

2017 Hawai'i State Epidemiological Outcomes

STATE EPIDEMIOLOGICAL PROFILE 2011-2015

Selected Youth and Adult Drug Indicators



Claudio R. Nigg, Ph.D.
Allison Wagner, M.A.
Codie M. Garza, M.S.
Danilyn Goya, M.P.H.



Office of Public Health Studies
University of Hawai'i at Mānoa
1960 East-West Road, Biomed #C105A
Honolulu, HI 96822

Table of Contents

ABSTRACT.....	2
ACKNOWLEDGEMENTS.....	3
INTRODUCTION.....	4
Background.....	4
Indicators (from SAMHSA’s National Outcome Measures).....	4
SPF Program Model.....	5
About the Authors.....	6
Demographic Profile of the State of Hawai‘i.....	6
Risk and Protective Factors for Substance Use Prevention.....	7
Youth.....	8
Adults.....	10
About This Profile.....	12
METHODS.....	13
Primary Data Sources.....	13
Secondary Data Sources.....	15
National Outcome Measures (NOMs).....	15
How to Read Graphs.....	17
How to Interpret Graphs.....	18
YOUTH MARIJUANA AND OTHER DRUG INDICATORS.....	19
Youth: 30-Day Marijuana Use by Sex, Grade, Ethnicity, and Sexual Orientation.....	19
Youth: Tried Marijuana before Age 13 Years (for the first time) by Sex, Grade, and Ethnicity.....	22
Youth: Lifetime Marijuana Use.....	24
Youth: Perceived Risk from Marijuana Use.....	26
Youth: Ever Used Cocaine by Sex, Grade, and Ethnicity.....	27
Youth: Ever Used Inhalants by Sex, Grade, and Ethnicity.....	29
Youth: Ever Used Ecstasy by Sex, Grade, and Ethnicity.....	31
Youth: Ever Used Heroin by Sex, Grade, and Ethnicity.....	33
Youth: Ever Used Methamphetamine by Sex, Grade, and Ethnicity.....	35
Youth: Ever Used Injection Drugs by Sex, Grade, Ethnicity, and Sexual Orientation.....	37

Youth: Ever Used Prescription Drugs without a Doctor’s Prescription by Sex, Grade, Ethnicity, and Sexual Orientation.....	40
Youth: Offered, Given, or Sold Illegal Drugs on School Property over Past 12 Months by Sex, Grade, and Ethnicity	43
Youth: Ridden in a Car Driven by Someone who was High or Had Been Using Alcohol or Drugs by Sex, Grade, and Ethnicity.....	45
Youth: Comparison of lifetime use across substances	47
ADULT MARIJUANA AND OTHER DRUG INDICATORS	48
Adult: 30-Day Marijuana Use	48
Adult: Perceived Risk from Marijuana Use	49
Adult: Past Year Cocaine Use	50
Adult: Use Illicit Drugs Other Than Marijuana in the Past Month	51
Adult: Past Year Heroin Use	52
Adult: Nonmedical Use of Pain Relievers in the Past Year	53
Adult: Use of Prescription Opioid Pain Medication.....	54
Adult: Use of Illicit Drugs One Month before Pregnancy.....	57
Adult: Use of Illicit Drugs during Pregnancy.....	59
Summary	61
Youth.....	61
Adults	61
Comparisons between Youth and Adults	62
Recommendations for Drug Prevention Programs.....	62
Youth.....	62
Adult	63
Data Recommendations	63
Setting 10-Year Goals	64
Appendix A: Data Tables for Youth Marijuana and Other Drug Indicators.....	65
Appendix B: Data Tables for Adult Marijuana and Other Drug Indicators.....	78
Appendix C: SAMHSA’s Substance Abuse Prevention National Outcome Measures (NOMs).....	87
Appendix D: References	97
Appendix E: List of SEOW Members	102

ABSTRACT

Background: The *Hawai‘i County Epidemiological Profile: Selected Youth and Adult Drug Indicators* was developed as one of the services provided by the Alcohol and Drug Abuse Division (ADAD) Epidemiology Team. The ADAD Epidemiology Team is a partner of the Strategic Prevention Framework Partnerships for Success (SPF-PFS), which is funded through a federal grant provided by the Substance Abuse and Mental Health Services Administration (SAMHSA) Center for Substance Abuse Prevention (CSAP). The purpose of this profile is to identify current usage rates in Hawai‘i, understanding overall trends with respect to youth and adult drug use in Hawai‘i, and provide information in a user-friendly format for planning and implementation of drug use prevention and treatment programs in Hawai‘i.

Methods: The drug-related indicators in this profile were selected based on SAMHSA’s National Outcome Measures (NOMs). Hawai‘i Youth Risk Behavior Survey (Hawai‘i YRBS), the National Survey on Drug Use and Health (NSDUH), and the Pregnancy Risk Assessment Monitoring System (PRAMS) were the primary data sources in this profile.

Results and Findings: Overall, youth rates for all substances included in the current report remained stable between 2011 and 2015. In 2015, the most frequently endorsed drug for lifetime use among youth in grades 9 through 12 was marijuana (32.6%), followed by use of a prescription drug without a doctor’s prescription (12.3%). Heroin was the least frequently endorsed drug for lifetime use among Hawai‘i’s youth (3.3%). Several gender differences were also apparent, including less frequent endorsement of use among female youth when compared to males with respect to lifetime use of heroin and methamphetamines, and early use of marijuana. The percentage of males having ever used injection drugs significantly increased between 2013 (2.1%) and 2015 (4.5%). With respect to grade differences, the general trend for multiple substances was for the percentage of students endorsing use to increase during the progression through high school. Overall, it appears that Native Hawaiians, Caucasians, and Other Pacific Islanders had the highest use for at least one indicator each. Similar to youth drug use, adult substance use remained stable across various substances over the time periods of 2011-2015. Thirty-day marijuana use had the highest overall endorsement in 2014-2015. There were consistent and significant differences between adults ages 18-25 and those ages 26+ in most sampled measures, such that young adults (ages 18-25) had higher use rates and perceived less risk from frequent marijuana use. Additionally, in 2012, those younger than age 20 had the highest percentages of individuals endorsing using illicit substances during pregnancy (7.3%).

Program Recommendations: Given that prevalence rates did not change between 2011 and 2015 for youth or adults in Hawai‘i, prevention efforts should be strengthened and targeted toward higher use substances as well as high-risk groups, such as young adults. Data indicate that substance use during pregnancy is most likely to occur for women under age 20, underscoring the need to target this age group with prevention, intervention, and support services. Additional research should attempt to better understand gender and ethnic group differences in usage and utilize this information to inform targeted prevention and intervention efforts.

Data Recommendations: Data should continue to be collected consistently to allow for better cross-year comparison. Additionally, new efforts should be devoted to collect data specifically for college students in Hawai‘i, given the findings about young adults. Finally, it is important to collect data from a larger sample size to decrease margins of error.

ACKNOWLEDGEMENTS

The contents of the State of Hawai‘i Epidemiological Profile: Selected Youth and Adult Drug Indicators are a collaborative effort on the part of numerous individuals and agencies throughout the State of Hawai‘i. It is because of the knowledge and dedication of these entities that Hawai‘i’s SPF-PFS partners are able to provide the leadership necessary for the development and delivery of quality substance abuse prevention, intervention, and treatment services for the youth and adults of the State of Hawai‘i.

The Alcohol and Drug Abuse Division (ADAD) of the Hawai‘i State Department of Health (HIDOH)

ADAD of HIDOH is the primary source of public funds for many substance abuse treatment and prevention services in Hawai‘i. This profile would not have been possible without funding and support from ADAD. ADAD is supported by the SPF-PFS 2013 of SAMHSA, under grant number 1U79SP020167-01.

Evaluation Team at Center on the Family (COF) of the University of Hawai‘i

The University of Hawai‘i COF has research and evaluation expertise with substance use prevention programs and has collaborated with ADAD. COF was the evaluator for the Strategic Prevention Framework – State Incentive Grant (SPF-SIG) from 2007 to 2012, and continues their services for the current project SPF-PFS 2013 as one of our partners. The ADAD Epidemiology Team would like to express our gratitude to the Evaluation Team at COF who works collaboratively with the ADAD Epidemiology Team and ADAD at HIDOH.

State Epidemiological Outcomes Workgroup (SEOW) Members

SEOW membership is comprised of directors, epidemiologists and data managers from the government, community stakeholders, and individuals from educational institutions in Hawai‘i (the list of members is available in Appendix E). The ADAD Epidemiology Team appreciates the support and help from these members, and their feedback and suggestions were reflected throughout this profile.

Hawai‘i School Health Survey (HSHS) and Hawai‘i Health Data Warehouse (HHDW)

The HSHS is a joint effort between HIDOH and the Hawai‘i Department of Education (HIDOE) to monitor the health status and needs of students in 6th through 12th grade. Data for a large portion of this profile have been collected and provided by Hawai‘i YRBS, which is one of two survey modules (the other one is Youth Tobacco Survey) that are coordinated by HSHS committee members. HHDW analyzes those datasets and provides detailed reports of results. This profile is designed to provide an overview of alcohol use in Hawai‘i and it would not have been possible without invaluable assistance from HSHS committee members and epidemiologists at HHDW.



UNIVERSITY
of HAWAII®
MĀNOA

Office of Public Health Studies



INTRODUCTION

Background

The SAMHSA Center for Substance Abuse Prevention (CSAP), has granted funding to the ADAD Epidemiology Team since fiscal year 2013 through the SPF-PFS grant. Hawai'i SPF-PFS is designed to address one of the nation's top substance abuse prevention priorities: underage drinking among persons aged 12 to 20 years old. To facilitate this, the Hawai'i ADAD Epidemiology Team, guided by the State Epidemiological Outcomes Workgroup (SEOW), selected the following indicators to be highlighted in this State of Hawai'i Epidemiological Profile: Selected Youth and Adult Drug Indicators.

Indicators (from SAMHSA's National Outcome Measures)

Youth (grades 9-12*¹ or aged 12-17*²) trends from 2011 to most current year

- 30 day marijuana use
- Age at first use
- Lifetime marijuana use
- Perceived risk/harm of marijuana use
- Lifetime cocaine use
- Lifetime inhalant use
- Lifetime ecstasy use
- Lifetime heroin use
- Lifetime methamphetamine use
- Lifetime prescription drug use without a doctor's prescription
- Lifetime being offered, given, sold illegal drugs on school property

*¹ Data from Hawai'i YRBS

*² Data from NSDUH

Adults (18 years or older) trends from 2011 to most current year

- 30 day marijuana use
- Perceived risk/harm of marijuana use
- Lifetime cocaine use
- Lifetime heroin use
- Past month use of illicit drugs other than marijuana
- Nonmedical Use of Pain Relievers in the Past Year
- Use of illicit drugs one month before pregnancy
- Use of illicit drugs during pregnancy

SPF Program Model

The purpose of Hawai‘i’s SPF-PFS Project is to improve the quality of life for residents of Hawai‘i by continuing to implement the five steps of SAMHSA’s SPF process. A goal of the SPF process aims to aid in the development of more effective prevention strategies and sustainable prevention infrastructures statewide to reduce and prevent underage drinking. The five steps included in the SPF process are as follows:

1. Assess Needs
2. Build Capacity
3. Plan
4. Implement
5. Evaluate

These five steps are informed and made relevant by sustainability and cultural competency considerations throughout the project (Figure A).

Figure A. SPF Program Model



The SPF-PFS builds upon the accomplishments of the SPF-SIG and Substance Abuse Block Grants (SABG) to achieve the project goals. The purpose of this profile is to summarize and characterize behavioral health indicators related to drug use in Hawai‘i, while incorporating SAMHSA’s National Outcome Measures (NOMs).

About the Authors

The ADAD Epidemiology Team has been providing epidemiological services to and working with the ADAD of HDOH from 2006 to present as a SPF partner. The past three profiles and this current one have been put together by the ADAD Epidemiology Team with guidance from SEOW. SEOW was established in March 2006 with grant funds from the SAMHSA CSAP to HDOH, ADAD. The ADAD Epidemiology Team also provides technical assistance and training for state and community level stakeholders and sub-recipients in evidence-based programs, data usage, program evaluation, grant writing, needs assessment, and addresses other identified-training needs.

Demographic Profile of the State of Hawai‘i

The State of Hawai‘i is comprised of eight main islands divided into five counties with a total population of approximately 1.4 million. Division of islands by counties is depicted in Table 1. According to the 2016 US Census, this population is composed of the following race/ethnicities: 25.8% Caucasian alone^(a); 2.2% Black or African American alone^(a); 0.4% American Indian and Alaska Native alone^(a); 37.7% Asian alone^(a); 10.2% Native Hawaiian and Other Pacific Islander alone^(a); 23.7% two or more races; 10.4% Hispanic or Latino^(b); and 22.1% Caucasian alone but not Hispanic or Latino^(b). Percentages total more than 100% due to overlap of ethnicities.

(a) Includes persons reporting only one race.

(b) Hispanics may be of any race, so also are included in applicable race categories.

Table 1. Division of counties in the State of Hawai‘i

County	Island(s)
Hawai‘i	Hawai‘i Island
Honolulu	O‘ahu
Kalawao	Kalaupapa Peninsula of Moloka‘i
Kaua‘i	Kaua‘i, Ni‘ihau
Maui	Maui, Lāna‘i, Kaho‘olawe, Rest of Moloka‘i

The City and County of Honolulu is the largest of the five counties in terms of population with 992,605 persons as of 2016, whereas the Kalawao County is a smallest with 88 persons. The percentage of persons below poverty level in the State of Hawai‘i was 10.6% (five year estimate of 2010 – 2015) – with Hawai‘i County having the highest rate of 18.3% (five year estimate of 2010 – 2015). Additional individual county information is located in Table 2.

Table 2. State of Hawai‘i social and economic characteristics by county in 2016.

County	Population (estimate, 2016)	Persons below poverty level (%, 2010-2015)*¹	Native Hawaiian and Pacific Islander alone*² population (%, 2016)
Hawai‘i Island	198,449	18.3%	13.0%
Honolulu	992,605	9.2%	9.5%
Kalawao	88	N/A	50%
Kaua‘i	72,029	11.2%	9.1%
Maui	165,386	10.7%	11.0%
Overall (State of Hawai‘i)	1,428,557	10.6%	10.2%

Source: U.S. Census Bureau

*¹ Five-year estimates are “period” (not “point-in-time”) estimates that represent data collected over 60 months. The American Community Survey (ACS), which provides data on poverty, reports data with single-year, 3-year, and 5-year estimates. The primary benefit of using multiyear estimates is the increased statistical reliability of the data due to the larger sample size. The data from states and communities with populations of less than 65,000 is not collected for ACS’s single-year estimates.

*² Includes persons reporting only one race.

Risk and Protective Factors for Substance Use Prevention

Youth and adult substance use remains a matter of concern both nationally and internationally, and research efforts have focused on identifying factors that can be targeted in prevention and treatment to reduce the frequency of substance abuse. These factors can be broadly classified as those that increase the likelihood of using substances, or risk factors, and those that decrease this likelihood, or protective factors. Risk factors have been found to be more highly predictive of substance abuse than are protective factors (Bitancourt et al., 2016; Cleveland, Feinberg, Bontempo, & Greenberg, 2008).

The organization of these factors is often understood through models that integrate multiple ecological levels (Cleveland et al., 2008). Figure B shows these levels as a social ecological model: individual or self, family, school/workplace or community, and society. These risk and protective factors can also be classified into fixed and variable factors (Stone, Becker, Huber, & Catalano, 2012). Static life events or demographics (e.g., biological indicators) are considered fixed, while variable factors are changeable (e.g., attitudes). Examination of both, along with their interaction, should be used to guide both prevention and intervention practices.

Figure B. Risk and protective factors by social ecological model levels



Source: SAMHSA Center for the Application of Prevention Technologies (CAPT)

Youth

At the individual level, perceived risk is a strong predictive factor for substance use such that those youth who do not identify substance use as a risky behavior are more likely to use substances (Andersson et al., 2009; Kilmer et al., 2007; Lopez-Quintero & Neumark, 2010). Recent research has also focused on identifying whether commonly identified risk and protective factors are generalizable across groups. For example, ethnic identity may be a protective factor for minority youth, with mixed outcomes for multiracial youth (Fisher, Zapolski, Sheehan, & Barnes-Najor, 2015). Further, self-esteem and body image may be important factors to consider for adolescent girls (Schwinn, Schinke, Hopkins, & Thom, 2016; Wheeler, 2010).

Family factors can serve both protective and risk functions in adolescents' substance use. There is considerable evidence that individuals who have a close family member with a substance use history are at an increased risk of later problematic substance use (Ewing et al., 2014; Kuntsche & Kuendig, 2006; Latendresse et al., 2008; Stone et al., 2012). By contrast, family cohesion, including family attachment, family opportunities for prosocial involvement, family supervision, and family discipline, may be protective against binge drinking for younger youth (Cleveland et al., 2008).

Greater exploration of society- and family-level influences on substance use have led to a more nuanced understanding of the applicability of these factors across social groups. Family influence has been identified as a particularly important factor for Native Hawaiian youth (Edwards, Giroux, & Okamoto, 2010). Familism values, or a combination of valuing family support, closeness, and obligation to the family, have also been suggested to be an important protective factor for Mexican-origin youth (Atherton, Conger, Ferrer, & Robins, 2015).

Table 3 displays a list of risk and protective factors for youth at four levels: peer and individual, family, school/work, and community. Data on risk and protective factors among youth in this report can be found in the sections of tried marijuana before age 13 years and perceived risk from marijuana use (pages 21 and 25, respectively).

Table 3. Risk and protective factors for substance use among youth

Domain	Risk Factors	Protective Factors
Peer and Individual	<ul style="list-style-type: none"> • Early onset of risky behaviors • Lower quality of life • Impulsiveness • Favorable attitudes toward substance use • Low perceived risk of substance use • Antisocial behaviors • Friends' substance use • Interaction with antisocial peers • Rebelliousness • Sensation seeking • Gang membership • Internalizing disorders • High stress • Low self-esteem 	<ul style="list-style-type: none"> • Peer disapproval of substance use • High perceived risk of substance use • Belief in the moral order • Education aspirations • Religiosity • Spirituality • Social or refusal skills • Use of health care services for mental health • High self-esteem • Ethnic identity
Family	<ul style="list-style-type: none"> • Poor family supervision • Lack of parental sanctions for antisocial behaviors • Parental attitudes favorable toward substance use • Parental attitudes favorable toward antisocial behavior • Substance use by a close family member • Close family member history of antisocial behaviors • Family conflict 	<ul style="list-style-type: none"> • Family attachment/bonding • Family opportunities for positive involvement • Family rewards for positive involvement • Balance of autonomy and relatedness to family • Behavioral and emotional autonomy • Parental support
School/Work	<ul style="list-style-type: none"> • Low school/work commitment • Poor academic/work performance • Attending college 	<ul style="list-style-type: none"> • School/work opportunities for positive involvement • School rewards for positive involvement • Attending/completing college
Community	<ul style="list-style-type: none"> • Community disorganization • Transition and mobility • Exposure to community substance use • Laws and norms favorable to substance use • Perceived availability of drugs and handguns • Ability to purchase alcohol or tobacco 	<ul style="list-style-type: none"> • Community opportunities for positive involvement • Community rewards for positive involvement • Connectedness to adults outside of family

Sources: Beyers et al. (2004), Bitancourt et al., (2016), Cleveland et al. (2008), Debnam et al. (2016), Fleury et al. (2014), Fisher et al. (2015), Guo et al. (2001), Mason and Windle (2001), Pearson (2004), Tam et al. (2000), and Stone et al. (2012)

Adults

Young adulthood (ages 18 – 26) often includes a peak of substance use and misuse (Stone et al., 2012). Further, substance use during this developmental phase often predicts use of substances in later adult life (Stone et al., 2012). Thus, it may be particularly important to understand the key risk and protective factors during this period of transition between adolescence and adulthood.

Many of the same factors that are associated with substance use in youth, such as early onset, family history of alcohol or drug problems, sensation-seeking, and antisocial attitude, continue to be important in young adulthood (McGue et al., 2001). Unique to young adulthood, however, is the navigation of a new social context with increased freedom and decreased social control (Stone et al., 2012). Moving out of the parental home and attending college may increase the risk for substance use, while employment, marriage, cohabitation, and graduation from college protect against overuse (Stone et al., 2012).

Across adulthood, the presence of mental health conditions, including mood, anxiety, and behavioral disorders, increases the likelihood of later substance use, abuse, and dependence (Oslin et al., 2006; Swendsen et al. 2010). Prospective studies have confirmed that, though these mental health conditions may share etiological factors with substance use disorders, the mental health conditions frequently pre-date the substance use (Swendsen et al., 2010), highlighting a point in time during which treatment for the mental health condition may serve as preventive care against substance use. Research has also pointed toward the role of self-medication and coping in the link between mental health conditions and substance use (Mauro et al., 2015; Oslin et al., 2006).

Researchers have also focused on studying the applicability of risk and protective factors to understudied groups. For example, multiple studies have pointed towards the Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, and Asexual (LGBTQIA) as having higher rates of lifetime and 12-month substance use (McCabe et al., 2009; Roxburgh, Lea, de Wit, & Degenhardt, 2016). This has been theoretically connected to both social norms and minority stress (Roxburgh et al., 2016), and highlights this community as one that may have unique needs with respect to substance use prevention and treatment.

The community and societal levels of an ecological framework remain important to consider when examining adult substance use. For example, living in a disadvantaged neighborhood, defined by the percentage of people living below the poverty line, percentage of households headed by females, percentage of male unemployment, and percentage of family receiving public assistance, has been associated with an increased risk of drug use among adults (Boardman et al., 2001). Further, though overall rates of nonmedical use of opioids have risen, death and injury from such use appears to be concentrated in states with large rural populations (Keyes et al., 2010). Researchers have proposed this may be due to increased prescriptions for opioids in rural areas, worsening economic prospects, and self-selection from out-migration of young individuals (Keyes et al., 2010).

Despite this research on factors relevant to adult populations and substance use, there remains a lack of research on adults older than 26 years of age. Much of the research on risk and protective factors

continues to focus on adolescents and young adults. Though these age ranges are critical for developing lifetime patterns of substance use, more research is needed to understand the associations among substance use and variables at each ecological level. Further, as large segments of the population enter older adulthood, understanding the factors related to substance use in older adults may prove increasingly important.

Risk and protective factors for adults are summarized in Table 4. In this profile, adult indicators related to risk and protective factors can be found in the section on perceived risk of harm of marijuana use in the adult section (page 44).

Table 4. Risk and protective factors for substance use among adults

Domain	Risk Factors	Protective Factors
Peer and Individual	<ul style="list-style-type: none"> • Early onset of risky behaviors • Psychological distress • Lower quality of life • Impulsiveness • Favorable attitudes toward substance use • Low perceived risk of substance use • Antisocial behaviors • Friends’ substance use • Interaction with antisocial peers • Rebelliousness • Sensation seeking • Lack of commitment to conventional adult roles • Personal history of past problem with substance use • Poor health status, particularly chronic and disabling disorders • Low physical activity • Physical impairments • Untreated depression • Perceived autonomy, well-being, and control over life events 	<ul style="list-style-type: none"> • Peer disapproval of substance use • High perceived risk of substance use • Belief in the moral order • Education aspirations • Social or refusal skills • Use of health care services for mental health • Identity exploration in love and work • Developing a world view • Subjective sense of adult status • Subjective sense of self-sufficiency • Making independent decisions • Becoming financially independent • Future orientation • Achievement motivation • Physical activity • Religiosity and attitudes toward spiritual/religious affiliations • Coping skills and personal resilience
Family	<ul style="list-style-type: none"> • Substance use by a close family member • Close family member history of antisocial behaviors • Leaving parents’ home • Loss of spouse through death or divorce • Transitional life events (e.g., death in the family, children leaving home, menopause, and relocation) • Relationship strains, such as stress with a spouse or family member and the stress of caring for a sick family member or the sick • Low quality of caregivers, whether family members or professionals • Presence or threat of physical, sexual, or emotional abuse 	<ul style="list-style-type: none"> • Family attachment • Family opportunities for positive involvement • Family rewards for positive involvement • Balance of autonomy and relatedness to family • Behavioral and emotional autonomy

	<ul style="list-style-type: none"> • Family’s favorable attitudes toward substance use 	
Workplace	<ul style="list-style-type: none"> • Low school/work commitment • Poor academic/work performance • Attending college • Actual or perceived loss of status through retirement or job loss 	<ul style="list-style-type: none"> • School/work opportunities for positive involvement • School rewards for positive involvement • Attending/completing college • Presence of protective workplace structure, policies, and programs, such as drug-free workplace programs or medication workshops • Access to healthcare benefits
Community/ Environment	<ul style="list-style-type: none"> • Community disorganization • Having no mobility and ability to access community services • Having no physical and financial access to quality healthcare services • Exposure to community substance use • Laws and norms favorable to substance use • Polypharmacy, including concurrent use of multiple drugs and substandard prescribing practices by healthcare providers, such as inattention to potential drug interactions and side effects, inadequate pain control, and subtherapeutic prescribing 	<ul style="list-style-type: none"> • Community opportunities for positive involvement • Having mobility and ability to access community services • Having physical and financial access to quality healthcare services • Community rewards for positive involvement • Sense of attachment or inclusion in larger community • Sense of safety from risk of physical or emotional harm • Nature of community norms related to substance use • Availability of specialized care from gerontologists and other specialists familiar with needs of older adults

Sources: O’Connell et al. (2009), Oslin et al (2006), and Substance Abuse and Mental Health Services Administration (SAMHSA) Center for the Application of Prevention Technologies (CAPT). (n. d.).

