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The Social Health of Nevada

Leading Indicators and Quality of Life in the Silver State

Addiction and Substance Abuse in Nevada

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Introduction

Substance abuse is an issue with serious health and societal consequences in Nevada and throughout the nation. In 2016, drug overdoses were responsible for approximately 64,000 deaths in the United States, surpassing motor vehicle deaths by 60 percent (National Institute on Drug Abuse, 2018). Recent attention has been focused on the spike in opioid use and its implications for public health. Nationally, deaths from opioid overdoses increased from 6.1 per 100,000 in 1999 to 19.8 per 100,000 in 2016. Nevada's experience has mirrored national trends, with the drug overdose death rate in the state increasing from 11.5 per 100,000 in 1999 to 21.7 per 100,000 people in 2016 (Trust for America's Heath, 2013; Center for Disease Control and Prevention, 2017b). In comparison, the three states with the highest rate of death due to drug overdose in 2016 were West Virginia (52.0 per 100,000), Ohio (39.1 per 100,000) and New Hampshire (39.0 per 100,000) (Center for Disease Control and Prevention, 2017b).

The three main substances of use in Nevada are alcohol, tobacco and marijuana. The recent crisis in opioid use has overshadowed some of the successes in lowering rates of alcohol and

Highlights

- In 2016, drug overdoses were responsible for some 64,000 deaths in the U.S., surpassing motor vehicle deaths by 60 percent.
- Between 1999 and 2016, the drug overdose death rate in Nevada increased from 11.5 to 21.7 per 100,000 people.
- In 2016, Nevada's opioid death rate was 13.8 deaths per 100,000 people, compared to a national average of 10.4 deaths per 100,000 people.
- In 2016, Nevada had one of the highest rates of opioid pain medication prescribing at 87.5 prescriptions per 100 state residents compared to 66.5 prescriptions per 100 residents nationally.

How to Cite this Report

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tobacco use both nationally and in the Silver State across age groups. Use of marijuana has stayed relatively consistent since 2008-2009, and the effects of the legalization of recreational marijuana will be seen in future years. Of illicit drug consumption, the most commonly used substance is opioids. Much focus in Nevada has been on opioid use and ways to decrease the number of deaths as a result, but more emphasis needs to be placed on the increase in fentanyl and heroin addiction that has resulted from tighter regulation on the prescribing of opioids.

The criminalization of substance abuse is shown to be ineffective, as it has created a revolving door in the criminal justice system. Evidence-based practice should guide treatment as well as policy development to reduce the negative consequences of substance use and improve the quality of life for Nevada.

Substance Use Trends in Nevada

The National Survey on Drug Use and Health (NSDUH) is one of the main sources for statistical information on illicit drug use, alcohol use, substance use disorders and mental health issues for the civilian, noninstitutionalized population of the United States. This survey is sponsored by the Substance Abuse and Mental Health Services Administration (SAMSHA), which is within the United States Department of Health and Human services. The survey has been conducted annually in all 50 states since 1971. NSDUH includes residents of households and individuals in noninstitutionalized group quarters, and it consists of face-to-face interviews of about 70,000 people annually using area probability sampling. The results are released every September and are reported for the previous 12-month period (e.g. 2015-2016). The survey is divided into age groups including those 12 years and older, those 12 to 17 years old (adolescents), those 18 to 25 years old (young adults) and those 26 years and older (adults). Other valuable sources of substance use information come from the Centers for Disease Control and Prevention, which includes the Behavioral Risk Factor Surveillance System (BRFSS). The following discussion is based on the data from these surveys and organizations.

In Nevada, as well as nationally, the age group with the highest percentage of substance use for all substances surveyed by NSDUH are those 18 to 25 years old. A combination of reasons may explain why young adults report higher use of illicit drugs. The most likely factor is that this period in life is associated with higher levels of experimentation and risk taking. Another reason – a greater exposure to illicit drugs among youth, whose friends may be using substances and thus increasing their availability. This exposure to drugs decreases as people age (Schulenberg et al., 2016).

Whether high use is a result of their legal status or their low perceived risk, the three substances with the highest use for those 12 years and older in Nevada are alcohol, tobacco and marijuana. An area of concern for Nevada is illicit drug use, most notably opioids which include both heroin and prescription pain relievers. It is important to examine use of these substances in order to improve treatment for addiction.

Alcohol Use

Alcohol remains the most heavily used substance both in Nevada and nationally. In the 2016 NSDUH survey, over one-half of adults in Nevada had used alcohol in the past month. The percentage of the population with past month use appears to decrease for those 12 years and older from 54.47 percent in 2008-2009 to 50.92 percent in 2015-2016. This general decrease in use is seen through all age groups and is illustrated in Table 1 for Nevada as well as in the Table 2 for the United States.

In comparison, the area with the highest rate of past month alcohol use in 2016 was the District of Columbia with 66.33 percent of the population and the lowest was in Utah with 31.08 percent (Centers for Disease Control and Prevention, 2017a). Despite alcohol use in Nevada during previous years being generally higher than national rates, percentages of use in 2015-2016 are similar and slightly lower than national rates in all age groups except for those 12 to 17 years old, where Nevada's rate is 12.3 percent compared to the national rate of 9.4 percent. Underage drinking in Nevada has been linked to traffic crashes, violent crimes, property crime, unintentional injury and high-risk sex. In 2012, 8 traffic fatalities and 395 nonfatal traffic injuries were attributable to driving after underage drinking (Pacific Institute for Research and Evaluation, 2015). This is also of particular concern since early use of alcohol is correlated with problem drinking later in life. Nevada's higher percentage of underage drinking could be attributed to greater accessibility in the number of locations where alcohol is served and sold, a culture where drinking is prevalent and laws permitting underage consumption on private, non-alcohol-selling premises with parental consent.

Table 1. Past Month Alcohol Use in Nevada Among People 12 and Older by Age Group: Percentages 2008-2016

	12+	12-17	18-25	26+
2008/09	54.47	15.29	60.32	58.63
2009/10	54.57	14.47	58.45	59.05
2010/11	53.92	13.08	59.08	58.22
2011/12	52.82	13.61	59.47	56.66
2012/13	54.65	12.76	58.95	59.15
2013/14	54.64	13.59	58.31	59.05
2014/15	52.81	13.67	56.81	56.85
2015/16	50.92	12.28	53.25	55.08

Note. Adapted from SAMSHA, NSDUH Survey data 2008-2009 through 2015-2016.

Table 2. Past month Alcohol Use in United States Among People 12 and Older by Age Group: Percentages 2008-2016

	12+	12-17	18-25	26+
2008/09	51.74	14.79	61.45	54.80
2009/10	51.84	14.23	61.59	54.88
2010/11	51.79	13.47	61.03	54.99
2011/12	51.94	13.11	60.45	55.33
2012/13	52.13	12.23	59.91	55.73
2013/14	52.42	11.55	59.60	56.18
2014/15	52.18	10.58	58.96	56.04
2015/16	51.21	9.40	57.75	55.10

Note. Adapted from SAMSHA, NSDUH Survey data 2008-2009 through 2015-2016.

Tobacco Product and Cigarette Use

The second most commonly used substance in Nevada is tobacco. According to the 2015-2016 NSDUH survey, approximately 1 in 4 Nevada residents reported using tobacco products in the past month, with cigarette smoking comprising the majority (81 percent) of tobacco use. Since tobacco use continues to be the leading cause of preventable deaths in the U.S., this level of tobacco consumption results in a significant cost to the Nevada healthcare system (USDHHS, 2014).

Rates of cigarettes smoking and use of other tobacco products in Nevada are nearly identical to rates experienced nationally. In comparison to other states, West Virginia had the highest percent use at 25.25 and Utah had the lowest at 8.93 percent of the population (Centers for Disease Control and Prevention, 2017a). An encouraging trend is the decline in tobacco use in Nevada and throughout the country (See Tables 3 and 4). This could be attributed to the increased use of electronic cigarettes and ongoing anti-smoking education efforts (UNODC, 2017). Nevada experienced a decrease from 28.44 percent of the total population 12 years and older in 2008-2009 to 23.47 percent in 2015-2016. A decrease in monthly use was seen across all age categories for both tobacco and cigarettes. This trend is very promising because, like alcohol use, early use of tobacco is a strong indicator of long-term use as an adult.

Table 3. Past Month Cigarette Use in Nevada Among People 12 and Older by Age Group: Percentages 2008-2016

	12+	12-17	18-25	26+
2008/09	24.45	9.44	33.92	24.97
2009/10	23.69	7.39	33.17	24.3
2010/11	22.72	6.95	32.79	23.09
2011/12	23.45	7.0	35.36	23.59
2012/13	24.15	6.05	33	24.97
2013/14	23.04	5.34	30.4	24.02
2014/15	21.25	4.4	27.51	22.29
2015/16	19.76	3.43	23.03	21.17

Note. Adapted from SAMSHA, NSDUH Survey data 2008-2009 through 2015-2016.

Table 4. Past Month Cigarette Use in the United States Among People 12 and Older by Age Group: Percentages 2008-2016

	12+	12-17	18-25	26+
2008/09	23.63	9.09	35.8	23.4
2009/10	23.16	8.69	35.09	22.91
2010/11	22.53	8.07	33.92	22.36
2011/12	22.09	7.16	32.65	22.13
2012/13	21.69	6.08	31.23	21.97
2013/14	21.05	5.24	29.49	21.53
2014/15	20.12	4.53	27.54	20.74
2015/16	19.23	3.8	25.12	20.09

Note. Adapted from SAMSHA, NSDUH Survey data 2008-2009 through 2015-2016.

Marijuana

After alcohol and tobacco, marijuana is the most frequently used substance in Nevada, where 8.25 percent of those 12 and older reported use in the past month in the 2015-2016 NSDUH survey. This is similar to the national past month use of those 12 years and older which was 8.6 percent. Rates in Nevada appear to have stayed relatively consistent between the years 2008-2009 and 2015-2016 (Table 5). In comparison, the national trends have appeared to show a general increase from 2008-2009 to 2015-2016 in all age categories with the exception of 12 to 17-year olds, which appear to show little difference (Table 6).

Medical marijuana use in Nevada was made legal in 2000, but it was not until 2013 when Senate Bill 374 passed that commercial distribution was made possible and not until 2015 that the first medical marijuana dispensary opened in Nevada. Whether any future increase in the rate of use in Nevada will be attributable to the 2017 legalization

of the sale and use of recreational marijuana under Nevada Revised Statue 453D is difficult to predict. Past month use appears to have stayed consistent throughout the years in which access to medical marijuana was allowed, as shown in Figure 5. The experience of Colorado and Washington that legalized recreational use between surveys conducted in 2008-2009 and 2015-2016 did appear to show an increase in the rate of usage that exceed the national average. However, other states that did not legalize recreational marijuana also saw general increases. For example, use among those 12 years and older increased at a rate of 6.15 percent in Colorado and 4.81 percent in Washington, far exceeding the national average increase of 2.2 percent during this period. Some states that did not change their laws during this period also showed increases above the national average during this period. These include Vermont and Alaska that experienced increases of 6.08 and 4.51 percent respectively.

Table 5. Past Month Marijuana Use in Nevada Among People 12 and Older by Age Group: Percentages 2008-2016

	12+	12-17	18-25	26+
2008/09	7.0	8.96	18.34	5.06
2009/10	7.01	7.61	18.16	5.22
2010/11	7.64	8.54	19.68	5.61
2011/12	8.36	8.77	20.01	6.44
2012/13	7.98	8.33	18.56	6.25
2013/14	7.76	7.97	18.01	6.13
2014/15	7.81	7.39	17.05	6.43
2015/16	8.25	8.65	18.25	6.71

Note. Adapted from SAMSHA, NSDUH Survey data 2008-2009 through 2015-2016.

Table 6. Past Month Marijuana Use in the United States Among People 12 and Older by Age Group: Percentages 2008-2016

	12+	12-17	18-25	26+
2008/09	6.4	7.03	17.42	4.42
2009/10	6.77	7.38	18.39	4.68
2010/11	6.94	7.64	18.78	4.8
2011/12	7.13	7.55	18.89	5.05
2012/13	7.4	7.15	18.91	5.45
2013/14	7.96	7.22	19.32	6.11
2014/15	8.34	7.2	19.70	6.55
2015/16	8.6	6.75	20.3	6.88

Note. Adapted from SAMSHA, NSDUH Survey data 2008-2009 through 2015-2016.

Illicit Drug Use

The broad category of illicit drug consumption includes the misuse of prescription psychotherapeutics as well the use of cocaine, heroin, hallucinogens, inhalants and methamphetamine. As marijuana is legal in Nevada, it is not included in this category. Rates in use of these drugs among Nevada residents appear to be similar to the national experience. The 2015-2016 NSDUH found that approximately 3.57 percent of Nevada residents 12 years and older had used illicit drugs in the past month, compared to 3.42 percent nationally. A slightly higher number of Nevada residents aged 12 to 17 years old reported use of illicit drugs (4.07 percent) than nationally (2.71 percent). The NSDUH survey has changed its definition and number of substances included in this category so tracking historical trends is not possible. The substance of highest use in this category is opioids.

According to NSDUH 2015-2016:

- In Nevada, past month use of an illicit drug other than marijuana was 3.57 percent of the total population 12 years and older, 4.07 percent of those12 to 17 years old, 6.73 percent of those 18 to 25 years old and 3.03 percent of those 26 years and older.

