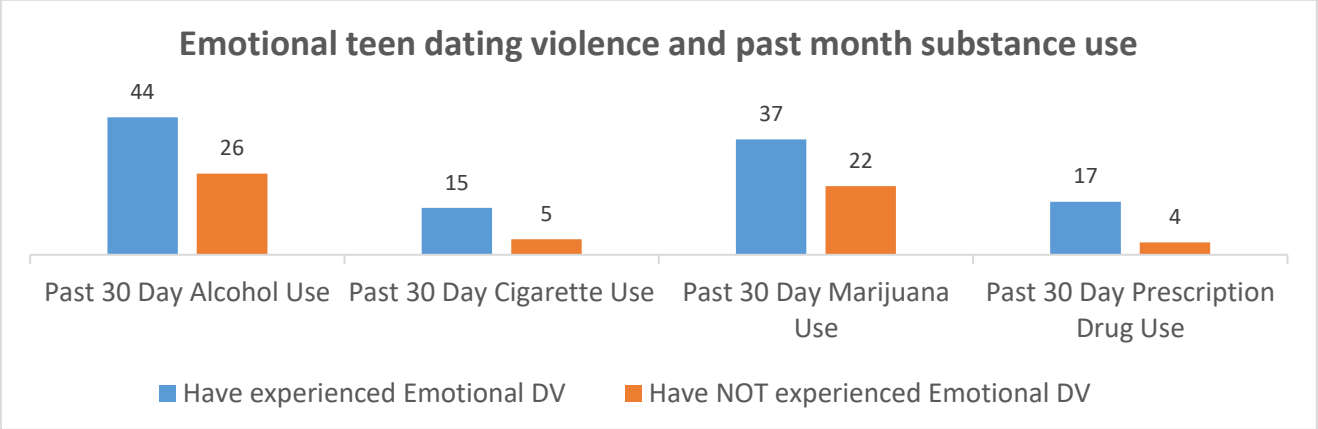

Figure 155 Emotional teen dating violence and substance use

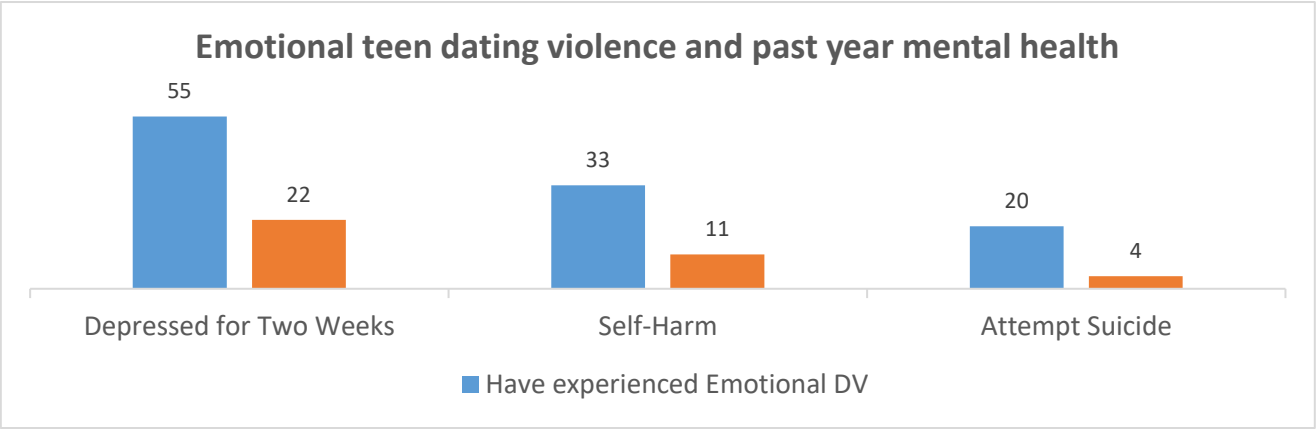

Figure 156 Emotional teen dating violence and mental health

Note:
Unweighted data
Source: "2017 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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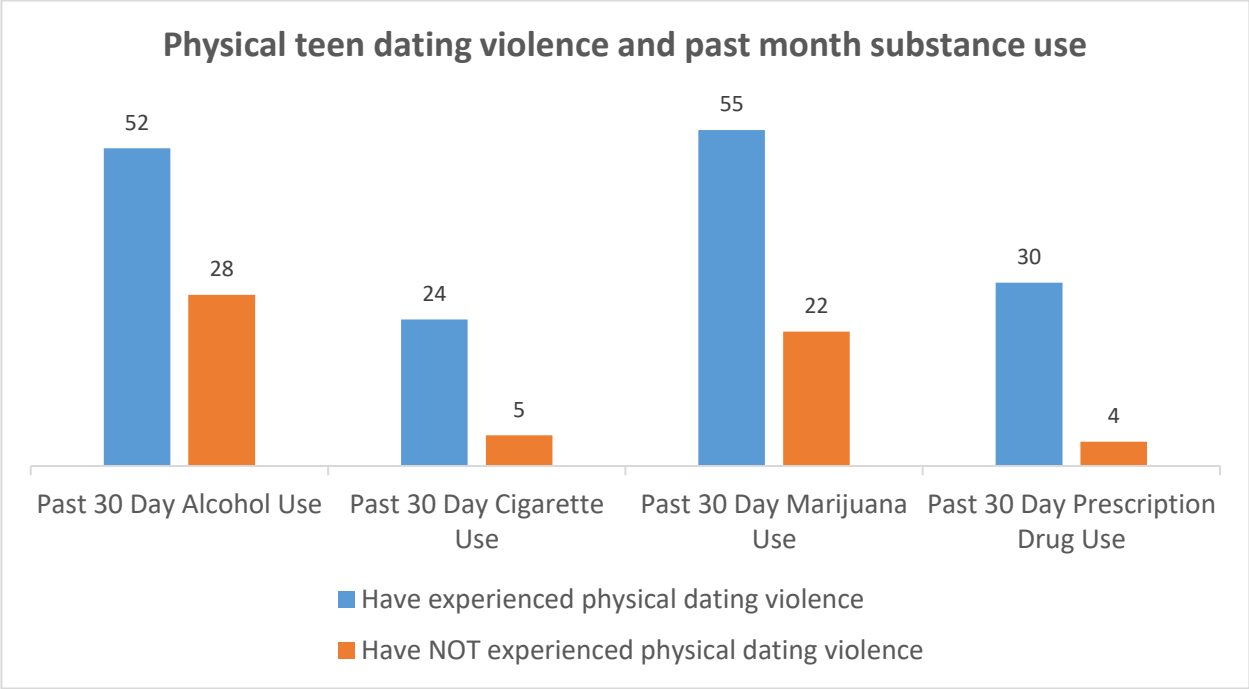

Figure 157 Physical teen dating violence and substance use

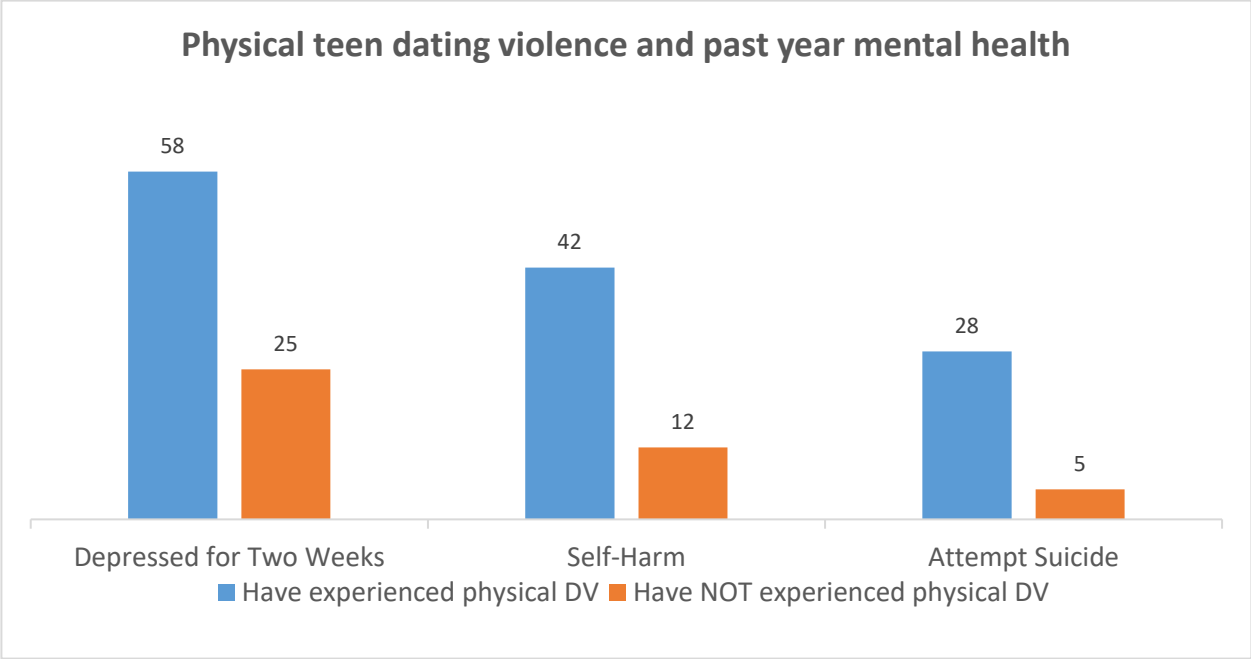

Figure 158 Physical teen dating violence and mental health

Note:
Unweighted data
Source: "2017 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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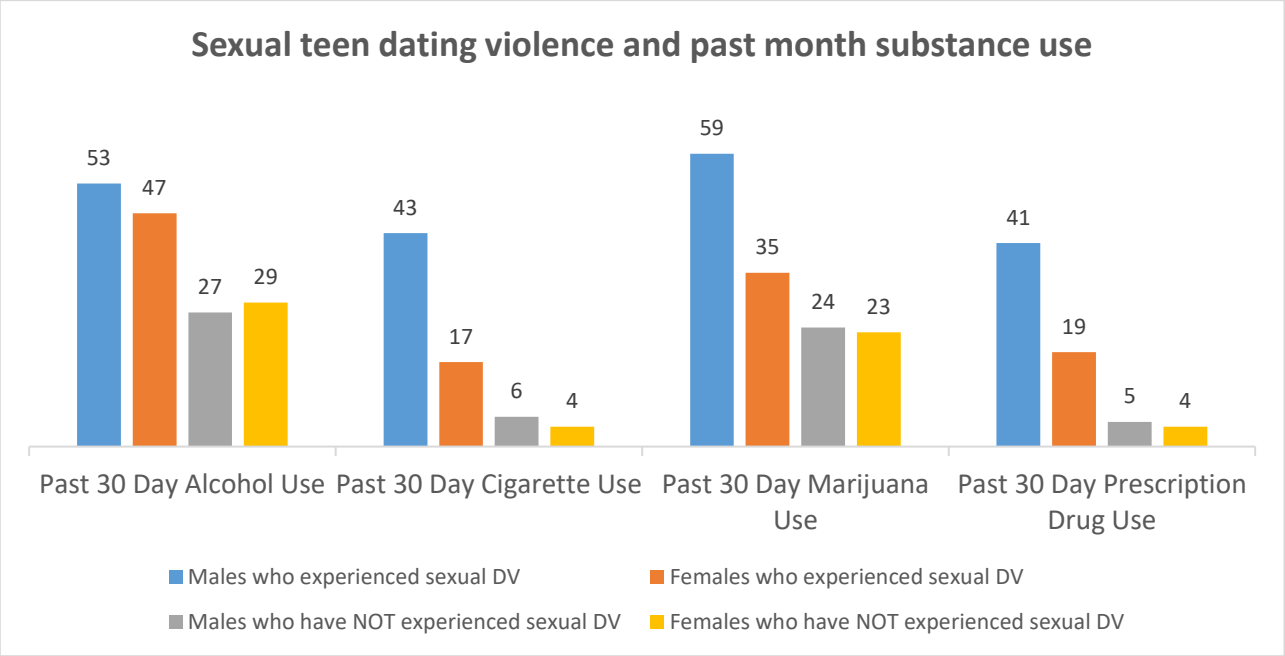

Figure 159 Sexual teen dating violence and substance use

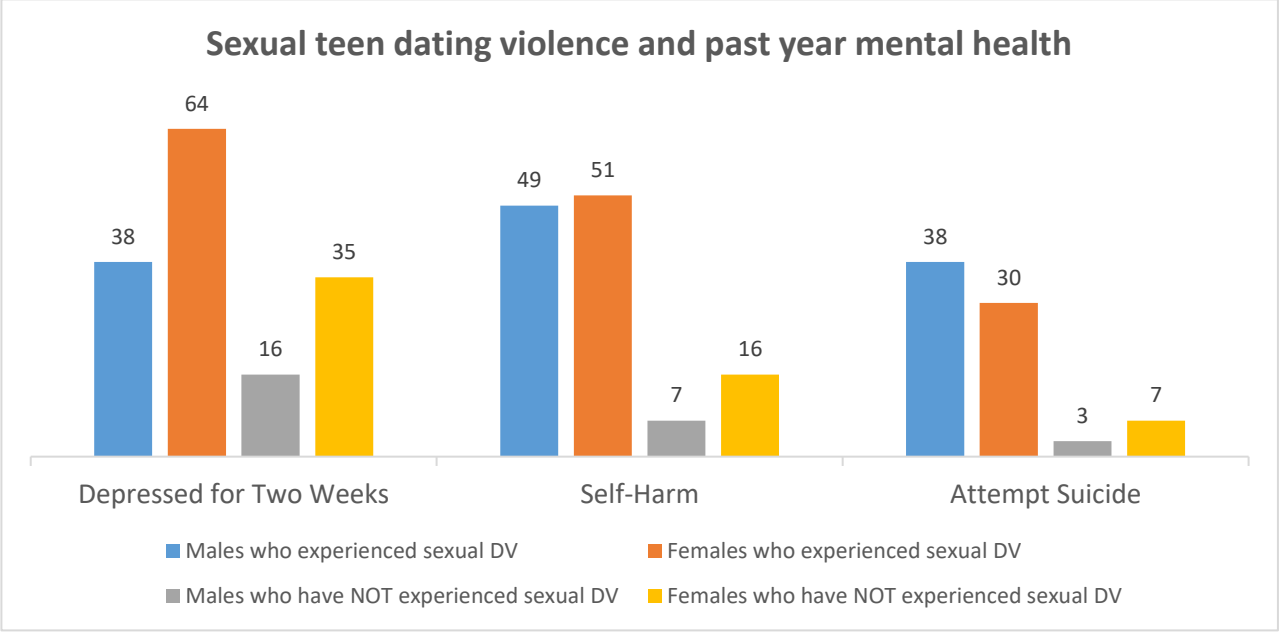

Figure 160 Sexual teen dating violence and mental health

Note:
Unweighted data
Source: "2017 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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2017 Youth Risk Behavior Survey

Forced sexual intercourse and contact

(in percentages)

	Did someone you were dating or going out with force you to do sexual things that you did not want to do?	Have you ever been physically forced to have sexual intercourse when you did not want to?
Male	5	4
Female	10	11
Total	8	8