About This Profile

A brief description is provided for each graph in this profile. Descriptions are generally structured in the following order: overall result summary (comparison between the state and overall U.S. rate), comparison between males and females, comparison among different grade levels, and comparison among different ethnic groups. When possible, indicators are also given by sexual orientation.

METHODS

Section Overview

Indicators were selected from SAMHSA’s list of NOMs based on data source availability. Community public health professionals in Hawai‘i also contributed input via an online survey regarding what indicators were helpful in the previous profile versions. These opinions were taken into consideration while adjusting indicators chosen for this report. The purpose of this section is to provide a brief description of primary and secondary data sources used for this State Epidemiological Profile. Primary data sources are entities of data collected and analyzed by the same organization whereas secondary data sources are entities of available data that were aggregated into an accessible format by someone/place other than the origin. Limitations of each source were evaluated based on the following criteria: data availability, methodology of the data collection, frequency of data collection, and population sampled. Data were analyzed and structured into an easy-to-read format by the ADAD Epidemiology Team. All descriptions below were obtained from the official sites of each database.

Primary Data Sources

Hawai‘i Youth Risk Behavior Survey (Hawai‘i YRBS)

Description: The YRBS is a national health survey conducted by the Centers for Disease Control and Prevention (CDC). The YRBS monitors six types of health-risk behaviors that contribute to the leading causes of death and disability among youth, and also prevalence of obesity and asthma among youth and young adults. Data are collected regarding health-risk behaviors among 9th through 12th grade students in the United States (U.S.). These behaviors contribute to injuries and violence, alcohol or other drug use, tobacco use, sexual risk behaviors, unhealthy dietary behaviors, and physical inactivity. Hawai‘i YRBS is administered by HIDOE in partnership with HIDOH, and the HHDW provides detailed reports for the state YRBS data.

Limitations: Although quality of the data are demonstrated as acceptable, there might be potential underreporting or over-reporting of behaviors from the participants since data are self-reported and includes sensitive topics such as underage drinking and other substance use. Also, the YRBS is a school-based survey that is only generalizable to students of public high schools. Counties that have a response rate less than 60% are not analyzed, which may lower the representativeness across geographic areas. Although Hawai‘i YRBS includes middle school data, there are fewer alcohol-related items compared to high school data. Other than core questions that are standardized by CDC, comparable national data are not available for some of the indicators in Hawai‘i YRBS. The most recent data available is 2015.

Website: <http://www.hhdw.org/cms/index.php?page=yrbss-reports>

National Survey on Drug Use and Health (NSDUH)

Description: The NSDUH is an annual nationwide survey that involves interviews with roughly 70,000 randomly selected individuals aged 12 and older. The collected data are used to provide state-level estimates on mental health and the use of tobacco products, alcohol, illicit drugs, in the U.S. Participants are given cash incentives and interviewed in their home by a professional interviewer of the Research Triangle Institute (RTI).

Limitations: The survey is all self-reported and the survey methodology may cause respondents to answer questions based upon their perception of their interviewer's desired response. Incentives provided from survey completion may lead to certain populations being more willing to participate in the survey than other populations. Data collected are only reported as state-specific and data collected at the county level are not provided with publically available data. NSDUH is designed for national data, thus state-level data are limited. For example, due to small sample sizes, state-level data are only available for combined years (e.g, 2011-2012, and 2012-2013) instead of annually. The most current combined year available for this profile was 2014-2015. Although the NSDUH collects data from individuals aged 12 and older, it doesn't provide data specifically for college students and sample size would be too small when the data are broken down by state and college-age group (typically 18 – 25 years old).

Website: <http://www.samhsa.gov/data/population-data-nsduh>

Pregnancy Risk Assessment Monitoring System (PRAMS)

Description: PRAMS is a project sponsored by the CDC to collect state-specific, population-based data on maternal attitudes and experiences before, during, and after pregnancy. A questionnaire is mailed to approximately 200 new mothers per month on all islands of Hawai'i. Questions were intended to address critical maternal and child health issues. Relevant to this report are their questions about use of illicit substances.

Limitations: As is true of all self-report and survey methodology, accuracy is limited by the respondent's ability to correctly report their behaviors. This may be especially impacted in high-stigma topics such as illicit substance use during pregnancy. Additionally, the absence of national level statistics and differences in methodology between states makes cross-state comparison difficult. The most recent data available is from 2014.

Hawai'i Behavioral Risk Factor Surveillance System (Hawai'i BRFSS)

Description: The BRFSS is coordinated by CDC and it is the largest telephone survey in the world with over 500,000 interviews conducted in 2011. Data are collected monthly, targeting all 50 states, the District of Columbia, American Samoa, Palau, Puerto Rico, the US Virgin Islands, and Guam. Survey questions include alcohol and marijuana usage, and demographics of age,

gender, ethnicity/race, education attainment, marital status, tenure, and telephone ownership. In addition to landlines, the BRFSS has also started to incorporate cellphone based surveys in 2011. Hawai'i BRFSS is administered by HODOH and HHDW provides detailed reports for the state BRFSS data. In 2015, the Hawai'i Department of Health, Emergency Medical Services & Injury Prevention System Branch added questions about prescription pain reliever use to the Hawai'i BRFSS administration.

Limitations: The BRFSS is a self-report form, allowing for the possibility of under- or over-reporting. This may be particularly salient for the BRFSS because of the sensitive nature of the topics covered, including alcohol consumption and health behaviors. Surveys are only distributed to those who are in possession of landlines or cellphones, which may not necessarily be representative of the entire population. Survey methodology may also lead respondents to answer questions based upon their perception of their interviewer's desired response. Currently there are only a few alcohol-related questions in Hawai'i BRFSS. Although Hawai'i BRFSS collects data from adults aged 18 and older, it doesn't provide data specifically for college students and sample size would be too small when the data are broken down by college-age group (typically 18 – 24 years old). The most recent data available is 2015.

Website: <http://health.hawaii.gov/brfss/>

Secondary Data Sources

Hawai'i Health Data Warehouse (HHDW)

Description: HHDW was created through the partnership between HODOH and the University of Hawai'i's John A. Burns School of Medicine (JABSOM). The database is one of the five components under the Healthy Hawai'i Initiative (HHI), which was created to address and monitor the Healthy People 2010 goals. The five interrelated components are the following: schools, communities, public and professional education, research and evaluation, and nutrition education network.

Limitations: Compiled data are specific to each included data source.

Website: <http://www.hhdw.org/>

National Outcome Measures (NOMs)

Overview

The SAMHSA NOMs are an effort to develop a reporting system that will create an accurate and current national picture of substance abuse and mental health services. This system was developed jointly by SAMHSA, the states, and the District of Columbia. Ten domains below were identified in an effort to limit the number of outcomes to measure, which allowed for an increase in focus on those particular areas to see if the outcomes were met.

- Reduced Morbidity: Abstinence from Drug Use/Alcohol Use
- Employment/Education
- Crime and Criminal Justice
- Stability in Housing
- Access/Capacity
- Retention
- Social Connectedness
- Perception of Care
- Cost Effectiveness
- Use of Evidence-based Practices

The matrix for the NOMs can be found in Appendix C. For the epidemiological purposes of this profile and due to data availability, this profile will only contain the domain of reduced morbidity: abstinence from drug use/alcohol use. This domain includes lifetime use and 30-day indicators.

How to Read Graphs

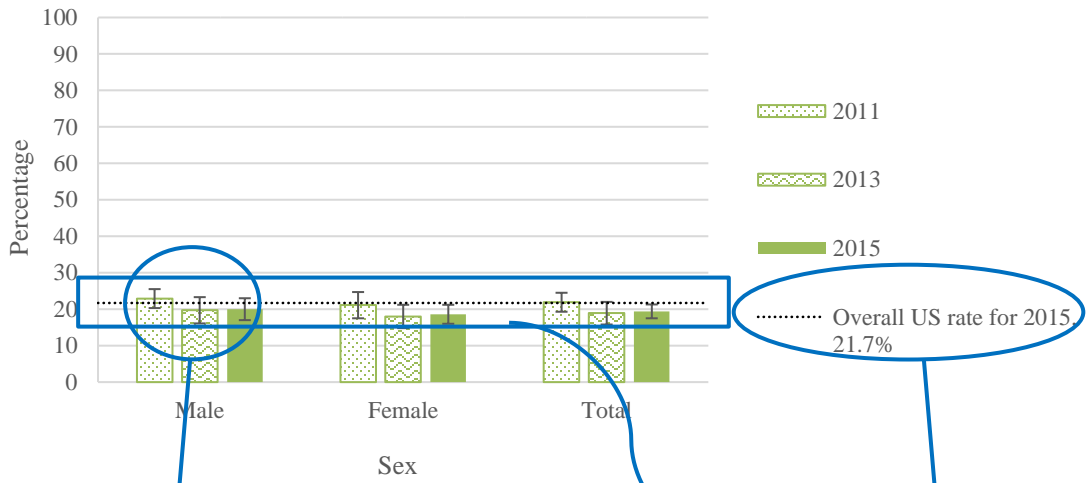
Data Assistance: Understanding a Graph

Section Overview

Data of select indicators are presented as bar graphs that are intended to assist in utilizing the data to further efforts in substance abuse prevention. The following two sections illustrate how to read and interpret the graphs in this profile.

Tells you the substance and indicator represented in the graph. The age group represented in the graph is specified in parentheses.

Figure 1. 30-day marijuana use by sex (high school students).



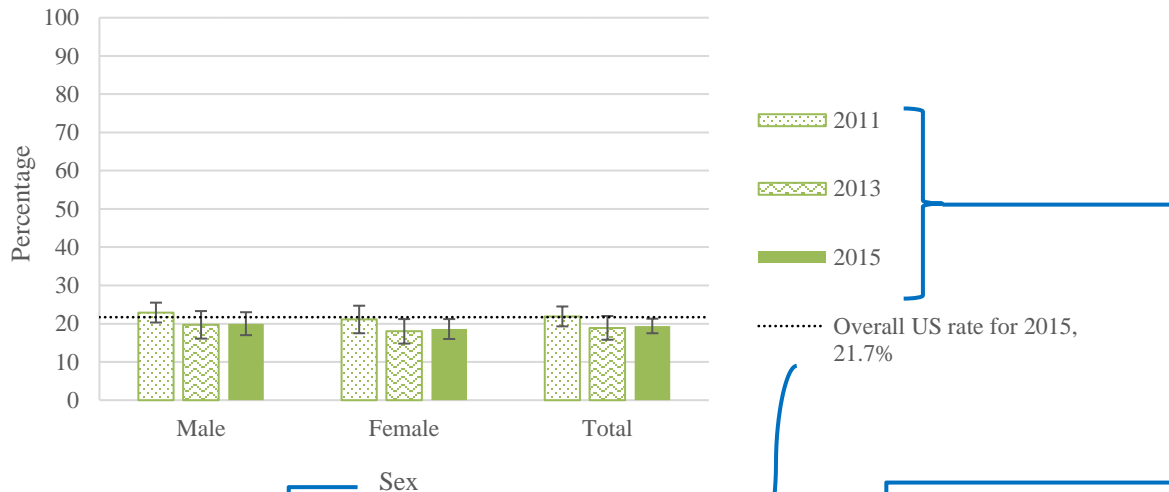
Whiskers indicate 95% confidence intervals of individual bars. The true values of the data have 95% probability of falling within the whiskers.

The dashed line shows the United States rate for the last year sampled in Hawai'i.

How to Interpret Graphs

Step 1: Pick a substance, indicator, and age group

Figure 1. 30-day marijuana use by sex (high school students)



Step 2: Pick a variable of interest.

Ex: sex, ethnicity, or age group (youth).

Step 3: Determine US overall rate in 2015.

Ex: The Hawai'i total in 2015 was slightly lower than the overall US rate of 2015.

Step 4: Compare trends over time.

Ex: From 2011 to 2015, there were no significant changes in 30-day marijuana use in Hawai'i.

Step 5: Put it all together.

Ex: There were no significant differences between high school males and females in 30-day marijuana use across years.

Step 6: Set goals

Ex: We recommend that the outcome of a 10-year goal for lowering substance abuse indicator rates should be 10% lower than the most current average. Healthy People 2020 goals for Hawai'i are also suggested and can be found at:

<http://www.hawaiihealthmatters.org/index.php?module=Trackers&func=display&tid=1003>.

YOUTH MARIJUANA AND OTHER DRUG INDICATORS

Youth: 30-Day Marijuana Use by Sex, Grade, Ethnicity, and Sexual Orientation

Current marijuana use is operationalized as whether an individual has used marijuana at any point during the 30 days preceding the survey. Figures 1, 2, and 3 show the percentage of high school students in Hawai‘i who are current marijuana users by sex, grade, and ethnicity, respectively.

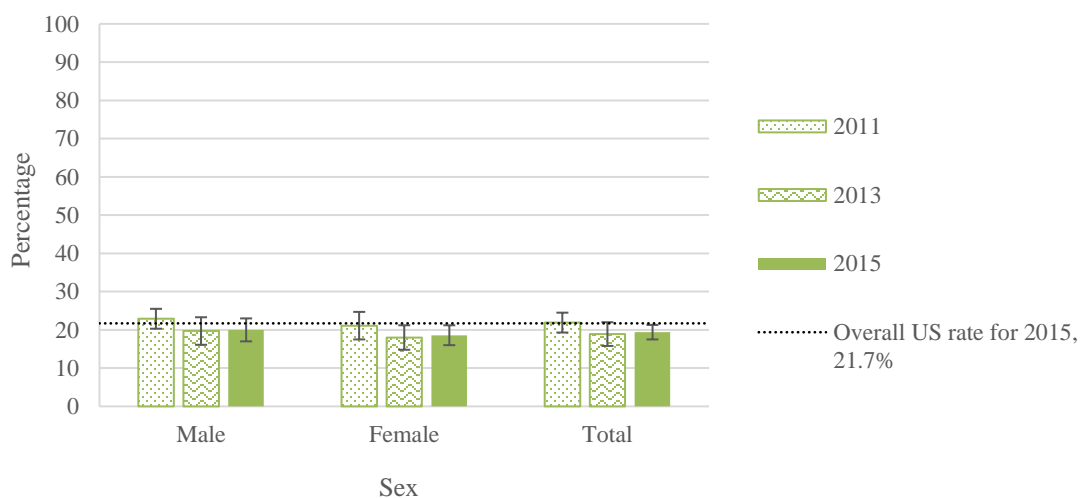
The overall rate of current users in Hawai‘i remained stable between 2011 and 2015.

Rates between male and female current marijuana users showed no significant differences between genders (Figure 1). Shown in Figure 2, in 2015, there was a significant difference between 9th graders current use (13.1%) and 11th and 12th graders current use (11th grade: 21.5%; 12th grade: 23.4%).

Throughout the years examined, Native Hawaiians consistently had higher significant rates of current marijuana use compared to Filipino, Japanese and Other Asians. Native Hawaiians also had a significantly higher rate of use (28.8%) over the national average (21.7%) in 2015 (Figure 3).

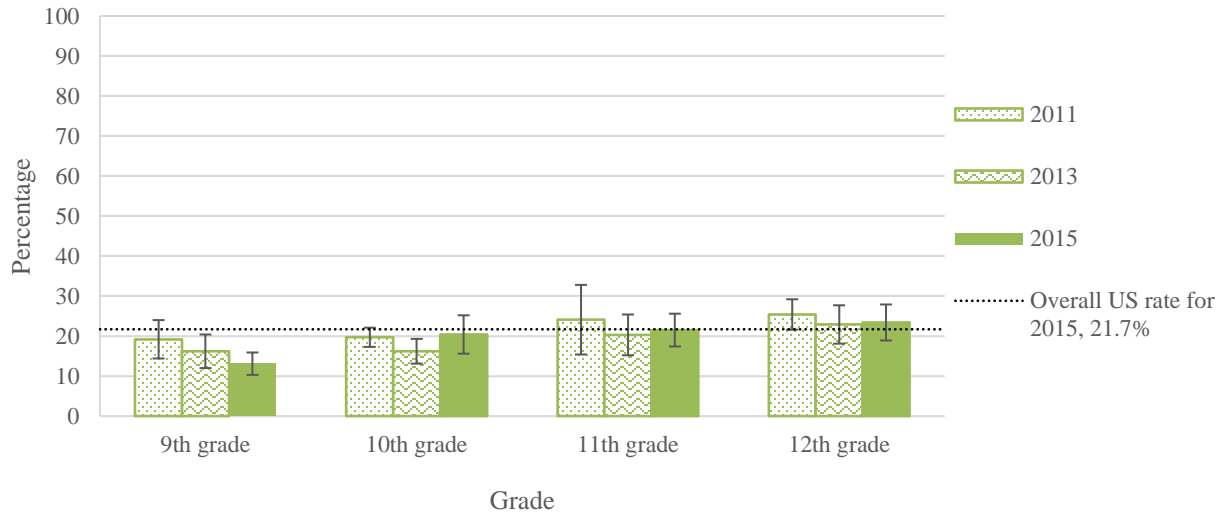
Across all years sampled, the rate of current marijuana users is significantly higher amongst students who self-identify as lesbian, gay, and bisexual when compared to heterosexual students and the 2015 U.S. rate (Figure 4).

Figure 1. 30-day marijuana use by sex (high school students).



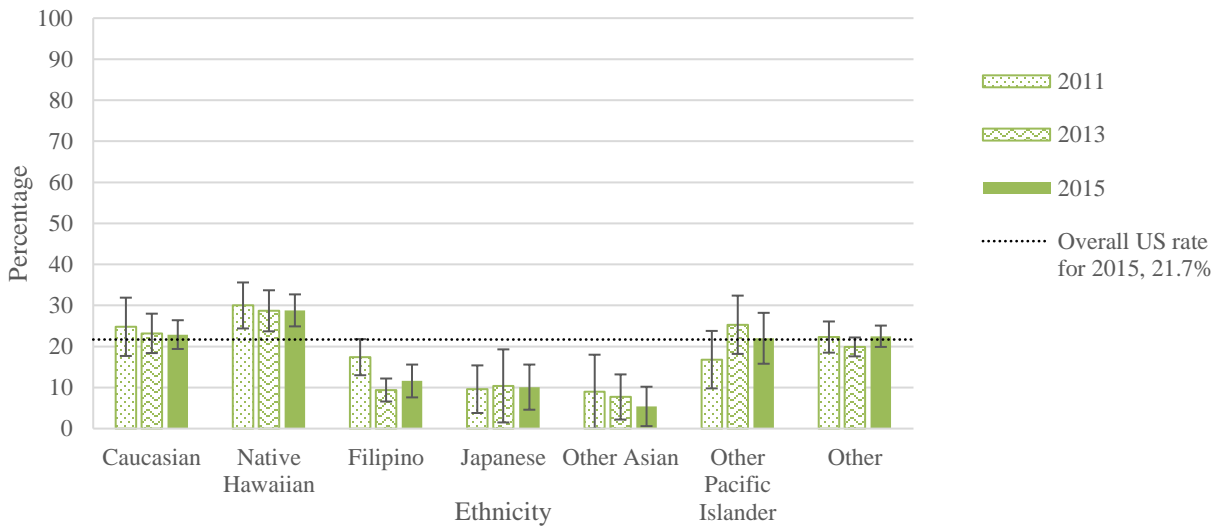
Source: YRBS 2011, 2013, and 2015

Figure 2. 30-day marijuana use by grade (high school students).



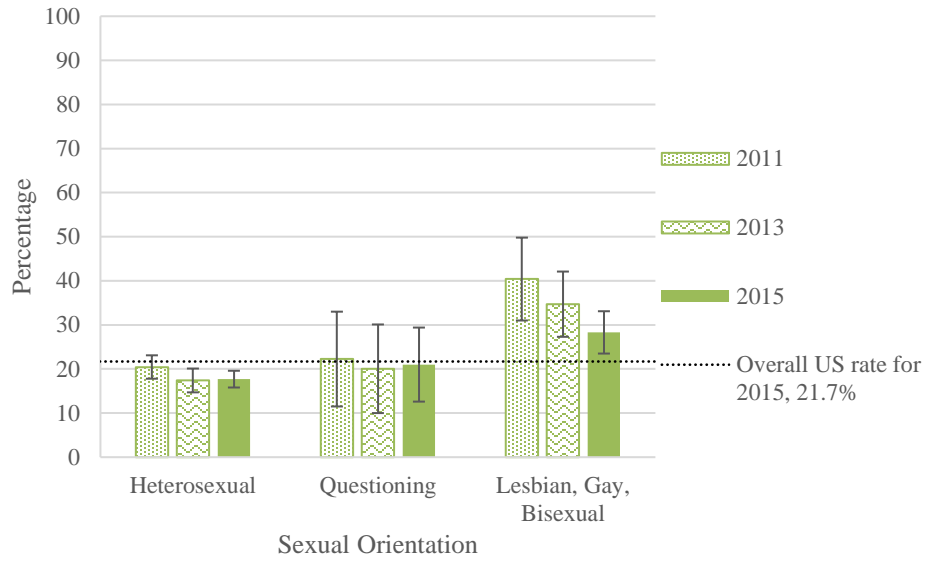
Source: YRBS 2011, 2013, and 2015

Figure 3. 30-day marijuana use by ethnicity (high school students).



Source: YRBS 2011, 2013, and 2015

Figure 4. 30-day marijuana use by sexual orientation (high school students).



Source: YRBS 2011, 2013, and 2015

Youth: Tried Marijuana before Age 13 Years (for the first time) by Sex, Grade, and Ethnicity

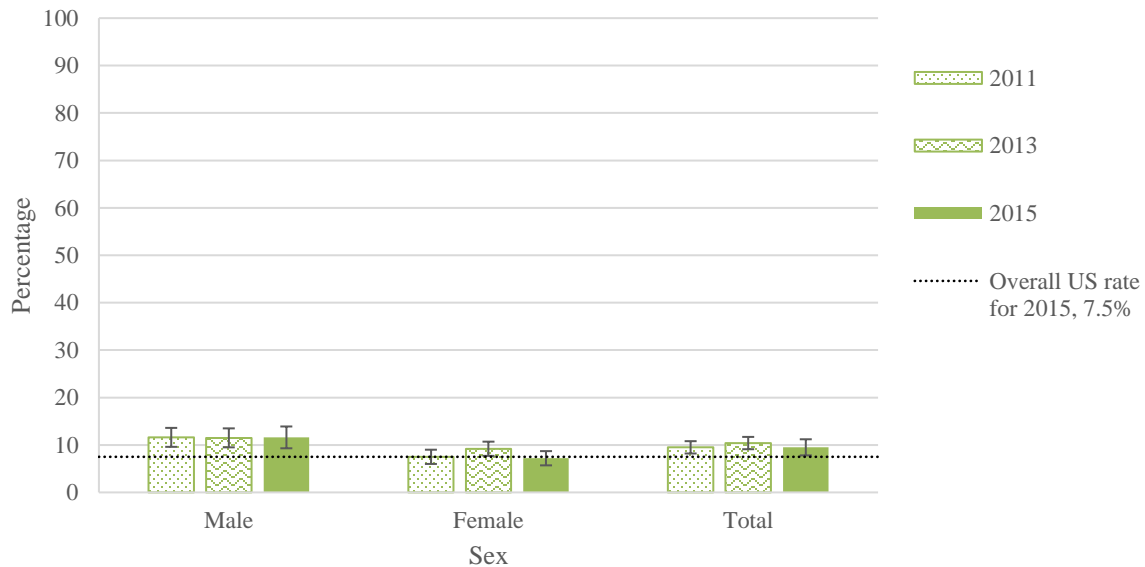
Early marijuana use is indicated by whether an individual tried using marijuana before age 13. Figures 5, 6, and 7 display early marijuana use in Hawai‘i by sex, grade, and ethnicity.