- In comparison, past month use of an illicit drug other than marijuana appears to be higher in Nevada than the national average in all age categories except those 18 to 25 years old. In the United States, past month use of an illicit drug other than marijuana included 3.42 percent of the total population 12 years and older, 2.71 percent of those 12 to 17 years old, 7.32 percent of those 18 to 25 years old and 2.86 percent of those 26 years and older.

Opioids

Opioids work by attaching to receptors in the brain to inhibit the transmission of pain signals and by increasing the release of dopamine in the brain, causing the feeling of euphoria (National Institute on Drug Abuse, 2018). Prolonged and elevated use can be dangerous, as high doses or potencies of opioids can cause severe respiratory depression that can be fatal (Dowell, Haegerich & Chou, 2016). Long-term use of opioids may also increase sensitivity to pain, known as hyperalgesia (Lee, Sanford, Hansen, Patel, & Manchikanti, 2011).

Opioid use has been of great concern given the high number of opioid related deaths within the last few years. Nevada's opioid death rate was 13.8 deaths per 100,000 people in 2016, compared to a national average of 10.4 deaths per 100,000 people. This included 235 deaths from prescription opioids, 86 deaths from heroin and 53 deaths from synthetic opioids such as fentanyl (Kaiser Family Foundation, 2018).

According to the 2015-2016 NSDUH survey, past year misuse of pain relievers appears to be slightly higher for those 12 years and older in Nevada at 4.96 percent of the

population, compared to 4.46 percent in the United States. Similar to other substances, highest use is in the 18 to 25 age group comprising 7.86 percent of the population in Nevada and 7.82 percent in the United States. In Nevada, 3.72 percent of the population 12 to 17 years old misused pain relievers in the past year and 4.63 percent of those 26 years and older. In the United States, pain relievers were misused in the past year by 3.72 percent of those 12 to 17 years old and 4 percent of those 26 years and older.

According to the Nevada Department of Health and Human Services (2016), opioid use and negative health consequences resulting from that use are widespread throughout Nevada. During 2016, overdoses from opioid use resulted in emergency room visits in all but 3 of Nevada's 17 counties. Overdose deaths occurred in 13 counties during that year (Appendix C).

Rates of hospitalization and death from opioid overdoses vary widely among Nevada's counties. Overdose rates in any one year can be misleading, however, in the less populated counties of the state. For example, Lincoln County had a significantly higher rate than other counties of overdose deaths in 2016. This reflects just a few overdoses in that year, while between 2011 and 2015 there were no overdoses in Lincoln County.

Examining the trends in Nevada's largest and most urbanized counties, Clark and Washoe, shows some decline in overdose deaths and emergency room visits. The death rate in Clark County decreased steadily between 2001 and 2016, from 16.6 per 100,000 population in 2011 to 12.3 in 2016. Emergency room visits also decreased, from a rate of 24.2 per 100,000 in 2011 to 16.0 in 2016. Washoe County also reported fewer overdoses during this period. The death rate decreased from 18.4 in 2011 to 14.9 in 2016. Emergency room visits held more stead, decreasing from 17.0 to 15.9 during this period.

Of particular concern in Nevada is the increase in use of fentanyl, a synthetic analgesic that is 25 to 50 times more potent than heroin. While fentanyl can be prescribed, it can also be manufactured illegally and as 2010-2015 prescribing rates for pharmaceutical fentanyl have remained fairly consistent, illegal manufacturing is likely be a driver of increased access (Centers for Disease Control and Prevention, 2017d). Fentanyl is especially dangerous as it can be mixed with cocaine or heroin, increasing potency without the user knowing and causing fatal overdoses.

Prescription drug diversion has also become a major factor in opioid use in which only 15 percent of people who are at the highest risk for prescription misuse report getting prescription drugs from a drug dealer, yet 27 percent receive them from a physician's prescription, 26 percent from friends or relative, and 23 percent buy them from friends of relatives. In 2016, Nevada had one of the highest rates of opioid pain medication prescribing at 87.5 prescriptions per 100 state residents compared to 66.5 prescriptions

per 100 residents nationally, ranking second highest in hydrocodone and oxycodone prescribing (Centers for Disease Control and Prevention, 2017c).

As more attention has been brought to opioid deaths, rates of prescribing have decreased. This has resulted in a more limited supply and a higher cost of prescription opioids that has caused many users to shift to heroin (Cicero, Eliis & Harney, 2015). This is demonstrated in a study done by Jones (2013), which showed that of heroin users surveyed between 2008-2010, 83 percent reported prescription opioid use prior to heroin initiation compared to 64 percent of those sampled in 2002-2004. This is particularly alarming as it was found that 69.7 percent of those admitted into substance abuse treatment for heroin indicated injection as the usual means of administration while only 14.3 percent of those admitted for opioid prescription misuse indicated injection use (SAMSHA, 2016). Injection drug use comes with health risks including hepatitis c and the human immunodeficiency virus (HIV), causing heroin to have an oversized impact on the state's health care and social service system. In Nevada, past year heroin use was 0.33 percent for those 12 years and older, 0.05 percent of those 12 to 17 years old, 0.74 percent of those 18 to 25 years old and 0.3 percent of those 26 years and older. This closely followed national rates where past year heroin use was 0.33 percent of the total population 12 years and older, 0.07 percent of those 12 to 17 years old, 0.64 percent of those 18 to 25 years old and 0.31 percent of those 26 years and older.

When Use Become Addiction

There are many components that contribute to the likelihood of a person developing an addiction including genetics, adverse childhood experiences, trauma and the type of substance used. Addiction is defined as compulsive drug seeking and use despite negative consequences (National Institute on Drug Abuse, 2018). Addiction has been explained through the brain disease model, which has become widely accepted in the scientific community as attitudes have shifted away from viewing substance abuse as a sign of moral weakness. Substance use prompts a release of dopamine in the brain that causes the brain to regulate by reducing dopamine levels inducing the user to seek more of the substance in order to achieve the same effects. Continual erosion of dopamine receptors leads to more impulsivity and more use, leading to addiction (Volkow, 2016).

The data below provides estimates of the numbers of people in Nevada determined to have one or more substance use disorders as reported in the 2015-2016 NSDUH. The definition of substance use disorder used in this survey is, "meeting criteria for illicit drug or alcohol dependence or abuse. Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV)". A series of questions asked in the survey are used to assess

dependence on or abuse of alcohol or illicit drugs within the past year. A substance abuse disorder is identified when recurrent alcohol or drug use causes clinically significant impairment, including health problems, disability and failure to meet major responsibilities at work, school or home.

Substance use disorder includes disorders related to alcohol use, illicit drug use and the misuse of pain relievers. Also included are those identified with multiple substance use disorders such as both alcohol and illicit drug use disorders. Numbers of those 12 years and older identified with a substance use disorder in the past year in Nevada (7.26 percent of the population) track very closely with national statistics (7.62 percent). Consistent with the alcohol and other substance use statistics cited above, the highest levels of disorder are reported in the 18 to 25-year-old age group both in Nevada (15.43 percent) and nationally (15.2 percent). Of some concern is a slightly higher identified rate of substance disorder among youth 12 to 17 years old in Nevada (5.45 percent) compared to the rate for the nation as a whole (4.61 percent). Of those 26 years and older, 6.24 percent were identified as having a substance use disorder in Nevada, while 6.72 percent were identified nationally. Below are the percentages of disorders in each category in Nevada and how they compare to national rates.

Illicit Drug Use Disorder Only

- In Nevada, 3.01 percent of the population 12 years and older were identified to have an illicit drug use disorder in the past year, 4.51 percent of the population 12 to 17 years old, 6.86 percent of the population 18 to 25 years old and 2.26 percent of the population 26 years and older.

- Nevada appears to have a slightly higher rate of illicit drug use disorder in comparison to the United States, in which 2.81 percent of the total population (7.4 million) 12 years and older were considered to have an illicit drug use disorder in the past year. Additionally, 3.3 percent of the population between 12 and 17 years old, 7.14 percent of the population between 18 and 25 years old and 2.04 percent of the population 26 years and older.

Alcohol Use Disorder Only

- In Nevada, 5.33 percent of those 12 years and older were considered to have an alcohol use disorder in the past year, 2.59 percent of those 12 to 17 years old, 11.04 percent of those 18 to 25 years old and 4.79 percent of those 26 years and older.

- In the United States, 5.73 percent of the population (15.1 million) 12 years and older were considered to have an alcohol use disorder in the past year, 2.23 percent of those 12 to 17 years old, 10.8 percent of those 18 to 25 years old and 5.31 percent of those 26 years and older.

Pain Reliever Use Disorder Only

- In Nevada, 0.72 percent of the population 12 years and older were considered to have a pain reliever use disorder in the past year, 0.64 percent of the population 12 to 17 years old, 1.18 percent of the population between 18 to 25 years old and 0.66 percent of the population 26 years and older.

- In the United States, 0.71 percent of the total population 12 years and older were considered to have a pain reliever use disorder in the past year, 0.55 percent of those 12 to 17 years old, 1.03 percent of those 18 to 25 years old and 0.67 percent of those 26 years and older.

Treatment in Nevada

In Nevada, as with the nation as a whole, few people that are identified as having a substance use disorder receive any kind of treatment. Based on the 2015-2016 NSDUH, approximately 7.0 percent of those 12 years and older identified with substance use disorder in Nevada received treatment, slightly less than the national rate of 7.8 percent.

Barriers to treatment include limited availability, cost of treatment, negative stigma associated with treatment and the feeling that treatment is not necessary. One mitigating factor for the cost barrier to treatment is recently expanded access to health care insurance and treatment programs that accept all insurance types. When the federal Affordable Care Act (ACA) became fully implemented in 2014, insurance plans were required to cover treatment for substance use disorders as essential benefits and could no longer consider substance use disorder a preexisting condition for which coverage can be denied. In addition, the ACA greatly expanded the numbers of lower income people covered under the Medicaid program in states such as Nevada that chose to participate. One result is that nationally, 4 in 10 nonelderly adults with opioid addiction in the United States are now covered by Medicaid (Kaiser Family Foundation 2018). With Medicaid expansion in Nevada, net enrollment from 2013 to 2017 increased by 90 percent, the second highest growth in the country. In conjunction, from 2013 to 2017 the percentage of uninsured people in Nevada decreased by 40 percent from 20.7 to 12.3 percent, respectively (Norris, 2017). The trend toward expanded health insurance coverage and more treatment faculties accepting this insurance may allow for greater access to treatment. Continuing calls to repeal the ACA, however, threaten this progress on increased levels of treatment.

Availability of treatment in Nevada can be assessed through the National Survey of Substance Abuse Treatment Services (N-SSATS), which is an annual survey of substance abuse treatment facilities conducted by SAMSHA (2016). In 2016, this study included

80 of the 95-eligible substance abuse treatment facilities in Nevada. These are some of the report findings:

- The survey indicated a total of 6,434 clients in treatment at all of these facilities on March 31, 2016. Data from previous years have indicated no trend in number of clients in treatment with numbers ranging from 13,327 in 2008 to 5,310 in 2012.

- Of these facilities, 42 were operated by private non-profit organizations, 25 were private for-profit, 2 were state government, 5 were federal government and 6 were tribal government. The number of clients in each was 3,304, 2,751, 16, 206 and 157 respectively.

- Of the 80 facilities, 68 offered some form of outpatient treatment, 22 offered residential treatment, and 11 provided hospital inpatient treatment. Some facilities offered all or a combination of the choices.

- In terms of payment, cash or self-payment was accepted at 68 facilities, private health insurance at 58, Medicare at 17, Medicaid at 61, state-financed health insurance at 36, federal military insurance at 25. In addition, 45 had a sliding fee scale and 42 offered treatment at no charge for clients who could not pay. Some faculties offered all or a combination of the payment options.

- One treatment approach for opioid use disorder is medication-assisted treatment (MAT). This includes the use of methadone, which can only be given at approved facilities, buprenorphine, which can be prescribed by medical practitioners who have received training and a waiver, and naltrexone, which can be prescribed by all physicians or medical personnel. Of the facilities in Nevada, 9 indicated offering opioid treatment programs, 29 provided Buprenorphine and 13 provided injectable naltrexone.

The Treatment Episode Data Set (TEDS) is maintained by SAMSHA and includes reports by treatment facilities that receive public funding. As only treatment facilities that receive public funding are required to report their admissions, this data is not a complete depiction of substance treatment admissions, but can be used as an indicator. The data includes the total number of admissions into treatment and does not represent individuals who may have been admitted more than once in the year (SAMSHA, 2017b). In 2017, there were 13,827 treatment admissions in Nevada, steadily increasing each year from 8,027 in 2014, 9,130 in 2015 and 10,710 in 2016. Nationally, the data available also indicates an increase in admissions from 1,639,026 in 2014 to 1,644,287 in 2015.

In Nevada, the top four substances for treatment admission in 2017 included amphetamines (20.6 percent of all admissions), alcohol only (17.6 percent), alcohol with a secondary drug (8.8 percent) and heroin (10 percent). Top four substances were the

same in 2016, but in 2015 and 2014 marijuana replaced alcohol with a secondary drug in the top four. Data is only available for years 2014 and 2015 in the United States, but in comparison the top four substances for admissions nationally in 2015 were heroin (25.7 percent of all admissions), alcohol only (18.7 percent), alcohol with a secondary drug (14.6 percent) and marijuana (14.2 percent). Treatment admissions for 2014 also placed these substances in the top four.

According to TEDS, the following are the characteristics of treatment admissions in Nevada in 2017:

Age at Admission in 2017

- The highest percentage (16.3) of those admitted into treatment were between the ages of 26 to 30 years old.