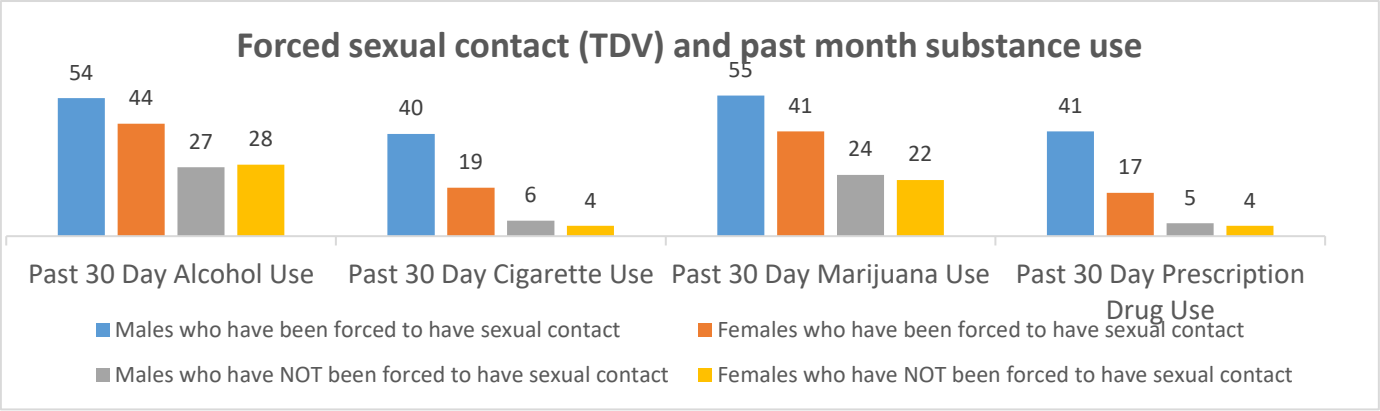

Figure 161 Forced intercourse and substance use

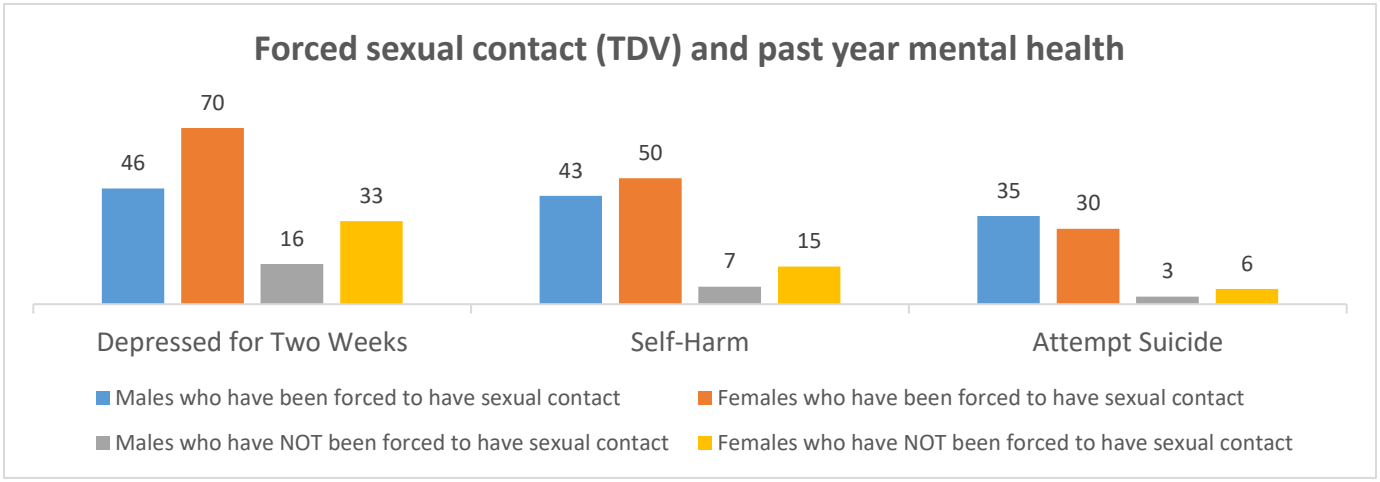

Figure 162 Forced Intercourse and mental health

Note:
Unweighted data; sexual things refer to kissing, touching, or being physically forced to have sexual intercourse
Source: "2017 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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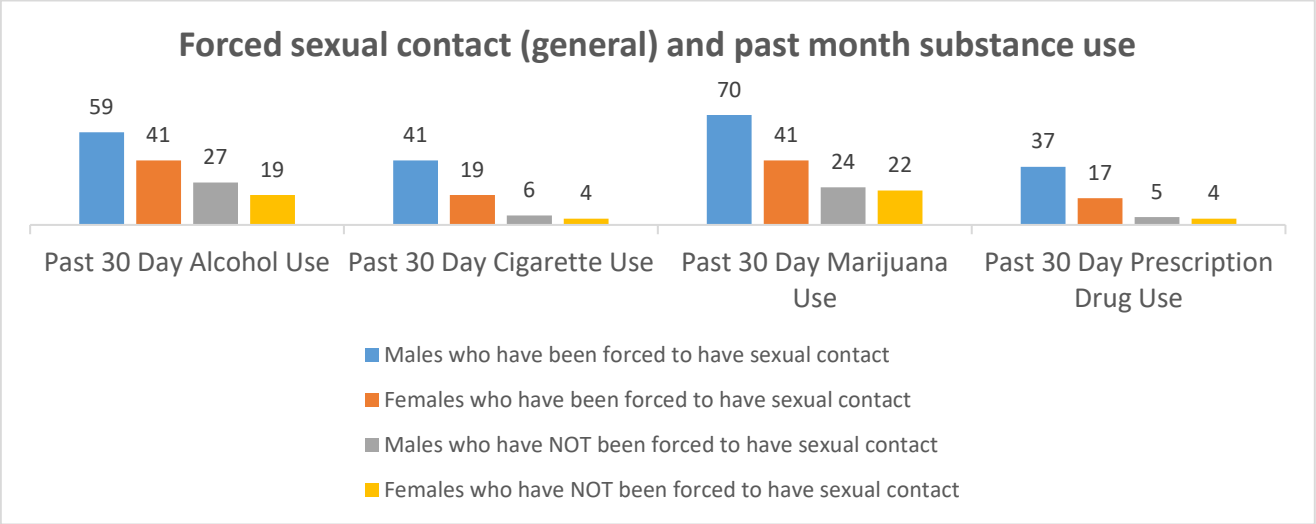

Figure 163 Forced intercourse and substance use

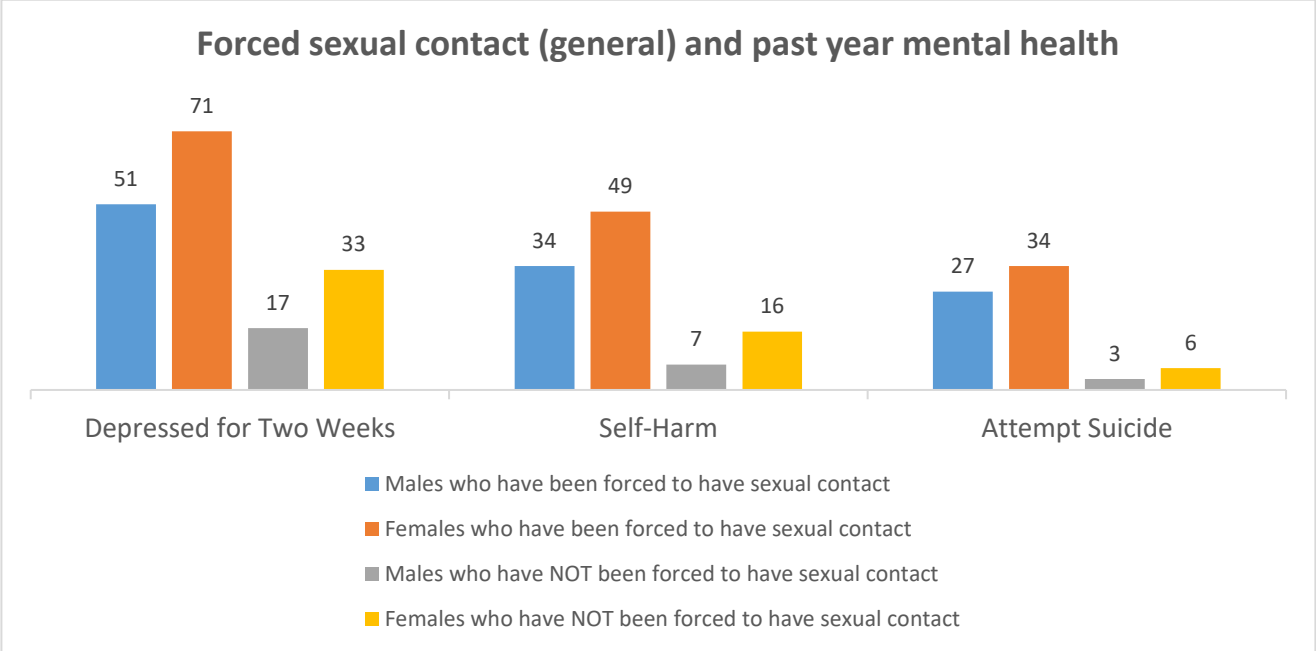

Figure 164 Forced Intercourse and mental health

Note:
Unweighted data; sexual things refer to kissing, touching, or being physically forced to have sexual intercourse

Source: "2017 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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2017 High School Youth Risk Behavior Survey[a]

Aggregated adverse childhood experiences (ACEs[b])

(in percentages)

	0 Aces	1 ACE	2 or more
Statewide	57	23	20
Males	60	24	16
Females	54	22	24
New Castle	57	23	20
Males	61	24	15
Females	54	22	24
Kent	57	23	20
Males	57	26	17
Females	56	21	23
Sussex	55	23	22
Males	59	22	19
Females	52	24	25

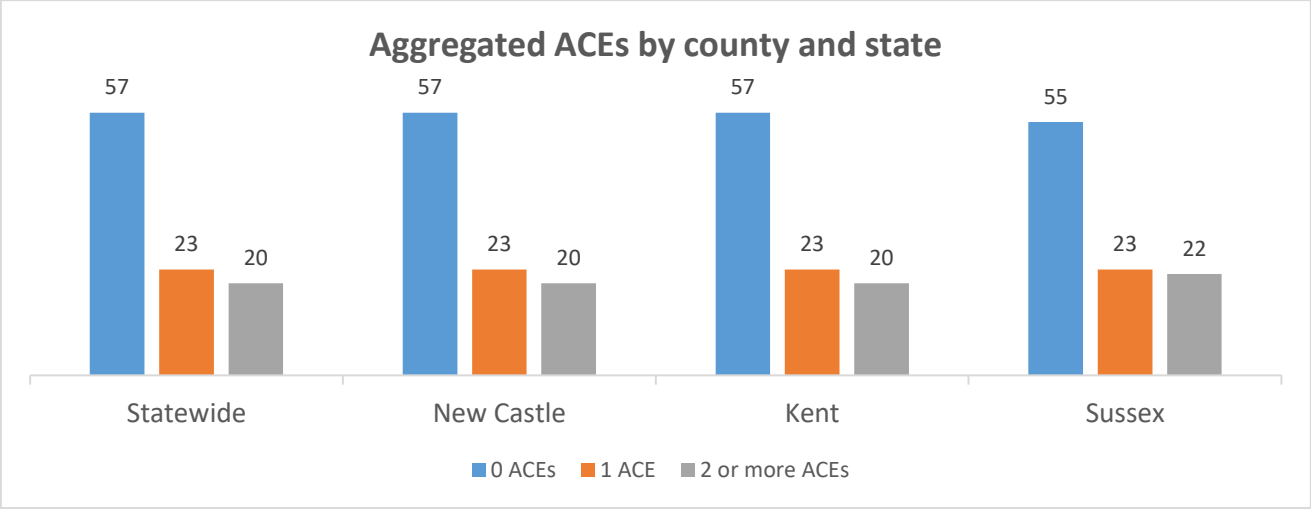

Figure 165 Aggregated adverse childhood experiences

Notes:
[a]Unweighted data
[b]Students who confirmed experiencing any of the events above such as homelessness, incarcerated parent, fighting, being threatened, being bullied, or 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: "2017 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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2017 High School Youth Risk Behavior Survey[a]

ACEs[b] 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 Rx Pain Medication Use other than prescribed
0 ACEs	3	22	15	2
1 ACE	6	33	31	5
2 or more ACEs	17	45	43	17

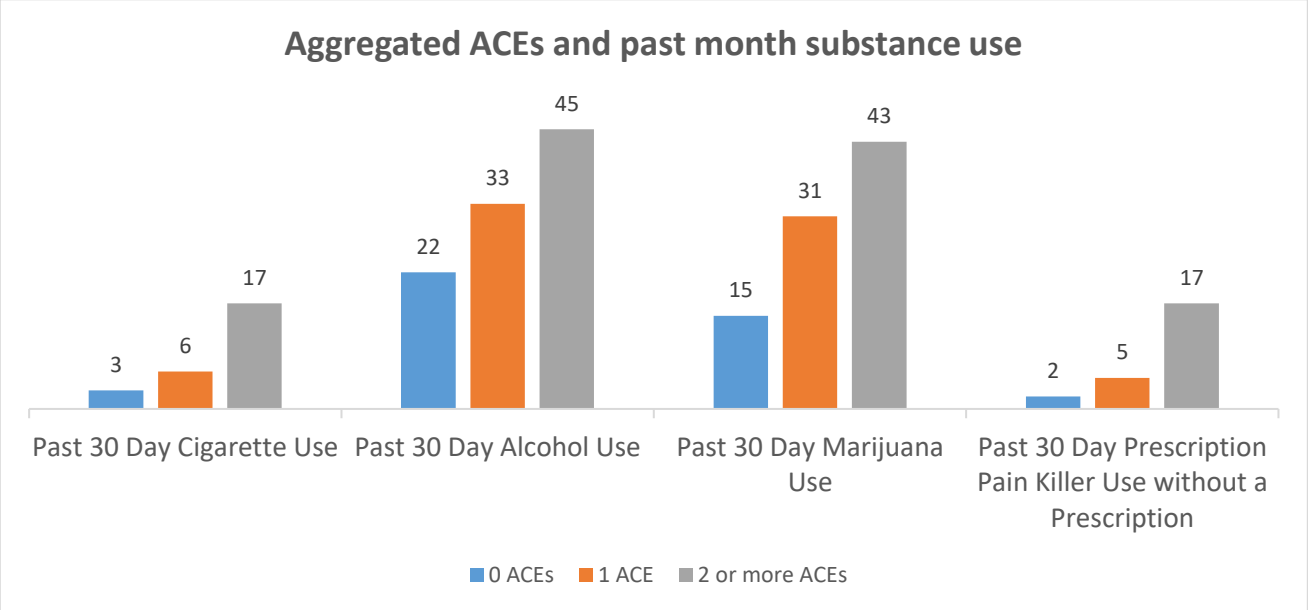

Figure 166 Aggregated adverse childhood experiences and substance use

Notes:
[a]Unweighted data
[b]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:
"2017 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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2017 Youth Risk Behavior Survey[a]

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

Number of ACEs	Depressed for Two Weeks	Self-Harm	Attempt Suicide
0 ACEs	15	6	2
1 ACE	33	15	6
2 or more ACEs	54	35	20

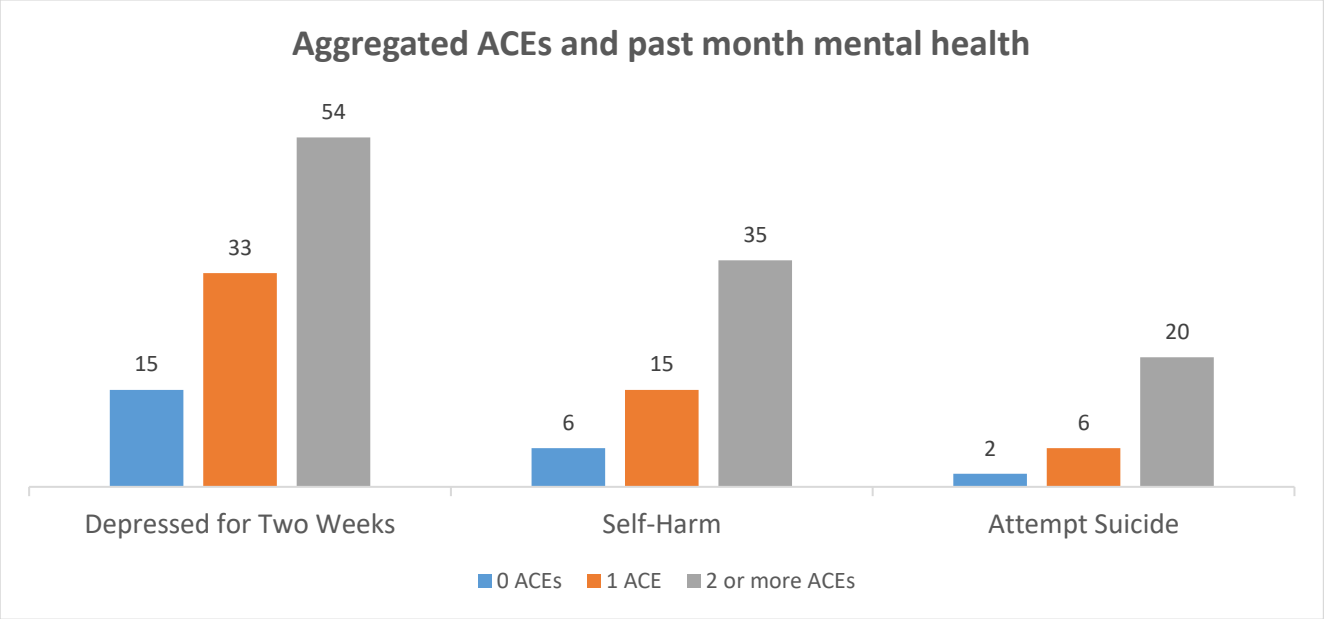

Figure 167 Aggregated adverse childhood experiences and mental health

Notes:

[a] Unweighted data

[b] 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:

"2017 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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Lesbian, Gay, Bisexual, and Questioning (LGBQ) Youth

Eleven percent of Delaware high school youth who responded to a 2017 Youth Risk Behavior Survey (YRBS) question about sexual orientation reported that they identified as lesbian, gay, or bisexual (LGB). An additional three percent indicated that they were not sure of their sexual orientation (Q or questioning). Although when compared to data from the 2015 YRBS it appears the gap is narrowing, across several measures, LGBQ youth continue to appear to be at disproportionate risk for negative psychosocial concerns. This population reported increased rates of substance use and poorer mental health than their heterosexual peers. It is important to note that being gay, lesbian, or bisexual is not the cause of increased risk behaviors; rather, internal and interpersonal conflicts very likely contribute to the heightened risk that these teens experience. Uncertainty may create even greater challenges, as the following slides illustrate that the youth who report that they unsure of their sexual orientation report highest rates of smoking cigarettes, binge drinking, and the use of numerous illegal drugs.

In terms of mental health, more than half of LGBQ youth (52.5%) reported feeling sad or hopeless for two weeks or more in the preceding year. They also reported higher rates of always worrying and feeling afraid than their straight peers. LGBQ youth are also at elevated risk for self-harm and suicide comparatively. Almost 39% of LGBQ youth purposefully hurt themselves (without intending death) at least once in the last year compared to ten percent of heterosexual youth. Further, 30.6% of LGBQ youth planned suicide and 18% attempted suicide at least once within the last year, as opposed to nine and five percent respectively among their heterosexual peers.