The number of youth who tried marijuana before age 13 had no change between 2011 and 2015 (Figure 5). The percentage of females who used marijuana before age 13 was significantly less than male early use in the years sampled (Figure 5).

There were no apparent differences in the rate of trying marijuana before age 13 across grades (Figure 6).

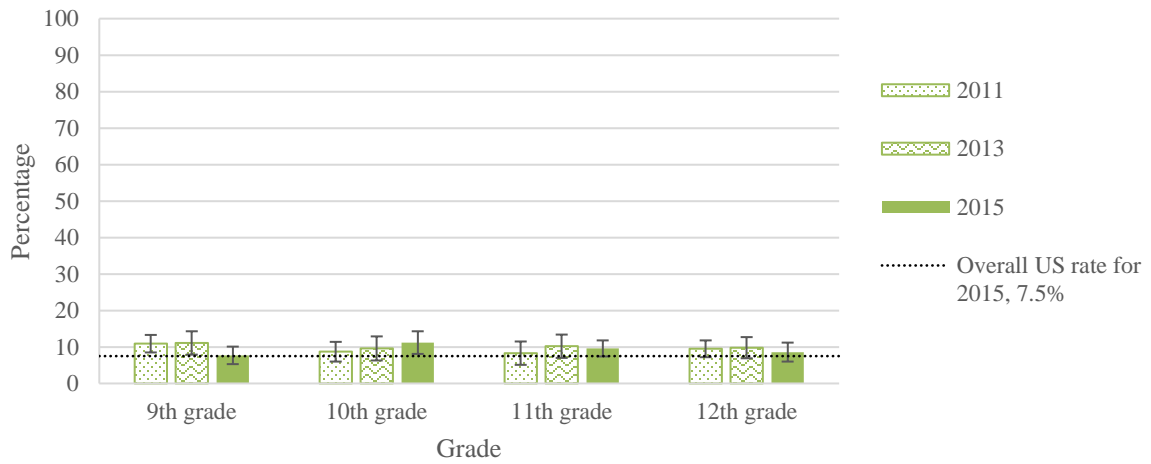
The 2015 rate of early use for Native Hawaiian students (17.4%) was significantly higher than that for Caucasian (7.5%), Filipino (5.5%), Japanese (3.5%), Other Asian (2.6%), and Other (10.1%) students. The rate for Native Hawaiian use was also significantly higher than the national average (7.5%) (Figure 7).

Figure 5. Tried marijuana for the first time before age 13 years by sex (high school students).



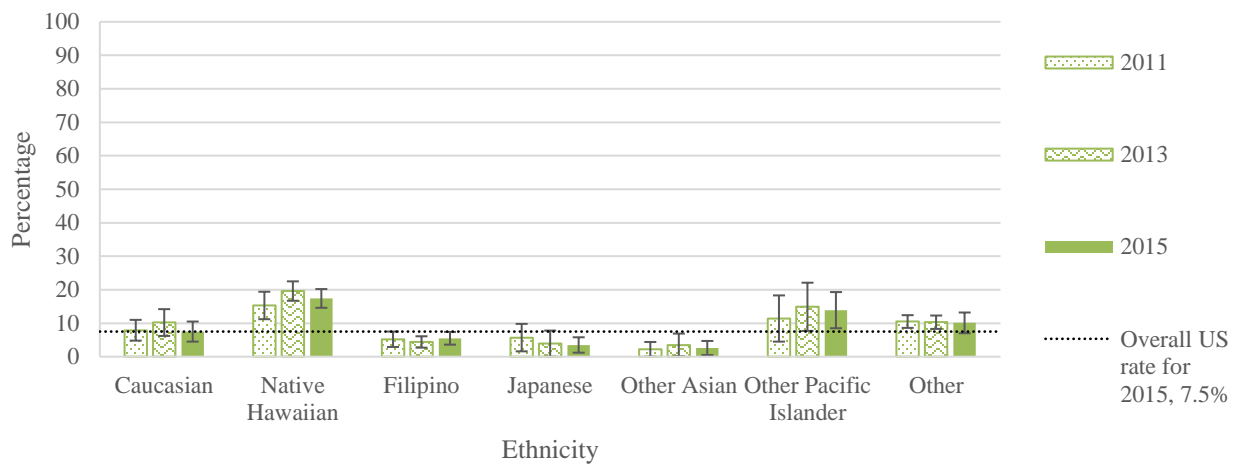
Source: YRBS 2011, 2013, and 2015

Figure 6. Tried marijuana for the first time before age 13 years by grade (high school students).



Source: YRBS 2011, 2013, and 2015

Figure 7. Tried marijuana for the first time before age 13 years by ethnicity (high school students).



Source: YRBS 2011, 2013, and 2015

*Note that n<50 for other Asian for 2011, 2013, and 2015

Youth: Lifetime Marijuana Use

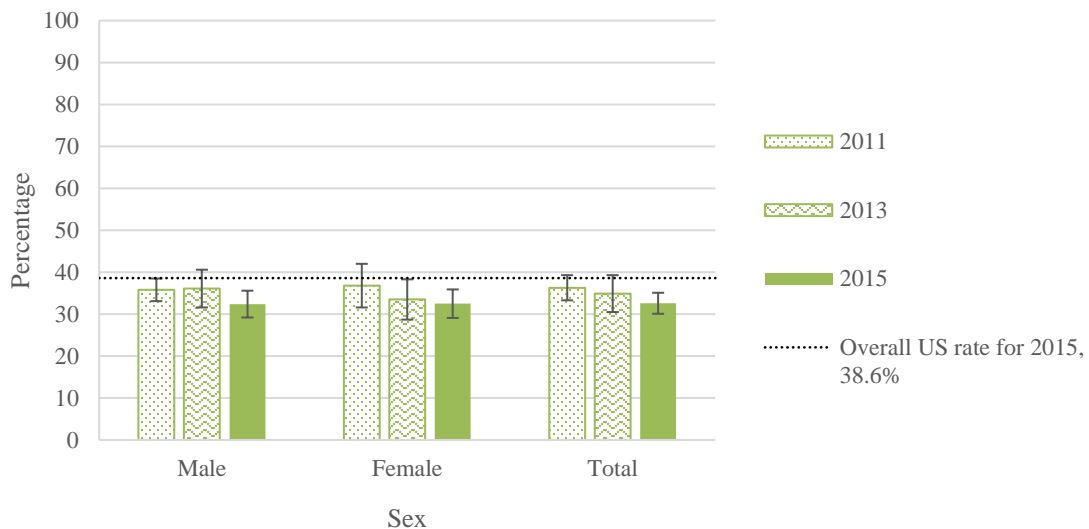
Lifetime marijuana use indicates whether an individual has ever, even once, used marijuana. Figures 8, 9, and 10 display these rates for Hawai'i youth by gender, grade, and ethnicity.

Figure 8 indicates that there were no changes in overall percentages of youth endorsing lifetime marijuana use throughout the years, and that the overall 2015 rate in Hawai'i (32.6%) is lower than that nationwide (38.6%). There were no sex differences in lifetime marijuana use (Figure 8).

As shown in Figure 9, no changes were seen across years based on grade. In 2011 and 2015, the percentage of 9th graders endorsing having ever used marijuana (2011: 25.4%, 2015: 20.6%) was significantly less than the percentage of 11th graders (2011: 42.3%; 2015: 36.8%) and 12th graders (2011: 45.4%; 2015: 43%) reporting the same.

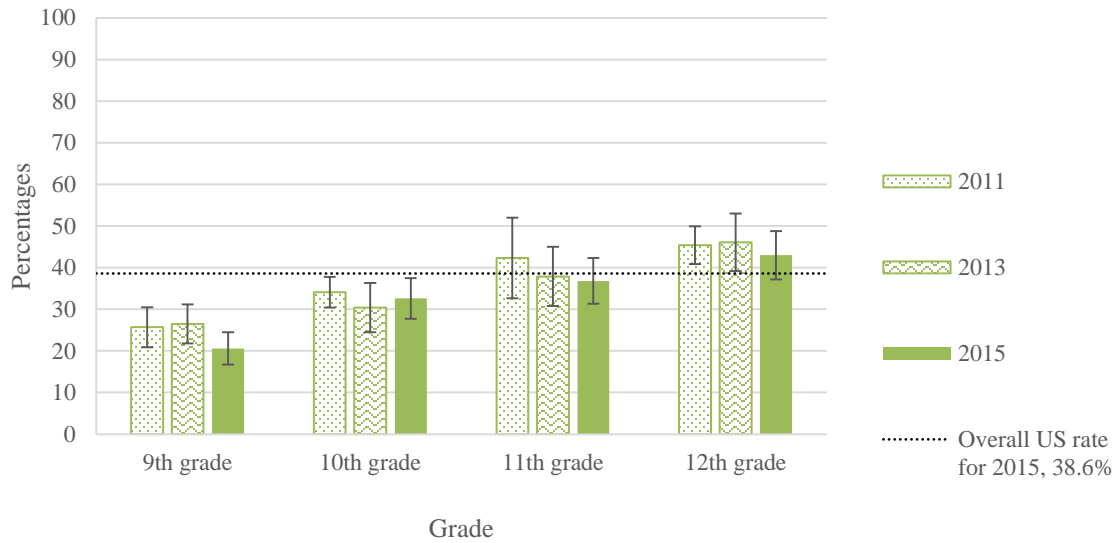
No changes were seen across years based on ethnicity. In 2015, significantly fewer Other Asian, Japanese, and Filipino youth endorsed lifetime use (13.9%, 19.3%, and 21.8% respectively) than did Caucasians (34.7%), Native Hawaiians (47%), Other Pacific Islanders (37.4%) and Other (38.5%).

Figure 8. Lifetime marijuana use by sex (high school students).



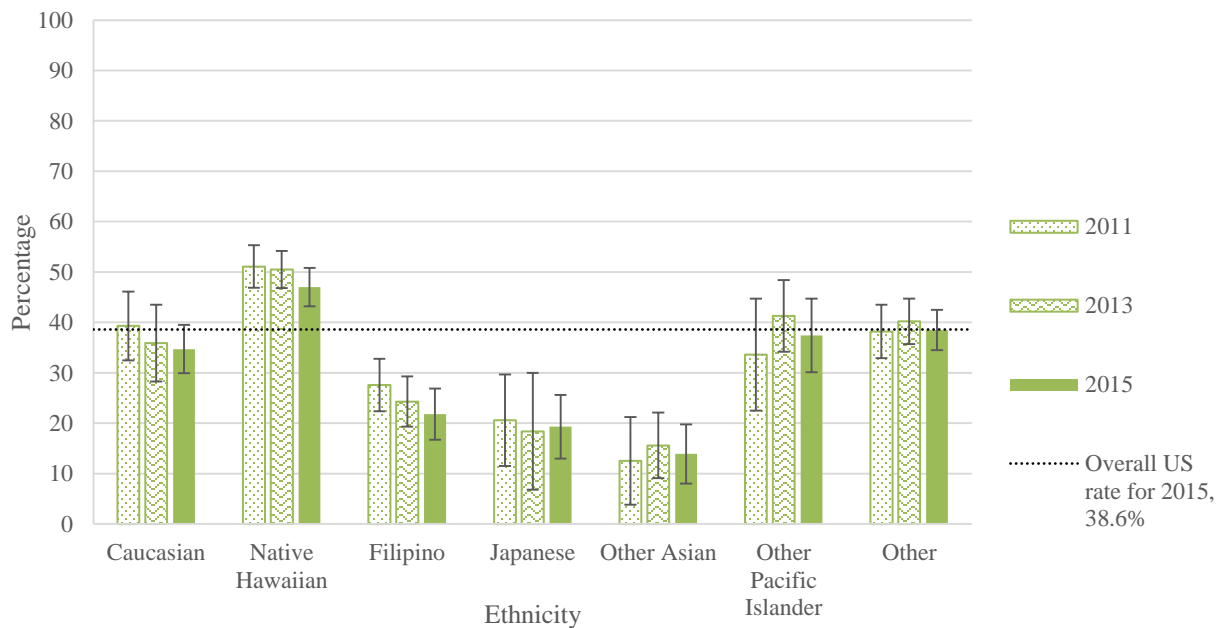
Source: YRBS 2011, 2013, and 2015

Figure 9. Lifetime marijuana use by grade (high school students).



Source: YRBS 2011, 2013, and 2015

Figure 10. Lifetime marijuana use by ethnicity (high school students).



Source: YRBS 2011, 2013, and 2015

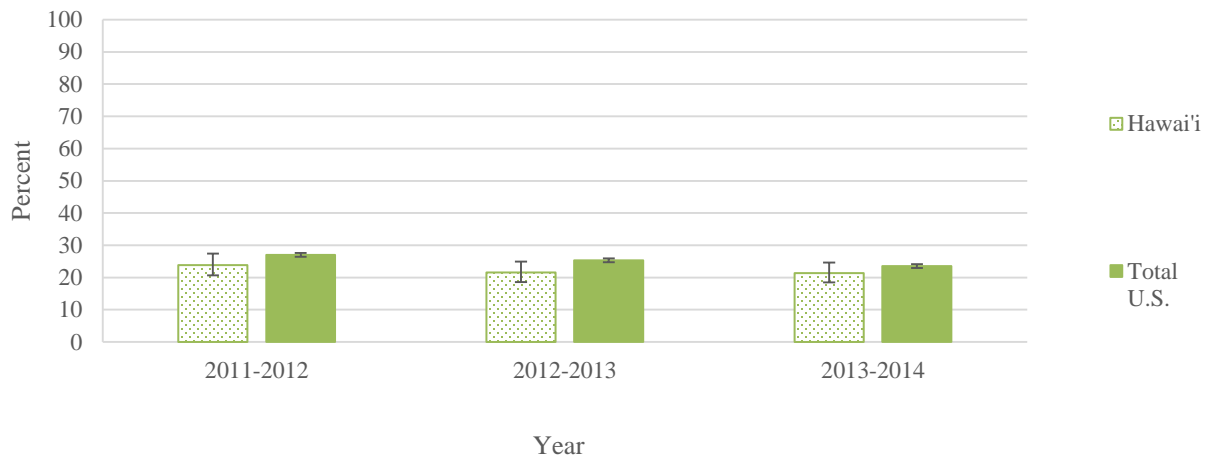
Youth: Perceived Risk from Marijuana Use

Note that previous indicators included youth disapproval of marijuana use. State-level collection of this data stopped after the NSDUH 2010-2011 survey. For a summary of this information for the years 2007-2008, 2008-2009, and 2010-2011, see: Hawai'i State Epidemiological Outcomes Workgroup. (2014). *State Epidemiological Profiles: Selected Youth and Adult Indicators*. Honolulu, HI: Nigg, Konishi, Durand, & Cook.

Figure 11 displays the percentage of individuals aged 12-17 in Hawai'i and the U.S. who perceived great risk from smoking marijuana once a month.

Across the years reviewed, 21.38 – 23.86% of Hawai'i youth rated smoking marijuana once per month as being of great risk. This remained largely stable over the sampling periods and on par with the U.S. rate for 2013-2014 (23.54%; Figure 11).

Figure 11. Perceptions of great risk from smoking marijuana once a month (12 – 17 years old).



Source: NSDUH 2011-2012, 2012-2013, 2013-2014

*Data unavailable for 2014-2015

Youth: Ever Used Cocaine by Sex, Grade, and Ethnicity

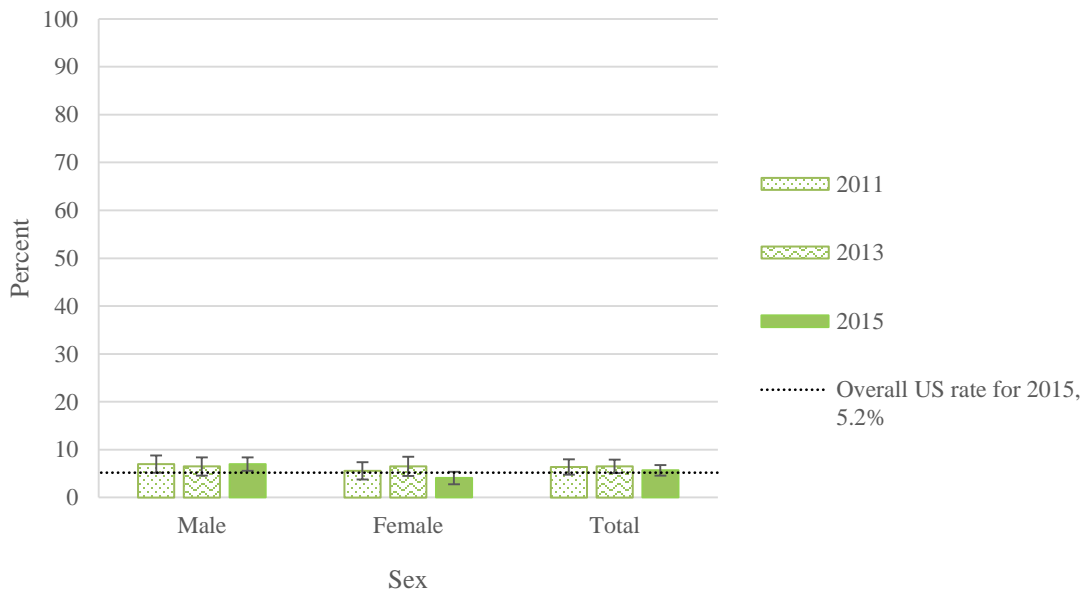
Figures 12, 13, and 14 display the percentage of youth in Hawai‘i who have ever tried any form of cocaine by sex, grade, and ethnicity.

The total percentage of high school students in Hawai‘i who have tried cocaine remained stable across the years sampled (5.7 – 6.5%) and did not differ from the national rate for 2015 (5.2%). There were no significant differences based on sex.

Lifetime cocaine use by each grade had little variance throughout the years. However, in 2015 12th grade cocaine use (7.4%) was significantly higher than that of 9th graders (3.3%; Figure 13).

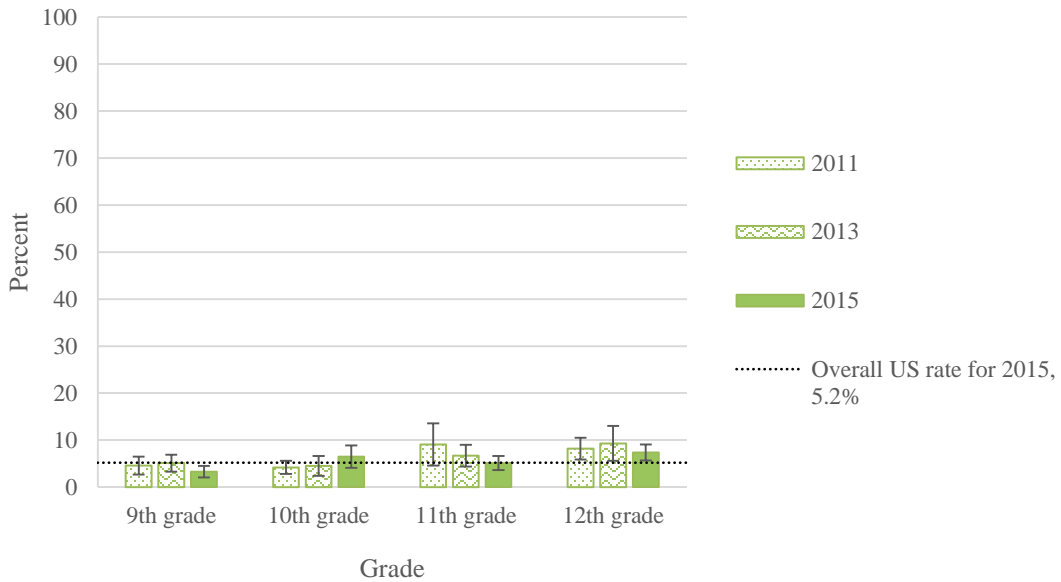
There were no significant changes across years within any ethnic group. In 2015, Caucasian (7.7%), Native Hawaiian (7.8%), and Other (7.4%) students had significantly higher rates of ever having used cocaine than Filipino (2.1%), and Other Asian (1.5%) students (Figure 14).

Figure 12. Ever used cocaine by sex (high school students).



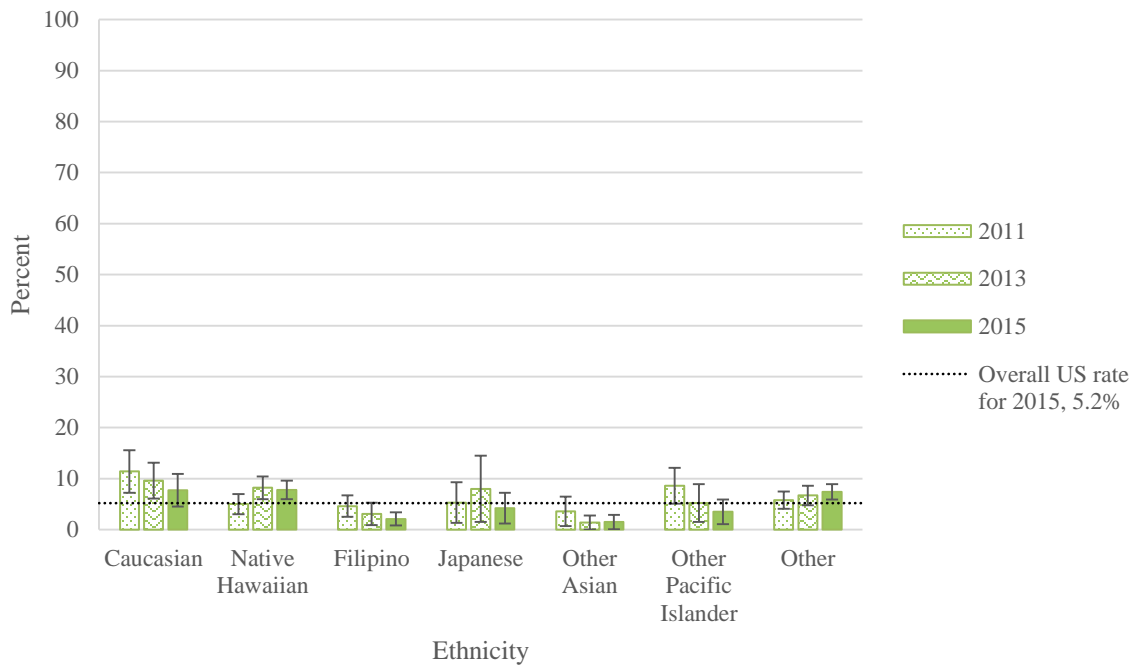
Source: YRBS 2011, 2013, and 2015

Figure 13. Ever used cocaine by grade (high school students).



Source: YRBS 2011, 2013, and 2015

Figure 14. Ever used cocaine by ethnicity (high school students).