- The age group between 26 to 30 years old had the highest percentage of heroin admissions at 30.8 percent. They also were the group comprising the highest percentage of tranquilizer admissions at 28 percent.

- The second largest group of treatment admissions were those 31 to 35 years old at 14.9 percent. This age group consisted of the highest percentage of those admitted for inhalants at 33.3 percent.

Gender at Admission in 2017

- Males consisted of 68.1 percent of the total treatment admissions compared to females at 31.9 percent.

- For treatment admissions, the male to female ratio was highest for cocaine, route other than smoked, (84.7 percent males to 15.3 percent females), hallucinogens (90.9 percent males to 9.1 percent females) and inhalants (83.3 percent males to 16.7 percent females).

- Females had the highest number of admissions only in the other stimulants category (83.3 percent) consisting of methylphenidate and any other stimulants.

- These findings are consistent with the World Drug Report (2017), which indicated that at least twice as many men than women suffer from drug use disorders. This report also found that once women have initiated substance use, they tend to increase their rate of consumption (particularly alcohol, cannabis, opioids and cocaine) more rapidly than men. As a result, women may progress more rapidly than men to drug use disorders.

Race at Admission in 2017

- Those who identified as white consisted of the highest percentage of treatment admissions at 59.5 percent, followed by African Americans at 17.5 percent.

- People who identified as white made up the highest percentage (80.0) of those admitted for tranquilizers.

- Those who identified as African-American had the highest percentage of treatment admissions for PCP (88.2 percent).

- While the overall numbers were low, the highest percentage of those identifying as American Indian or Alaskan Native was in the other stimulant and inhalant treatment admission category (16.7 percent in each category).

- Treatment admissions for those identifying as Asian, Native Hawaiian or Other Pacific Islander were also very low, with the highest in the amphetamine category at 6.2 percent.

Further Implications for Drug Addiction and Policy

Methods of treating substance abuse instead of criminalizing it need to be considered, as the "War on Drugs" approach has proven ineffective. Progress towards promoting evidence-based practice on treating and understanding the causes and effects of substance abuse have been made, but further progress in this direction is needed.

Drug control policy in the United States has historically been centered on "supply reduction" in attempts to limit the availability of illicit substances. According to the Office of National Drug Control Policy (2016), 65 percent of the 2007 drug control budget was spent on supply reduction including domestic law enforcement, interdiction and international drug control efforts. Of the total, the highest amount (27 percent) was spent on domestic law enforcement alone. These trends have altered slightly in recent years to place more funding in the demand reduction areas of treatment and prevention. In 2016, 48 percent of the total drug control budget was spent on demand reduction while 52 percent was spent on supply reduction. This tendency to criminalize substance abuse is reflected in the sentencing commission data that indicates drug offenses making up the highest percentage of primary offenses, as those are what law enforcement arrests for the most.

According to the United States Sentencing Commission (2016):

- In 2016, drugs (including trafficking, use of a communication facility and simple possession) accounted for 31.6 percent of primary offenses in the United States.

This was the highest percentage of primary offenses followed by immigration at 29.6 percent.

- Nevada followed a similar trend in 2016 with drugs constituting 26.2 percent of primary offenses, followed by firearms at 23.7 percent and immigration at 17 percent.

- In Nevada, of the drugs included in this category, methamphetamine accounted for 51.4 percent of primary offenses, marijuana for 11.4 percent, and heroin for 8.6 percent, powder cocaine for 6.7 percent and crack cocaine for 1.9 percent.

Given that drug crimes make up the largest share of primary offenses both nationally and in Nevada, prisons and jails hold a disproportionate share of people with substance use disorders. Research over many years has found that drug and alcohol treatment for those with substance abuse issues is more effective and results in cost reduction when compared to incarceration. According to a 2012 study published in *Crime and Delenquency*, nearly half of all state prisoners have substance abuse disorders, but only 10 percent receive medically based treatment during incarceration. Untreated or inadequately treated inmates are more likely to resume abusing drugs or alcohol when released from prison and enter back into the justice system (Zarkin, et.al 2012).

The method of incarcerating substance abuse has shown to be ineffective. The rate of recidivism in the United States for drug offenses is high in the criminal justice system. According to the Bureau of Justice Statistics, within 5 years of release, 76.9 percent of drug offenders will be arrested for a new crime (Durose, Cooper, & Snyder, 2014).

Given the low level of those accessing treatment for substance abuse disorders and the emphasis on the criminalization of substance use, law enforcement agencies may have a greater point of contact with substance addictions than medical staff and those working in public health. As such, consideration needs to be placed on diversion programs. One such example is the Law Enforcement Assisted Diversion (LEAD) program, which is a pre-booking diversion program that redirects low-level drug or sex work offenses to community-based services instead of incarceration (LEAD National Support Bureau, 2018). This program has been successful in other cities in the county, including Seattle, and the Las Vegas Metropolitan Police Department plans to implement it in 2018 in Las Vegas. Another strategy of the justice system is the use of specialty courts, which allows people to access treatment instead of jail time. Nevada has 42 specialty court programs that include Drug Court, Mental Health Court, Veterans Treatment Court and DUI court. Nationally these courts have shown to be effective in reducing recidivism and have been proven to be more cost effective as for every one dollar invested in Drug Court, taxpayers may save up to 3.36 dollars in avoided criminal justice costs (Marlowe, 2010).

Nevada has taken steps to address the opioid epidemic. As of January 1, 2018, the provisions of Assembly Bill No. 474 went into effect in Nevada. This bill adopts regulations on the reporting of drug overdoses by physicians, physician assistants and nurses to the State's Chief Medical Officer. The bill requires additional information to be entered into the Prescription Drug Monitoring Program (PDMP) and enacts guidelines when prescribing a controlled substance listed in schedule II, III or IV. The bill also gives certain occupational licensing boards access to PDMP to investigate the fraudulent, illegal, unauthorized or otherwise inappropriate prescribing, dispensing or use of a controlled substance, as well as allows paramedics to access PDMP to determine if the symptoms of a person the paramedic is treating may be caused by a controlled substance listed in schedule II, III or IV. Additionally, the bill increases the required training for those registering to dispense controlled substances to two hours and requires topics relating specifically to the prescribing of opioids or addiction.

While such policy is important in tracking overdose deaths and sharing information, attention should not be solely focused on limiting the prescribing of opioids, as this has resulted in an increase in heroin use. Evidence-based practice should guide the decision on best treatments in each individual case. The federal Drug Addiction Treatment Act of 2000 needs to be reconsidered, for the laws it spawned made it harder for practitioners to prescribe medication to treat opioid use disorder than the medication that causes it. More harm reduction strategies should be implemented in Nevada in line with the best practices implemented in other cities across the country. One promising development in lowering deaths from overdoses is the expanded availability in Nevada of the opioid antagonist naloxone. This drug works to counteract the effects of opioids in cases of a drug overdose. Under the 2015 Good Samaritan Drug Overdose Act (NRS 453C), naloxone can now be prescribed and dispensed to family and friends of persons at risk of an opioid overdose. This expands the availability of the drug beyond police, emergency responders, doctors and pharmacists, which is a key to community-wide efforts in combating opioid overdoses.

Conclusion

Alcohol, tobacco and marijuana are the three most commonly used substances in Nevada. The experience in Nevada has generally mirrored national trends, with the exception of underage drinking which is slightly higher than the national average. Among the positive findings is the decline in cigarette smoking in this state during the period studied, with the decline in smoking among adolescents and young adults particularly encouraging. Use of marijuana has stayed relatively consistent in Nevada despite what appears to be increased rates nationally.

Nevada has not escaped the nationwide epidemic of opioid abuse. In fact, the rate of death from opioid overdoses in Nevada has exceeded national averages. As a response to the overprescribing of opioids, the supply has been reduced, resulting in many who are addicted to prescription opioids shifting to use of heroin. In addition, attention on the increased use of fentanyl is critical as this opioid, which is 25 to 50 times more potent than heroin, is spiking the number of overdose deaths throughout the country.

There is tremendous promise in combating drug abuse by shifting from the current supply reduction and incarceration model to a system that seeks to reduce demand for illicit drugs and treats those with substance use disorders. Programs such as LEAD and specialty courts provide a diversion to incarceration. Despite some opposition to these programs, it is fair to say that the criminalization of substance abuse has not been effective, and programs like these are a step in the right direction to provide treatment, reduce costs and lower recidivism back into the criminal justice system.

Much work remains, however, in transitioning to evidence-based practice in dealing with substance abuse. Currently, fewer than 1 in 10 Nevada residents identified with a substance use disorder are receiving treatment. Substance abuse takes a community effort with collaboration between multiple agencies. Progress towards interagency meetings and groups have pulled together resources to allow for a stronger front in treating substance abuse.

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Appendix A

Drug and Alcohol Abuse Treatment Facilities in Nevada

Carson City

Behavioral Health Services of Carson
775 Fleischmann Way, 2nd Floor
Carson City, NV 89703
775-445-7756

John Glen and Associates
1802 North Carson Street, Suite 155
Carson City, NV 89701
775-882-4340

Dayton

Rural Nevada Counseling
120 Pike Street
Dayton, NV 89403
775-246-6214

Elko

Vitality Center
Residential Treatment
3740 East Idaho Street
Elko, NV 89801
775-738-8004

Vitality Unlimited
Ruby View Counseling Service
1250 Lamoille Highway
Elko, NV 89801
775-738-0166

Ely

Ely Health Station
400 Newe View Drive, Suite B
Ely, NV 89301
775-289-4133

Fallon

New Frontier Treatment Center
Churchill Council of Alc/Other Drugs
1490 Grimes Street
Fallon, NV 89406
775-423-1412

Fernley

Rural Nevada Counseling
415 Highway 95-A, Building I
Fernley, NV 89408
775-575-6191

Gardnerville

Tahoe Youth and Family Services
1512 Highway 395, Suite 3
Gardnerville, NV 89410

Henderson

Mission Treatment Centers Inc.
704 West Sunset Road, Suite 9-B
Henderson, NV 89011
702-558-9600

Seven Hills Hospital
3021 West Horizon Ridge Parkway
Henderson, NV 89052
844-460-0703

Las Vegas

A Better Today Recovery Services LLC
6655 West Sahara Avenue, Suite D-208
Las Vegas, NV 89146
702-823-5228

Bridge Counseling Associates
1640 Alta Drive, Suite 4
Las Vegas, NV 89106
702-474-6450

Center for Behavioral Health
3050 East Desert Inn Road, Suite 116
Las Vegas, NV 89121
702-796-0660

Central Recovery Las Vegas
3321 North Buffalo Drive, Suite 100
Las Vegas, NV 89129
702-515-8525, Intake: 888-538-3729

Choices Group Inc.
2725 East Desert Inn Road, Suite 180
Las Vegas, NV 89121
702-252-8342

Co Occurring Program
Southern Nevada Adult Mental Health
1785 East Sahara Avenue, Suite 145
Las Vegas, NV 89104, Intake: 702-369-8700

Community Counseling Center
714 East Sahara Avenue, Suite 103
Las Vegas, NV 89104
702-369-8700, Intake: 702-369-8700

Desert Hope
2465 East Twain Avenue
Las Vegas, NV 89121
702-789-6203, Intake: 702-789-6201

Dr. Miriam/Sheldon G. Adelson
Clinic for Drug Abuse Trt and Res Inc.
3661 South Maryland Parkway, Suite 64
Las Vegas, NV 89169

HELP of Southern Nevada
1640 East Flamingo
Las Vegas, NV 89119
702-369-4357

HELP of Southern Nevada, Youth Center
1417 Las Vegas Boulevard North
Las Vegas, NV 89101
702-385-3776, Intake: 702-385-3776 x 1296

Las Vegas Indian Center
2300 West Bonanza Road
Las Vegas, NV 89106
702, 647-5842 x 225, Intake: 702-647-5842

Las Vegas Paiute Tribe
Health and Human Services
1257 Paiute Circle
Las Vegas, NV 89106
702-382-0784

Las Vegas Recovery Center
3371 North Buffalo Drive
Las Vegas, NV 89129
702-515-1373

Mission Treatment Center Inc.
1800 Industrial Road, Suite 100
Las Vegas, NV 89102
702-474-4104

Montevista Hospital
Inpatient Program
5900 West Rochelle Avenue
Las Vegas, NV 89103
702-364-1111

New Beginnings Counseling Centers
3376 South Eastern Avenue, Suite 148
Las Vegas, NV 89169
702-538-7412, Intake: 702-834-8319

Solutions Treatment Center LLC
2975 South Rainbow Boulevard, Suite E
Las Vegas, NV 89146
800-771-8599, Intake: 702-228-8520

Southern Nevada Mental Health
6161 West Charleston Boulevard
Las Vegas, NV 89146
702-369-8700x227, Intake: 702-369-8700

US VETS Las Vegas
525 East Bonanza Road
Las Vegas, NV 89101
702-947-4442, Intake: 702-947-4446

Vitality Unlimited
Restoration Counseling Services
6885 West Charleston Boulevard
Las Vegas, NV 89117
702-629-7799

We Care Foundation
2216 South 6th Street
Las Vegas, NV 89104
702-369-0613

WestCare Nevada Inc.
Community Involvement Center
323 North Maryland Parkway
Las Vegas, NV 89101
702-385-3330

WestCare Nevada Inc.
Community Triage Center
323 North Maryland Parkway
Las Vegas, NV 89101
702-385-3330x61701
Intake: 702-383-4044