Data at the national level shows similar patterns of health disparity in the LGBQ community. One meta-analysis and review found that on average LGBQ youth were 190 percent more likely to misuse substances than heterosexual youth (Marshal, et al. 2008). Another meta-analysis found significantly

higher rates of depression and suicidality for sexual minority youth compared to other youth (Marshal, et al. 2011). These studies suggest that victimization, discrimination, and the stress associated with both may be risk factors for both substance abuse and poor mental health status among LGBQ individuals.

Strategies to prevent substance use disorders and mental illness are designed to increase protective factors, and reduce risk factors. Risk and protective factors are relevant across several domains (individual, family, peers and communities), and during various stages of the life cycle. Data from the YRBS show two domains where sexual minority youth in Delaware have increased risk factors: LGBQ youth reported poorer relationships with their parents than other youth and increased rates of bullying victimization. Data from the 2017 Delaware YRBS show that across the entire student population, students who report positive relationships with their parents have lower rates of substance abuse, and better mental health status (see the Risk and Protective Factors chapter in this report). In this instrument, positive parental relationships are measured by youth perceived parental pride, parental interest in youth activities, and comfort in sharing thoughts and feelings with parents. As the following charts illustrate, straight teens reported higher rates of parental support compared to their LGBQ peers. LGBQ youth were also more likely to report that they avoided going to school due to feeling unsafe, and were bullied (on school property and electronically) at rates approximately twice that of their heterosexual peers. Additionally, LGBQ reported they were more likely to bring a weapon to school at least once within the last 30 days (6.3%) compared to 2.9% among heterosexual youth.

Data from the Delaware YRBS show LGBQ students report significantly higher rates of past thirty-day use of cigarette, alcohol, marijuana, and prescription painkillers (without a prescription) compared to other students. They were more than twice as likely to report current cigarette use than their heterosexual peers. Seventeen percent of sexual minorities report binge drinking in the past thirty days, compared to 15 percent of heterosexual students. Past thirty day marijuana use was also higher among LGBQ youth than their heterosexual peers (32% versus 23%). Sexual minorities reported more than twice the past-month use of prescription pain medicine (10.7%) of their

heterosexual peers (4.9%). Across all drug categories, sexual minorities reported significantly higher rates of ever using drugs than heterosexual students.

The following charts depict the rates of substance use, mental health concerns, protective factors, and bullying experienced by Delaware high school students by reported sexual orientation (heterosexual, gay/lesbian, bisexual, or unsure). It is important to remember that differences in these rates are not intrinsically associated with being LGBQ, but largely due to internal and external challenges that these youth may face related to their sexual orientation. Efforts to increase parental and peer support for all students, and for this group in particular, will be essential to prevention strategies for LGBQ youth.

LGBTQ Student Risk and Protective Factors (Self-reported)

Data Source and Notation

All data presented below comes from the 2017 High School Youth Risk Behavior Survey. Because of small sample size in the subcategories, weights were turned off.

2017 Delaware Youth Risk Behavior Survey

Reported sexual orientation of Delaware High School Youth

	Percentage	N
Heterosexual	86%	2309
Gay or Lesbian	3%	81
Bisexual	8%	207
Unsure	3%	83

Figure 168 Percentage of high school students who reported identifying as gay, lesbian, bisexual, or not sure

Note:
Unweighted Data
Source:
"2017 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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Tobacco Use

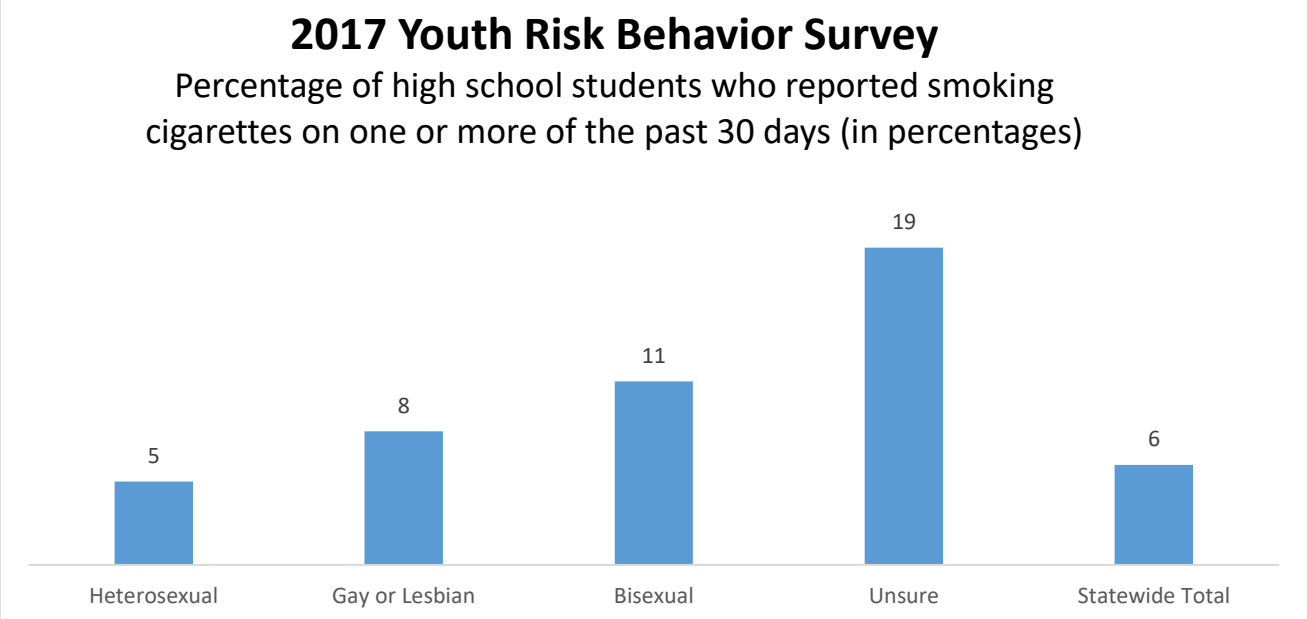

Figure 169 Percentage of high school students who reported smoking in the past 30 days, by sexual orientation

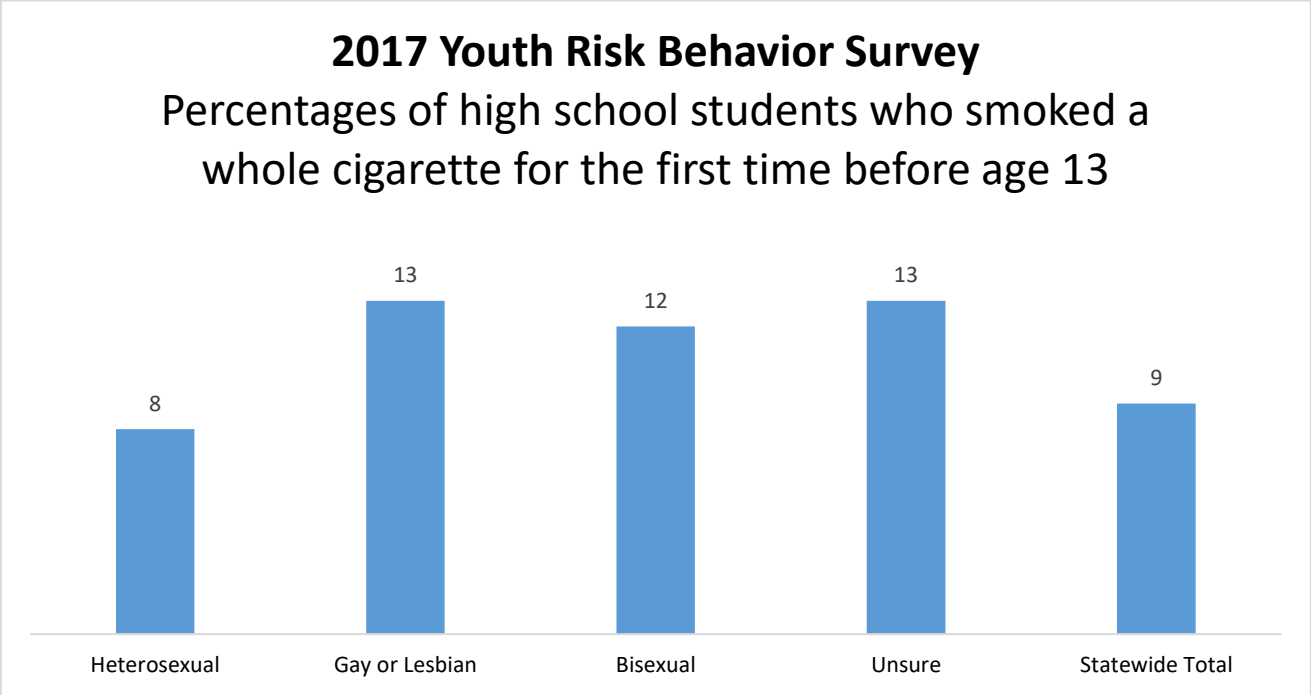

Figure 170 Percentage of high school students who reported first smoking before age 13

Note:
Unweighted Data
Source:"2017 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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Alcohol Use

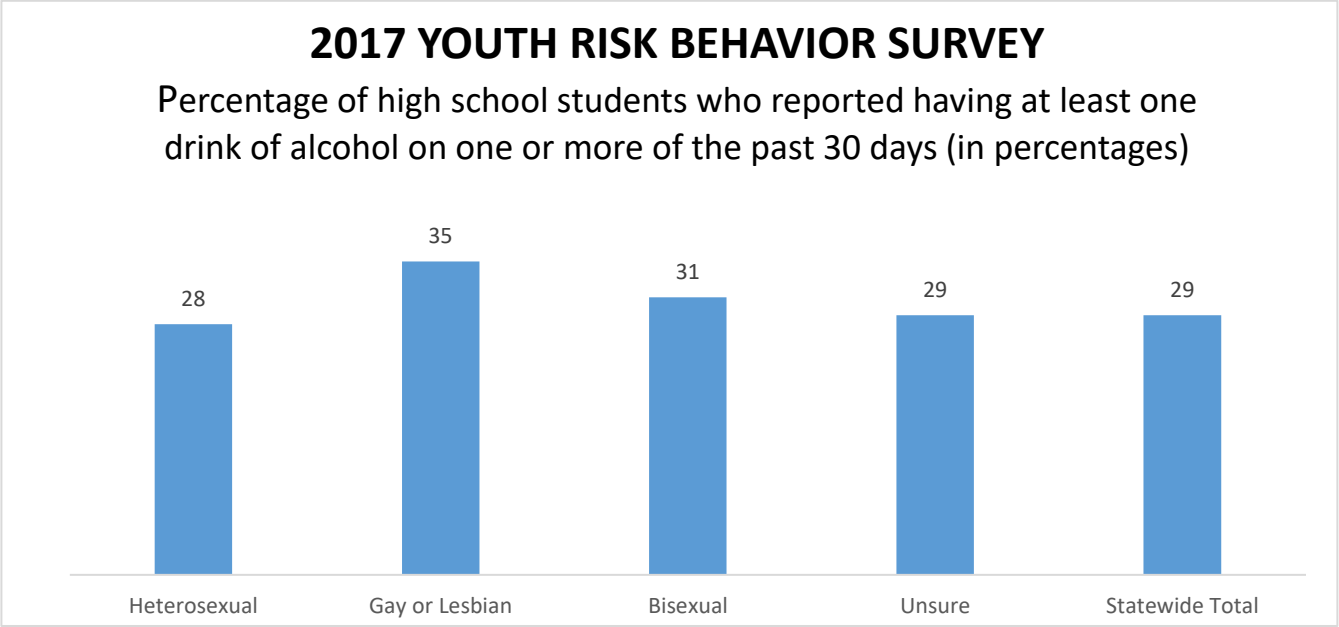

Figure 171 Percentage of high schools students who reported having at least one drink of alcohol in the past month, by sexual orientation

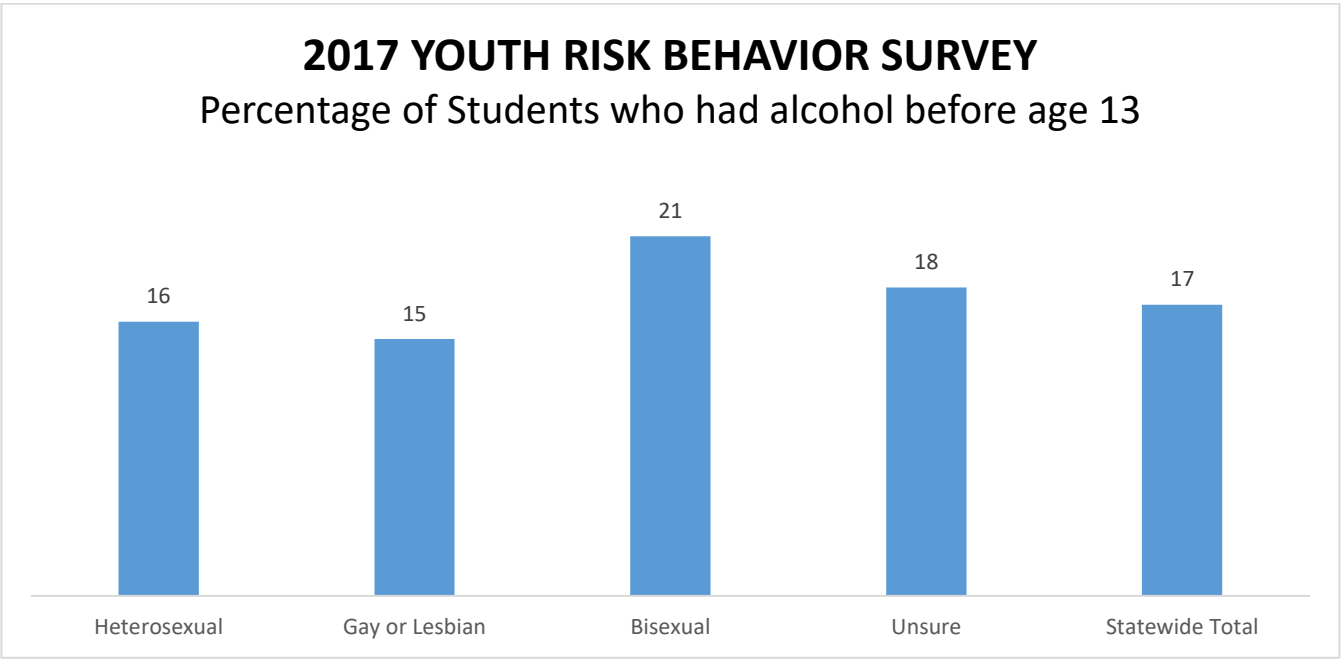

Figure 172 Percentage of students who reported drinking before the age of 13, by sexual orientation

Note:
Unweighted Data
Source:
"2017 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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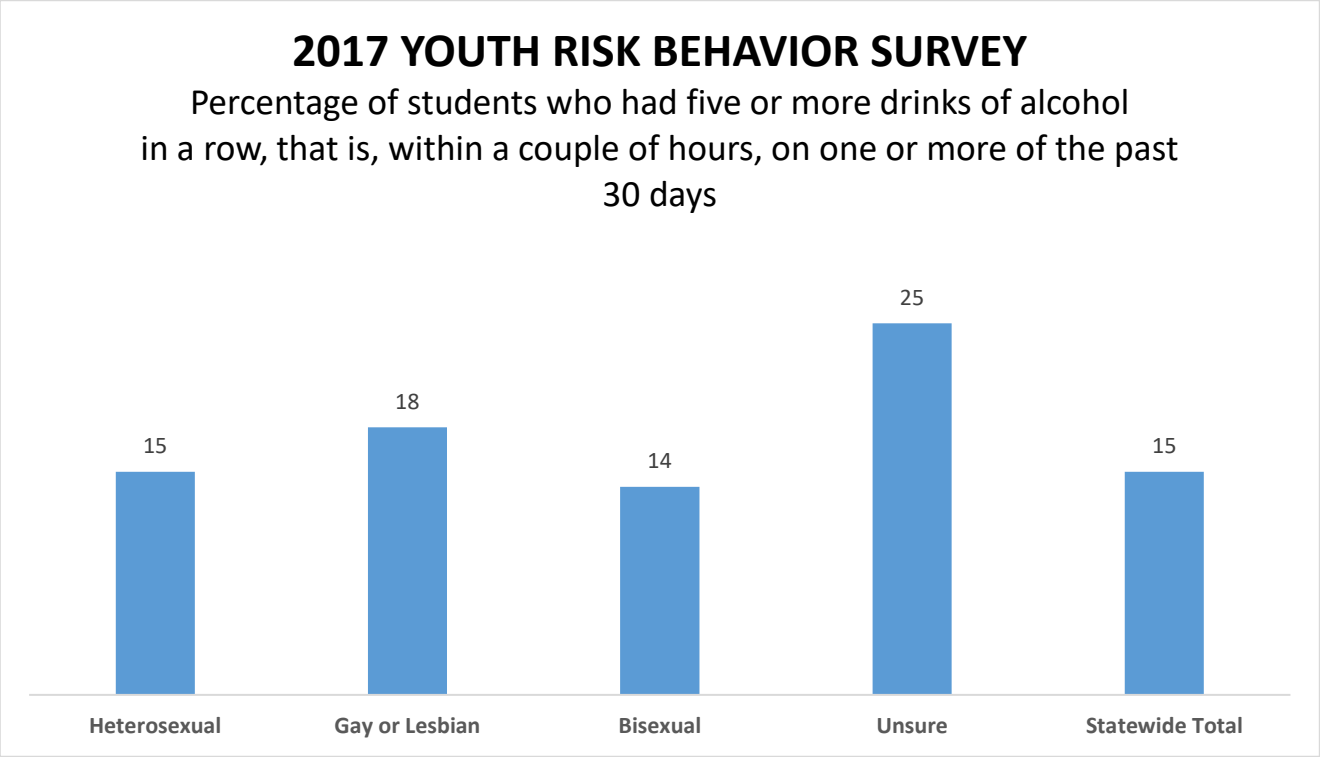