Source: YRBS 2011, 2013, and 2015

*Note that n<50 for Other Asian in 2013 and 2015, and for Other Pacific Islanders in 2015

Youth: Ever Used Inhalants by Sex, Grade, and Ethnicity

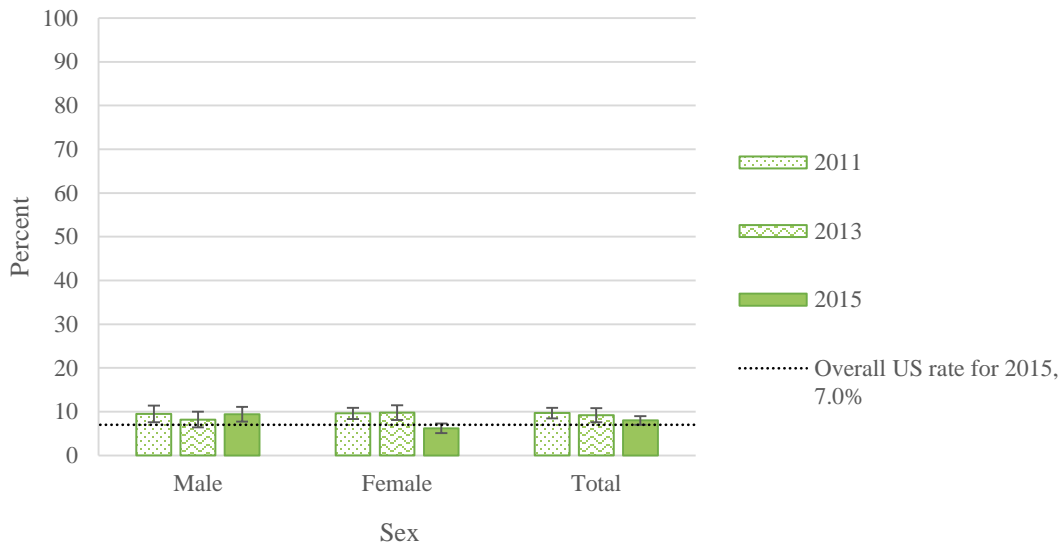
Figures 15 through 17 display information related to whether high school students in Hawai‘i have ever, even once, inhaled a liquid, spray, or gas for the purpose of getting high.

The total percentage of high school students reporting that they have ever used inhalants showed no significant changes across years. The percentage of females who reported ever using inhalants decreased significantly from 9.6% in 2011 to 6.2% in 2015, while the percentages for males remained largely the same (Figure 15).

There were no significant differences in the rate of ever using inhalants by grade (Figure 16).

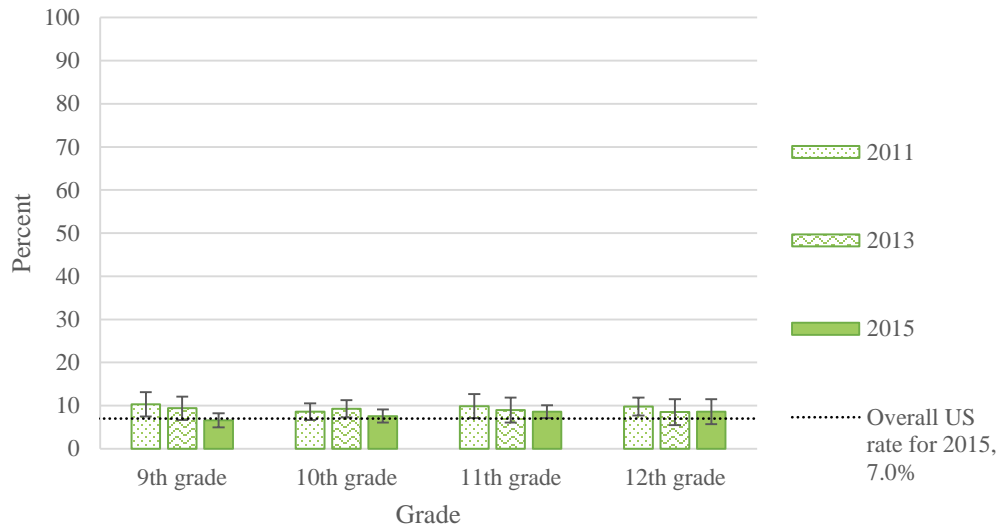
Use of inhalants for students in the Other Pacific Islander category significantly decreased from 2011 (10.1%) to 2015 (3.2%; Figure 17). In 2015, the rates for Caucasian (9.8%), Native Hawaiian (10.2%), and Other (8.9%) students were significantly more than that for Other Pacific Islander students (3.2%).

Figure 15. Ever used inhalants by sex (high school students).



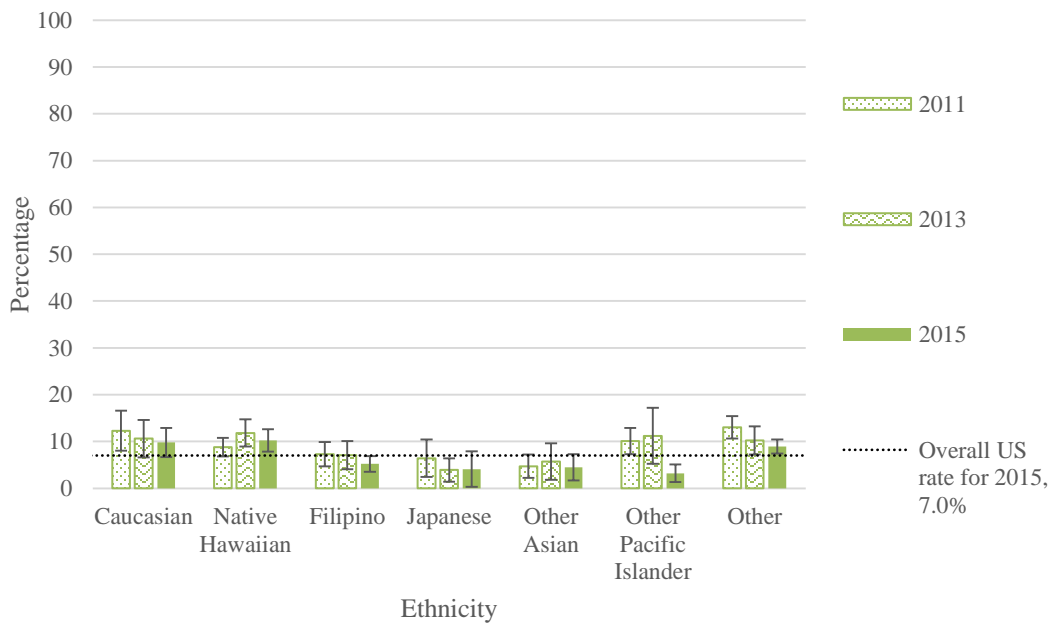
Source: YRBS 2011, 2013, and 2015

Figure 16. Ever used inhalants by grade (high school students).



Source: YRBS 2011, 2013, and 2015

Figure 17. Ever used inhalants by ethnicity (high school students).



Source: YRBS 2011, 2013, and 2015

*Note that n<50 for other Pacific Islanders in 2015

Youth: Ever Used Ecstasy by Sex, Grade, and Ethnicity

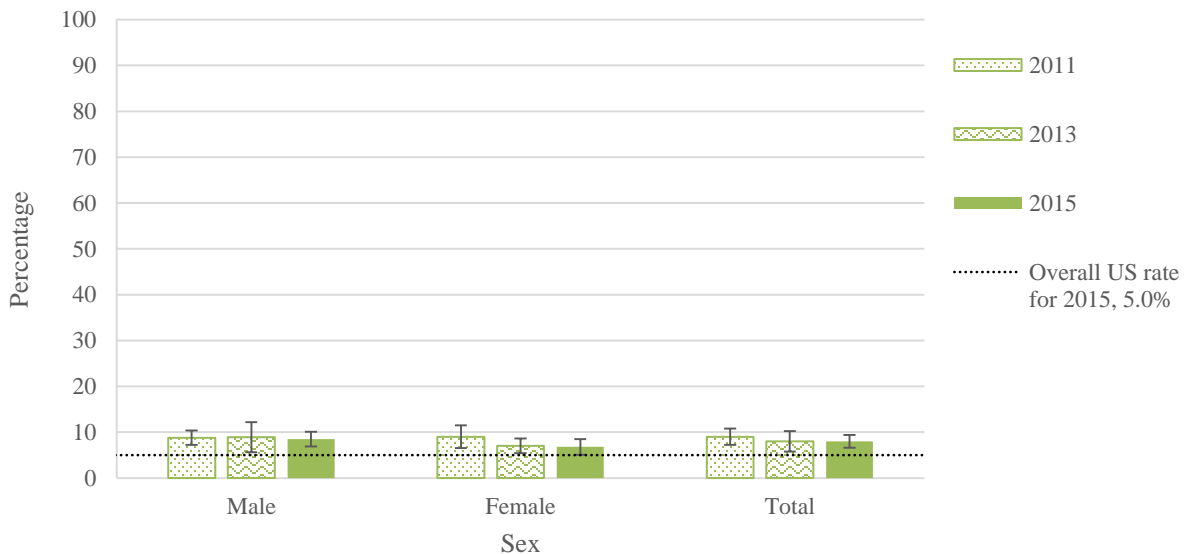
Figures 18 – 20 show the percentage of high school students in Hawai‘i who reported ever, even once, using ecstasy from 2011 - 2015 (including MDMA) by sex, grade, and ethnicity.

The total number of high school students reporting ever using ecstasy remained stable across the sampled years (8-9%), as did the percentage of males and females using ecstasy (Figure 18). The overall rate of use was significantly higher than the US rate (5.0%) in 2015.

In 2015, the number of 9th graders endorsing using ecstasy at least once (4.4%) was significantly less than the number of 12th graders endorsing the same (11%; Figure 19).

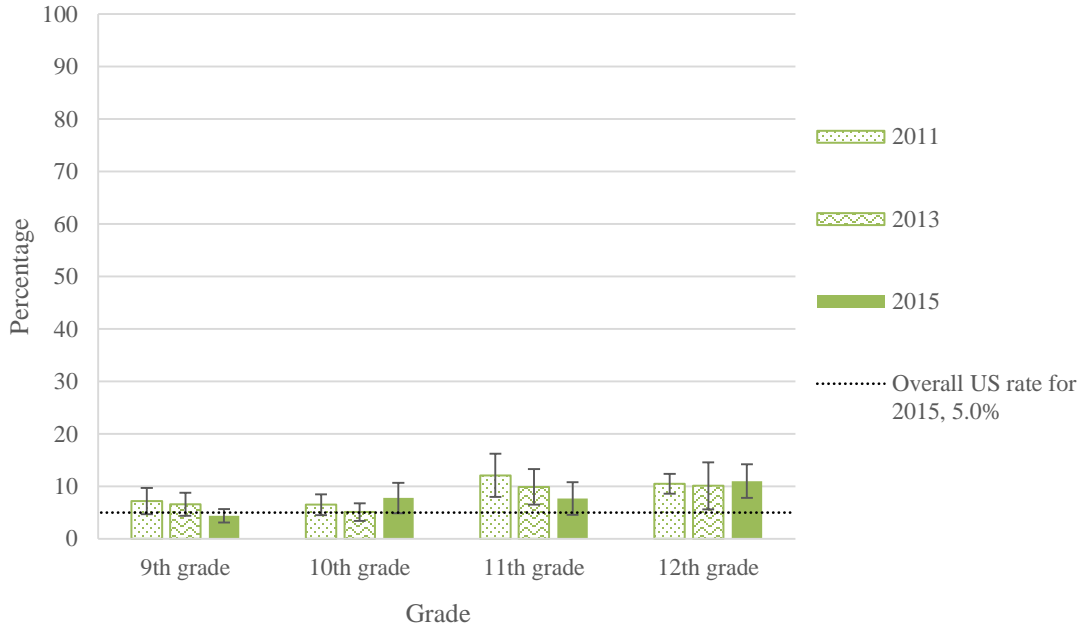
The percentage of students identifying as Caucasian (10%), Native Hawaiian (8.5%), and Other (9.9%) students endorsing having used ecstasy was significantly higher than the percentage of Other Asian (3.6%) and Other Pacific Islander (3.3%) and reporting the same in 2015 (Figure 20).

Figure 18. Ever used ecstasy by sex (high school students).



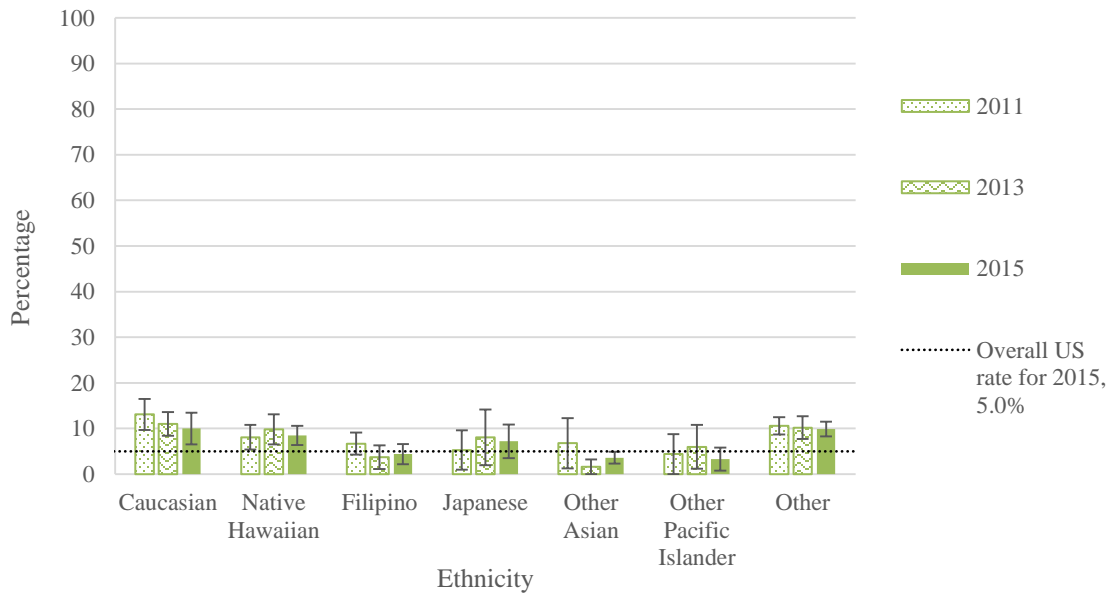
Source: YRBS 2011, 2013, and 2015

Figure 19. Ever used ecstasy by grade (high school students).



Source: YRBS 2011, 2013, and 2015

Figure 20. Ever used ecstasy by ethnicity (high school students).



Source: YRBS 2011, 2013, and 2015

*Note that n<50 for Other Pacific Islanders in 2015, and for Other Asian in 2013

Youth: Ever Used Heroin by Sex, Grade, and Ethnicity

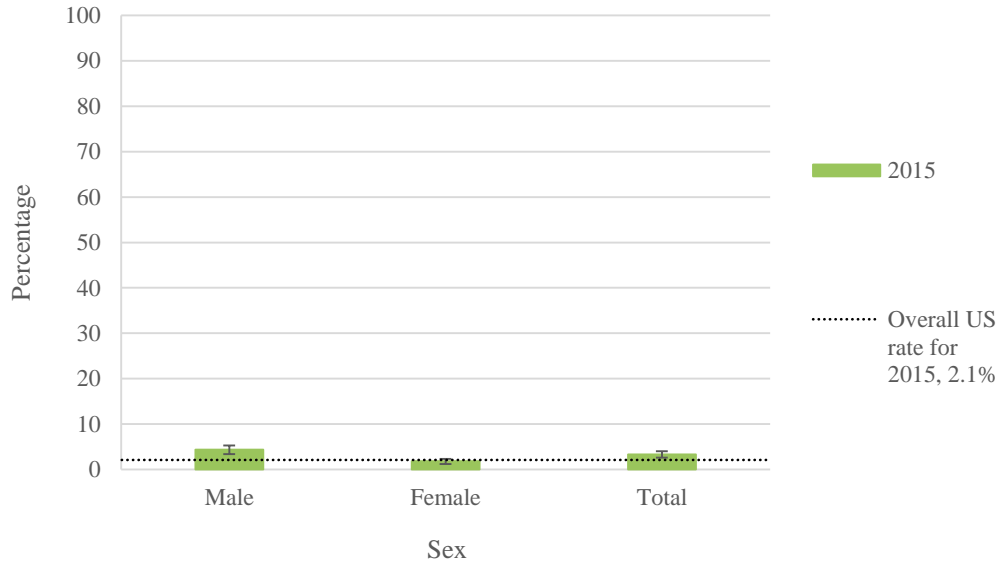
Figures 21 – 23 convey the percentages of students who have ever, even once, used heroin. This data was only available for 2015.

The percentage of males endorsing ever having used heroin (4.4%) was significantly higher than that for females (1.8%; Figure 21).

There were no significant differences between grades (Figure 22).

The percentage of high school students identifying as Native Hawaiian and having had tried heroin (4.7%) was larger than that for students identifying as Caucasian (1.9%) and Other Asian (0.5%; Figure 23).

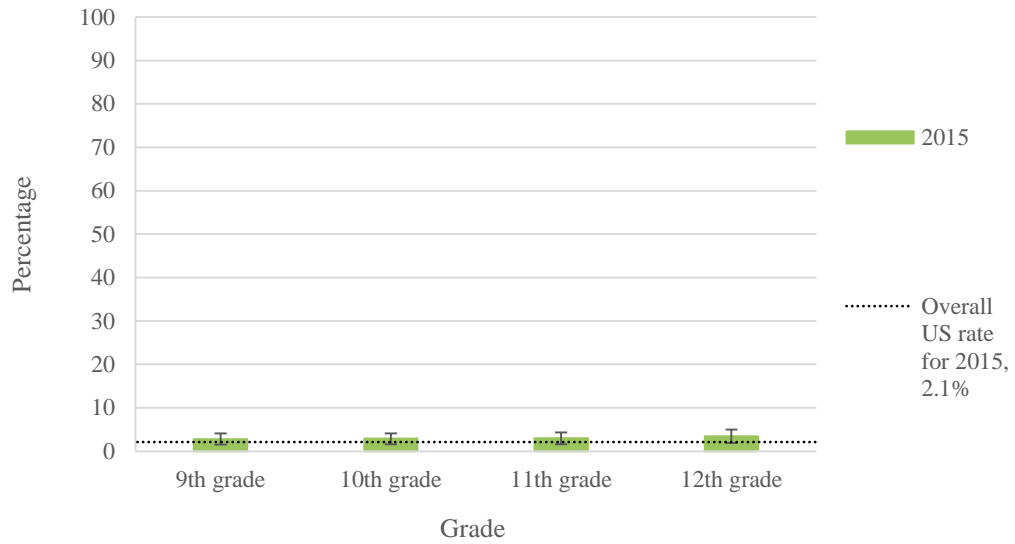
Figure 21. Ever used heroin by sex (high school students).



Source: YRBS 2015

* Data are unavailable for 2011 and 2013

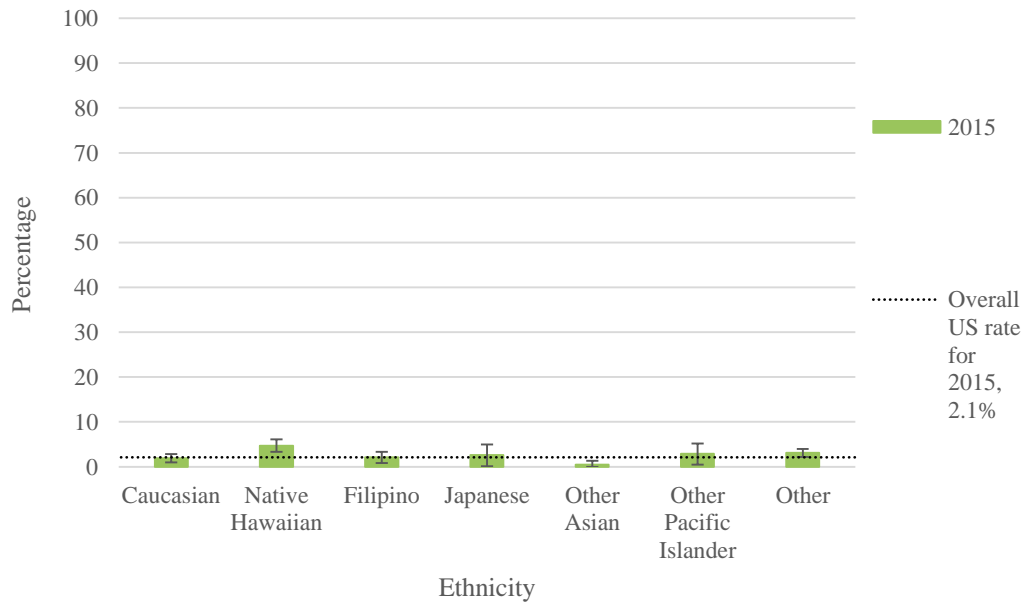
Figure 22. Ever used heroin by grade (high school students).



Source: YRBS 2015

* Data are unavailable for 2011 and 2013

Figure 23. Ever used heroin by ethnicity (high school students).



Source: YRBS 2015

* Data are unavailable for 2011 and 2013

**Note that n<50 for Other Pacific Islanders and for Other Asians in 2015

Youth: Ever Used Methamphetamine by Sex, Grade, and Ethnicity

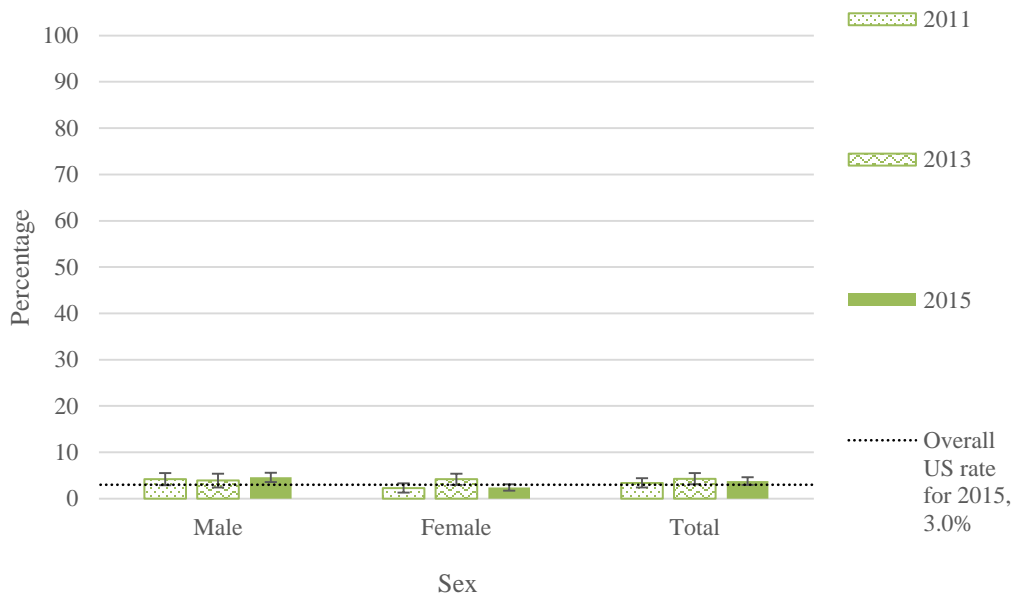
Ever use of methamphetamine includes whether high school students in Hawai‘i have ever, even once, used any form of methamphetamines (including crystal, ice, and crank).

The total number of high school students reporting that they have tried methamphetamines showed no significant differences across the sampled years (Figure 24). The percentage of females endorsing methamphetamine use (2.4%) was significantly less than that for males in 2015 (4.6%; Figure 24).

The proportion of students across grade level reporting having tried methamphetamines was largely the same across the years sampled (Figure 25).

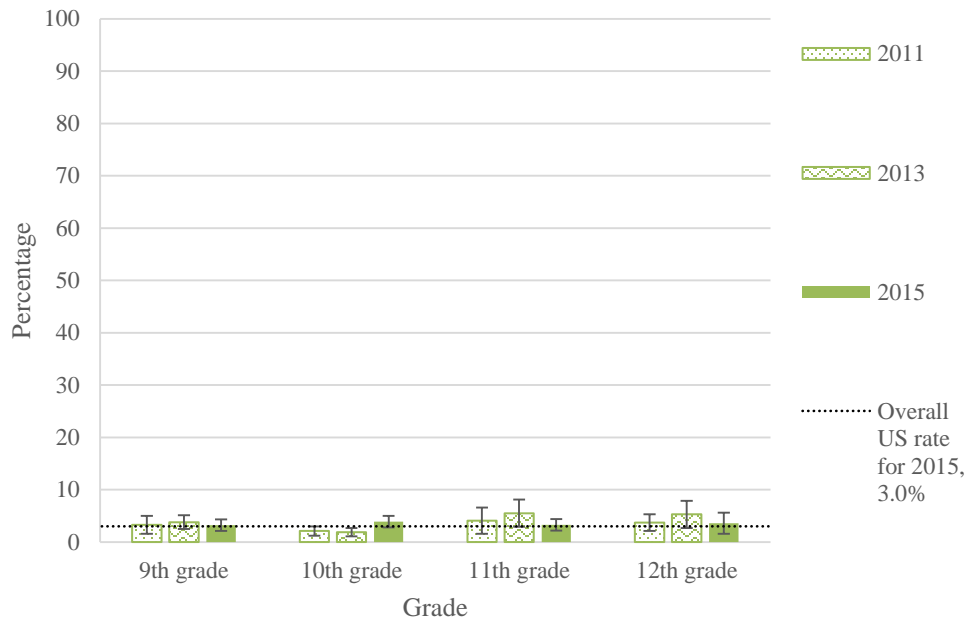
The percentage of Caucasian students endorsing methamphetamine use significantly decreased between 2013 (6.4%) and 2015 (2.6%). There were no significant differences between ethnic groups (Figure 26).