WestCare Nevada Inc.
Harris Springs Ranch
1200 Harris Springs Road
Las Vegas, NV 89124
702-872-5382, Intake: 702-385-3330

WestCare Nevada Inc.
Women and Children Campus
5659 Duncan Drive
Las Vegas, NV 89130
702-385-3330

North Las Vegas

Center for Behavioral Health Las Vegas
2290 McDaniel Street, Suite 1-C
North Las Vegas, NV 89030
702-399-1600

Center for Behavioral Health Las Vegas
3470 West Cheyenne Avenue, Suite 400
North Las Vegas, NV 89032
702-636-0085

Las Vegas VA Outpatient Clinic
6900 North Pecos Road
North Las Vegas, NV 89086
702-791-9000, Intake: 702-791-9062

New Beginnings Counseling Centers
2035 East Lake Mead Boulevard, Suite 3
North Las Vegas, NV 89030
702-538-7412, Intake: 702-834-8319

Salvation Army
Adult Rehabilitation Center
211 Judson Avenue
North Las Vegas, NV 89030
702-399-2769, Intake: 702-399-2769 x 10

Reno

Advanced DUI and Counseling
1000 Bible Way, Suite 66
Reno, NV 89502
775-233-5316

Bristlecone Family Resources
704 Mill Street
Reno, NV 89502
775-954-1400 x 405 Intake: 775-954-1400x104

Center for Behavioral Health Nevada
160 Hubbard Way, Suite A
Reno, NV 89502
775-829-4472

Family Counseling Service of Northern NV Inc.
575 East Plumb Lane, Suite 100
Reno, NV 89502
775-329-0623

Keystone
78 Keystone Avenue
Reno, NV 89503
775-322-8941

Quest Counseling and Consulting
3500 Lakeside Court, Suite 101
Reno, NV 89509
775-786-6880x6899, Intake: 775-786-6880

Ridge House Inc.
900 West 1st Street, Suite 200
Reno, NV 89503
775-322-8941

Ridge House Inc.
905 Mauldin Street
Reno, NV 89502
775-322-8941

Ridge House Inc. Cambridge
990 Cambridge Street

Ridge House Inc. Vine
57 Vine Street
Reno, NV 89503
775-322-8941

STEP2
Lighthouse of the Sierra
3700 Safe Harbor Way
Reno, NV 89512
775-787-9411

STEP2
Transitional Residential
3700 Safe Harbor Way
Reno, NV 89512
775-787-2459, Intake: 775-787-9411

Step One
1015 North Sierra Street
Reno, NV 89503
775-329-9830

Vitality Center
Footprints Counseling
1135 Terminal Way, Suite 112
Reno, NV 89502
775-322-3668

WestCare CIC Reno
525 Robert Street
Reno, NV 89512
775-348-8811
Intakes: 775-229-2461, 775-240-3644

WestCare Nevada Inc. Reno
525 Robert Street, Suite 105
Reno, NV 89512
775-348-88111x61207

Reno, NV 89511
775-322-8

Sparks

Life Change Center
1755 Sullivan Lane
Sparks, NV 89431
775-355-7734

Winnemucca

Vitality Unlimited
Silver Sage Counseling Services
530 Melarkey Street, Suite 206
Winnemucca, NV 89445

Yerington

Rural Nevada Counseling
720 South Main Street, Suite c
Yerington, NV 89447
775-463-6597, Intake: 866-831-2774

Self Help Groups in Nevada

Alcoholics Anonymous:	775.355.1151; 702.598.1888
Gamblers Anonymous:	775.356.8070; 702.364.2625
Narcotics Anonymous:	775.322.4811; 702.369.3362
Alanon and Alateen Groups:	775.348.7103; 702.615.9494

Appendix B

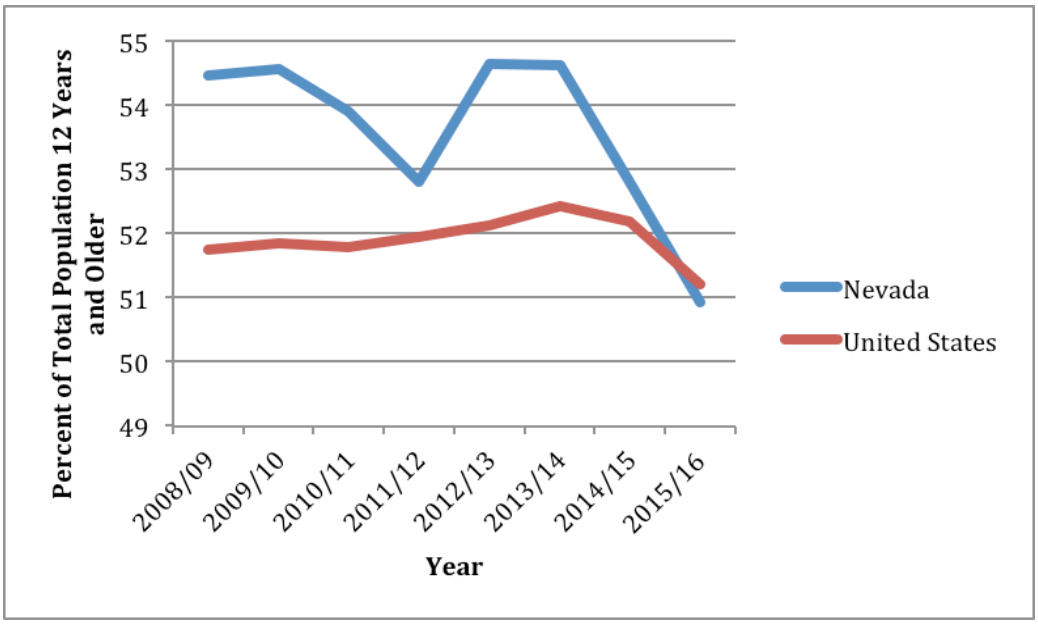

Figure 1. Past Month Alcohol Use in Nevada Compared to the United States Among People 12 and Older: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

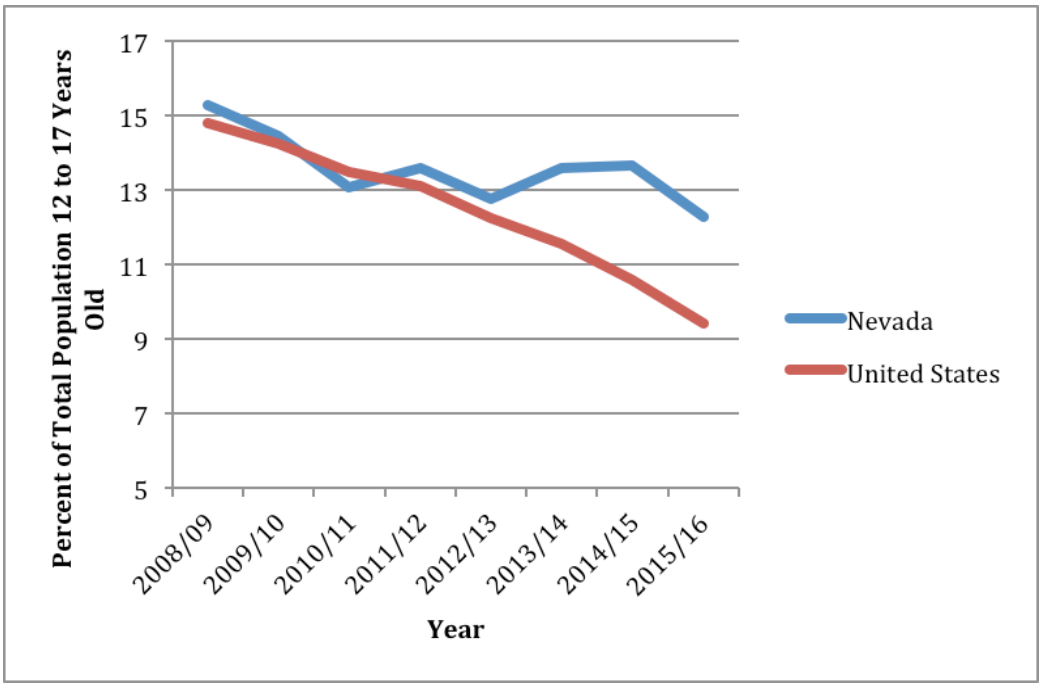

Figure 2. Past Month Alcohol Use in Nevada Compared to the United States Among People 12 to 17 Years Old: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

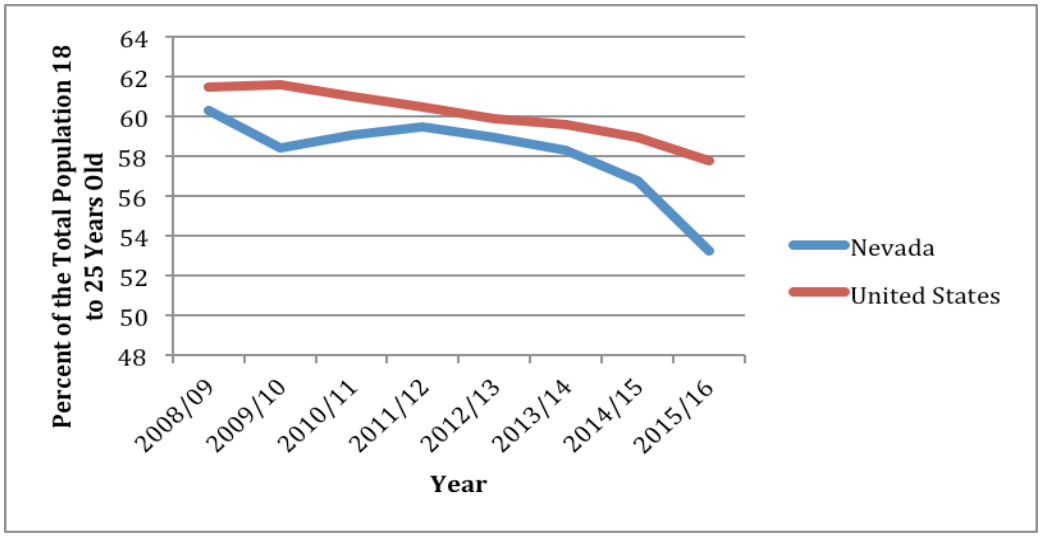

Figure 3. Past Month Alcohol Use in Nevada Compared to the United States Among People 18 to 25 Years Old: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

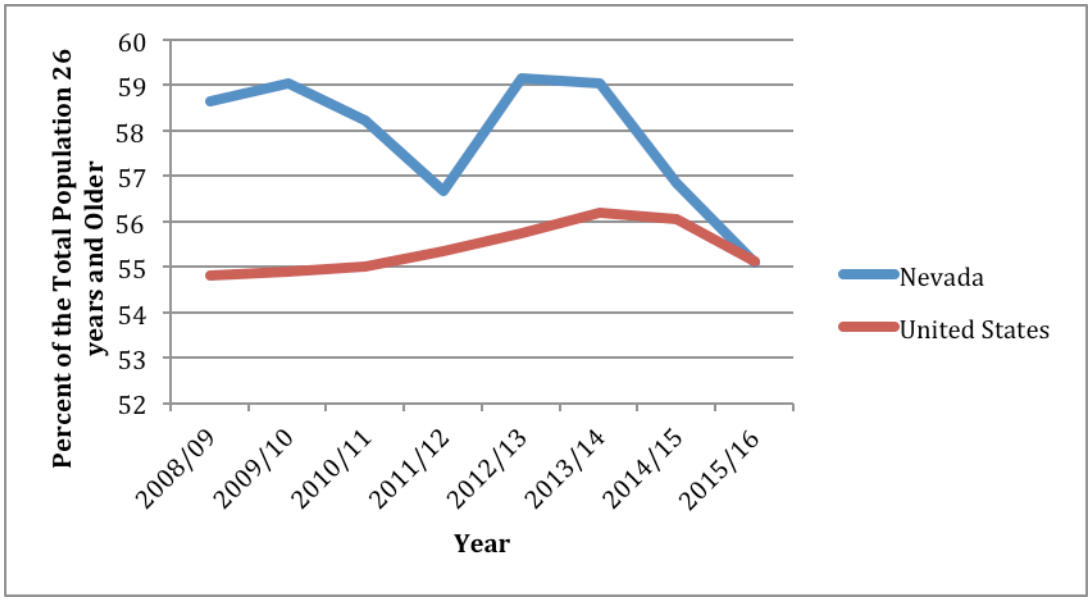

Figure 4. Past Month Alcohol Use in Nevada Compared to the United States Among People 26 Years and Older: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