Figure 173 Percentage of students who reported binge drinking in the past month, by sexual orientation

Note:
Unweighted Data
Source:
"2017 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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Marijuana Use

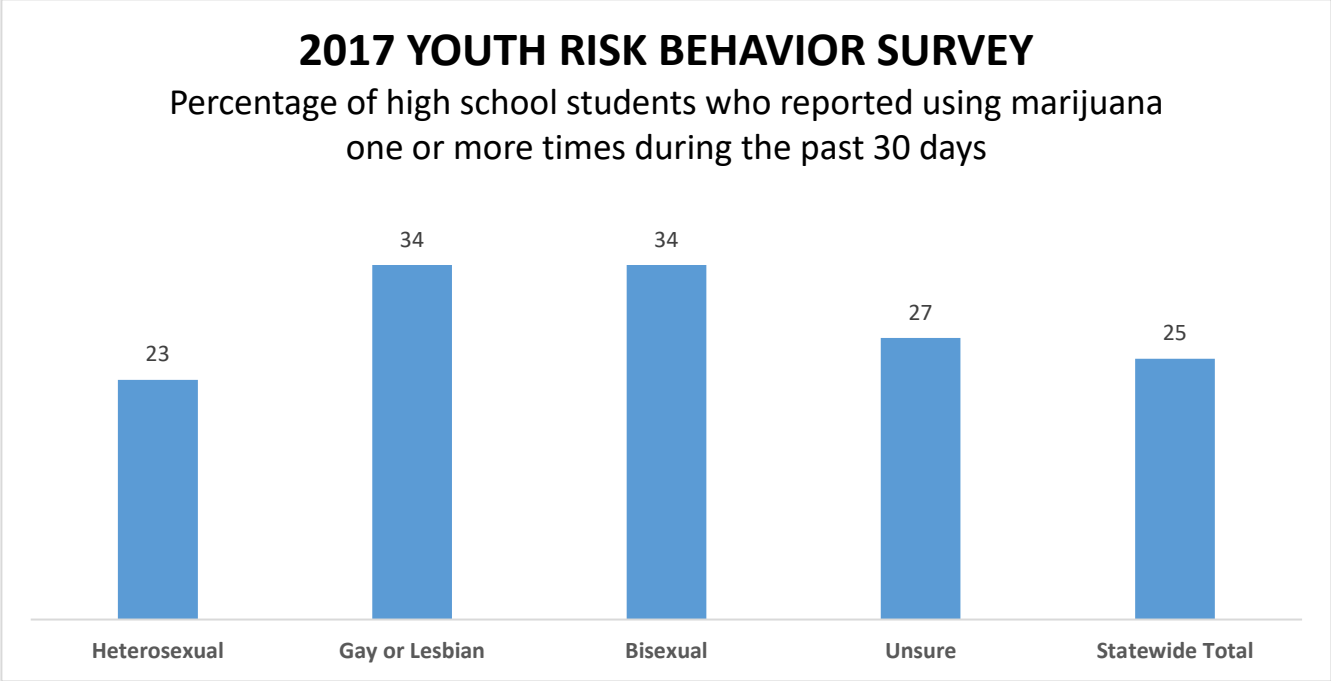

Figure 174 Percentage of high school students who reported using marijuana in the past 30 days, by sexual orientation

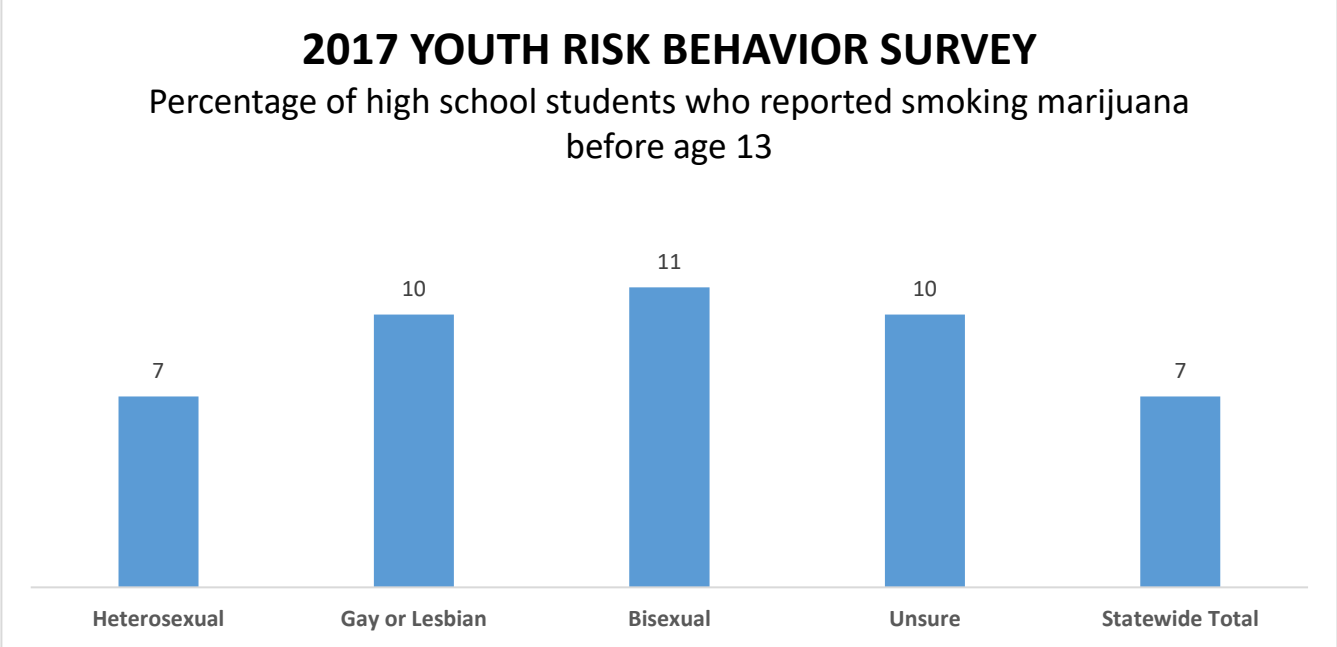

Figure 175 Percentage of high school students who reported using marijuana in the past 30 days by sexual orientation

Note:
Unweighted Data
Source:
"2017 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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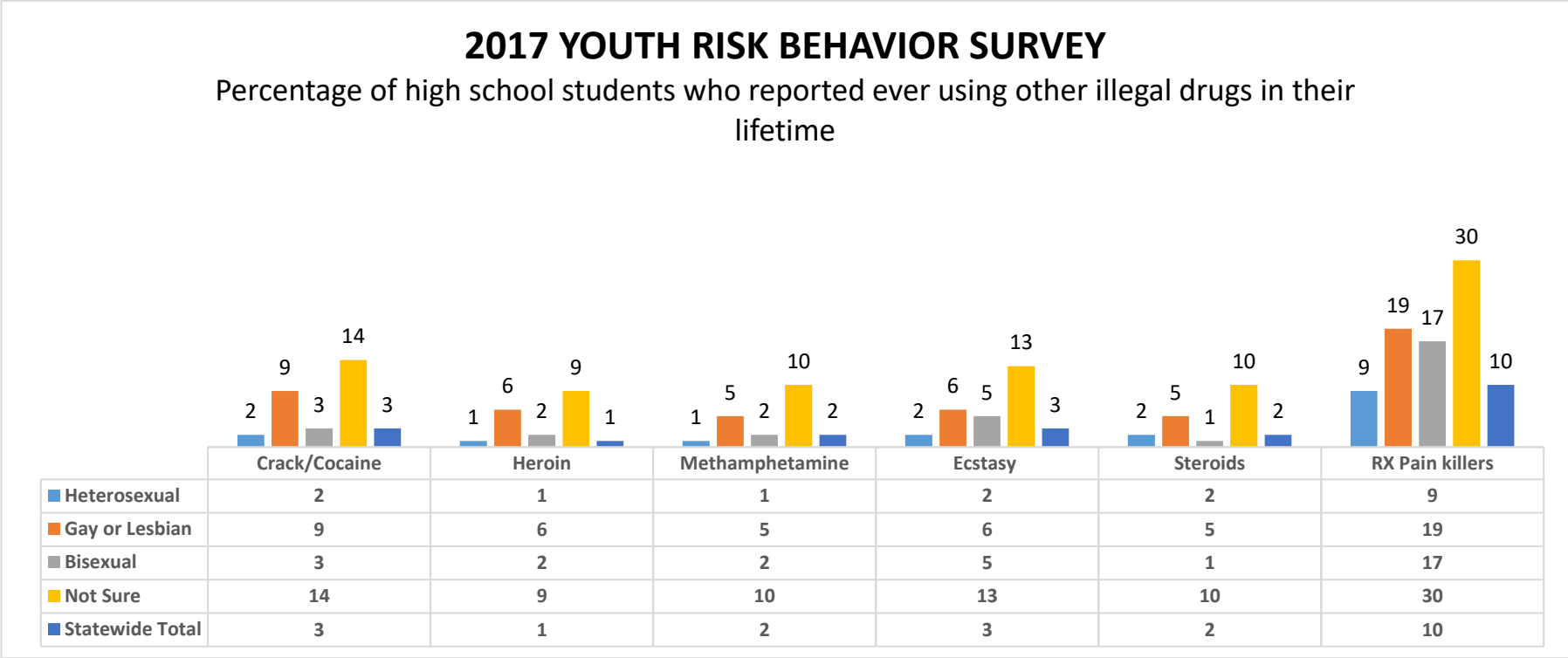
Miscellaneous Drug Use



	Crack/Cocaine	Heroin	Methamphetamine	Ecstasy	Steroids	RX Pain killers
Heterosexual	2	1	1	2	2	9
Gay or Lesbian	9	6	5	6	5	19
Bisexual	3	2	2	5	1	17
Not Sure	14	9	10	13	10	30
Statewide Total	3	1	2	3	2	10

Figure 176 Percentage of high school students who reported ever using selected illegal drugs

Note:
Unweighted Data
Source:
"2017 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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Sexual Activity

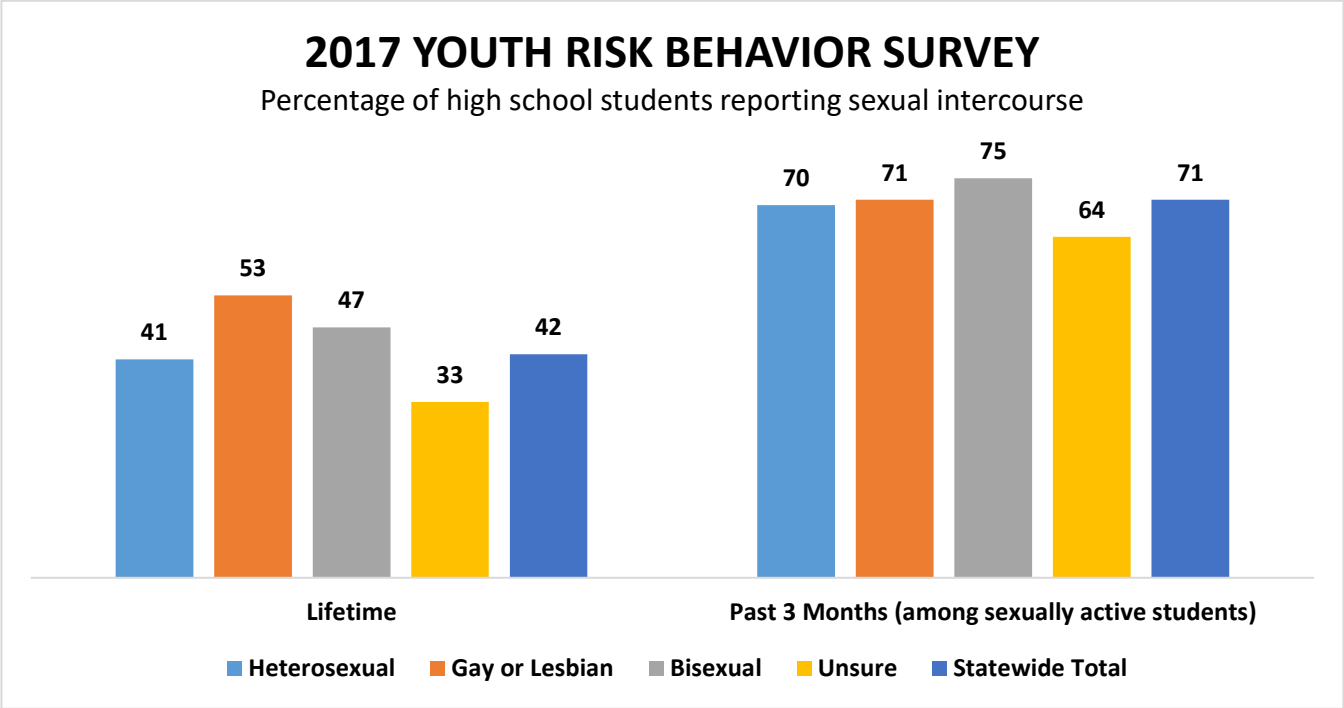

Figure 177 Percentage of high school students reporting sexual intercourse, by sexual orientation

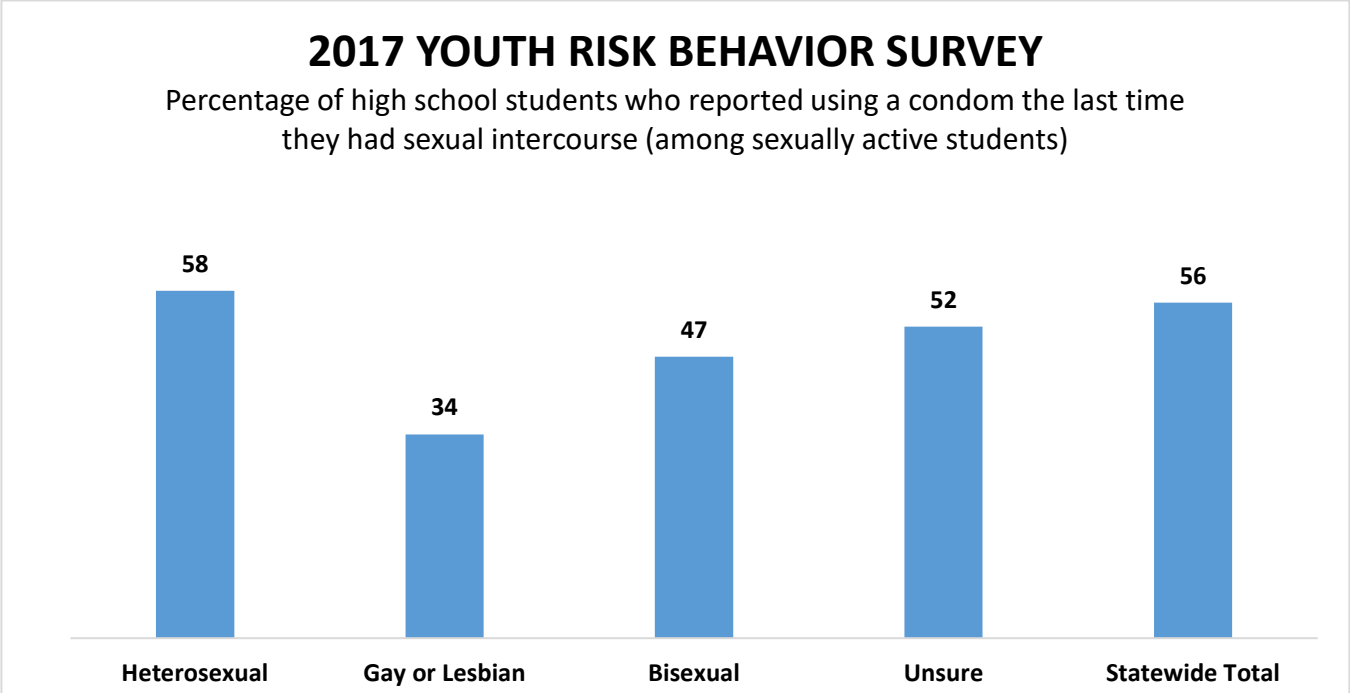

Figure 178 Percentage of high school students who reported using a condom, by sexual orientation

Note:
Unweighted Data
Source: "2017 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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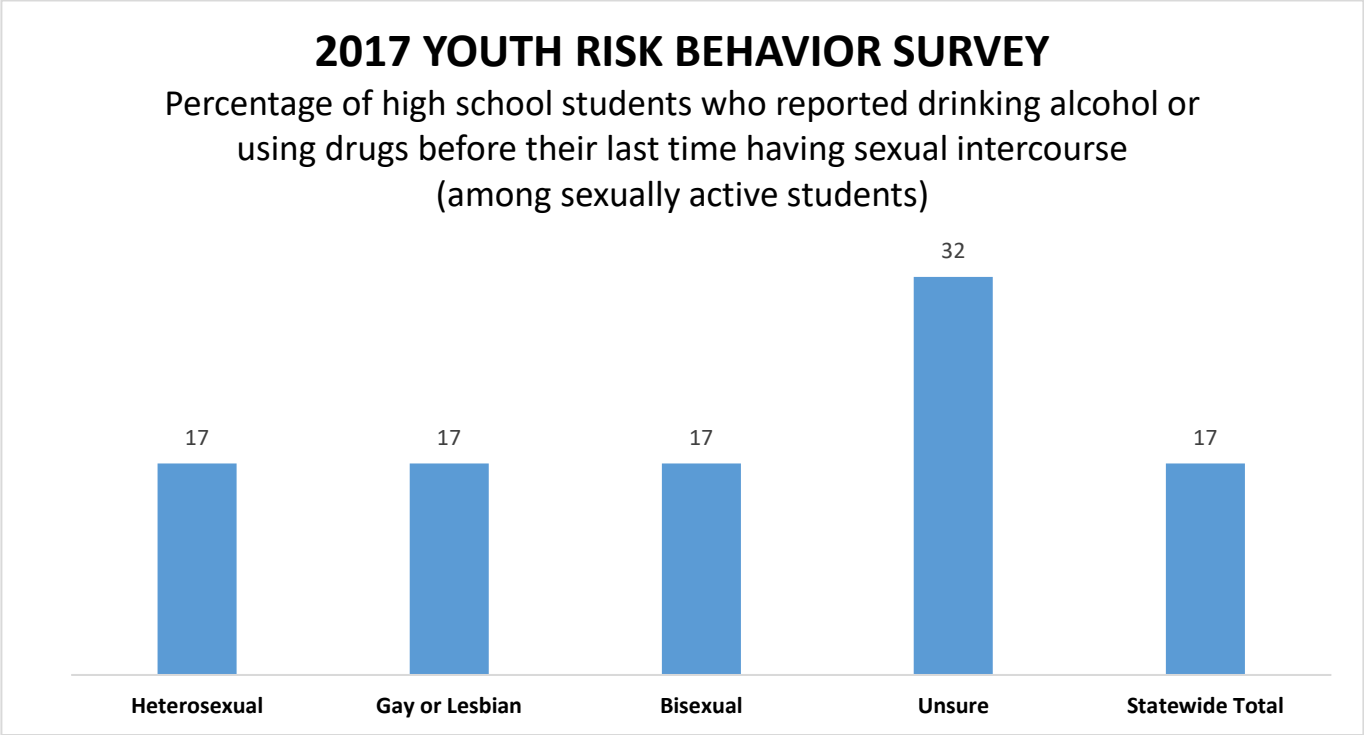

Figure 179 Percentage of high school students reported drinking alcohol or using drugs before last sexual intercourse.