Figure 24. Ever used methamphetamine by sex (high school students).



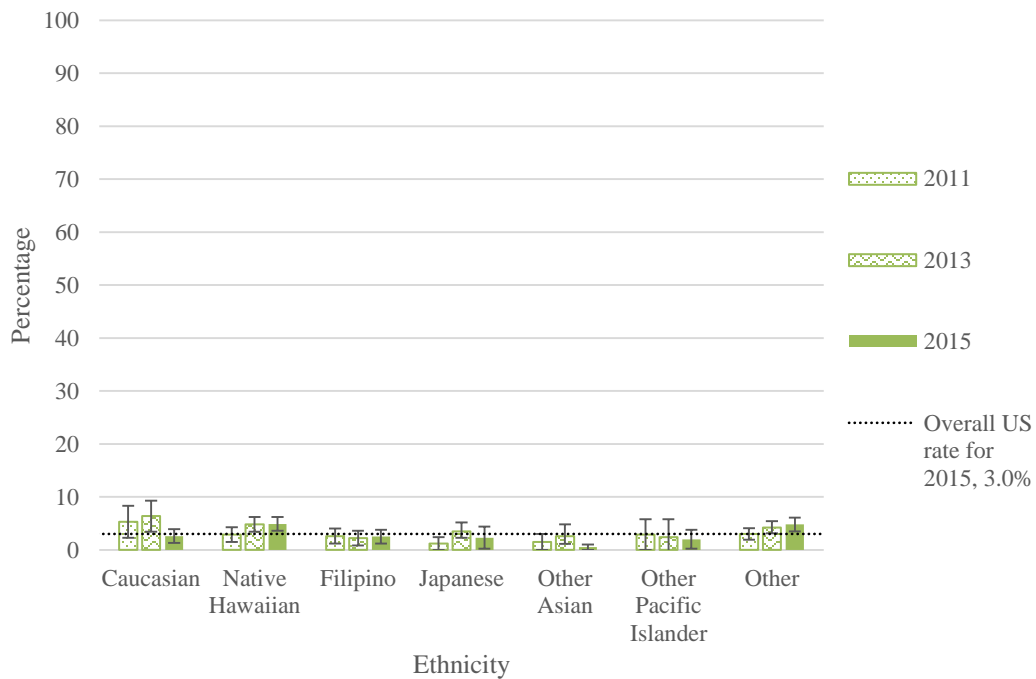
Source: YRBS 2011, 2013, and 2015

Figure 25. Ever used methamphetamine by grade (high school students).



Source: YRBS 2011, 2013, and 2015

Figure 26. Ever used methamphetamine by ethnicity (high school students).



Source: YRBS 2011, 2013, and 2015

*Note that n<50 for Other Pacific Islanders and Other Asians in 2011, 2013, and 2015, and for Japanese in 2011

Youth: Ever Used Injection Drugs by Sex, Grade, Ethnicity, and Sexual Orientation

Ever use of injection drugs includes whether high school students in Hawai‘i have used a needle to inject any illegal drug into their body one or more times during their life.

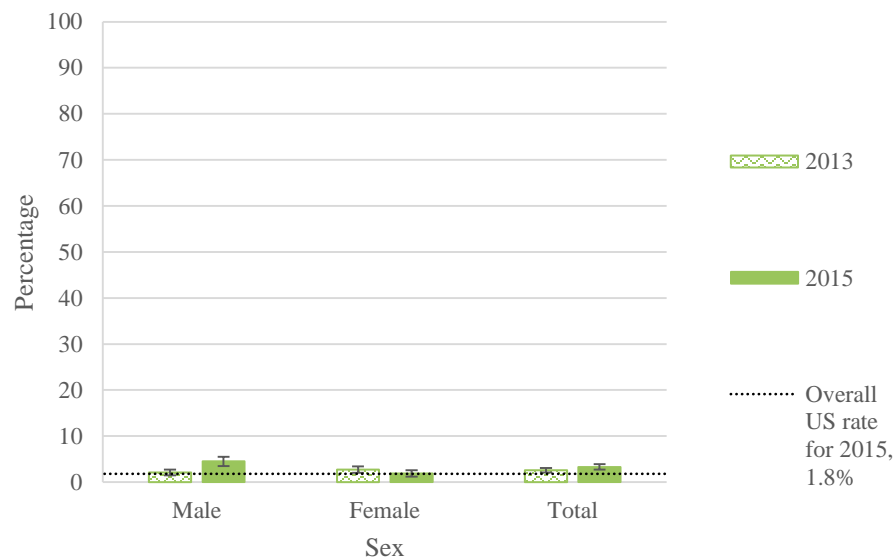
Figure 27 indicates that the overall percentage of students endorsing using injection drugs did not change between 2013 and 2015, but was greater than the national rate in 2015. The percentage of male students reporting such use significantly increased between 2013 (2.1%) and 2015 (4.5%), while the percentage of female students reporting such use remained the same across the sampled years (Figure 27).

Figure 28 indicates that there were no differences in reported injection drug use across grades.

Figure 29 shows that the percentage of Native Hawaiians who reported such use increased significantly between 2013 (2.3%) and 2015 (4.8%). Additionally, a statistically significant higher percentage of Native Hawaiians reported such use in 2015 (4.8%) when compared to Caucasians (2%; Figure 29).

In 2015, the percentage of lesbian, gay, and bisexual youth who reported such use was significantly higher (12.6%) than that reported by heterosexual youth (1.7%; Figure 30).

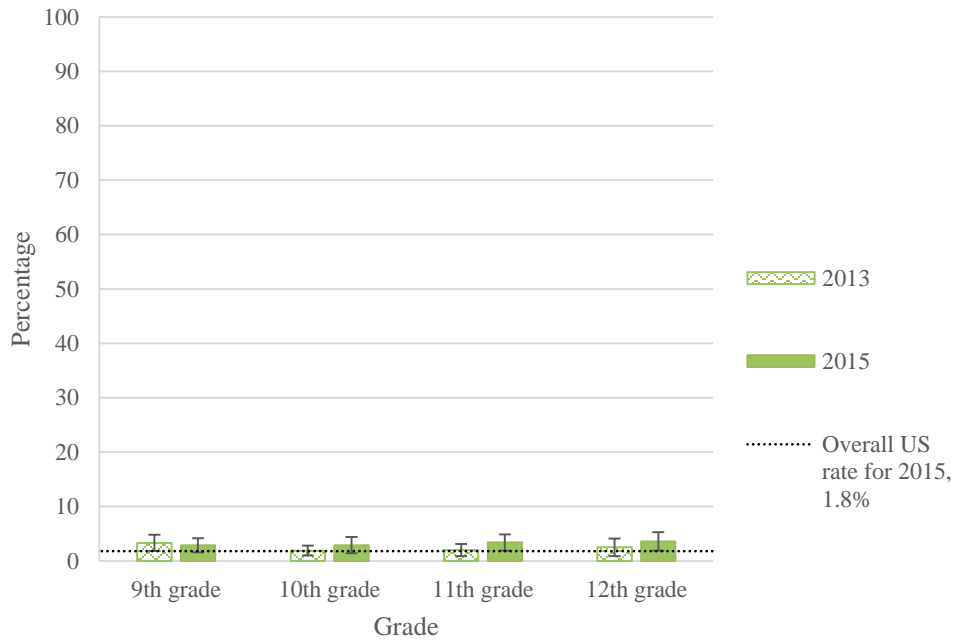
Figure 27. Ever used injection drugs by sex (high school students).



Source: YRBS 2013 and 2015

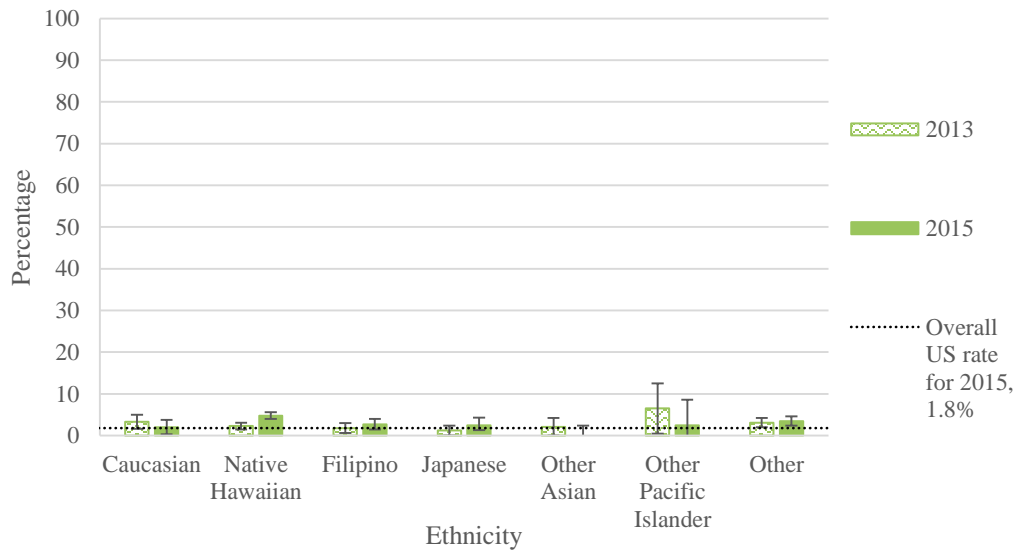
*Data unavailable for 2011

Figure 28. Ever used injection drugs by grade (high school students).



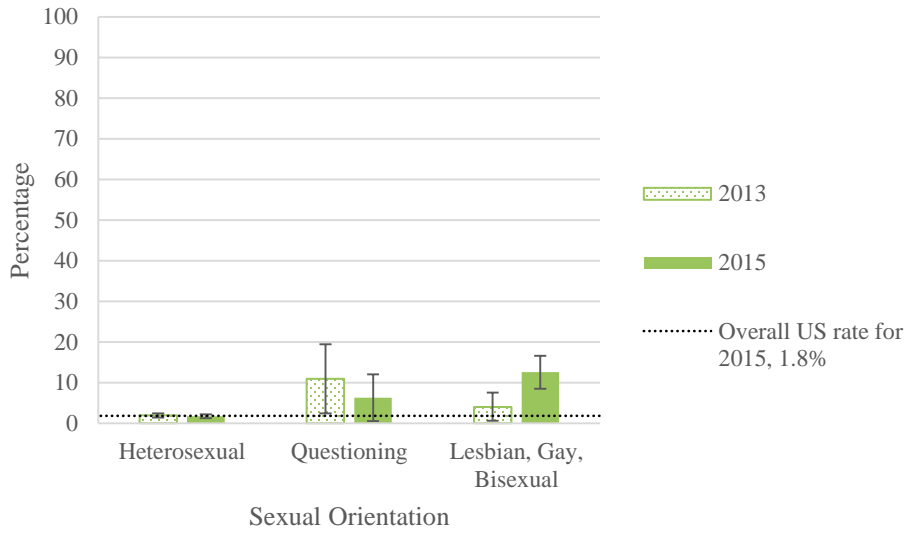
Source: YRBS 2013 and 2015
 *Data unavailable for 2011

Figure 29. Ever used injection drugs by ethnicity (high school students).



Source: YRBS 2013 and 2015
 *Data unavailable for 2011
 *Note that n<50 for Other Asians and Japanese in 2013, and for Other Asians and other Pacific Islanders in 2015

Figure 30. Ever used injection drugs by sexual orientation (high school students).



Source: YRBS 2013 and 2015

*Data unavailable for 2011

**Note that 2013 and 2015 statistics for questioning youth and 2013 statistics for lesbian, gay, and bisexual youth are considered unstable and should be interpreted with caution. This means that there is a larger amount of variance in the sample, and this could be due to a number of reasons, including small sample size.

Youth: Ever Used Prescription Drugs without a Doctor’s Prescription by Sex, Grade, Ethnicity, and Sexual Orientation

Figures 31 – 34 indicate the proportion of high school students in Hawai‘i who have ever used prescription drugs without having a doctor’s prescription. This includes OxyContin, Percocet, Vicodin, Codeine, Adderall, Ritalin, or Xanax.

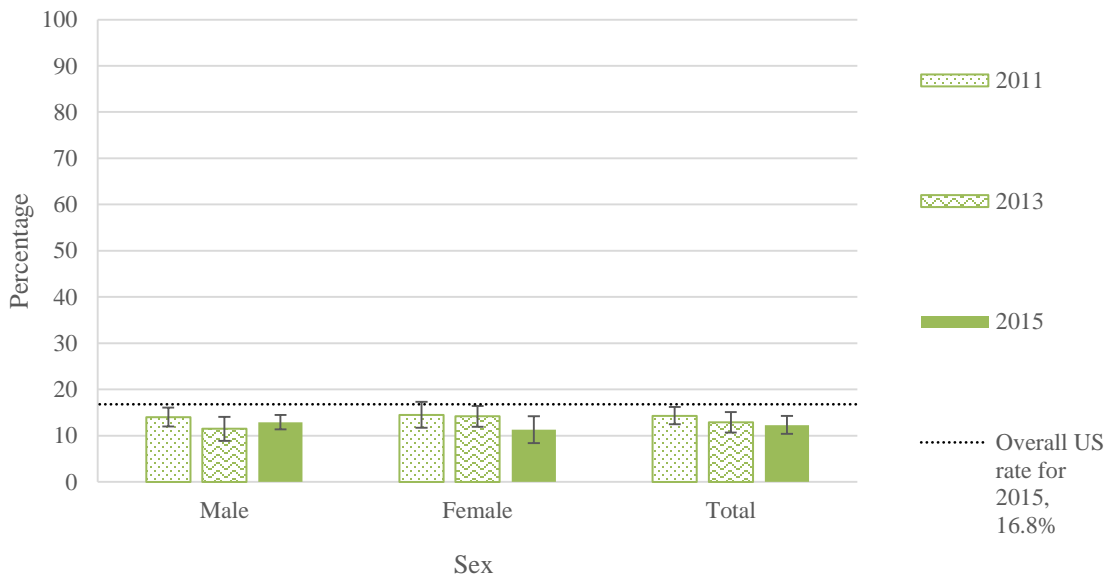
There were no significant differences in Hawai‘i’s total rates between 2011 and 2015 (12.3% - 14.3%; Figure 31). There were no significant differences in use by sex (Figure 29). The overall rate for use in 2015 was significantly less than the U.S. rate (16.8%)

The percentage of 9th graders endorsing use of prescription drugs without a doctor’s prescription was significantly less than that for 12th graders across the years sampled (Figure 32).

In 2015, Caucasian (16.2%), Native Hawaiian (14.8%), and Other (15.2%) students had significantly higher rates of endorsement than Filipino (7.7%), and Other Pacific Islander (4.5%) students (Figure 33).

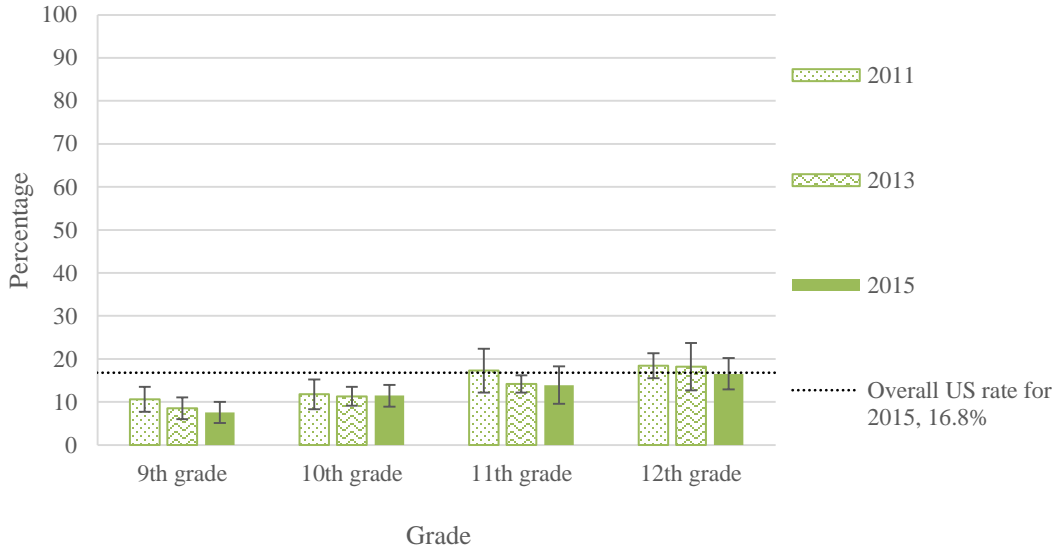
In 2011, 2013, and 2015, the percentage of lesbian, gay, and bisexual youth endorsing such use was significantly higher than that for heterosexual youth and the overall national rate in 2015 (Figure 34).

Figure 31. Ever used prescription drugs without a doctor’s prescription by sex (high school students).



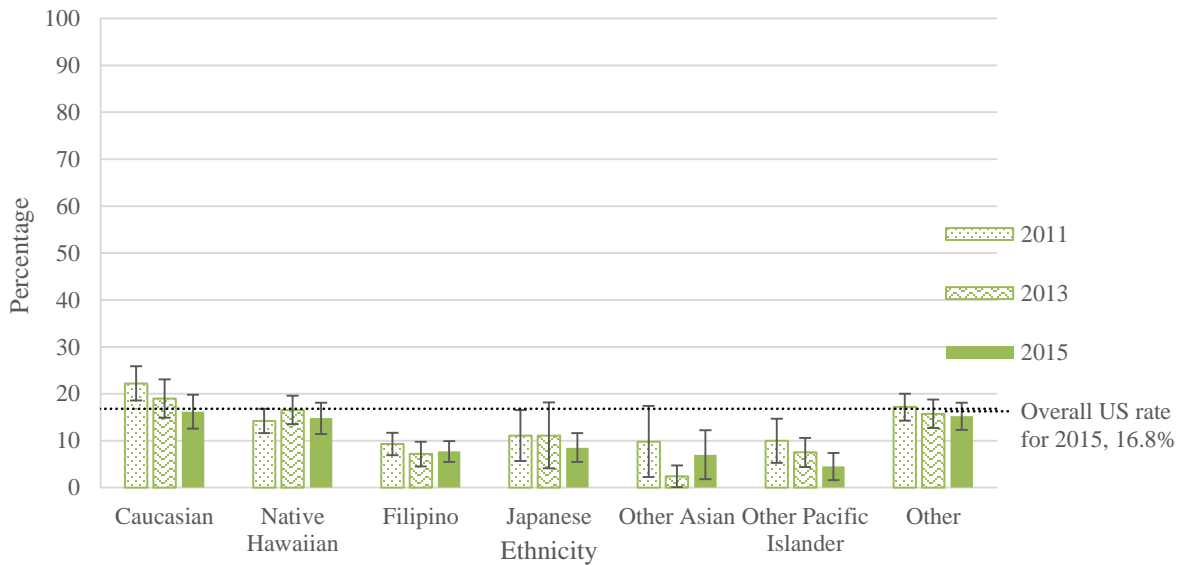
Source: YRBS 2011, 2013, and 2015

Figure 32. Ever used prescription drugs without a doctor’s prescription by grade (high school students).



Source: YRBS 2011, 2013, and 2015

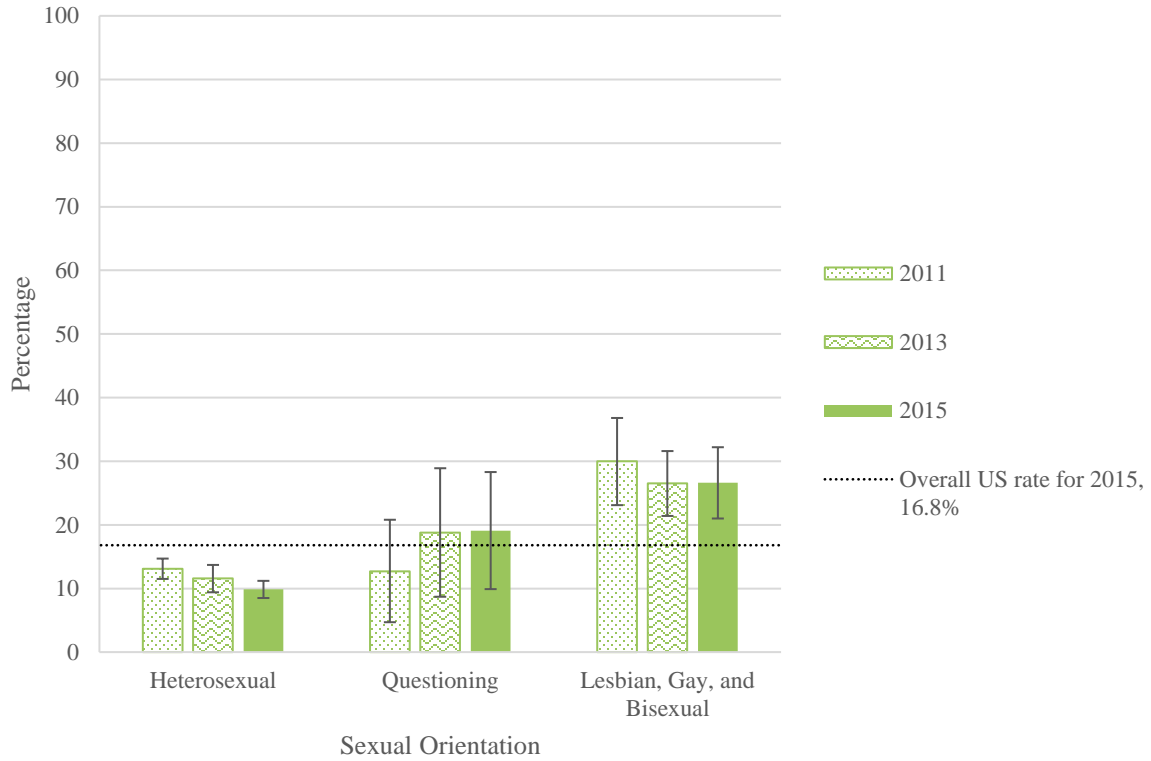
Figure 33. Ever used prescription drugs without a doctor’s prescription by ethnicity (high school students).



Source: YRBS 2011, 2013, and 2015

*Note that n<50 for other Asian in 2013

Figure 34. Ever used prescription drugs without a doctor’s prescription by sexual orientation (high school students).



Source: YRBS 2011, 2013, and 2015

*Note that 2011 statistics for questioning youth are considered unstable and should be interpreted with caution. This means that there is a larger amount of variance in the sample, and this could be due to a number of reasons, including small sample size.

Youth: Offered, Given, or Sold Illegal Drugs on School Property over Past 12 Months by Sex, Grade, and Ethnicity

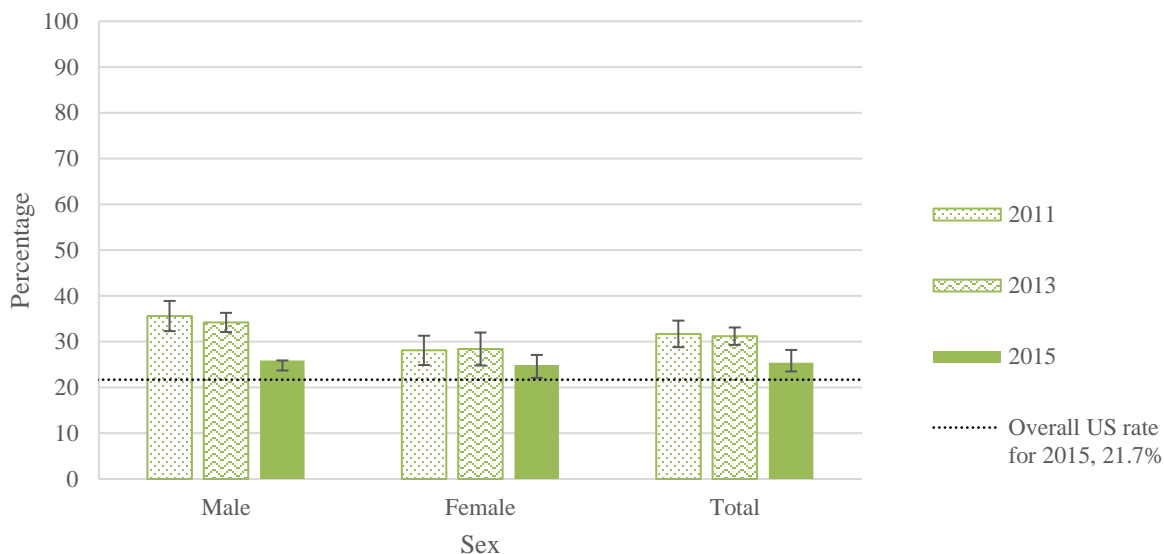
Figures 35, 36, and 37 show the percentage of high school students in Hawai‘i who have been offered, given, or sold illegal drugs on school property over the past 12 months.