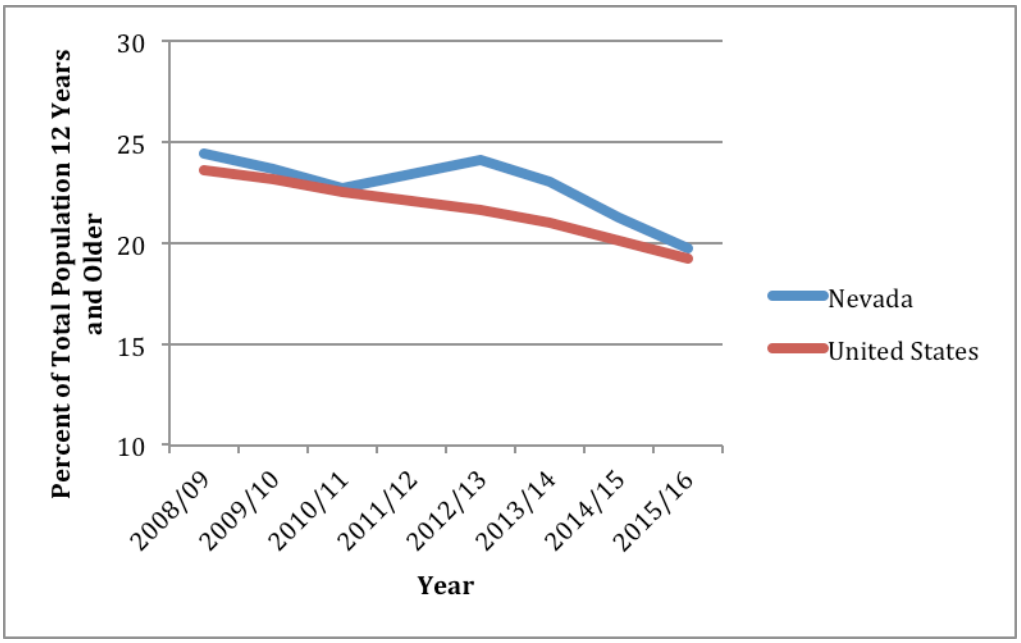

Figure 5. Past Month Cigarette Use in Nevada Compared to the United States Among People 12 and Older: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

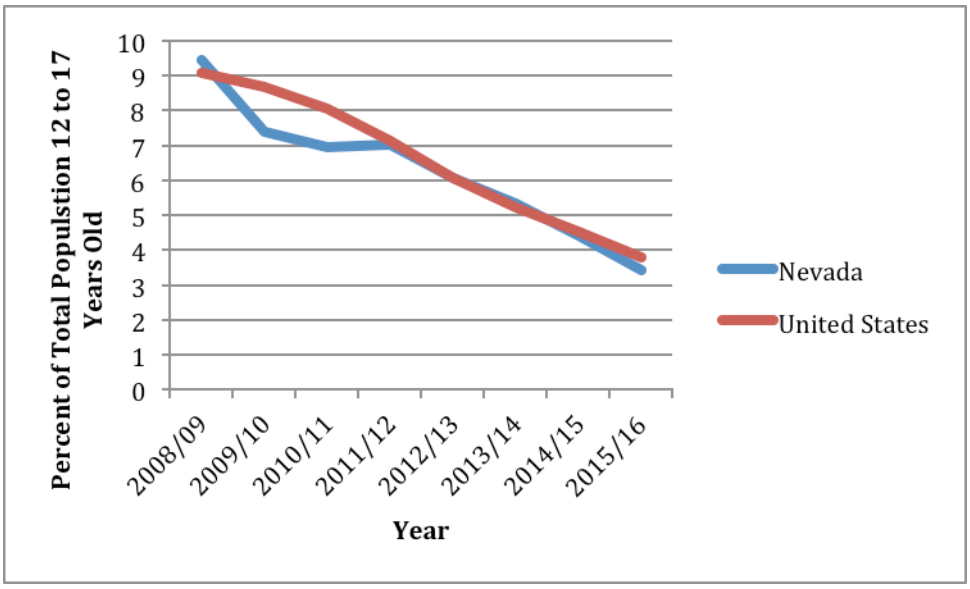

Figure 6. Past Month Cigarette Use in Nevada Compared to the United States Among People 12 to 17 Years Old: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

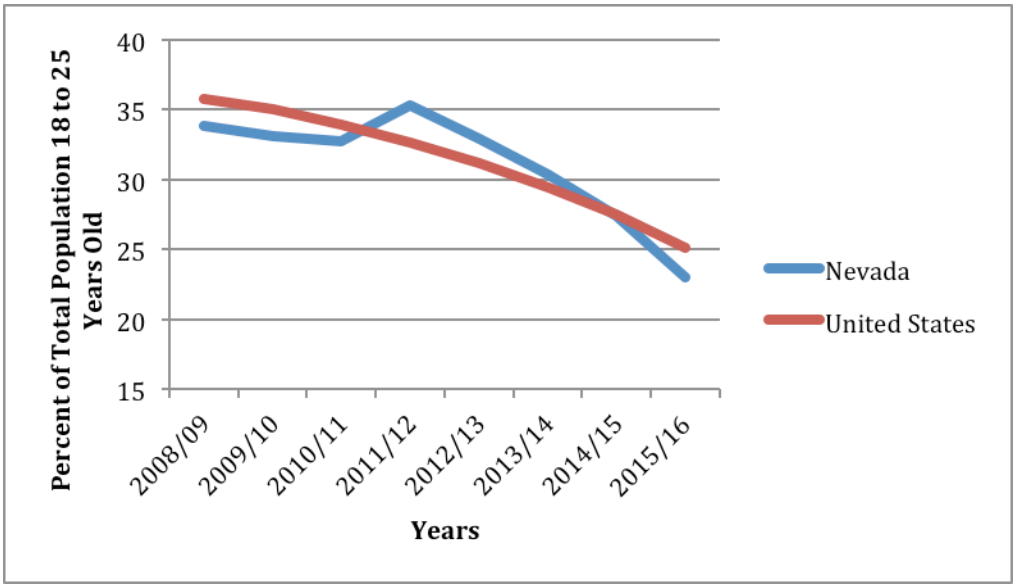

Figure 7. Past Month Cigarette Use in Nevada Compared to the United States Among People 18 to 25 Years Old: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

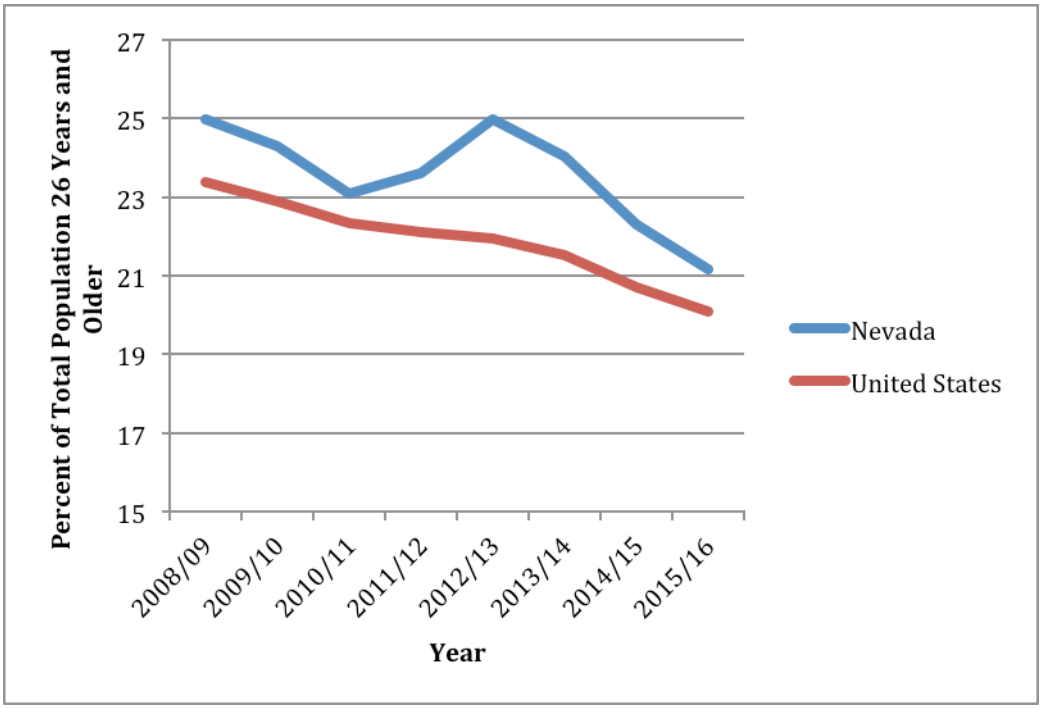

Figure 8. Past Month Cigarette Use in Nevada Compared to the United States Among People 26 Years and Older: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

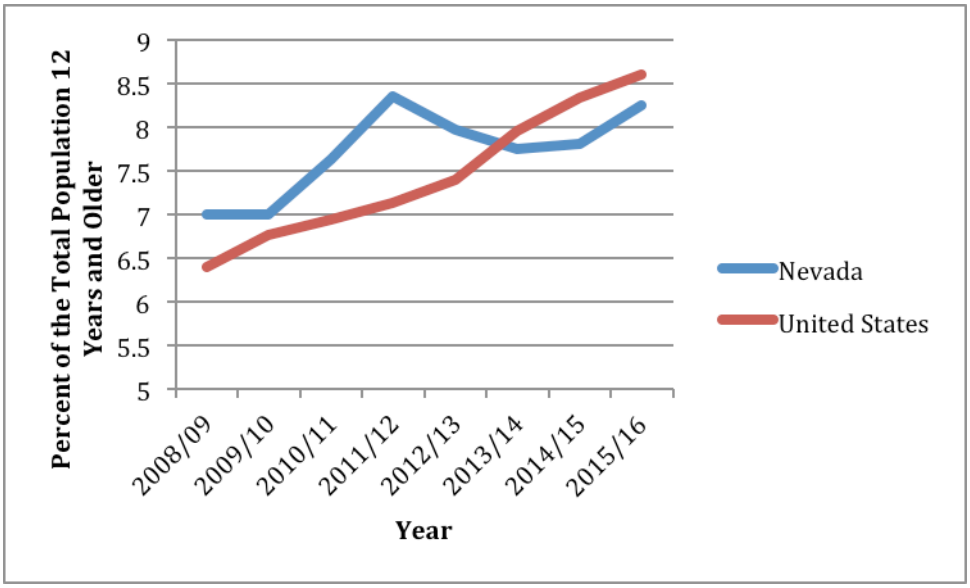

Figure 9. Past Month Marijuana Use in Nevada Compared to the United States Among People 12 Years and Older: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

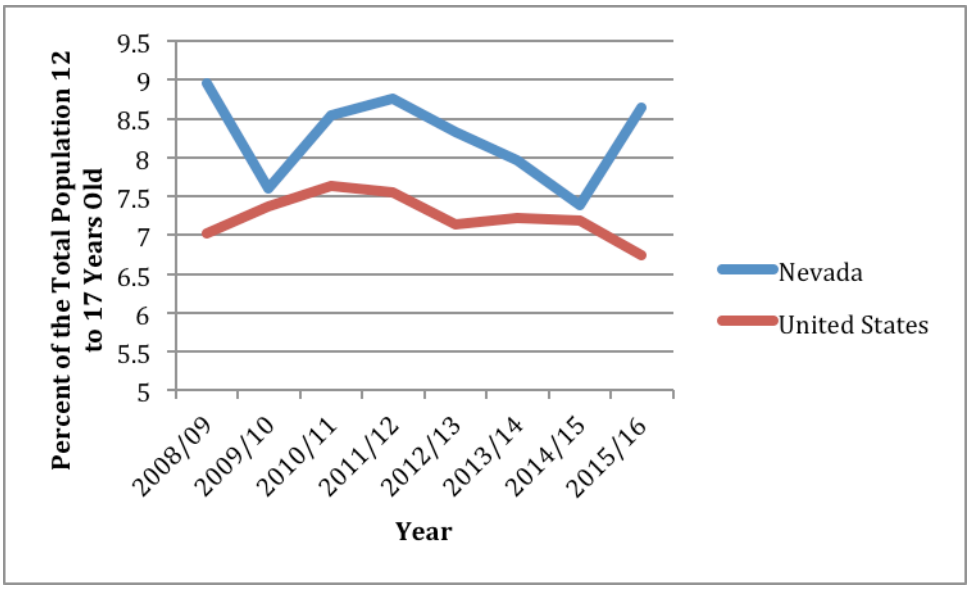

Figure 10. Past Month Marijuana Use in Nevada Compared to the United States Among People 12 to 17 Years Old: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

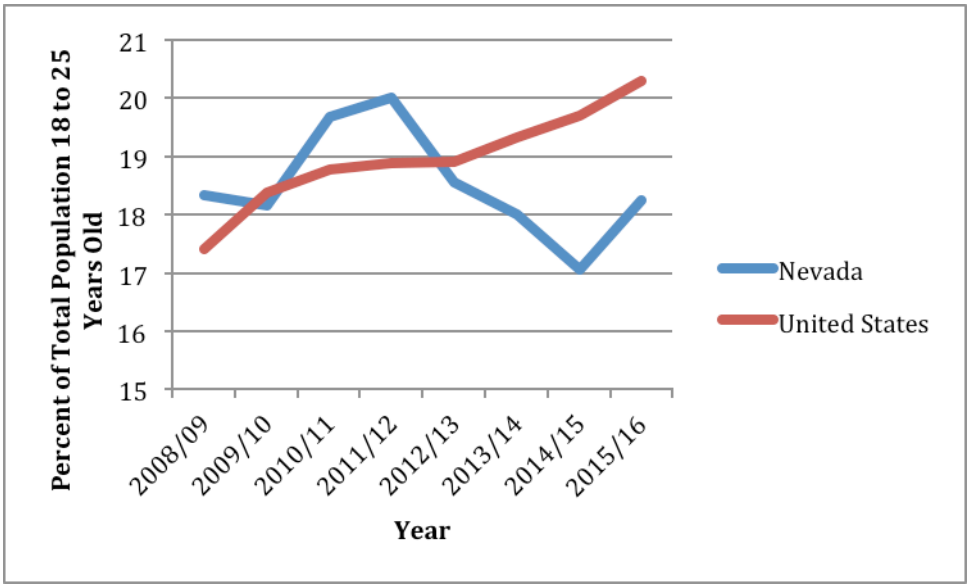

Figure 11. Past Month Marijuana Use in Nevada Compared to the United States Among People 18 to 25 Years Old: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