Note:
Unweighted Data
Source: "2017 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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Fighting and Weapon Use

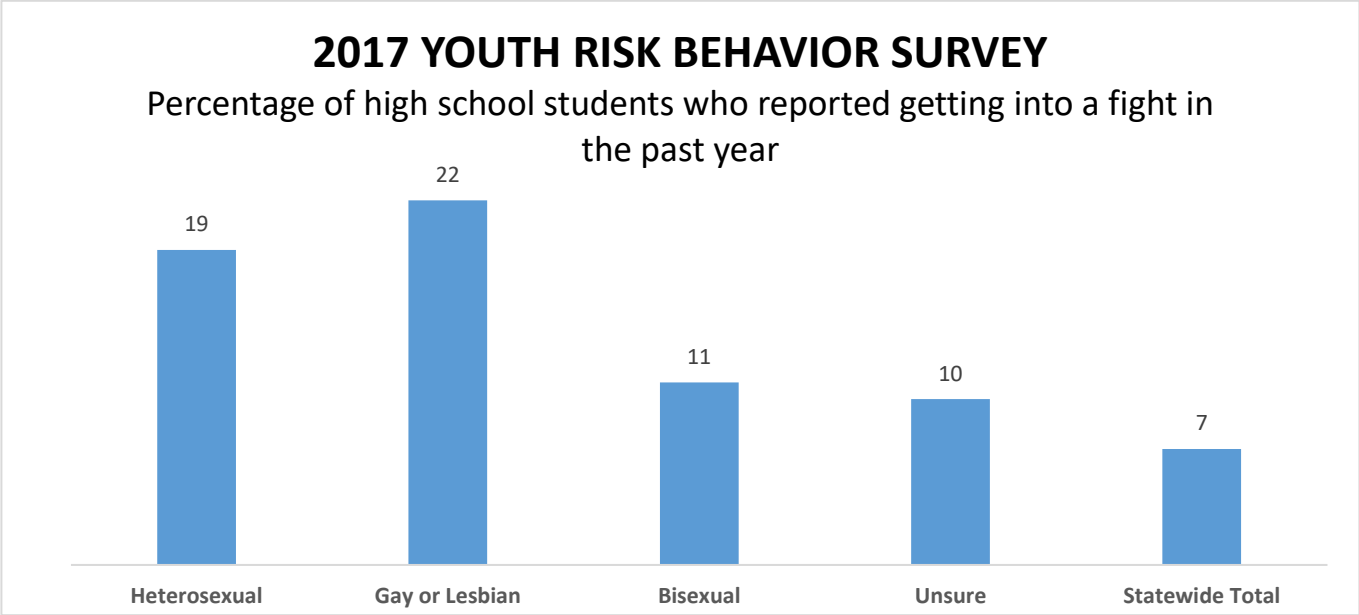

Figure 180 Percentage of high school students who reported getting into a fight in the past year, by sexual orientation

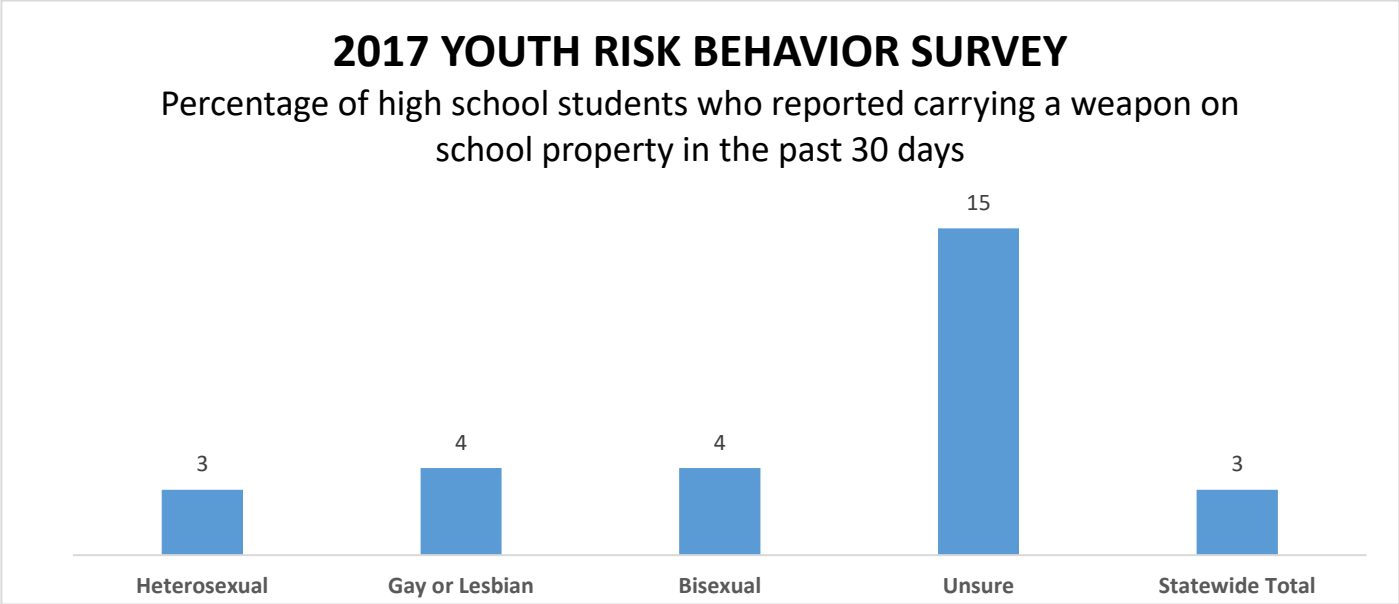

Figure 181 Percentage of high school students who reported carrying a weapon on school property in the past 30 days, by sexual orientation

Note:
Unweighted Data
Source: "2017 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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Bullying

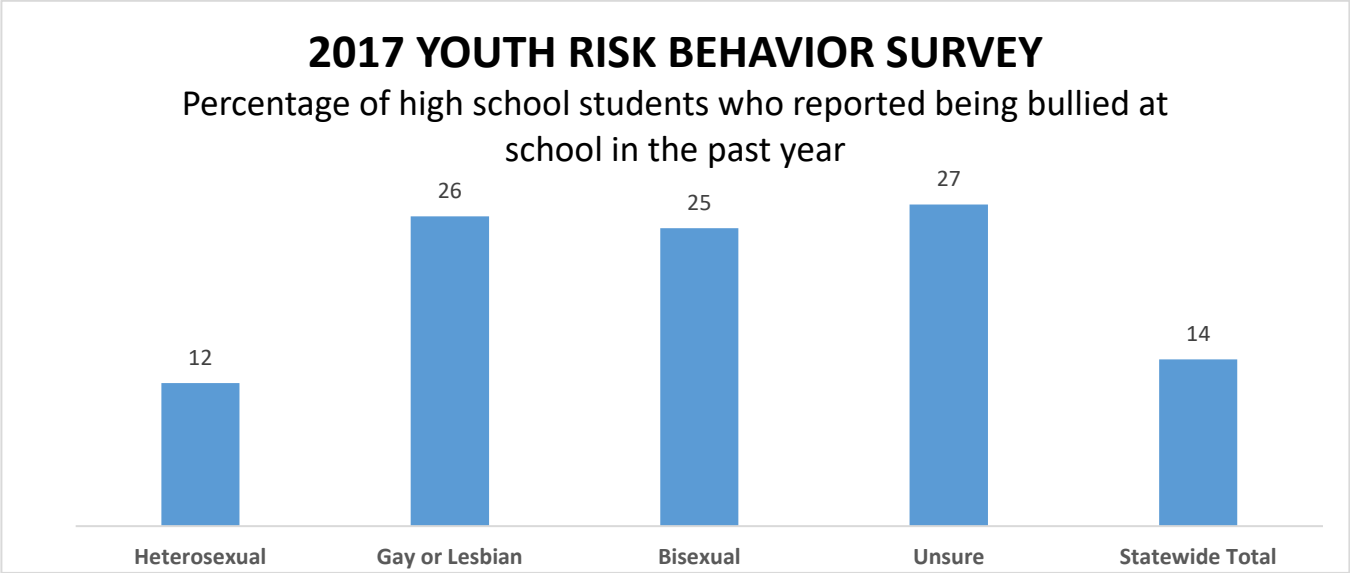

Figure 182 Percentage of high school students who reported being bullied in the past 30 days, by sexual orientation

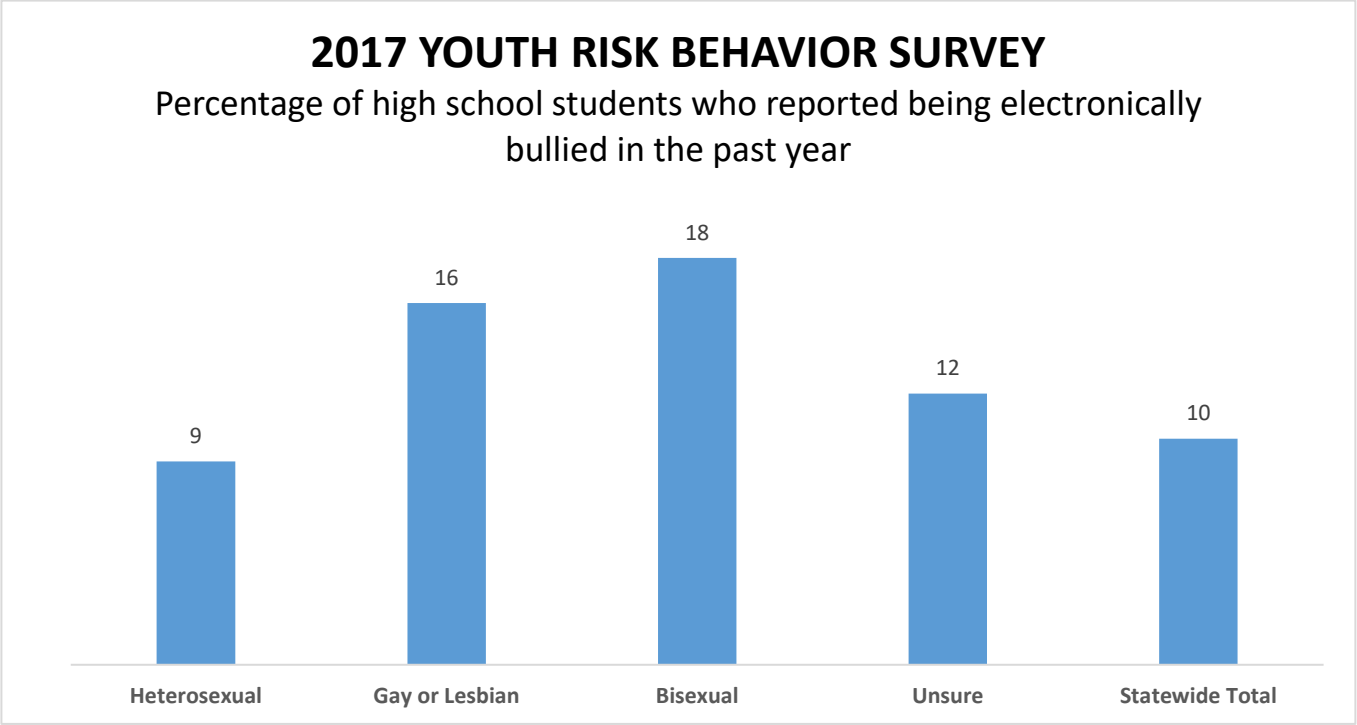

Figure 183 Percentage of students who reported being bullied electronically, by sexual orientation

Note:
Unweighted Data
Source: "2017 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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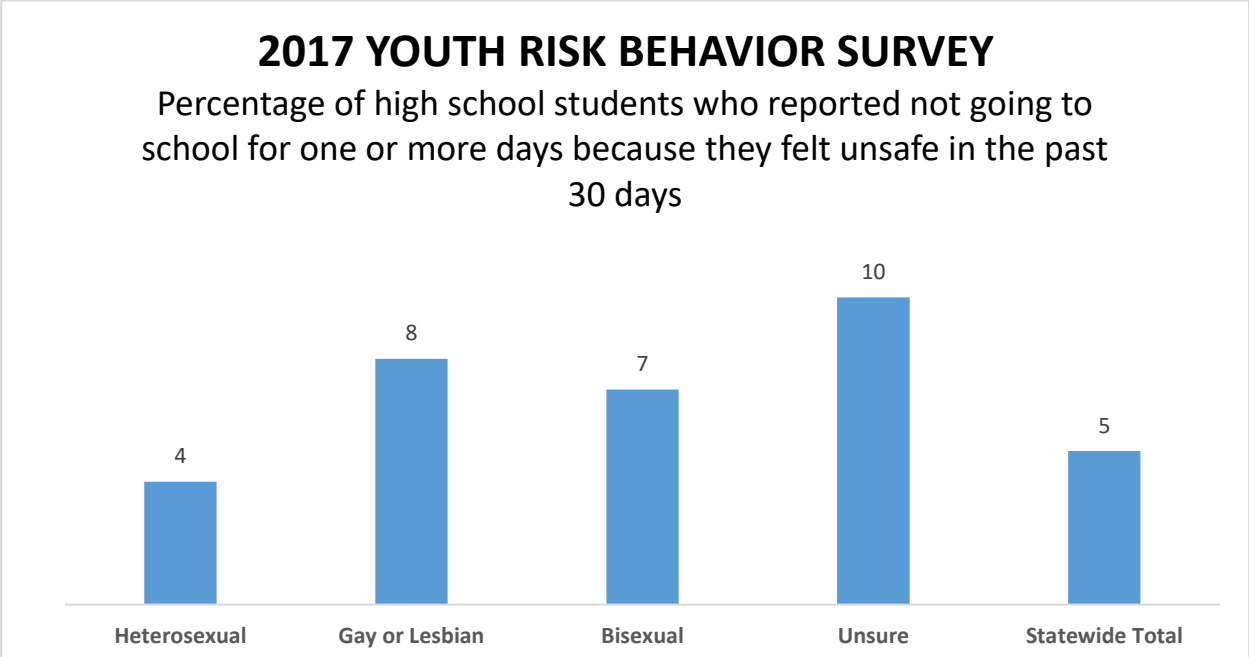

Figure 184 Percentage of high school students who reported not going to school because they felt unsafe

Note:
Unweighted Data
Source: "2017 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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Parental Relationships