The overall percentage of high school students endorsing that they were offered, given, or sold illegal drugs on school property significantly decreased from 2013 (31.2%) to 2015 (25.4%; Figure 35) . The proportion of males endorsing the item also decreased from 2013 (34.2%) to 2015 (25.9%). There were no significant changes for females.

The percentage of 12th graders endorsing this item decreased significantly between 2013 (34.5%) and 2015 (23.5%; Figure 36).

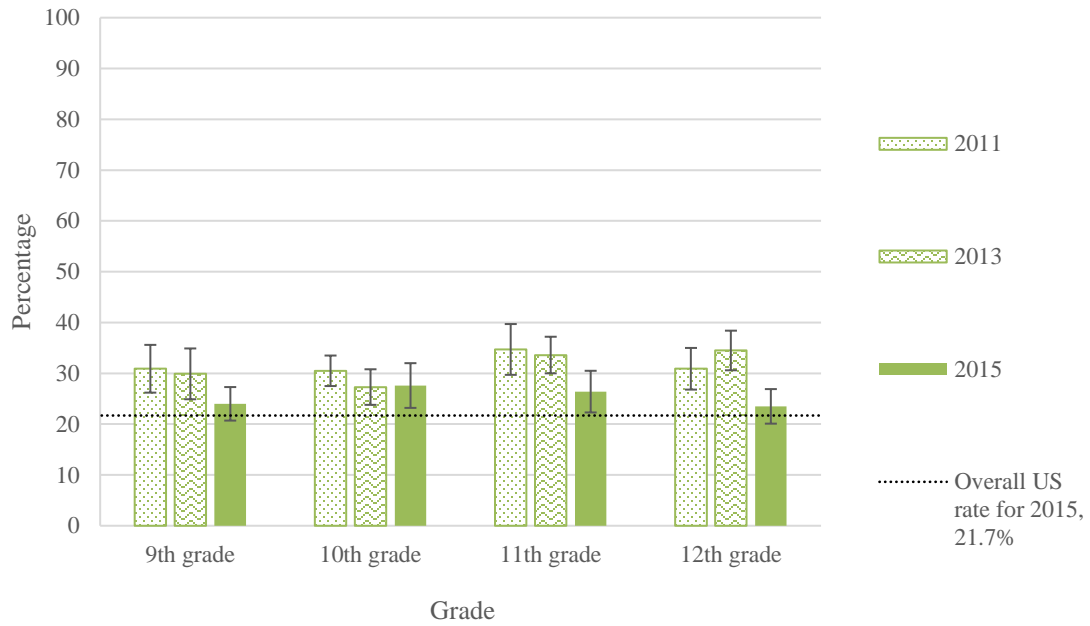
There was a significant decrease between the years 2013 and 2015 for Native Hawaiian (33.3% to 26.9%) and Other students (34.9% to 27.5%). The percentage of Filipino students endorsing the same also decreased between 2011 and 2015 (32.1% to 23%). In 2015, the percentage of Caucasian (29.8%), Native Hawaiian (26.9%), Other Pacific Islander (30%), and Other (27.5%) students endorsing this was significantly more than that for Japanese (19.8%) and Other Asian (18.4%) students (Figure 37).

Figure 35. Offered, given, sold illegal drugs on school property in past 12 months by sex (high school students).



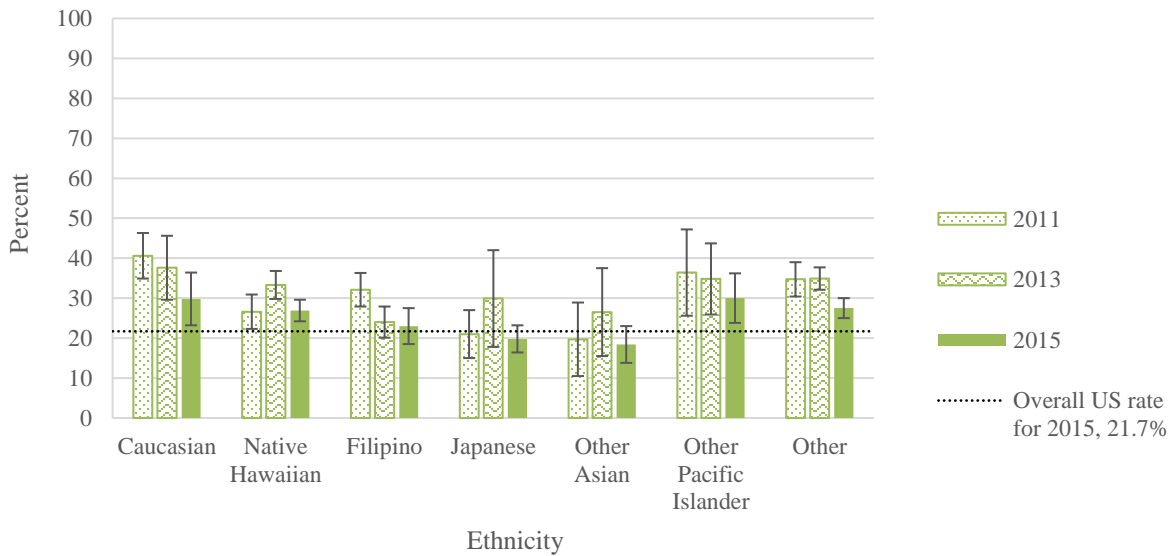
Source: YRBS 2011, 2013, and 2015

Figure 36. Offered, given, sold illegal drugs on school property in past 12 months by grade (high school students).



Source: YRBS 2011, 2013, and 2015

Figure 37. Offered, given, sold illegal drugs on school property over past 12 months by ethnicity (high school students).



Source: YRBS 2011, 2013, and 2015

Youth: Ridden in a Car Driven by Someone who was High or Had Been Using Alcohol or Drugs by Sex, Grade, and Ethnicity

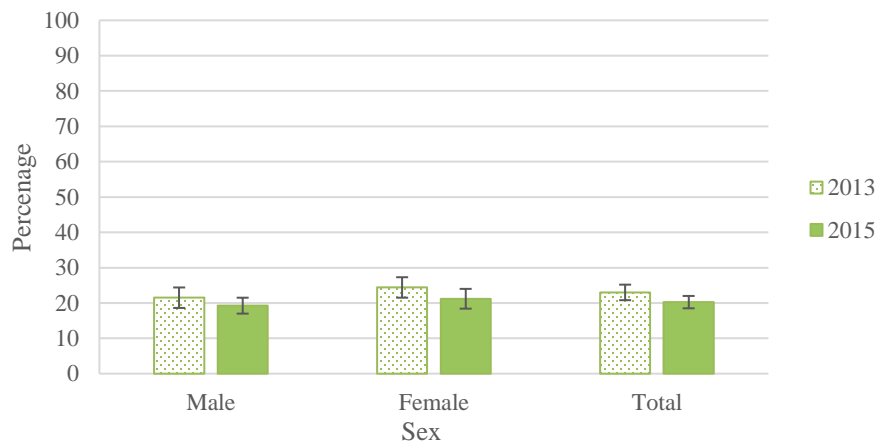
Figures 38 – 40 show the percentages of high school students in Hawai‘i who endorsed having ridden in a car driven by someone, including themselves, who was high or had been using alcohol or drugs during the past 30 days, displayed by sex, grade, and ethnicity. Note that the YRBS questionnaire previously included items assessing riding in a car driven by someone who had been high or who had been using alcohol separately, making the data shown in the current report inappropriate for comparison with data from prior years.

The overall percentage of high school students endorsing this item remained stable across years, and there were no apparent gender differences (Figure 38).

In 2015, the percentage of 12th graders reporting this behavior (25.1%) was significantly greater than the percentage of 9th graders endorsing this item (14.5%; Figure 39).

In 2015, a greater proportion of Native Hawaiian students (27.5%) endorsed this item when compared to Caucasian (20%), Filipino (15.2%), Japanese (14.6%), and Other Asian (5.8%) students (Figure 40).

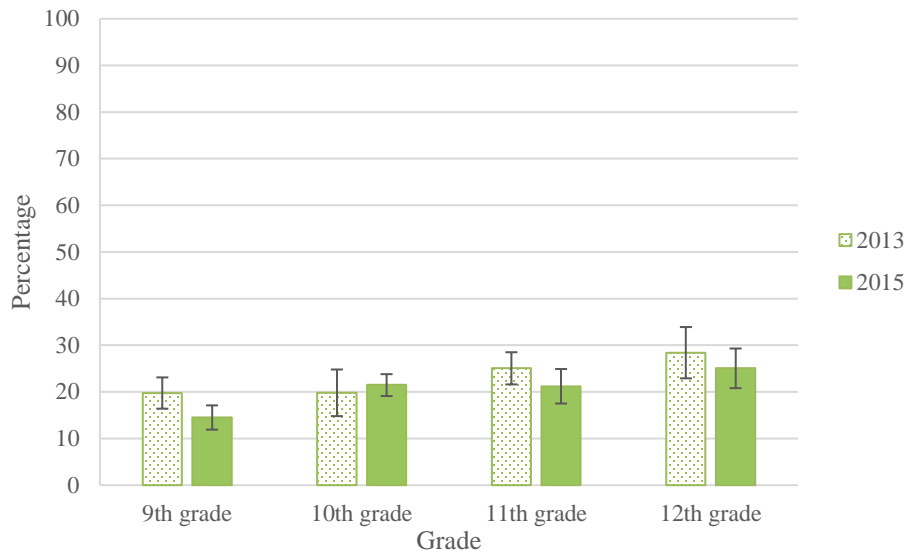
Figure 38. Ridden in a car driven by someone, including themselves, who was high or had been using alcohol or drugs during the past 30 days by sex.



Source: YRBS 2013 and 2015

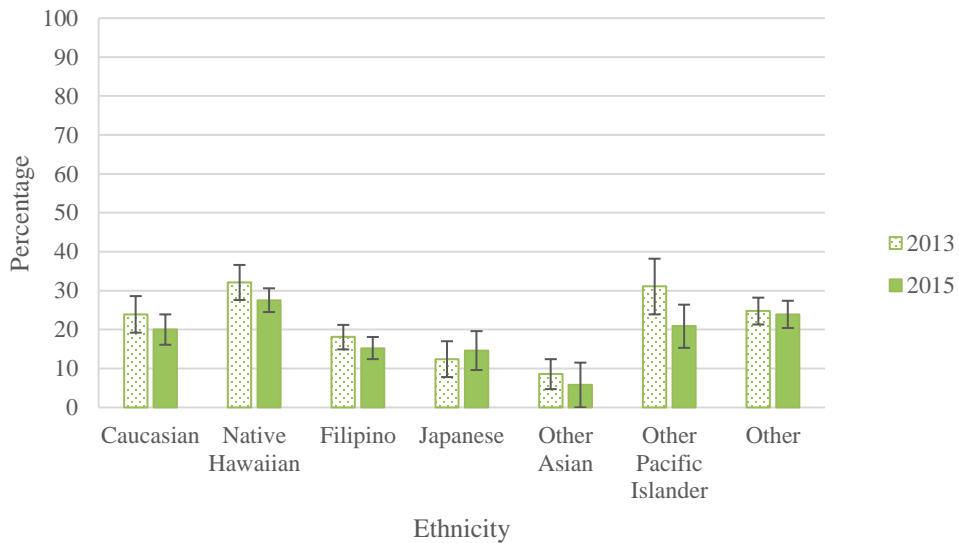
*Note that data are unavailable for 2011

Figure 39. Ridden in a car driven by someone, including themselves, who was high or had been using alcohol or drugs during the past 30 days by grade.



Source: YRBS 2013 and 2015
 *Note that data are unavailable for 2011

Figure 40. Ridden in a car driven by someone, including themselves, who was high or had been using alcohol or drugs during the past 30 days by ethnicity.

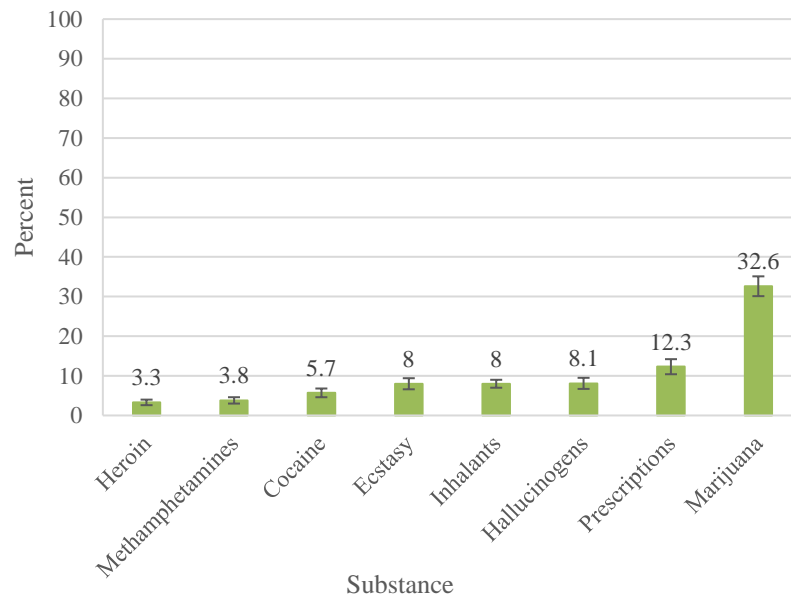


Source: YRBS 2013 and 2015
 *Note that data are unavailable for 2011

Youth: Comparison of lifetime use across substances

Figure 41 shows the percentage of Hawai‘i youth endorsing lifetime use of each substance as of 2015. Lifetime use of marijuana is clearly and significantly most frequently endorsed, followed by use of prescription drugs without a doctor’s prescription. This is significantly higher than all other substance use. There are no significant differences between lifetime use of cocaine, ecstasy, inhalants, and hallucinogens, and the percentages of youth endorsing each of these are significantly higher than the percentage reporting ever having used methamphetamine and heroin.

Figure 41. Lifetime use of substances as measured in 2015 (high school students).



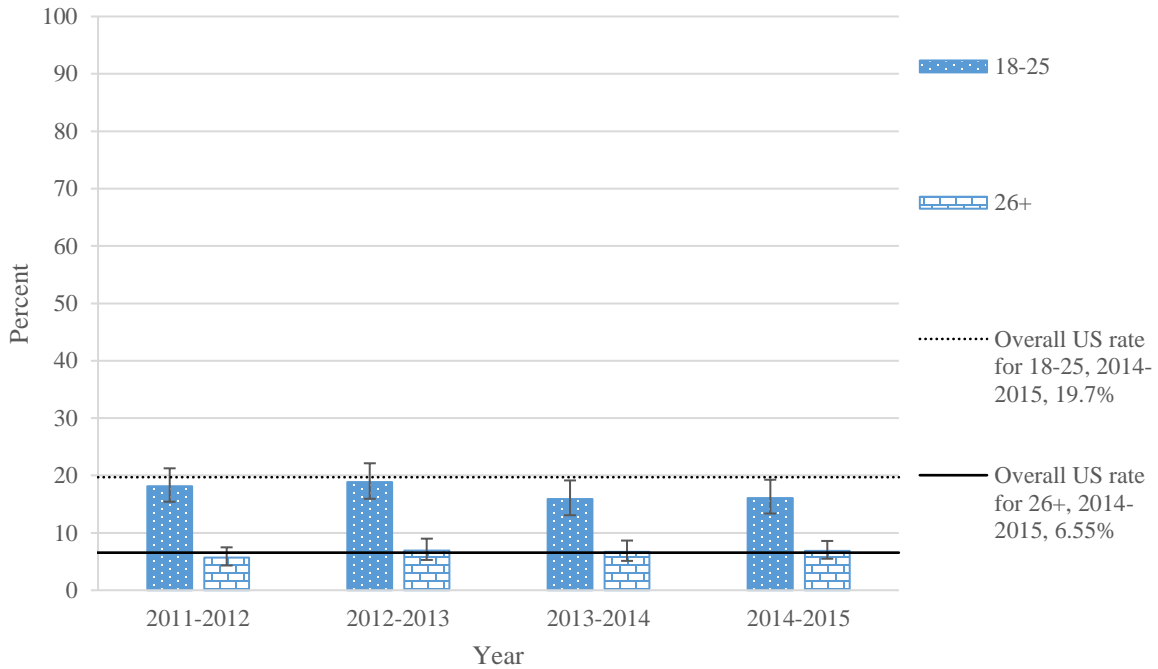
Source: YRBS 2015

ADULT MARIJUANA AND OTHER DRUG INDICATORS

Adult: 30-Day Marijuana Use

There were no significant changes across years in adult (ages 18-25 and 26+) use of marijuana over the 30 days prior to the survey. To note, there was a consistent difference between the two age groups such that those adults ages 18-25 had a higher percentage reporting 30-day marijuana use when compared to adults who were ages 26 and older (Figure 42).

Figure 42. 30-day marijuana use for adults in Hawai'i ages 18-25 and 26+.



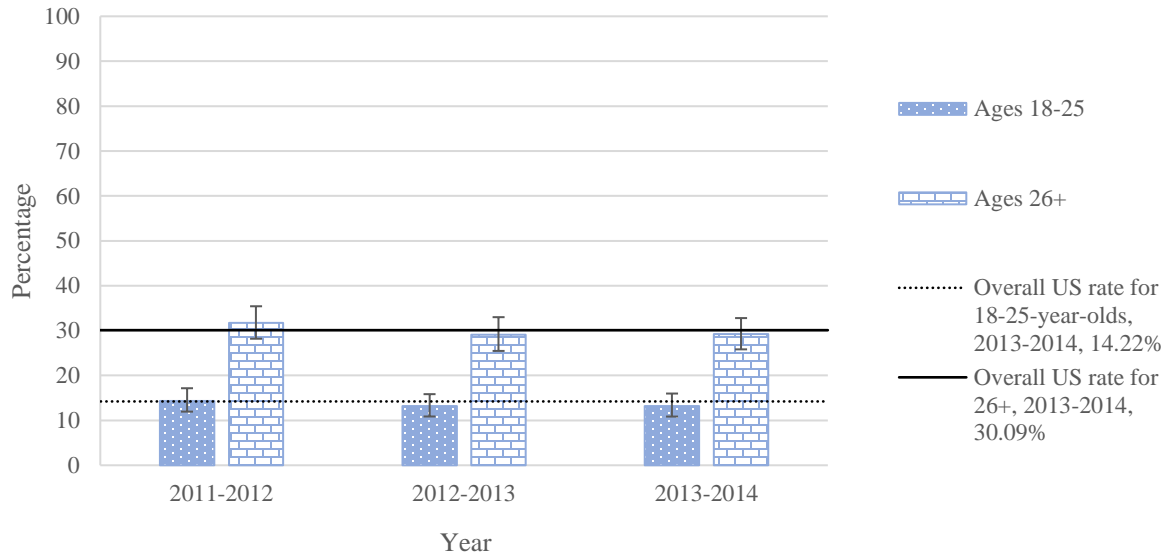
Source: NSDUH 2012-2013, 2013-2014, 2014-2015

*Data unavailable for 2011-2012

Adult: Perceived Risk from Marijuana Use

There were no significant differences in adult perceptions of great risk from marijuana use across years. There was again a steady difference in this perception between adults ages 18-25 and those ages 26+. Both are equivalent to the 2013-2014 national percentages (Figure 43).

Figure 43. Perceived great risk from smoking marijuana once a month for adults ages 18-25 and ages 26+.



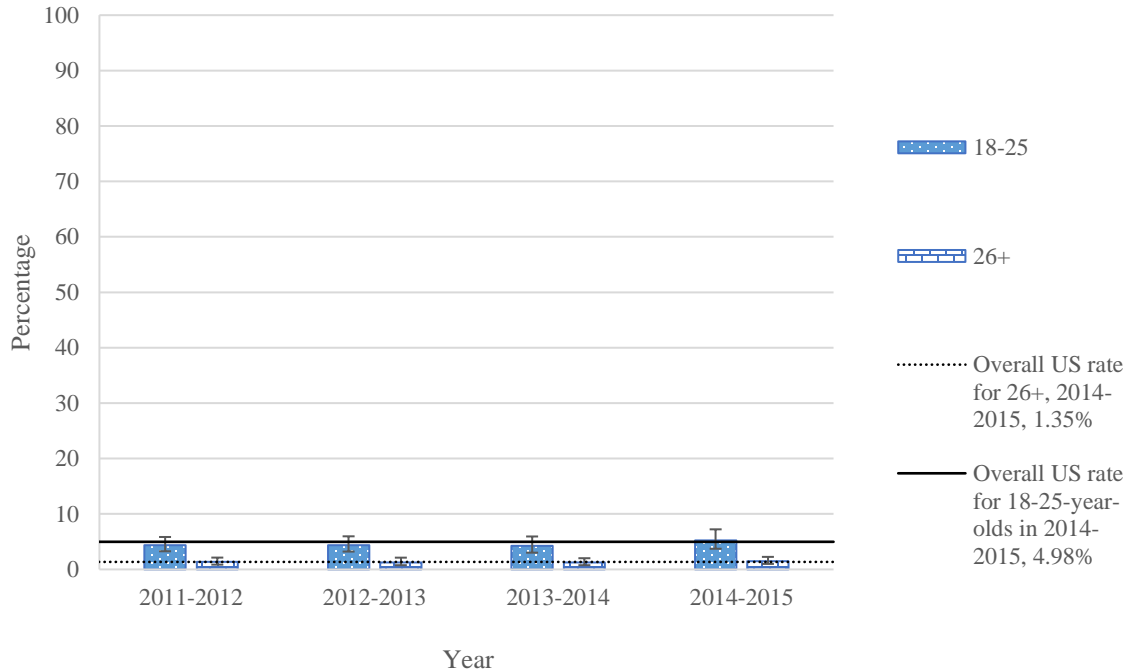
Source: NSDUH 2011-2012, 2012-2013, and 2013-2014

*Data was unavailable for 2014-2015

Adult: Past Year Cocaine Use

There were no significant differences in adult past year cocaine use across years. The percentage of adults ages 18-25 reporting past year cocaine use was significantly higher than that for adults ages 26+ each year. Neither differed from the 2014-2015 national percentages (Figure 44).

Figure 44. Past year cocaine use for adults ages 18-25 and ages 26+.



Source: NSDUH 2012-2013, 2013-2014, 2014-2015

*Data unavailable for 2011-2012

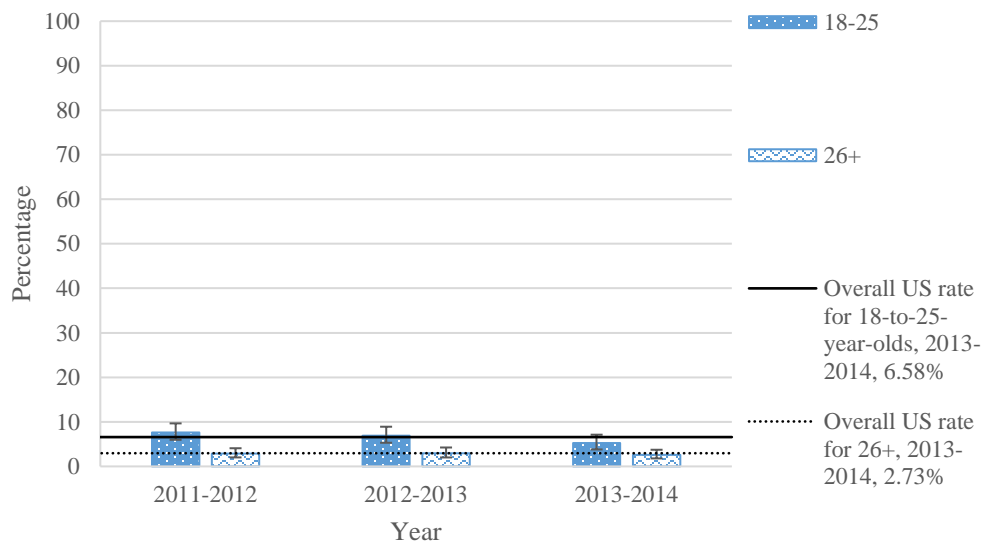
Adult: Use Illicit Drugs Other Than Marijuana in the Past Month

Note that previous indicators of ever using inhalants, ecstasy, and methamphetamines for adults are no longer available at state-level. Instead, the current report provides data on illicit drug use other than marijuana. For a summary of information on inhalants, ecstasy, and methamphetamines for the years 2006-2007, 2008-2009, and 2010-2011, see: Hawai‘i State Epidemiological Outcomes Workgroup. (2014). *State Epidemiological Profiles: Selected Youth and Adult Indicators*. Honolulu, HI: Nigg, Konishi, Durand, & Cook.