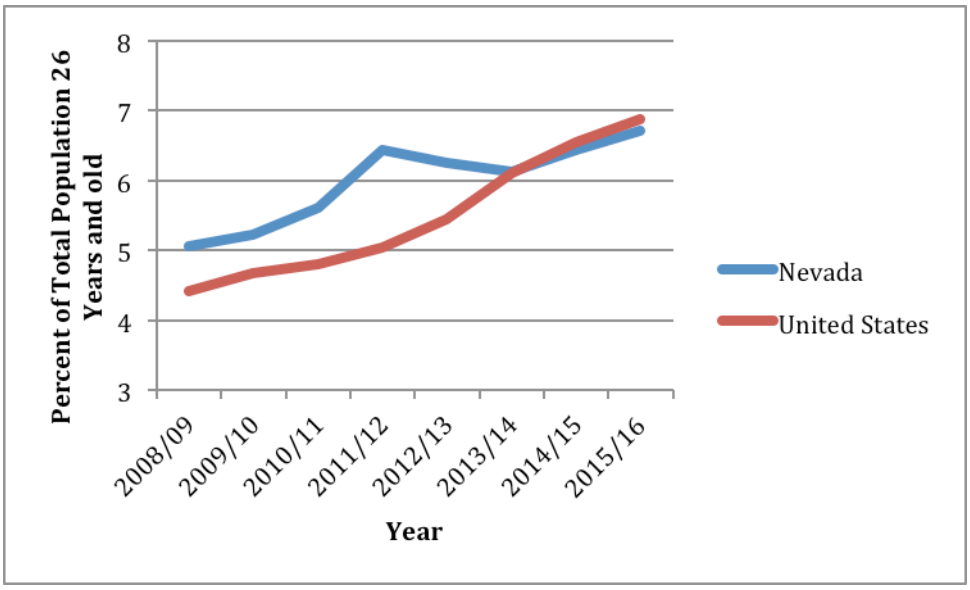

Figure 12. Past Month Marijuana Use in Nevada Compared to the United States Among People 26 Years and Older: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

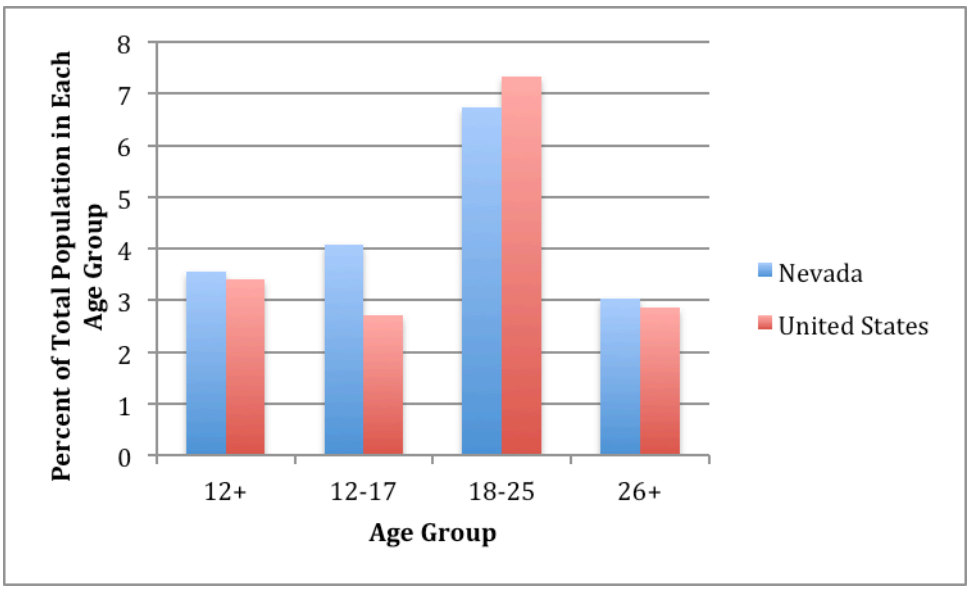

Figure 13. Past Month Illicit Drug Use in Nevada Compared to the United States Among People 12 Years and Older by Age Group: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

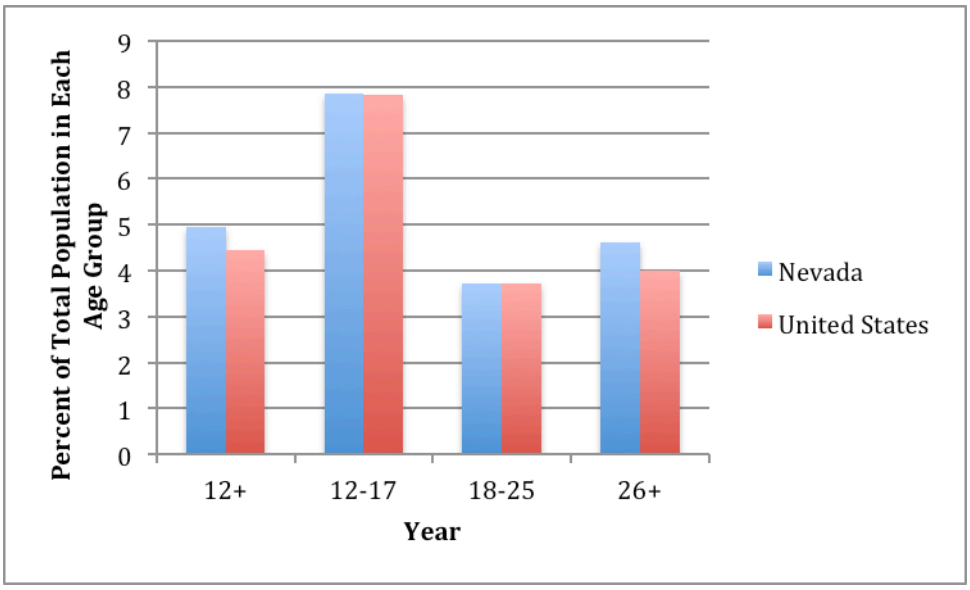

Figure 14. Past Year Misuse of Pain Relievers in Nevada Compared to the United States Among People 12 Years and Older by Age Group: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

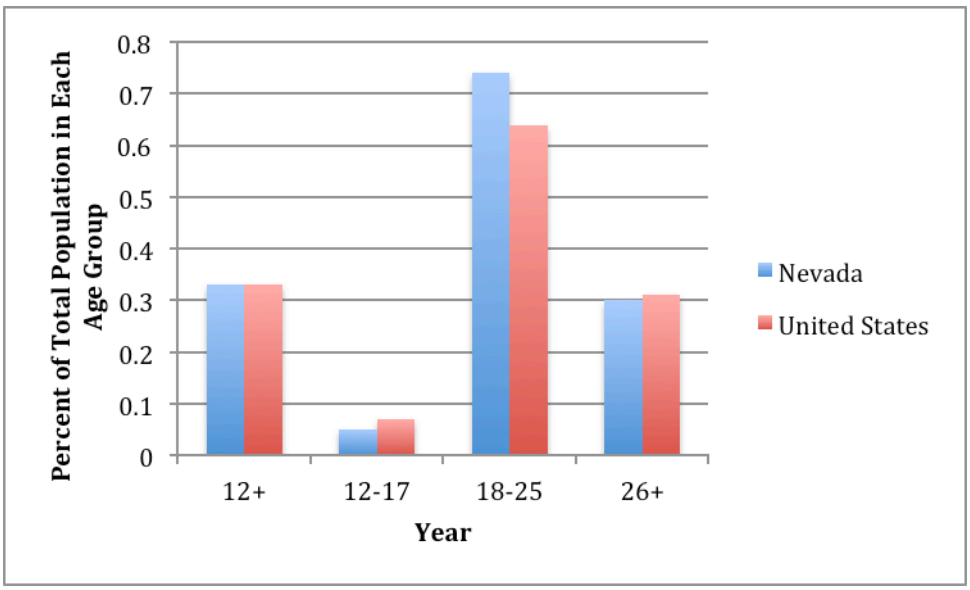

Figure 15. Past Year Heroin Use in Nevada Compared to the United States Among People 12 Years and Older by Age Group: Percentages 2008-2016. Adapted from SAMSHA NSDUH.

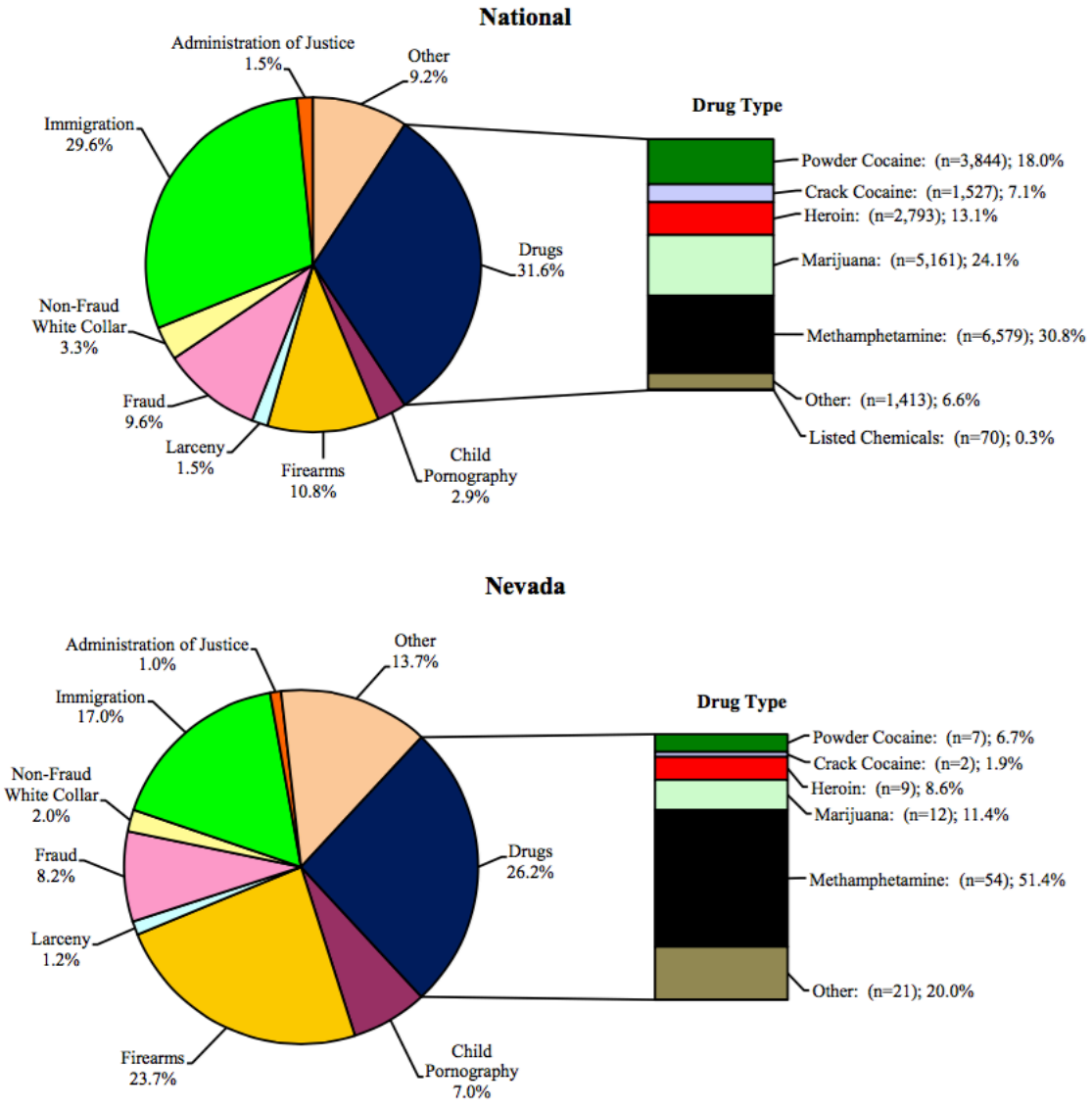

Figure 16. 2016 Primary Offenses in the United States and in Nevada. Source: U.S. Sentencing Commission. 2003. Distribution of Sentenced Guideline Offenders by Select primary offense category: Fiscal Year 2003 (Office of Policy Analysis, 2003 Datafile, OPAFY03).

Appendix C

Table 7. Opioid Overdose Statistics in Nevada Counties in 2016.

Nevada County	Opioid Overdose Deaths per 100 K residents	Visits to the Emergency Dept. per 100K residents due to Opioid Overdose	Inpatient Hospitalizations per 100K residents due to Opioid Overdose	Opioid Prescriptions per 1k residents
Carson City	14.3	14.8	16.7	1052.92
Churchill	9.4	29	12.1	1067.5
Clark	12.3	16	15.7	841.66
Douglas	13.4	9.9	4.3	1019.81
Elko	1.8	7.8	4.4	716.32
Esmeralda	0	0	0	723.79
Eureka	0	36	0	926.89
Humboldt	10.6	41.5	0	755.36
Lander	0	0	40.1	852.17
Lincoln	66.3	38.5	11.7	606.58
Lyon	8.9	19	9	1299.49
Mineral	47	14.4	0	1581.36
Nye	33.2	40	26.4	1555.79
Pershing	12.4	12	0	693.61
Storey	0	0	0	1469.18
Washoe	14.9	15.9	20	874.13
White Pine	11.6	13.3	0	998.9

Note. Adapted from Nevada Department of Health and Human Services. (2016). Nevada Opioid Overdose Surveillance Dashboard.