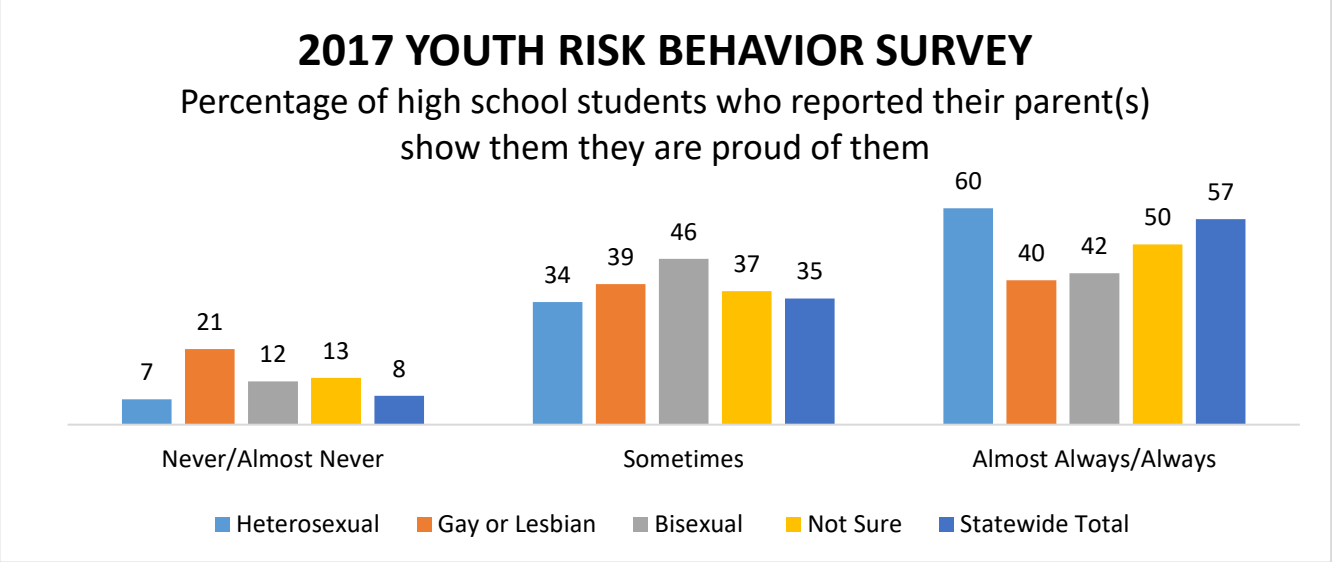

Figure 185 Percentage of high school students who reported their parents show them they are proud of them, by sexual orientation

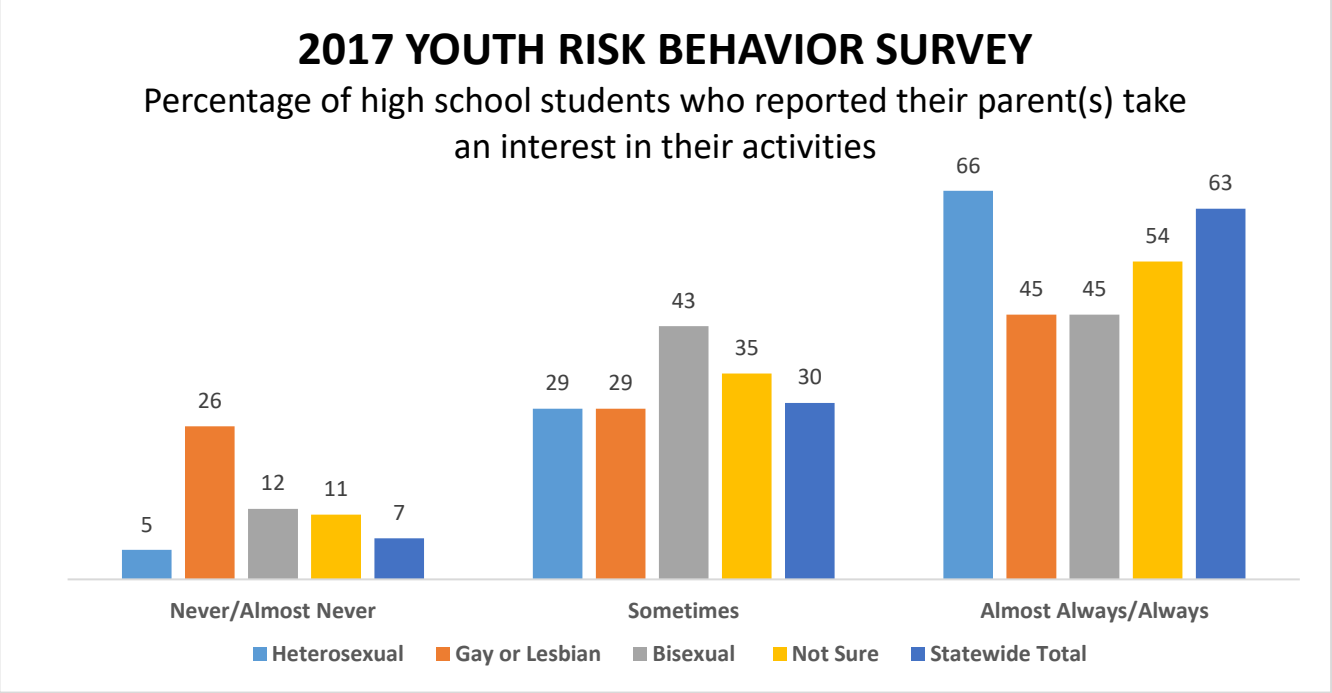

Figure 186 Percentage of high school students who reported their parents take an interest in their activities, by sexual orientation

Note:
Unweighted Data
Source:
"2017 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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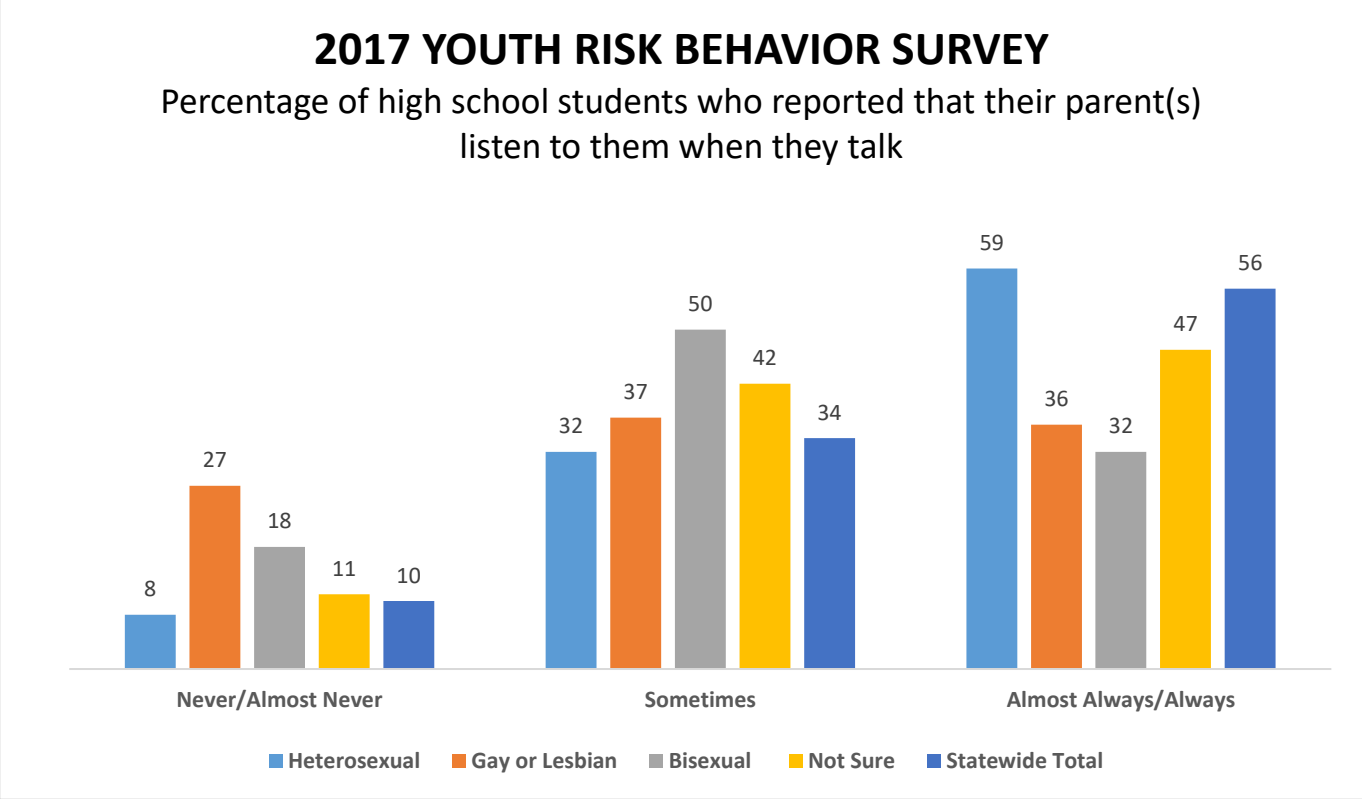

Figure 187 Percentage of high school students who reported their parents listen to them, by sexual orientation

Note:
Unweighted Data
Source:
"2017 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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Mental Health

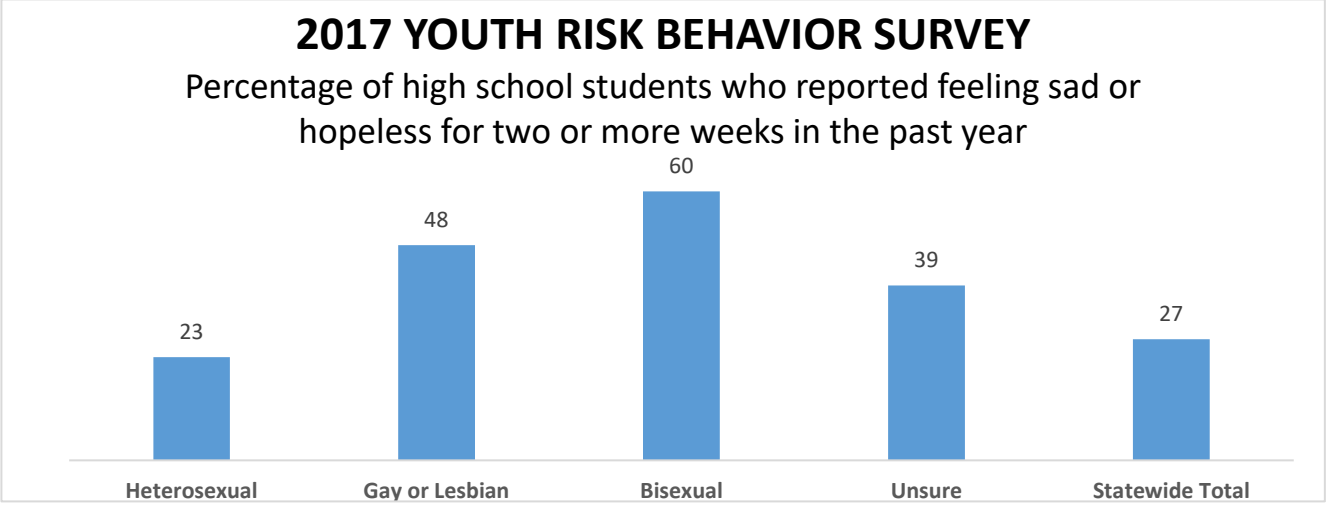

Figure 188 Percentage of high school students who reported feeling sad or hopeless for two or more weeks in the past year, by sexual orientation.

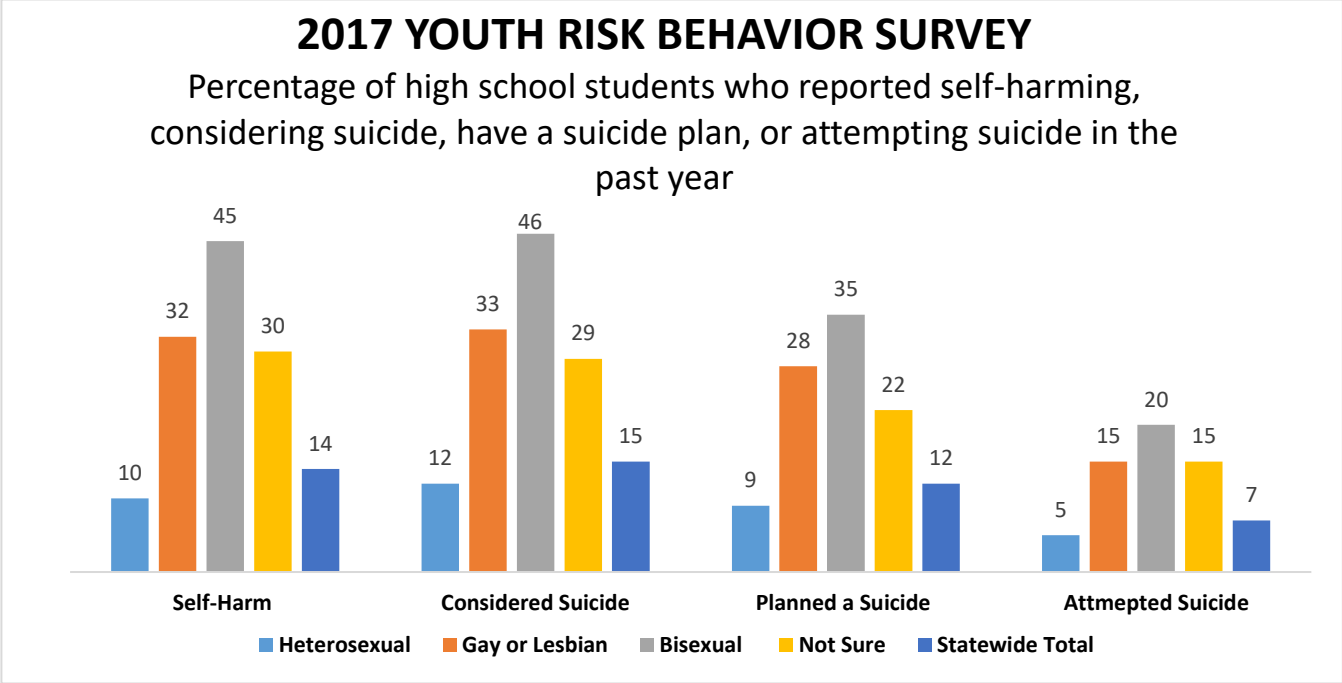

Figure 189 Percentage of high school students who reported self-harming, considering suicide, having a suicide plan, and attempting suicide, by sexual orientation.

Note:
Unweighted Data
Source:
"2017 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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Transgender Youth

It is estimated that there are approximately one million people in the US who identify as transgender (Meerwiljk and Sevelius, 2017). For the first time, the CDC provided states with a question for the 2017 Youth Risk Behavior Survey (YRBS) to capture the rate of students reporting transgender status:

Are you transgender?

a) No, I am not transgender.

b) Yes I am transgender.

c) I am not sure if I am transgender.

d) I do not know what this question is asking.

The question was included in the 2017 Delaware High School YRBS. Among the students who responded, 1.2% identified as transgender, while another 1.2% identified as unsure. With a statewide total of over 40,000 students in Delaware public high schools, that would suggest that approximately 500 students identify as transgender with an additional 500 unsure.

Historically, gender minority research has not been robust, even within studies of issues that face members of the LGBT community as a whole. Despite this research gap, what is known indicates that transgender and genderqueer youth face elevated risk for physical and mental health disparities. Grossman and D'Augelli (2007) point out that these youth are exposed to internal and external stressors that may contribute to risky and dangerous behaviors, such as self-harm and substance use. Adolescence is a developmental stage associated with increased exploration and experimentation while, at the same time, defining the parameters of relationships with peers and adults. For transgender youth, youth who are questioning their gender identity, or youth who identify with neither or both gender or in some other way, there is the additional component of navigating these challenges as an individual who does not conform to traditional gender norms and expectations.

Two ways to promote wellness in adolescence, regardless of gender identity, is to encourage open, non-judgmental conversation, safe spaces, and positive adult support. Ryan, Russell, Huebner, Diaz, and Sanchez (2010) also found that "…family acceptance in adolescence is associated with young adult positive health outcomes…protective for negative health outcomes (depression, substance abuse, and suicidal ideation and attempts)".

Due to the sample size of the YRBS, further analysis among this group regarding substance use and other risk behaviors, as well as protective factors, is not feasible. It is possible that in the future, researchers will be able to combine YRBS data sets from 2017 and subsequent years, or collaborate with surveyors from other states that posed the transgender question, to analyze these associations. Nonetheless, the existing literature documents the need to provide prevention strategies that are culturally competent and inclusive of this population of youth.

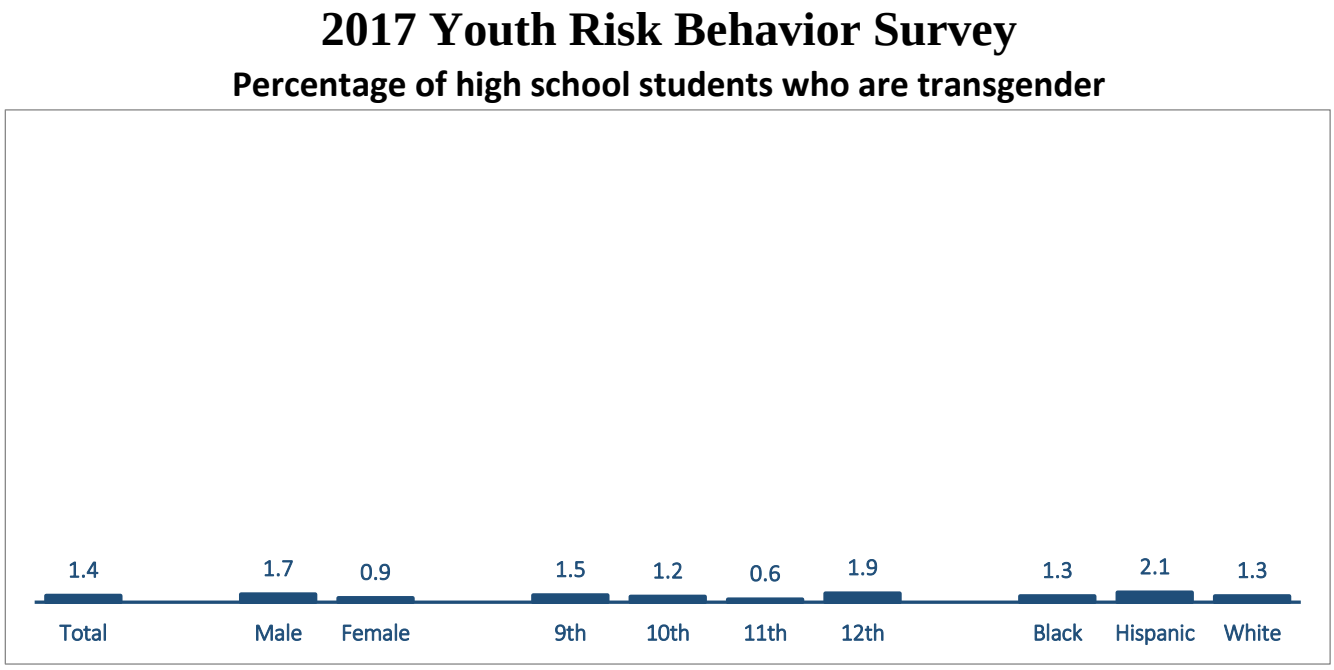

Figure 190 Percentage of high school students who are transgender

Note:
Weighted data

Source:
"2017 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

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 a larger 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 2017 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 2017 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 a 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 2017 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.). In sum, clear and consistent limits, discipline, and rules from caregivers are important components that support healthy youth development. Further, the feeling of connectedness through positive family, peer, and social relationships builds resilience in youth. Healthy relationships and social supports promote mental wellness and life skill development.