Past month use of illicit drugs reflects the percentage of adults in Hawai‘i endorsing cocaine, crack, heroin, hallucinogen, inhalant, methamphetamine, or prescription-type psychotherapeutic drugs during the month prior to the survey.

Figure 45 indicates that the overall percentages of 18-25 year-old adults in Hawai‘i reporting illicit drug use over the previous 30 days did not change between 2011 and 2014. The same was true for adults in Hawai‘i ages 26+. The percentage of 18-25 year old adults endorsing such use was significantly greater than the percentage of adults ages 26 and older reporting the same each year sampled. Neither age group was different from the national rates in 2015.

Figure 45. Illicit drug use other than marijuana in the past month, adults ages 18-25 and ages 26+.



Source: NSDUH 2011-2012, 2012-2013, 2013-2014

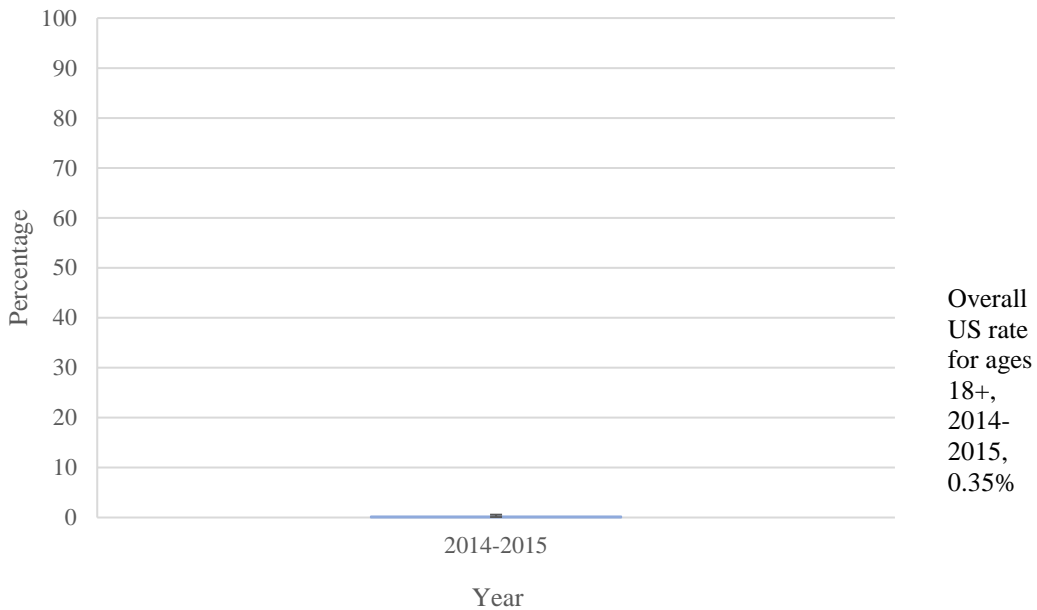
*Data unavailable for 2014-2015

Adult: Past Year Heroin Use

Past year heroin use indicates whether respondents used heroin, even once, during the year prior to the survey. Figure 46 indicates the percentage of adults (age 18 and older) in Hawai‘i who have used heroin during the past year.

The percentage of adult participants (age 18 and older) from the total U.S. sample reporting heroin use during the past year (0.35%) was not significantly different from that for Hawai‘i (0.23%) specifically.

Figure 46. Past year heroin use (ages 18+).¹



Source: NSDUH 2014-2015

*Data unavailable for 2011-2012, 2012-2013, and 2013-2014

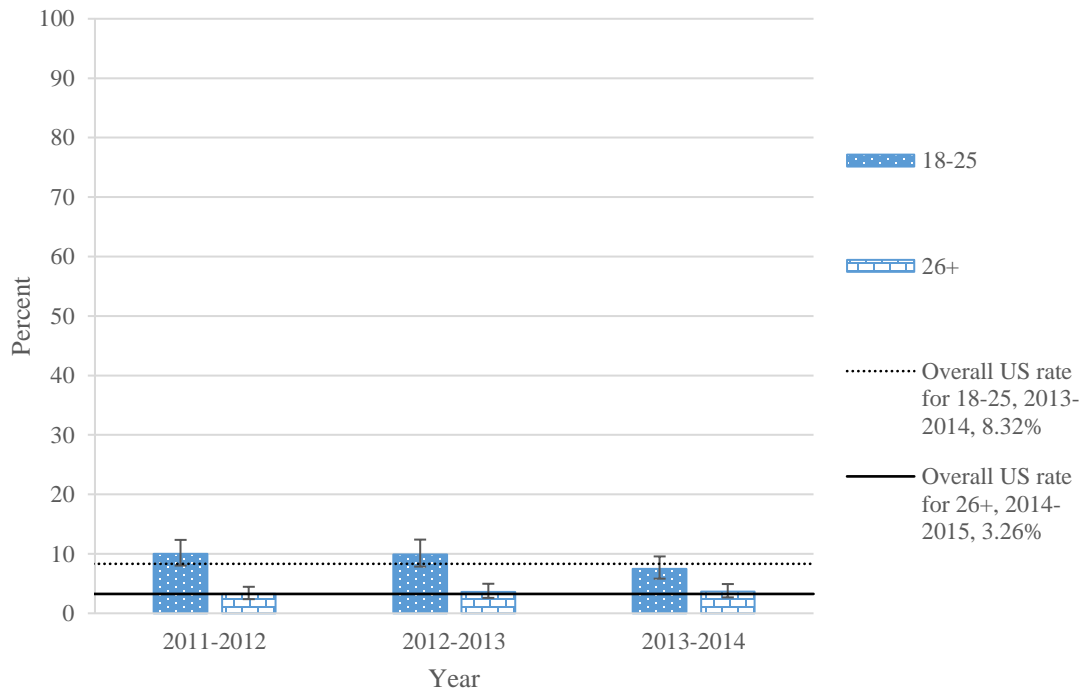
¹ Note that this chart presents data for adults ages 18 and older, rather than separating adults ages 18-25 and 26 and older. The small percentages of heroin use for adults ages 18-25 (0.42%) and ages 26 and older (0.20%) make visual depictions of the two difficult to interpret. Consequently, the above figure represents all adults ages 18 and older.

Adult: Nonmedical Use of Pain Relievers in the Past Year

Figure 47 shows the percentage of adults (ages 18-25 and age 26+) in Hawai‘i who have used pain relievers for nonmedical purposes. There were no significant differences between years; however, there was a consistent difference between the two age groups such that adults ages 18 – 25 more frequently reported nonmedical use of pain relievers during the past year when compared to adults ages 26 and older (Figure 47).

There were no significant differences in the rate of using pain relievers for nonmedical use in Hawai‘i throughout the years and age groups when comparing to the US rate.

Figure 47. Past year nonmedical use of pain relievers, ages 18-25 and 26+.



Source: NSDUH 2011-2012, 2012-2013, 2013-2014

*Data unavailable for 2014-2015

Adult: Use of Prescription Opioid Pain Medication

Figures 48 through 52 utilize data from the 2015 BRFSS questions added by the Hawai'i Department of Health, Emergency Medical Services & Injury Prevention System Branch.

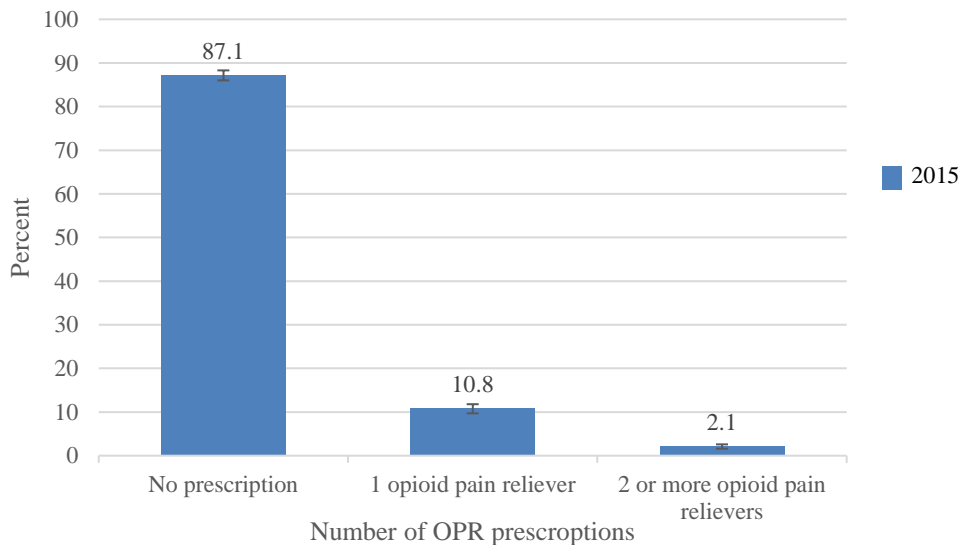
Figure 48 displays the percentage of individuals reporting that they were prescribed a pain medication over the past year. The majority of individuals reported that they did not receive such a prescription (87.1%), while 10.8% noted having been prescribed a pain reliever and 2.1% indicated they had been prescribed 2 or more pain relievers.

Figure 49 shows the frequency of types of opioid pain relievers prescribed, as reported by respondents. The most frequently prescribed opioid was Vicodin (3.2%).

Figure 50 indicates that there is no gender difference in the percentage of respondents with at least one prescription opioid in the past year. The percentage of 35-44 year-olds, 45-54 year-olds, and 55-64 year-olds with at least one such prescription was significantly higher than the percentage of respondents ages 75 and older reporting the same (Figure 51).

Figure 52 displays the reported duration taking the opioid pain reliever. Most respondents reported taking it for 1 to 7 days (38%) or 8 days to 1 year (37%).

Figure 48. Received a prescription for a pain reliever in the past year (ages 18+).

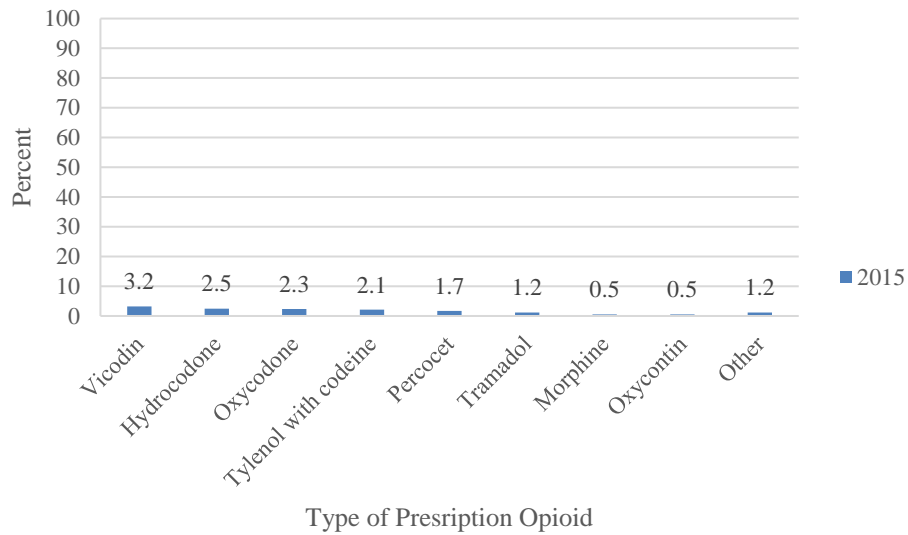


Source: BRFSS 2015

*Data unavailable for 2011, 2012, 2013, and 2014

**Comparable national data not available.

Figure 49. Percentage of individuals reporting receiving a prescription for specific types of opioid pain relievers (ages 18+).



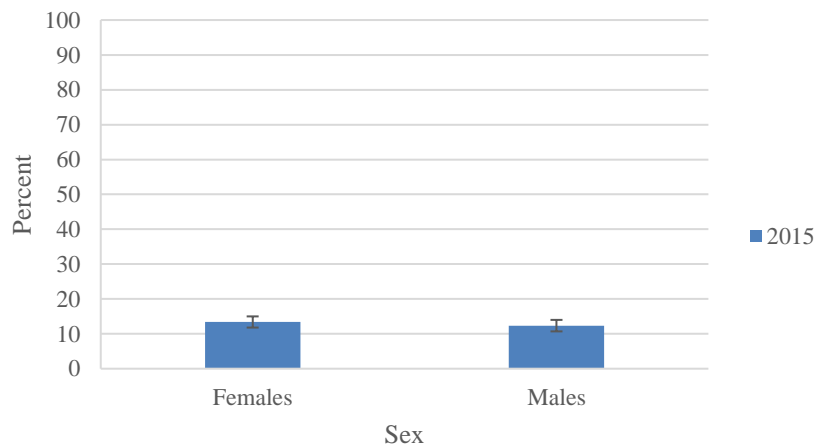
Source: BRFSS 2015

*Data unavailable for 2011, 2012, 2013, and 2014

**Confidence Intervals not available

***Comparable national data not available.

Figure 50. Received at least one prescription opioid pain reliever over the past year by sex, 2015 (ages 18+).

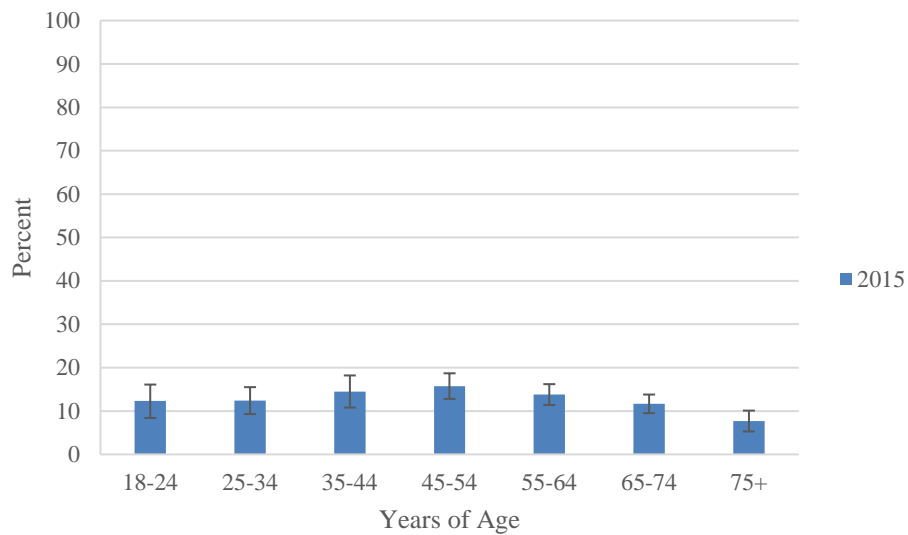


Source: BRFSS 2015

*Data unavailable for 2011, 2012, 2013, and 2014

**Comparable national data not available.

Figure 51. Received at least one prescription opioid pain reliever over the past year by age, 2015 (ages 18+).

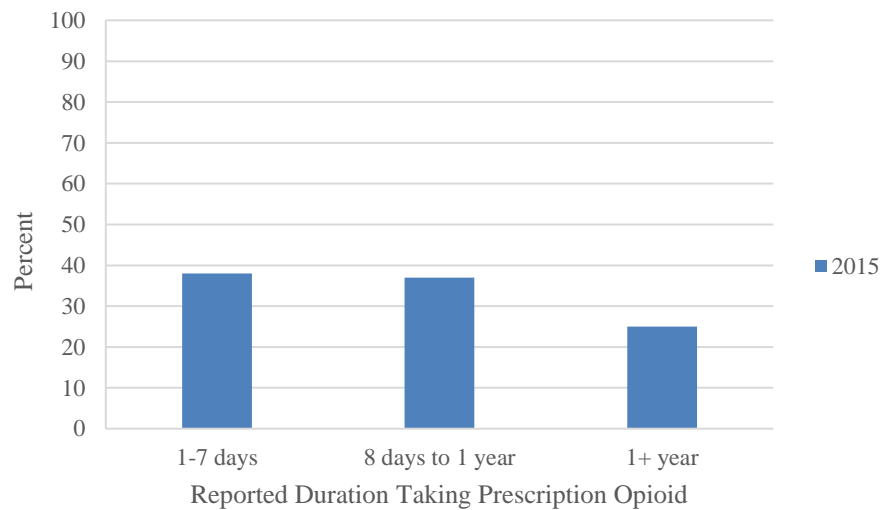


Source: BRFSS 2015

*Data unavailable for 2011, 2012, 2013, and 2014

**Comparable national data not available.

Figure 52. Reported duration taking a prescription opioid pain reliever (ages 18+).



Source: BRFSS 2015

*Data unavailable for 2011, 2012, 2013, and 2014

**Confidence Intervals not available

***Comparable national data not available.

Adult: Use of Illicit Drugs One Month before Pregnancy

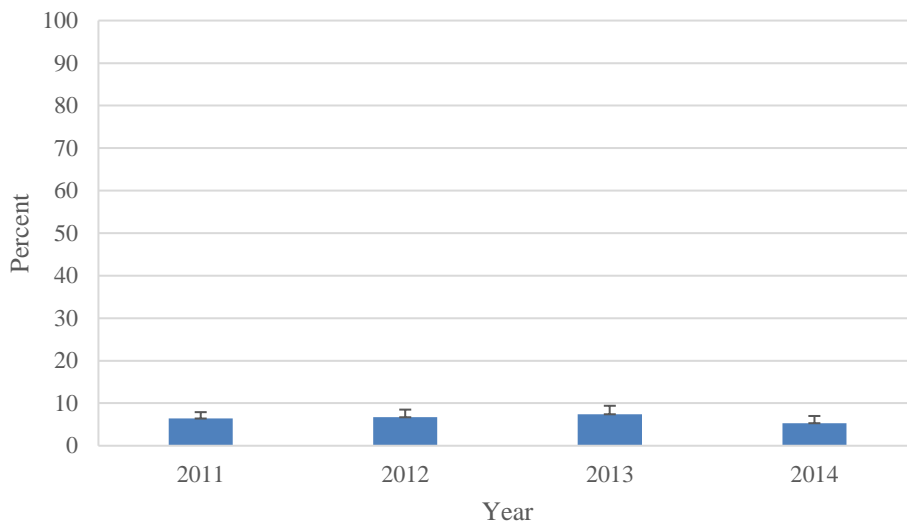
Use of illicit drugs one month before pregnancy refers to the use of illegal drugs, such as marijuana, cocaine, ecstasy and other amphetamines, and heroin, at least once during the month prior to pregnancy. Figures 53, 54, and 55 show the percentages of use of such drugs for 2011 through 2014. National statistics for the use of illicit drugs are not available.

There was no meaningful change in the overall percentage of women endorsing such illicit substance use during the sampling period (Figure 53).

In 2012, those younger than age 20 had the highest percentage of individuals report such use (24.6%), and this was significantly higher than all other age groups (Figure 54).

In 2011, the percentage of Caucasian (9.3%) and Native Hawaiian (7.9%) women endorsing illicit substance use was significantly greater than that for Japanese (1.5%; Figure 55). No groups varied significantly across years.

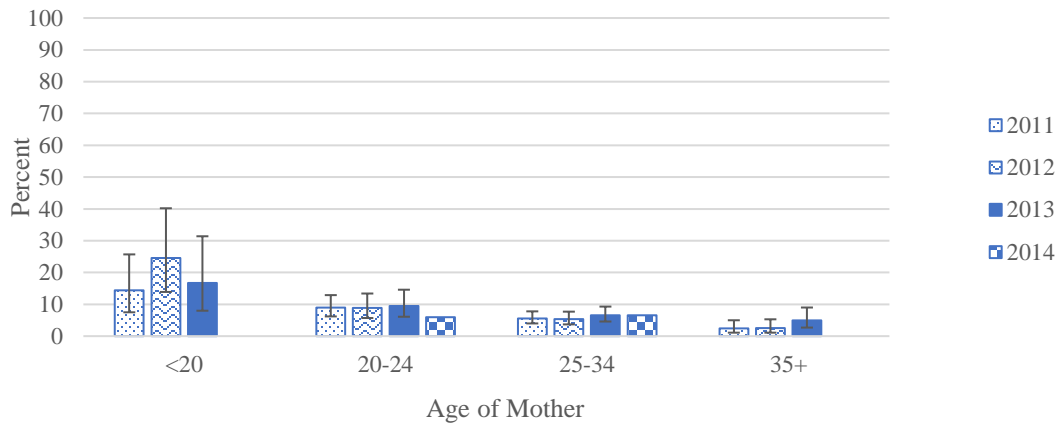
Figure 53. Overall use of illicit drugs one month before pregnancy.



Source: PRAMS 2011, 2012, 2013, and 2014

*Data unavailable for 2015

Figure 54. Use of illicit drugs one month before pregnancy by age group.

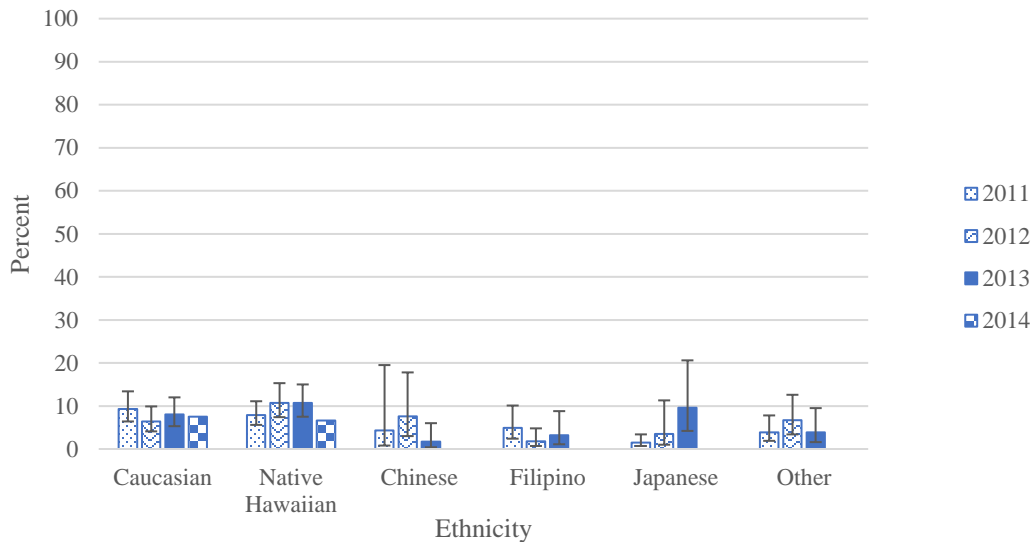


Source: PRAMS 2011, 2012, 2013, and 2014

*Data unavailable for 2015

**Sample sizes in 2014 for mothers under the age of 20 and over the age of 35 were too small to yield reportable data.

Figure 55. Use of illicit drugs one month before pregnancy by ethnicity.



Source: PRAMS 2011, 2012, 2013, and 2014

*Data unavailable for 2015

**Sample sizes in 2014 for mothers identifying as Chinese, Filipino, Japanese and Other were too small to yield reportable data.