Table 8. Opioid Overdose Death Rates by State in 2016.

Location	Opioid Overdose Death Rate (Age-Adjusted)	All Drug Overdose Death Rate (Age-Adjusted)	Percent Change in Opioid Overdose Death Rate from Prior Year	Percent Change in All Drug Overdose Death Rate from Prior Year
United States	13.3	19.8	0.28	0.21
Alabama	7.5	16.2	0.23	0.03
Alaska	12.5	16.8	0.14	0.05
Arizona	11.4	20.3	0.12	0.07
Arkansas	5.9	14	-0.18	0.01
California	4.9	11.2	0	-0.01
Colorado	9.5	16.6	0.09	0.08
Connecticut	24.5	27.4	0.28	0.24
Delaware	16.9	30.8	0.14	0.4
District of Columbia	30	38.8	1.07	1.09
Florida	14.4	23.7	0.53	0.46
Georgia	8.8	13.3	0.05	0.05
Hawaii	5.2	12.8	0.27	0.13
Idaho	7.4	15.2	0.23	0.07
Illinois	15.3	18.9	0.43	0.34
Indiana	12.6	24	0.48	0.23
Iowa	6.2	10.6	0.07	0.03
Kansas	5.1	11.1	-0.06	-0.06
Kentucky	23.6	33.5	0.12	0.12
Louisiana	7.7	21.8	0.22	0.15
Maine	25.2	28.7	0.31	0.35
Maryland	29.7	33.2	0.68	0.59
Massachusetts	29.7	33	0.27	0.28
Michigan	18.5	24.4	0.36	0.2
Minnesota	7.4	12.5	0.19	0.18
Mississippi	6.2	12.1	0.17	-0.02
Missouri	15.9	23.6	0.36	0.32
Montana	4.2	11.7	-0.16	-0.15
Nebraska	2.4	6.4	-0.23	-0.07
Nevada	13.3	21.7	-0.04	0.06
New Hampshire	35.8	39	0.14	0.14

New Jersey	16	23.2	0.63	0.42
New Mexico	17.5	25.2	-0.02	0
New York	15.1	18	0.4	0.32
North Carolina	15.4	19.7	0.29	0.25
North Dakota	7.6	10.6	0.58	0.23
Ohio	32.9	39.1	0.33	0.31
Oklahoma	11.6	21.5	0.04	0.13
Oregon	7.6	11.9	-0.04	-0.01
Pennsylvania	18.5	37.9	0.65	0.44
Rhode Island	26.7	30.8	0.14	0.09
South Carolina	13.1	18.1	0.15	0.15
South Dakota	5	8.4	0.43	0
Tennessee	18.1	24.5	0.13	0.1
Texas	4.9	10.1	0.04	0.07
Utah	16.4	22.4	0.03	-0.04
Vermont	18.4	22.2	0.37	0.33
Virginia	13.5	16.7	0.36	0.35
Washington	9.4	14.5	0.01	-0.01
West Virginia	43.4	52	0.21	0.25
Wisconsin	15.8	19.3	0.41	0.25
Wyoming	8.7	17.6	0.1	0.07

Note: Age-adjusted death rates were calculated by applying age-specific death rates to the 2000 U.S. standard population age distribution. Death Rates are deaths per 100,000 population (age-adjusted). Source: Kaiser Family Foundation analysis of Centers for Disease Control and Prevention (CDC), National Center for Health Statistics. Multiple Cause of Death 1999-2016 on CDC WONDER Online Database, released 2017. Data are from the Multiple Cause of Death Files, 1999-2016, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program.

Appendix D

World Data

International Comparisons

It is difficult to make direct comparisons between rates of drug use in the United States and other countries due to differences in definitions and data collection methods. Some general comparisons, however may be made with rates found in other western, developed nations. Below are data on substance use collected in Canada and the European Union.

Canadian Tobacco Alcohol and Drugs Survey (CTADS): 2015

The following is an excerpt from the summary of the 2015 CTADS:

"Statistics Canada conducts CTADS on behalf of Health Canada. The target population for CTADS is all persons 15 years of age and older living in Canada, excluding residents of the Yukon, Northwest Territories and Nunavut and full-time residents of institutions. To allow provincial comparisons of approximately equal reliability, the overall sample size for the survey is divided equally across all 10 Canadian provinces. A sample of about 15,000 respondents (the approximate sample size for a full year of data) consists of 5,000 individuals aged 15–24, and 10,000 individuals aged 25 and older across Canada, with a distribution of 1500 individuals per province.

CTADS is telephone based and used, for the first time in 2015, the new survey frame for household surveys. The advantage of this new frame is the inclusion of cell phones in the frame. The person response rate for the 2015 CTADS was 79.0%. For the purposes of this report only univariate and bivariate analyses were conducted, with a t-test being used to determine if two sets of data are statistically significantly different from one another. The data presented in this report have been weighted to allow the results to be generalized to the Canadian population using the Canadian Census 2011.

Current Cigarette Smoking

According to the Canadian Tobacco, Alcohol and Drugs Survey (CTADS), the prevalence of current cigarette smoking in 2015 was 13% (3.9 million smokers), a decrease from 15% (4.2 million smokers) in 2013 and the lowest national smoking rate ever recorded. Nine percent (9%) of Canadians (2.8 million) reported smoking daily, a decrease from 11% (3.1 million) reported in 2013. The prevalence of occasional smoking was 4%, unchanged from 2013. A higher percentage of males (16% or 2.3 million) than females (10% or 1.6 million) reported current smoking. Daily smokers smoked an average of 13.8 cigarettes per day, unchanged from 2013. Male daily smokers consumed an average of 15.2 cigarettes per day compared to 11.9 cigarettes per day for female daily smokers.

Youth Cigarette Smoking (Aged 15-19 Years)

In 2015, current cigarette smoking among youth aged 15 to 19 was 10% (201,000), unchanged from 2013. Four percent (4%) of youth reported smoking daily while 5% of youth reported smoking occasionally [daily and occasional rates do not add to 10% for current smoking due to rounding]. There was no difference in the prevalence of current cigarette smoking between male and female youth.

In 2015, the smoking rate among youth aged 15 to 17 was 6% (72,000), unchanged from 2013. Three percent (3%) of youth aged 15 to 17 smoked daily, while 3% smoked occasionally.

Fifteen percent (15% or 129,000) of older youth aged 18 to 19 were current cigarette smokers in 2015, unchanged from 2013. Six percent (6%) smoked daily and 8% smoked occasionally. Daily and occasional rates do not add to 15% for current smoking due to rounding.

Young Adult Cigarette Smoking (Aged 20-24 Years)

The prevalence of smoking among young adults aged 20 to 24 was 18% (452,000) in 2015, unchanged from 2013. The current smoking rate for young adult males was 22% (281,000), higher than the rate for females at 14% (171,000).

The rate of daily smoking among young adults in 2015 was 10%, while another 8% smoked occasionally. There was no difference in the prevalence of daily smoking between males and females. Young adults who reported smoking daily consumed an average of 11.8 cigarettes per day, unchanged from 2013.

Adult Cigarette Smoking (Aged 25 Years and Older)

The prevalence of current cigarette smoking among Canadian adults aged 25 years and older was 13% (3.2 million), a decrease from 15% (3.6 million) reported in 2013. Males (15%) had a higher current smoking rate compared to females (10%). There was also a decrease in the rate of daily smoking to 10% (2.4 million) in 2015, from 11% in 2013, while occasional smoking remained unchanged at 3%. Males (11%) had a higher prevalence of daily smoking compared to females (8%). Adults who reported smoking daily consumed an average of 14.1 cigarettes per day, unchanged from 2013. Adult males who reported smoking daily consumed an average of 15.6 cigarettes per day; adult females reported consuming 11.9.

Prevalence of Alcohol Use

In 2015, 77% (or 22.7 million) of Canadians reported consuming an alcoholic beverage in the past year, a prevalence unchanged from 2013 (76% or 21.9 million). There was a higher prevalence of males than females reporting past-year alcohol use (81% or 11.8

million males and 73% or 10.9 million females). The rate of alcohol use among young adults aged 20 to 24 (83%) was higher than among youth aged 15 to 19 (59%) and adults aged 25 years and older (78%). The prevalence of alcohol use among age categories (i.e., youth, young adults, and adults 25 years and older) are statistically unchanged compared to 2013.

Provincial rates of alcohol use in the past year ranged from 73% in Prince Edward Island (or 88,000 Prince Edward Island residents) to 82% in Quebec (or 5.6 million Quebec residents). For all provinces, the prevalence of alcohol use remains unchanged compared to 2013.

Cannabis/ Marijuana Use

Cannabis was the most prevalently used illicit drug. In 2015, the prevalence of past-year cannabis use was 12% (or 3.6 million), an increase compared to 2013 (11% or 3.1 million). In 2015, past-year cannabis use was more prevalent among males (15% or 2.2 million) than females (10% or 1.4 million), consistent with results reported in CTADS 2013 and previous national drug survey cycles of the Canadian Alcohol and Drug Use Monitoring Survey.

Illicit Drugs

Respondents were asked about past-year use of illicit drugs including cocaine or crack, ecstasy, speed or methamphetamines, hallucinogens or heroin. This section excludes cannabis. Past-year use of at least one of five illicit drugs monitored was 2% (or 678,000), an increase from 1.6% (or 458,000) in 2013. This increase is associated with an increase in the use of hallucinogens and ecstasy, compared to 2013.

Use and Abuse of Psychoactive Pharmaceutical Drugs

CTADS includes questions relating to the use and abuse of three classes of psychoactive pharmaceutical drugs: opioid pain relievers, stimulants (such as medication prescribed for Attention Deficit Hyperactivity Disorder), and tranquillizers and sedatives. While these drugs are prescribed for therapeutic purposes, they have the potential to be abused due to their psychoactive properties.

Among respondents who had reported using psychoactive pharmaceuticals, further questions were asked to determine whether the drugs were used for reasons other than for prescribed therapeutic purposes including use for the experience, the feeling they caused, to get high, to feel better (improve mood) or to cope with stress or problems. In the text below, such non-therapeutic use will be referred to as abuse**.**

The overall rate of psychoactive pharmaceutical use among Canadians aged 15 years and older was 22% (or 6.2 million), not different from 2013 also at 22% (or 6.4 million). The prevalence of past-year psychoactive pharmaceutical use in 2015 was higher among

females (25% or 3.6 million) than males (18% or 2.6 million). The reported rate of such use was lower among youth aged 15 to 19 (15% or 311,000) than in young adults aged 20 to 24 (19% or 455,000) and adults aged 25 or older (22% or 5.5 million). The prevalence of psychoactive pharmaceutical use for males and females was not different from 2013 (25% or 3.7 million females and 19% or 2.7 million males). There were also no differences in the prevalence of use compared to 2013 for each age category: 18% or 383,000 of youth aged 15 to 19; 20% or 486,000 of adults aged 20 to 24; and 23% or 5.5 million of adults aged 25 and older.

In 2015, of those who reported having used psychoactive pharmaceuticals in the past year, 3% (or 171,000) reported having abused such a drug (i.e., used it for the experience, the feeling it caused, to get high or for "other" reasons). The prevalence of past-year abuse among users in 2015 was not different between males (4% or 97,000) and females (2% or 73,000). The reported rate of abuse among past year users was higher among youth aged 15 to 19 (11% or 31,000) and young adults aged 20 to 24 (14% or 63,000) than adults aged 25 or older (1% or 77,000). Overall, the proportion of abuse translates into 0.6% of the population aged 15 years and older and remains unchanged compared to 2013 (0.5%). The prevalence of psychoactive pharmaceutical abuse among users for males and females was not different from 2013 (3% or 75,000 males and 2% or 71,000 females). There were also no differences in the prevalence compared to 2013 for each age category: 10% or 36,000 of youth aged 15 to 19; 9% or 40,000 of young adults aged 20 to 24; and 1% or 70,000 of adults aged 25 years and older.

Opioid Pain Relievers

Of the three classes of psychoactive pharmaceuticals, opioid pain relievers were the most prevalently used with 13% (or 3.8 million) of Canadians aged 15 years and older reporting having used such a drug at some point in the past year. This represents a decrease in the prevalence of use compared to 2013 (15% or 4.3 million). The prevalence of past-year opioid pain reliever use in 2015 was not different between females (14%) and males (12%) and not different to the 2013 results (16% and 14% respectively).

Among the 13% of Canadians who used opioid pain relievers in the past year, 2% (or 83,000) reported abusing them. This proportion translates into 0.3% of the population aged 15 and older. The prevalence of opioid pain reliever abuse remains unchanged compared to 2013 (2% of users or 0.3% of the population aged 15 years and older, i.e., 99,000). The reported rate of opioid abuse was not reportable for any age group (that is, not reportable for the sub-groups of youth, young adults, or adults older than 25)".

Source: Health Canada (2015). Canadian Tobacco Alcohol and Drugs (CTADS): 2015 Summary. Retrieved from https://www.canada.ca/en/health-canada/services/canadian-tobacco-alcohol-drugs-survey/2015-summary.html

European Monitoring Center for Drugs and Drug Addiction – Statistical Bulletin 2017

The European Monitoring Center compiles data on substance use from the 30 member nations of the European Union. Although the methodologies used to collect the data vary somewhat from nation to nation, it is possible to draw some broad comparison. The following are some highlights of the Statistical Bulletin 2017, which is based on 2015 Data. The study comes from a survey sample of those 15 to 64 years of age. As is shown below, there is a wide range of substance use among the counties included in the Bulletin. Percentages are of total population.