The Delaware data on protective factors from various youth surveys are provided here for use in strengthening and developing strategies for the prevention of youth substance abuse throughout the state.

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.

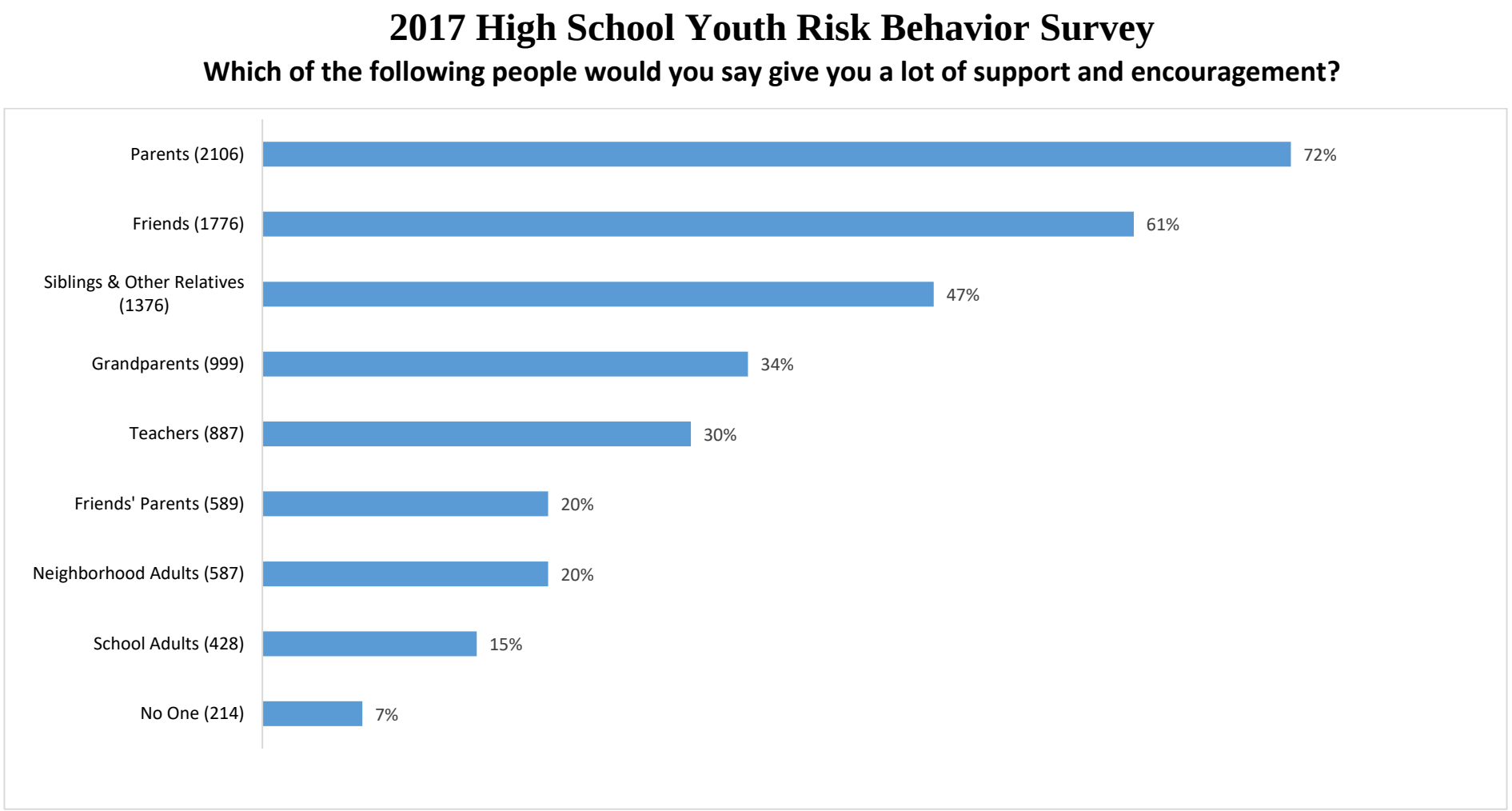

Figure 191 Breakdown of reported sources of support students receive.

Notes:
Unweighted Data, each column in the graph represents the percentage of students use a type of substance among all students receiving the same grade.
Binge drinking is defined as having 5 or more drinks in a row within a couple hours in the past month.
Source: "2017 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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2017 High School Youth Risk Behavior Survey

If you had a personal problem with drinking, drug use, violence you have seen or that has affected you, or sexual behavior, who would you *most likely* talk to?

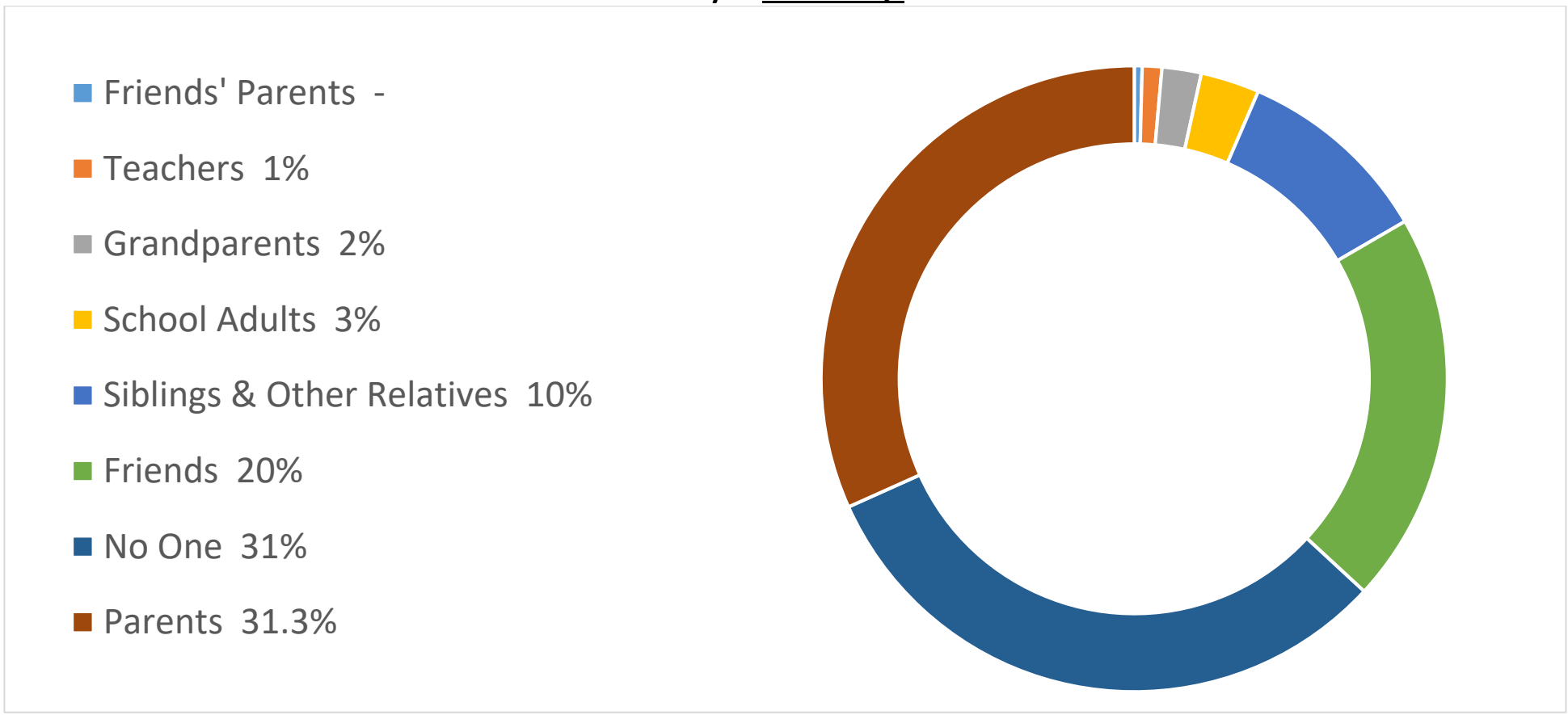

Figure 192 People students would like to talk to when having a problem.

Notes:
"-" represent less than 1%
Unweighted Data
Source: "2017 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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2017 High School Youth Risk Behavior Survey[a]

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

Academic achievement

	Mostly As	Mostly Bs	Mostly Cs	Mostly Ds or Fs
Statewide	30%	38%	22%	6%
Male	22%	38%	27%	8%
Female	38%	38%	16%	4%

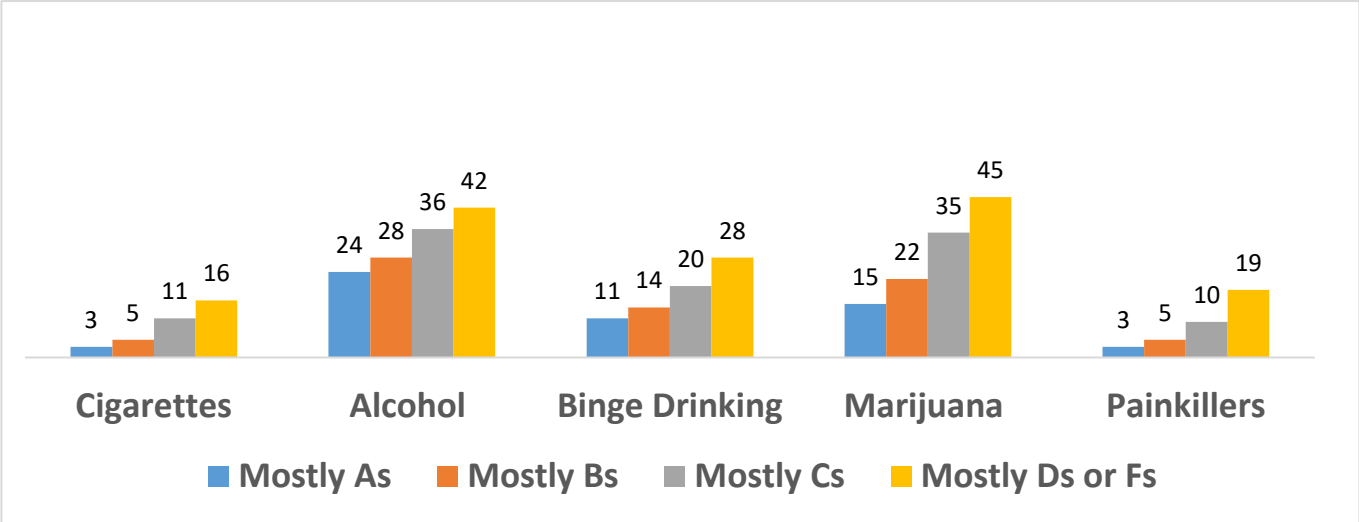

Figure 193 Individual protective factors and substance use

Notes:
[a]Unweighted Data, each column in the graph represents the percentage of students use a type of substance among all students receiving the same grade.
[b]Binge drinking is having 5 or more drinks in a row within a couple hours in the past month

Source: "2017 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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2017 High School Youth Risk Behavior Survey[a]

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

There are clear rules/consequences in my home

	Strongly Agree/ Agree	Unsure	Strongly Disagree/ Disagree
Statewide	81%	12%	7%
Male	81%	12%	7%
Female	81%	12%	7%

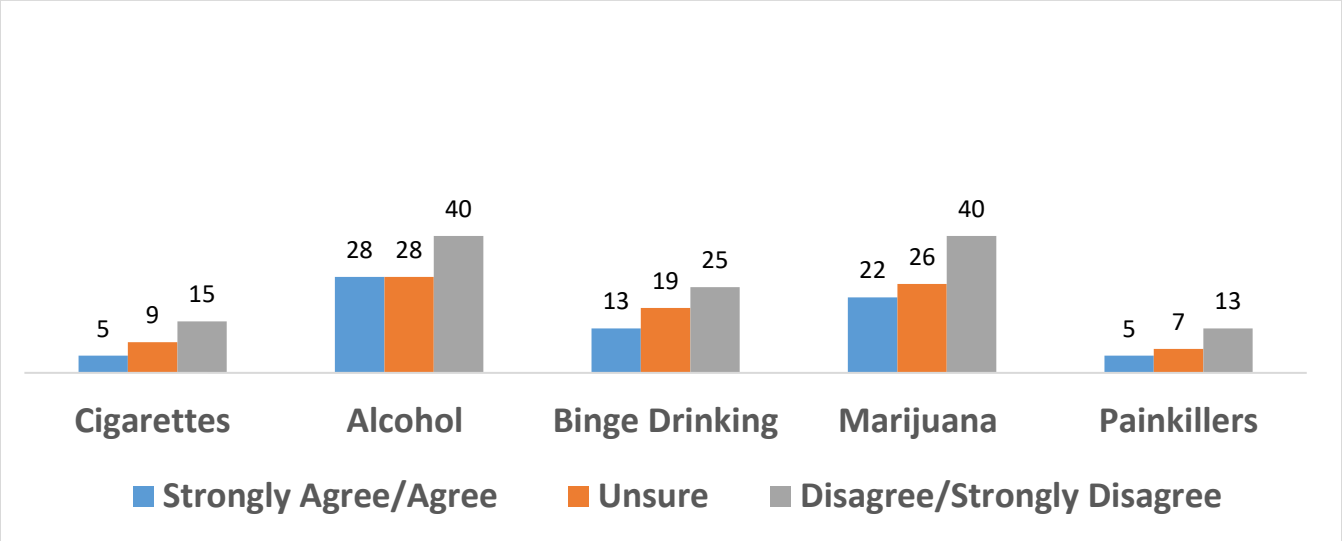

Figure 194 Family protective factors and substance use

Notes:

[a] Unweighted Data

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

Source: "2017 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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2017 High School Youth Risk Behavior Survey[a]

Peer protective factors and past month substance use[b] (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
Statewide	15%	23%	62%
Male	19%	25%	57%
Female	11%	22%	66%

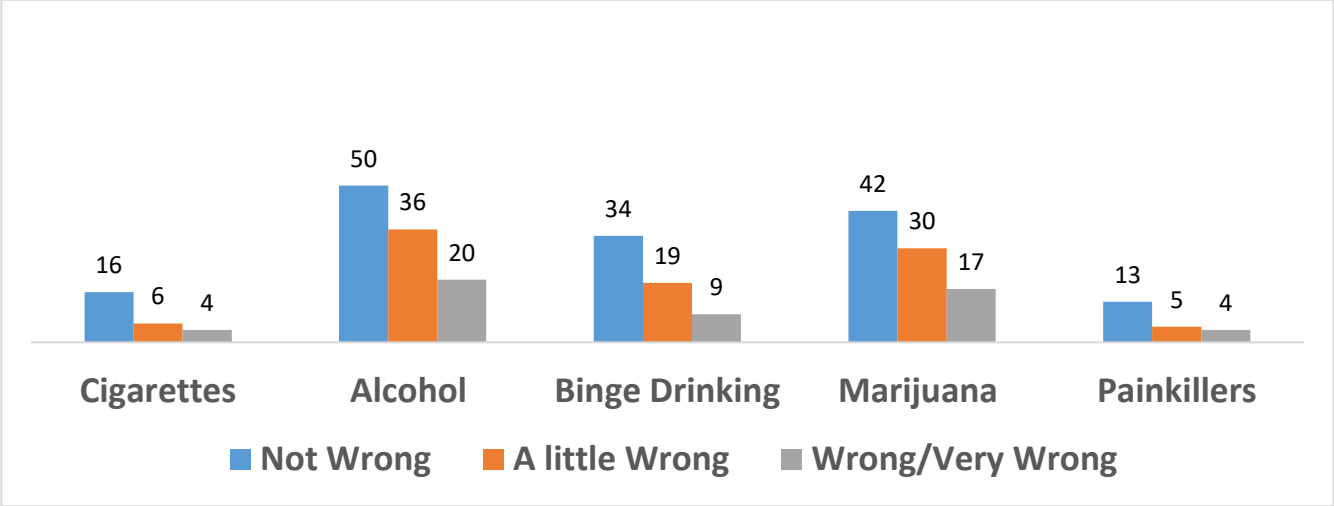

Figure 195 Peer protective factors and substance use

Notes:

[a] Unweighted Data

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

Source*:* "2017 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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2017 High School Youth Risk Behavior Survey[a]

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

How wrong do your friends think it would be to use a prescription drug without a prescription?

	Not Wrong	A little Wrong	Wrong/ Very Wrong
Statewide	7%	12%	80%
Male	11%	14%	75%
Female	4%	11%	85%

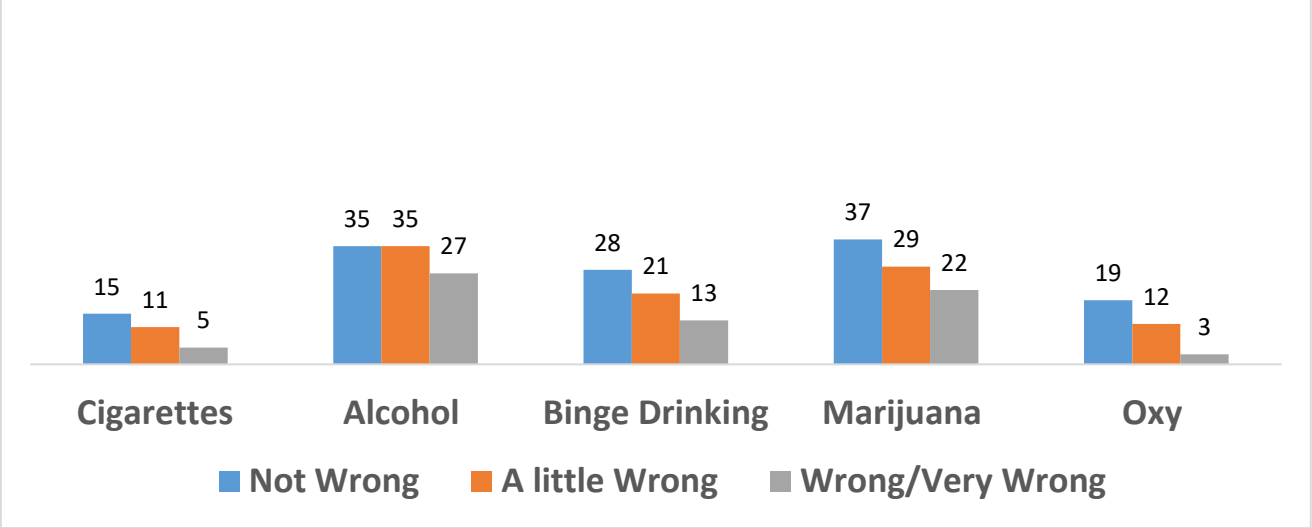

Figure 196 Peer protective factors and substance use

Notes:

[a] Unweighted Data

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

Source: "2017 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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2017 High School Youth Risk Behavior Survey

Individual protective factors and past year mental health: Academic achievement (in percentages)

	Depressed for two weeks at a time	Self-Harm	Attempt Suicide
Statewide	27%	14%	7%
Male	17%	8%	4%
Female	37%	19%	9%

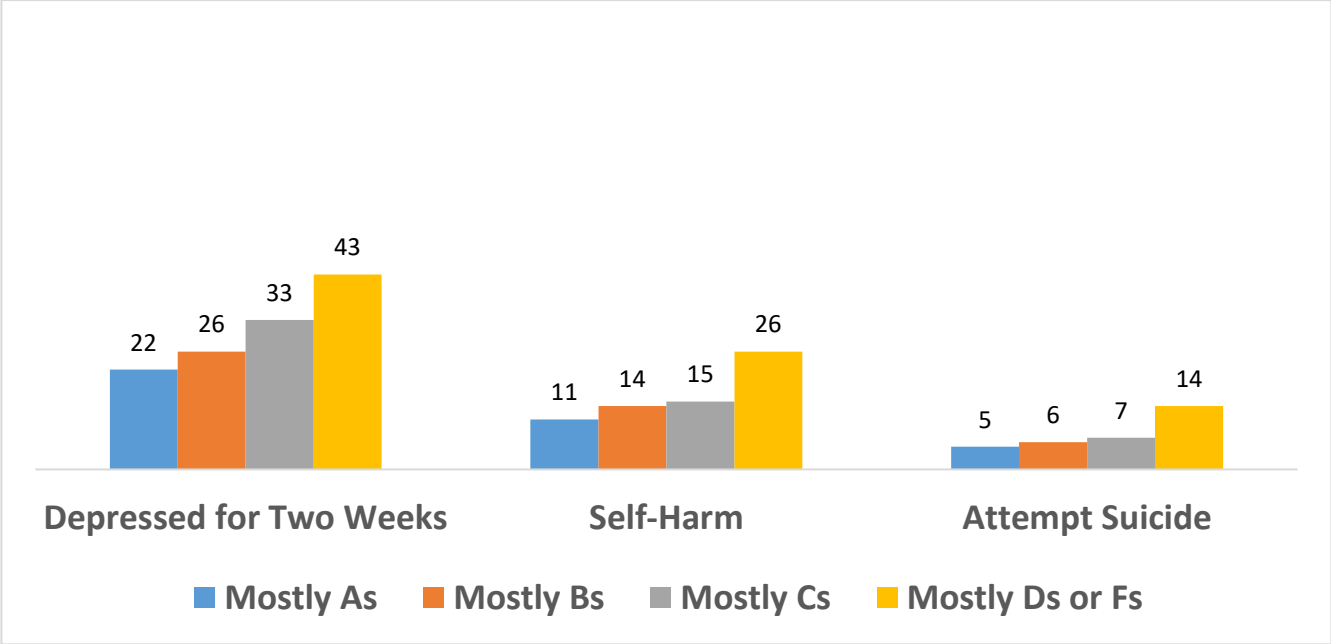

Figure 197 Individual protective factors and past year mental health

Note:
Unweighted Data

Source: "2017 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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2017 High School 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	25	31	47
Males	15	20	40
Females	34	41	52
Self-Harm	12	17	30
Males	7	11	27
Females	17	22	33
Attempt Suicide	6	7	14
Males	3	5	17
Females	8	8	12

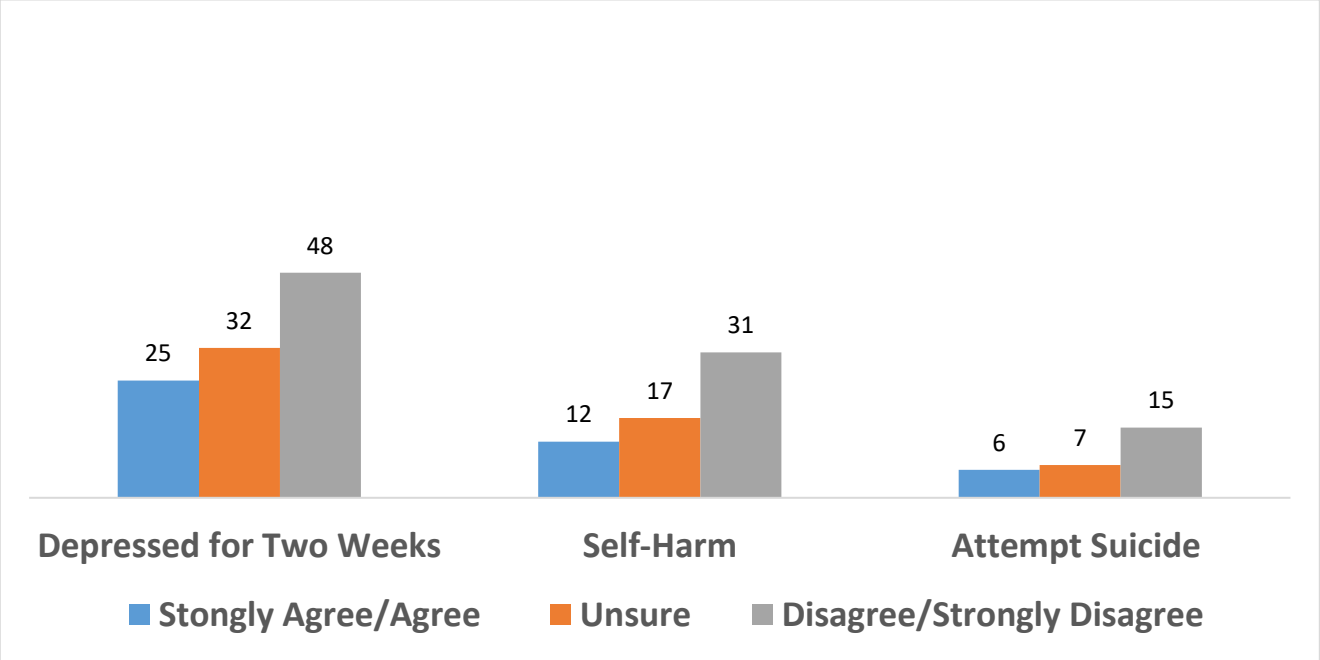

Figure 198 Family protective factors and mental health

Note:
Unweighted Data

Source: "2017 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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2017 High School 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	33	32	24
Males	20	20	14
Females	51	43	31
Self-Harm	17	15	13
Males	11	10	6
Females	25	20	17
Attempt Suicide	10	7	6
Males	7	3	3
Females	15	10	7

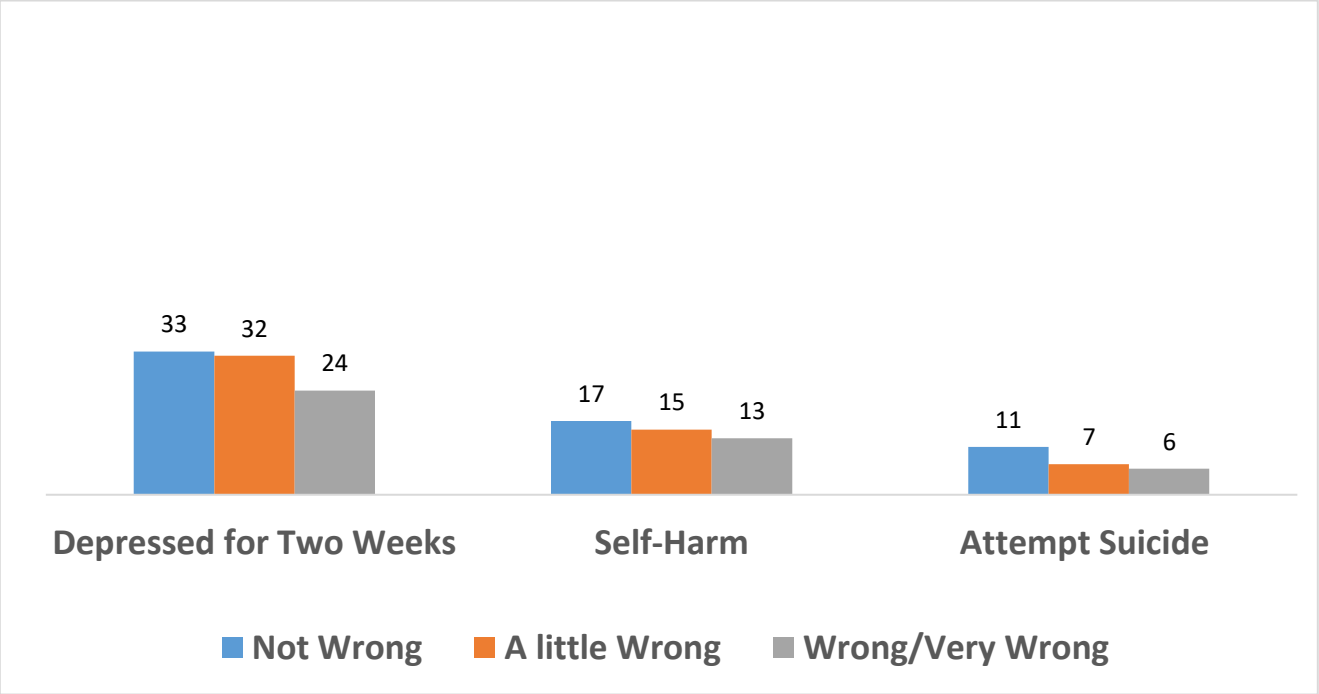

Figure 199 Peer protective factors and past year mental health

Note: Unweighted Data

Source: "2017 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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2017 High School Youth Risk Behavior Survey

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

How wrong do your friends feel it would be to use prescription drugs without a prescription?

	Not Wrong	A little Wrong	Wrong/ Very Wrong
Depressed for two weeks at a time	32	32	26
Males	22	20	16
Females	55	47	34
Self-Harm	17	18	13
Males	14	10	7
Females	25	27	17
Attempt Suicide	12	8	6
Males	11	5	3
Females	13	11	8

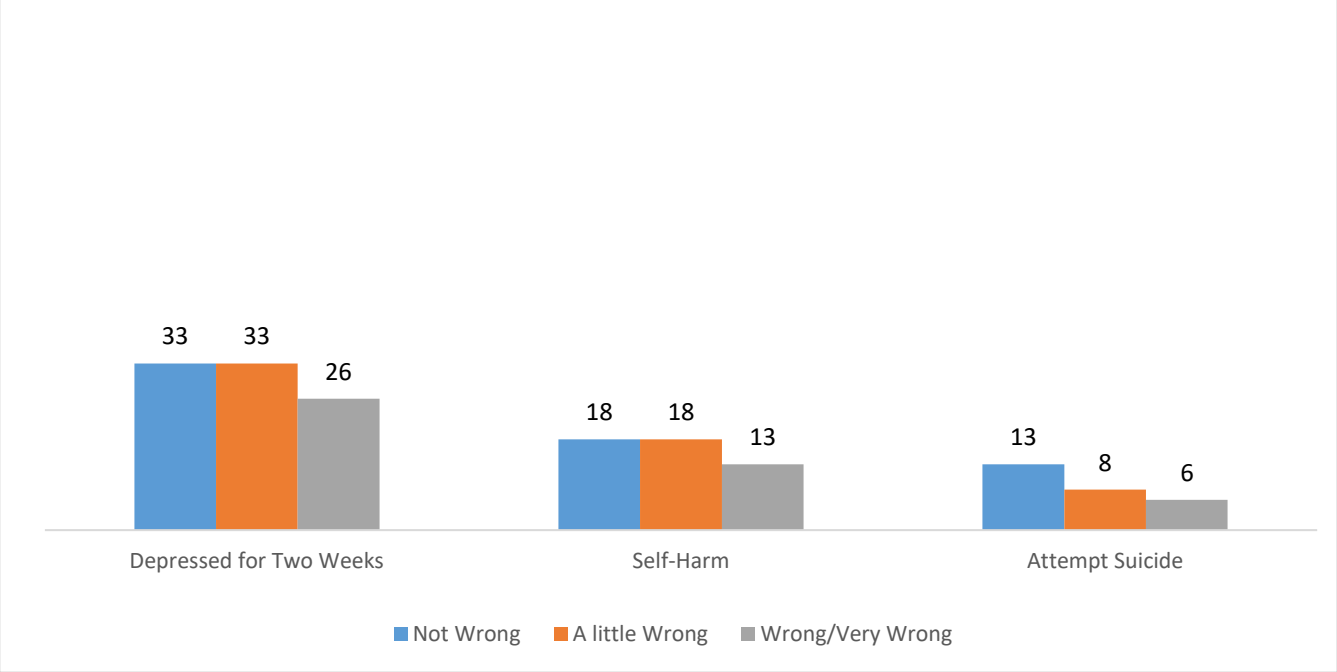

Figure 200 Peer protective factors and past year mental health

Note: Unweighted Data

Source: "2017 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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2018 Data Sources

Data Instrument	Administered/Compiled by	Most Recent Data	Data Range
Data Base/Diagnostics Plus	-	-	1989-1993
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 Courts	Office of the Child Advocate	2017	-
Delaware Department of Health and Social Services	DE Division of Substance Abuse and Mental Health	-	2012 – 2017
Delaware Department of Safety and Homeland Security	Medical Examiner, Division of Forensic Medicine	2016	2014 – 2016
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	2017	1995 – 2017
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)	2017	1999 – 2017
Delaware Youth Risk Behavior Survey (YRBS) – Middle School	Center for Drug and Health Studies, UD (sponsored by Nemours)	2017	1999 – 2017
Delaware Youth Tobacco Survey (YTS) – 6th =12th grades	Center for Drug and Health Studies, UD (sponsored by the DE Division of Public Health and the CDC)	2016	-
Department of Public Instruction	-	1994	-
Monitoring the Future	University of Michigan	2017	2016 – 2017
National High School Youth Risk Behavior Survey	US Centers for Disease Control	2017	1995 – 2017
National Poison Data System	American Association of Poison Control Centers	2012	2012-2017
Performance Measures, Delaware	National Highway Traffic Safety Administration	2016	2007 – 2016
National Survey of Children's Health	US Census Bureau	2016	2016
National Survey on Drug Use and Health (NSDUH)	US Substance Abuse and Mental Health Services Administration	2015-2016	2002 – 2016
Treatment Admissions Data	US Substance Abuse and Mental Health Services Administration, DE Division of Substance Abuse and Mental Health	2017	2003 – 2017

In addition to the data sources for the figures and tables in the 2018 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
- Delaware State Police/Delaware Statistical and Analysis Center
- Health Resources and Services Administration
- Kaiser Family Foundation
- KIDS COUNT in Delaware
- PolicyMap
- Prescription Behavior Surveillance System at Brandeis University
- Tobacco21.org
- U.S. Department of Health and Human Services
- U.S. Census Bureau