Use of Cannabis/Marijuana in Past Year

Highest:	Spain-	9.5%	Lowest:	Hungry-	1.5%
	Italy-	9.2%		Romania-	2.0%
	Czech Rep.-	9.4%		Cyprus-	2.2%

Use of Any Illicit Drug in Past Year

Highest:	France-	11.8%	Lowest:	Hungry-	2.3%
	Czech Republic -	11.5%		Lithuania-	2.6%
	Netherlands -	10.4%		Portugal-	2.7%

Use of Opioids (including heroin) in the Past Year (rate per 1,000 population)

Highest:	United Kingdom-	8.06	Lowest:	Poland-	0.41
	Austria-	5.45		Hungry-	0.43
	Italy-	5.24		Netherlands-	1.26

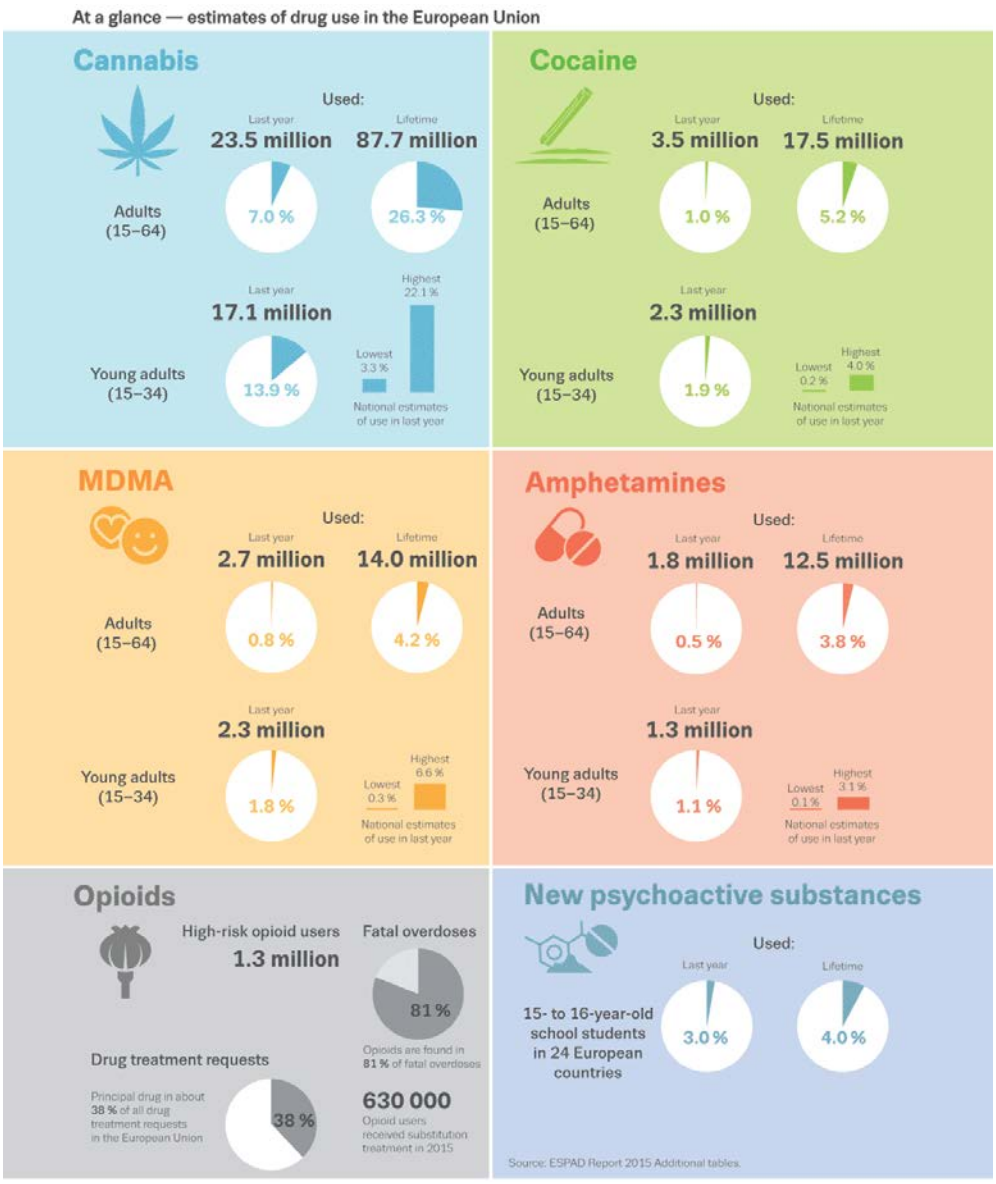

Figure 16. Substance Use in European Union in 2017. Source: European Monitoring Centre for Drugs and Drug Addiction. (2017). Statistical Bulletin 2017- prevalence of drug use.

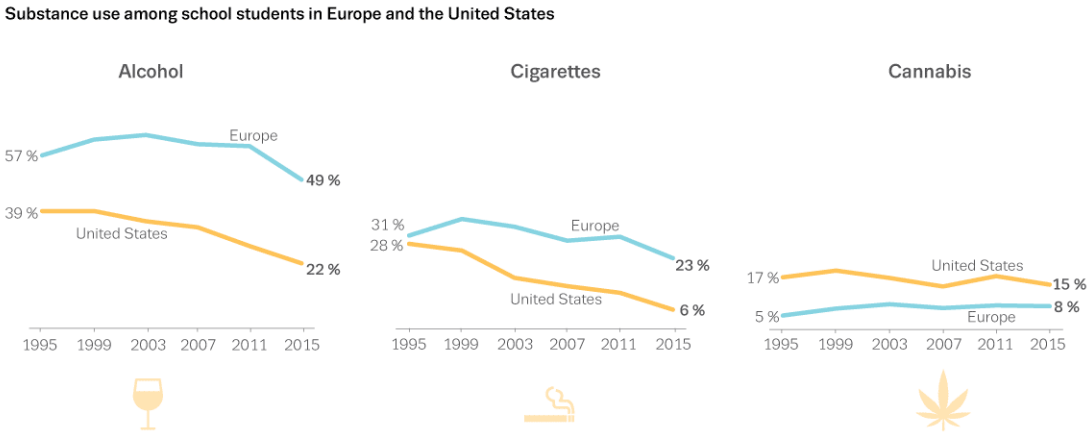

Figure 17. Substance Use Among Students. Source: European Monitoring Centre for Drugs and Drug Addiction. (2017). Statistical Bulletin 2017- prevalence of drug use.

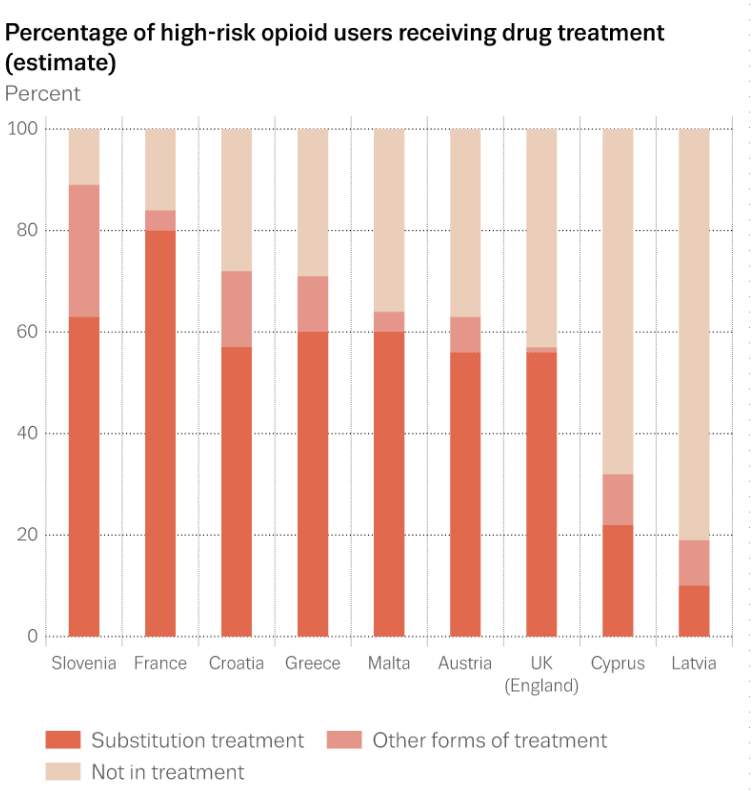

Figure 18. Receiving Treatment. Source: European Monitoring Centre for Drugs and Drug Addiction. (2017). Statistical Bulletin 2017- health and social responses.

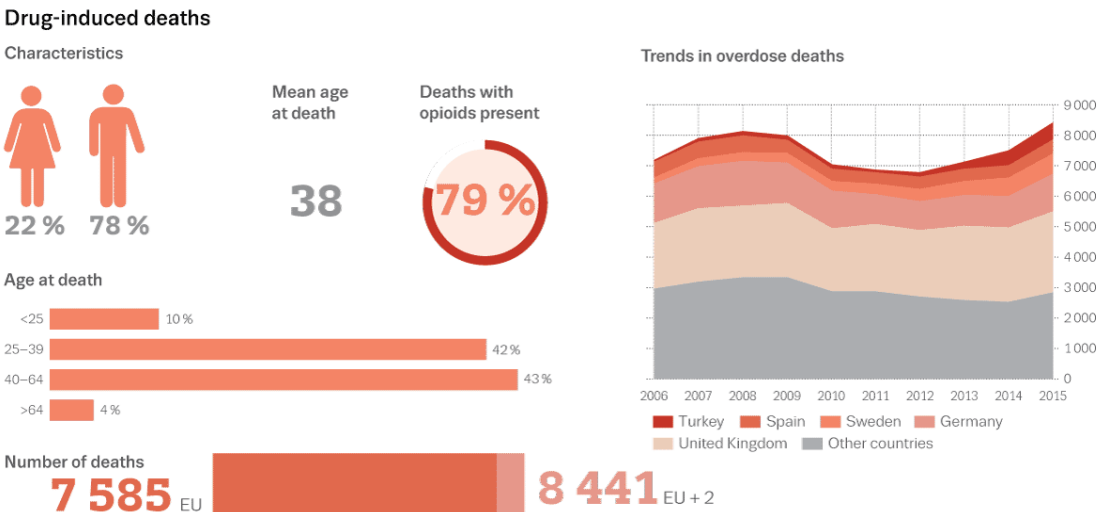

Figure 19. Drug-induced Deaths. Source: European Monitoring Centre for Drugs and Drug Addiction. (2017). Statistical Bulletin 2017- overdose deaths.

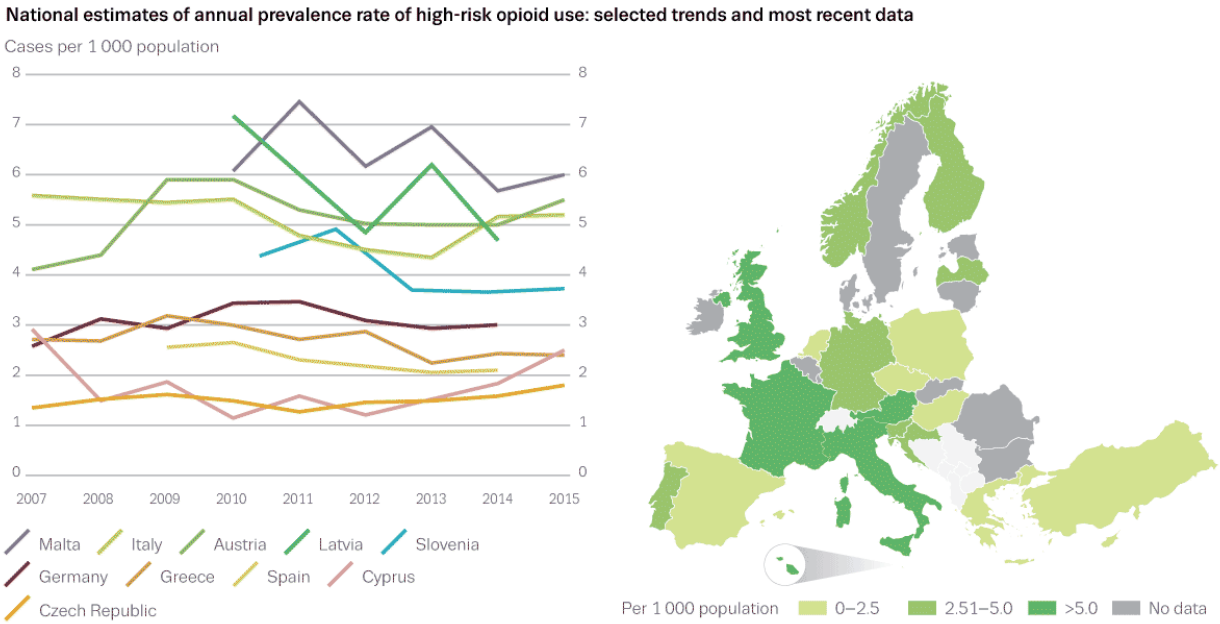

Figure 19. Drug-induced Deaths. Source: European Monitoring Centre for Drugs and Drug Addiction. (2017). Statistical Bulletin 2017- overdose deaths.