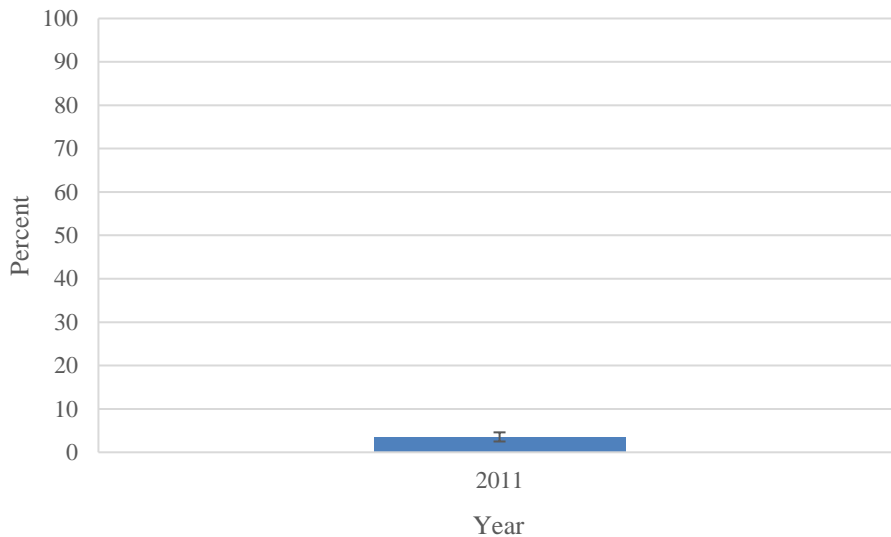
Adult: Use of Illicit Drugs during Pregnancy

Use of illicit drugs during pregnancy refers to the use of illegal drugs, such as marijuana, cocaine, ecstasy and other amphetamines, and heroin, at least once at any point during pregnancy. Figures 56, 57, and 58 show the percentages of use of such drugs for 2011. National statistics about such use are not available.

Significantly fewer women aged 35+ endorsed using illicit substances (1.2%) when compared to women under 20 (7.3%, Figure 57).

Additionally, Japanese women endorsed such use less often (0.7%) than Native Hawaiian women (5.2%; Figure 58).

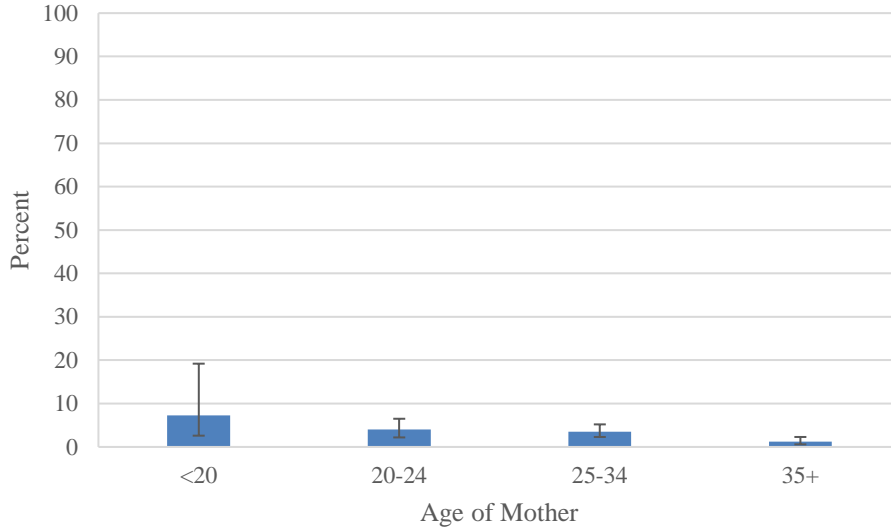
Figure 56. Overall use of illicit drugs during pregnancy.



Source: PRAMS 2011

*Data unavailable for 2012 - 2015

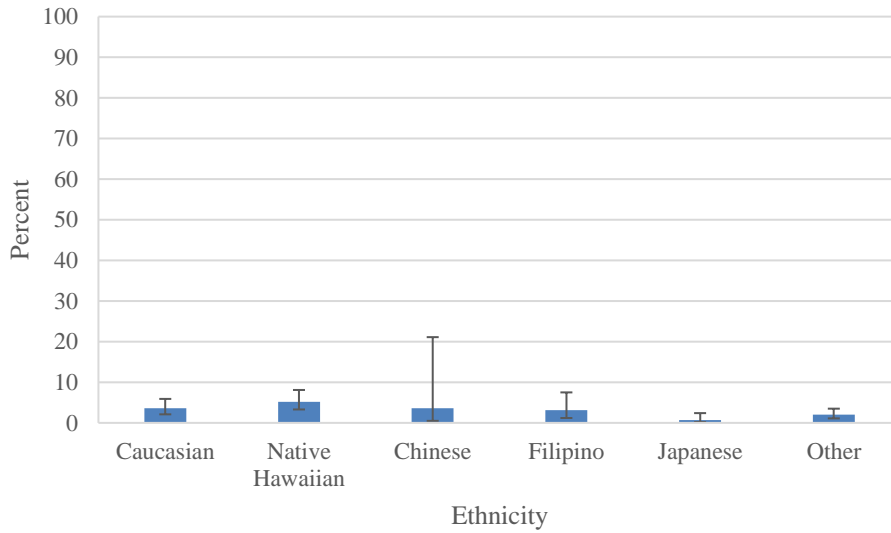
Figure 57. Use of illicit drugs during pregnancy by age group.



Source: PRAMS 2011

*Data unavailable for 2012 - 2015

Figure 58. Use of illicit drugs during pregnancy by ethnicity.



Source: PRAMS 2011

*Data unavailable for 2012 - 2015

Summary

Youth

Overall, rates for all substances included in the current report remained stable between 2011 and 2015. This includes 30-day marijuana use, early marijuana use, lifetime marijuana use, cocaine, inhalants, ecstasy, methamphetamine, use of injection drugs, and use of prescription drugs without a doctor's prescription. In 2015, the most frequently endorsed drug for lifetime use was marijuana (32.6%), followed by use of a prescription drug without a doctor's prescription (12.3%). Heroin was the least frequently endorsed drug for lifetime use (3.3%).

The prevalence of being offered, given, or sold illegal drugs on school property decreased from 2013 (31.2%) to 2015 (25.4%).

Several gender differences were apparent. The percentage of females endorsing several items was significantly less than that for males, including for early use of marijuana and lifetime use of heroin and methamphetamines. Additionally, there were increases and decreases in endorsement of items that were specific to sex, including an increase in males reporting lifetime injection drug use and a decrease in females reporting lifetime inhalant use.

With respect to grade differences, the general trend for multiple substances was for the percentage of students endorsing use to increase during the progression through high school. This was true in 2015 for 30-day marijuana use and lifetime marijuana, cocaine, ecstasy, and use of prescription drugs without a doctor's prescription. This pattern was also seen for lifetime marijuana use in 2011. The percentage of 12th graders endorsing having been offered, given, or sold illegal drugs on school property in the past 12 months also decreased between 2013 (34.5%) and 2015 (23.5%).

Overall, it appears that Native Hawaiians, Caucasians, and Other Pacific Islanders had the highest use for at least one indicator each.

Adults

There were no significant changes in adult substance use over the time periods of 2011 – 2015. Thirty-day marijuana use had the highest overall endorsement in 2014-2015 (16.1% for ages 18-25, 6.9% for ages 26 and older).

There were significant differences between adults ages 18-25 and those ages 26+ in all measures indicated, including past month marijuana use, perceptions of great risk of harm from marijuana use, past year cocaine use, past month illicit drug use other than marijuana, past year heroin use, and past year nonmedical use of pain relievers.

In 2012, those younger than age 20 had the highest percentage of individuals reporting illicit substance use in the month prior to pregnancy (24.6%), and this was significantly higher than the

percentage of individuals ages 20-24 reporting such use (8.9%). This age group also had the highest percentages of individuals endorsing using illicit substances during pregnancy (7.3%).

In 2015, the percentage of 35-44 year-olds (14.5%), 45-54 year-olds (15.7%), and 55-64 year-olds (13.8%) with at least one such prescription was significantly higher than the percentage of respondents ages 75 and older reporting the same (7.7%). Most respondents also reported taking an opioid pain reliever for one to seven days (38%) or eight days to one year (37%).

Comparisons between Youth and Adults

Thirty-day marijuana use was more prevalent amongst youth (19.4%) as compared to adults as a whole (8.1%), suggesting that marijuana use is more common amongst youth than adults ages 18 years and older. However, 30-day use among 18-25 year-olds was on par with that seen amongst youth (16.1%), highlighting that young adults may not substantially differ from youth with respect to marijuana use. Interestingly, perceptions of great risk from smoking marijuana once per month indicated that adults ages 18-25 (13.2%) view marijuana use as less risky than do youth ages 12-17 (21.4%). Additional comparisons between youth and adults are difficult due to the difference in reference period, such that the youth data indicates lifetime use while the adult data represents past year use.

Recommendations for Drug Prevention Programs

Youth

- Prevention efforts should be strengthened in response to the fact that the prevalence rates of illicit drugs did not change between 2011 and 2015. Use of marijuana and prescription drugs remained highest in 2015 for Hawai'i youth, thus focuses should be directed toward these substances.
- Several gender differences appeared in Hawai'i youth. Efforts should be made to better understand the reasons for these differences and whether prevention efforts can capitalize on them.
- Culturally appropriate and evidence-based programs are strongly recommended, particularly for groups with consistently higher use rates, such as Native Hawaiians, Caucasians, and Other Pacific Islanders.
- Because of the lower rates of ever having used heroin and methamphetamines, the ADAD Epidemiology Team recommends that interventions for these drugs be highly targeted towards youth who are at greatest risk for initiating these drugs. Additional research is needed to understand the factors that place particular youth at higher risk.
- Additional research should also be directed toward understanding what prompted the decrease in prevalence for ever being offered, given, or sold illegal drugs on school property. This would aid in determining how interventions can best support a continued decrease in this statistic, as the percentage of Hawai'i youth reporting these experiences remains higher than the national average.

Adult

- Prevention and intervention efforts should be strengthened and particularly directed toward adults ages 18-25. This age group consistently demonstrated higher past year use prevalence than did those ages 26 and older. Further, there were no significant changes in adult use between 2011 – 2015, indicating that additional prevention efforts may be needed and should be data-informed to better serve the community.
- Perceived risk from marijuana use for adults ages 18 – 25 was lower than that for youth ages 12 – 17, indicating that prevention interventions that specifically focus on the risks and negative health outcomes of marijuana consumption may be particularly needed for this age group.
- Given the high stakes involved in using substances during pregnancy and the higher percentage of those younger than age 20 who endorse doing so, prevention efforts should be directed towards this age group of younger women.

Data Recommendations

- The primary data sources used for this profile – Hawai‘i YBRS for youth data and NSDUH for both youth and adults – do not provide data for college students in Hawai‘i. As was recommended in the 2014 report, this data gap should be filled by establishing a statewide health survey for college students across multiple campuses in Hawai‘i. Further, adult data indicates that those adults in the typical age range for college (18-25 years old) differ from those ages 26 and older. It may be useful to better understand if and how college students differ from their peers who choose not to attend college at that age.
- Questions about sexual and gender identity should be included in demographics for questionnaires related to substance use. The few indicators for which this data was available indicate that sexual minority youth may be using certain substances at higher rates than their heterosexual peers. Consequently, greater research effort should be made to understand this difference.
- The Behavioral Risk Factor Surveillance System (BRFSS) should be revised to include more substance use indicators. The state should continue to collect data on prescription opioid use to allow for cross-year comparisons.
- Substance use indicators across years appear to be somewhat inconsistent, such that adult use for lifetime inhalant, ecstasy, and methamphetamine data were not available. Additionally, data for adult perceptions of risk from regular marijuana use and prevalence of nonmedical use of pain relievers were unavailable for 2014 – 2015. Further, statistics regarding adult heroin use was only available for 2014 – 2015. Consistent collection of indicators will facilitate cross-year comparison.
- It is important to collect data from a larger sample size. Doing so would decrease the margins of error, allowing for more precise estimates and facilitating cross-group comparison. This would be particularly beneficial for comparing ethnic groups, as the current data provided small sample sizes that typically made such comparison difficult.

- Current questions about adult marijuana use fail to differentiate between legal and illegal use. Doing so in the future will be key to understanding trends and consequences related to both types of use.
- Future work should consider collecting data on outcomes related to innovative partnerships between drug prevention programs and those community programs addressing related issues, such as those focused on homelessness, mental health, hepatitis C, and HIV.

Setting 10-Year Goals

ADAD Epidemiology Team recommends that a 10-year goal for each objective or indicator be a 10% improvement from the baseline measure or most current year data. For example, 30-day marijuana use among youth was 19.4%; therefore we suggest reducing this rate by 1.9% to 17.5% by 2025. This goal is consistent with the recommendation previously made in 2014.

Hawai‘i’s Healthy People 2020 Progress Tracker website

(<http://www.hawaiihealthmatters.org/index.php?module=Indicators&controller=index&action=dashboard&id=83016762138781208>) also has goals for some of the substance indicators.

Appendix A: Data Tables for Youth Marijuana and Other Drug Indicators

Table A-1. YOUTH 30-day marijuana use by sex, grade, ethnicity, and sexual orientation in 2011, 2013, and 2015

	2011			2013			2015			Overall US 2013
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%
Total	21.9	19.3	24.5	18.9	15.8	21.9	19.4	17.5	21.4	21.7
Male	22.9	20.3	25.5	19.7	16.1	23.2	20	17	22.9	
Female	21.1	17.5	24.6	18	14.8	21.1	18.6	16	21.2	
Heterosexual	20.4	17.8	23.1	17.4	14.7	20.1	17.7	15.8	19.6	
Questioning	22.3	11.5	33	20	10	30.1	21	12.6	29.4	
Lesbian, Gay, Bisexual	40.4	31	49.8	34.7	27.3	42.1	28.3	23.5	33.1	
9th grade	19.2	14.4	24	16.2	12	20.4	13.1	10.3	15.9	
10th grade	19.7	17.3	22.1	16.2	13.1	19.3	20.4	15.6	25.2	
11th grade	24.1	15.4	32.8	20.3	15.2	25.4	21.5	17.4	25.6	
12th grade	25.4	21.6	29.2	22.9	18.1	27.7	23.4	18.9	28	
Caucasian	24.8	17.7	32	23.2	18.4	27.9	22.9	19.4	26.3	
Native Hawaiian	30	24.4	35.5	28.7	23.7	33.8	28.8	24.9	32.7	
Filipino	17.4	13	21.9	9.4	6.6	12.2	11.6	7.6	15.7	
Japanese	9.6	3.8	15.3	10.4	1.5	19.3	10.1	4.6	15.6	
Other Asian	9	0	18	7.7	2.2	13.3	5.4	0.6	10.2	
Other Pacific Islander	16.8	9.8	23.9	25.3	18.2	32.5	22	15.8	28.2	
Other	22.3	18.5	26.1	19.9	17.6	22.1	22.5	19.9	25.1	

Source: Hawai'i YRBS via HHDW

Confidence Intervals are 95%

Table A-2. YOUTH Tried marijuana before age 13 years by sex, grade, and ethnicity in 2011, 2013, and 2015

	2011			2013			2015			Overall US 2015
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%
Total	9.5	8.2	10.8	10.4	8.3	12.5	9.5	7.8	11.2	7.5
Male	11.6	9.6	13.6	11.5	8.8	14.1	11.6	9.3	13.9	
Female	7.5	6	8.9	9.2	7.4	11.1	7.2	5.7	8.7	
9th grade	10.9	8.5	13.3	11.1	7.9	14.3	7.7	5.3	10.2	
10th grade	8.7	6	11.3	9.6	6.3	12.8	11.2	8.1	14.3	
11th grade	8.3	5.1	11.5	10.2	7	13.4	9.6	7.4	11.8	
12th grade	9.5	7.2	11.8	9.8	6.9	12.8	8.6	6	11.2	
Caucasian	7.9	4.8	11	10.2	6.2	14.2	7.5	4.5	10.6	
Native Hawaiian	15.3	11.2	19.3	19.6	16.7	22.5	17.4	14.6	20.2	
Filipino	5.2	2.9	7.5	4.4	2.7	6.1	5.5	3.6	7.4	
Japanese	5.7	1.6	9.8	3.9	0	8	3.5	1.2	5.9	
Other Asian	2.2	0	5.1	3.5	0.1	6.8	2.6	0.5	4.8	
Other Pacific Islander	11.4	4.5	18.3	14.9	7.7	22.1	13.9	8.5	19.3	
Other	10.5	8.6	12.4	10.3	8.3	12.3	10.1	7	13.3	

Source: Hawai'i YRBS via HHDW
 Confidence Intervals are 95%

Table A-3. YOUTH Lifetime marijuana use by sex, grade, and ethnicity 2011, 2013, and 2015

	2011			2013			2015			Overall US 2015
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	
Total	36.3	33.3	39.2	34.9	30.5	39.4	32.6	30.1	35.2	
Male	35.8	33.1	38.6	36.1	31.6	40.5	32.4	29.2	35.6	21.7
Female	36.8	31.6	41.9	33.5	28.7	38.2	32.5	29.1	36	
9th grade	25.7	20.9	30.4	26.5	21.8	31.1	20.6	16.7	24.4	
10th grade	34.1	30.4	37.9	30.4	24.5	36.3	32.6	27.7	37.5	
11th grade	42.3	32.6	51.9	37.9	30.8	45	36.8	31.3	42.4	
12th grade	45.4	40.9	50	46.1	39.2	52.9	43	37.2	48.7	
Caucasian	39.3	32.5	46	35.9	28.3	43.5	34.7	29.9	39.5	
Native Hawaiian	51.1	46.9	55.3	50.5	46.8	54.3	47	43.2	50.8	
Filipino	27.6	22.4	32.9	24.3	19.3	29.4	21.8	16.7	26.9	
Japanese	20.6	11.5	29.7	18.4	6.8	30	19.3	13	25.6	
Other Asian	12.5	3.8	21.1	15.6	9.1	22	13.9	8	19.8	
Other Pacific Islander	33.6	22.5	44.7	41.3	34.2	48.4	37.4	30.1	44.6	
Other	38.2	32.9	43.6	40.2	35.7	44.6	38.5	34.5	42.6	

Source: Hawai'i YRBS via HHDW

Confidence Intervals are 95%

Table A-4. YOUTH (12 – 17 years old) Perceptions of great risk from smoking marijuana once a month for 2011-2012, 2012-2013, and 2013-2014

	2011-2012			2012-2013			2013-2014		
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI
Hawaii	23.9	20.7	27.4	21.6	18.6	25.0	21.4	18.5	24.6
Total US	27.0	26.5	27.6	25.3	24.8	26.0	23.5	23.0	24.1

Source: NSDUH

Confidence Intervals are 95%

*Data unavailable for 2014-2015

Table A-5. YOUTH Ever used cocaine by sex, grade, and ethnicity in 2011, 2013, and 2015

	2011			2013			2015			Overall US 2015
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	
Total	6.4	4.8	8.1	6.5	5.1	8	5.7	4.6	6.7	5.2
Male	7	5.2	8.7	6.5	4.6	8.4	7	5.6	8.4	
Female	5.6	3.8	7.4	6.5	4.5	8.4	4.1	2.8	5.4	
9th grade	4.6	2.7	6.5	5.1	3.3	6.8	3.3	2.1	4.6	
10th grade	4.2	2.8	5.7	4.5	2.4	6.7	6.5	4.1	8.9	
11th grade	9.1	4.6	13.6	6.7	4.4	9	5.1	3.6	6.5	
12th grade	8.2	5.9	10.5	9.3	5.6	13	7.4	5.7	9.1	
Caucasian	11.4	7.2	15.7	9.6	6.1	13.1	7.7	4.5	10.9	
Native Hawaiian	5	3	7.1	8.2	6	10.3	7.8	6	9.5	
Filipino	4.6	2.5	6.6	3.1	0.9	5.2	2.1	0.8	3.4	
Japanese	5.3	1.3	9.3	8	1.5	14.6	4.2	1.2	7.2	
Other Asian	3.6	0.7	6.5	1.4	0	3.2	1.5	0.1	2.9	
Other Pacific Islander	8.6	5.1	12.1	5.2	1.5	8.8	3.5	1.1	5.8	
Other	5.8	4.1	7.6	6.7	4.8	8.5	7.4	5.9	8.9	

Source: Hawai'i YRBS via HHDW

Confidence Intervals are 95%

Table A-6. YOUTH Ever used inhalants by sex, grade, and ethnicity in 2011, 2013, and 2015

	2011			2013			2015			Overall US 2015
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%
Total	9.7	8.5	10.8	9.2	7.6	10.8	8	7	9.1	7
Male	9.5	7.6	11.5	8.2	6.4	10	9.4	7.7	11	
Female	9.6	8.3	11	9.8	8.1	11.6	6.2	5.1	7.3	
9th grade	10.3	7.5	13	9.4	6.7	12.1	6.6	5	8.1	
10th grade	8.6	6.7	10.4	9.3	7.3	11.2	7.6	6.1	9.1	
11th grade	9.9	7.1	12.6	9	6.1	11.9	8.6	7.1	10.1	
12th grade	9.8	7.7	11.9	8.5	5.5	11.5	8.6	5.7	11.4	
Caucasian	12.3	8	16.6	10.6	6.6	14.5	9.8	6.7	12.9	
Native Hawaiian	8.8	6.8	10.9	11.8	8.9	14.8	10.2	7.8	12.5	
Filipino	7.3	4.7	9.9	7.1	4.1	10	5.2	3.5	7	
Japanese	6.4	2.4	10.5	3.9	1.4	6.4	4.1	0.3	8	
Other Asian	4.7	2.2	7.2	5.7	1.8	9.5	4.5	1.7	7.3	
Other Pacific Islander	10.1	7.3	13	11.2	5.2	17.2	3.2	1.3	5.2	
Other	13	10.6	15.5	10.2	7.2	13.2	8.9	7.4	10.3	

Source: Hawai'i YRBS via HHDW

Confidence Intervals are 95%

Table A-7. YOUTH Ever used ecstasy by sex, grade, and ethnicity in 2011, 2013, and 2015

	2011			2013			2015			Overall US 2015
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%
Total	9	7.2	10.8	8	5.8	10.2	8	6.6	9.4	5
Male	8.8	7.2	10.5	8.9	5.6	12.1	8.5	6.9	10.1	
Female	9	6.5	11.6	7	5.4	8.5	6.8	5.1	8.5	
9th grade	7.2	4.7	9.7	6.6	4.4	8.9	4.4	3.1	5.8	
10th grade	6.5	4.5	8.6	5.1	3.4	6.9	7.8	4.9	10.8	
11th grade	12.1	8	16.2	9.9	6.5	13.3	7.7	4.6	10.7	
12th grade	10.5	8.6	12.4	10.1	5.6	14.5	11	7.8	14.3	
Caucasian	13.1	9.7	16.6	11	8.4	13.6	10	6.5	13.5	
Native Hawaiian	8.1	5.4	10.9	9.8	6.5	13.1	8.5	6.4	10.6	
Filipino	6.7	4.3	9.1	3.7	1.1	6.3	4.4	2.2	6.5	
Japanese	5.3	1	9.6	8.1	2	14.3	7.2	3.5	10.9	
Other Asian	6.8	1.3	12.2	1.6	0	3.4	3.6	2.3	4.9	
Other Pacific Islander	4.4	0	9	6	1.2	10.7	3.3	0.8	5.8	
Other	10.6	8.7	12.5	10.2	7.7	12.7	9.9	8.3	11.5	

Source: Hawai'i YRBS via HHDW
 Confidence Intervals are 95%

Table A-8. YOUTH Ever used heroin by sex, grade, and ethnicity in 2015

	2011			2013			2015			Overall US 2015 %
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	
Total	Data not available			Data not available			3.3	2.6	4	2.1
Male	-	-	-	-	-	-	4.4	3.4	5.3	
Female	-	-	-	-	-	-	1.8	1.2	2.3	
9th grade	-	-	-	-	-	-	2.8	1.5	4.1	
10th grade	-	-	-	-	-	-	2.9	1.6	4.1	
11th grade	-	-	-	-	-	-	3	1.6	4.3	
12th grade	-	-	-	-	-	-	3.4	1.9	5	
Caucasian	-	-	-	-	-	-	1.9	1	2.8	
Native Hawaiian	-	-	-	-	-	-	4.7	3.3	6.1	
Filipino	-	-	-	-	-	-	2.1	0.8	3.3	
Japanese	-	-	-	-	-	-	2.6	0.1	5	
Other Asian	-	-	-	-	-	-	0.5	0	1.3	
Other Pacific Islander	-	-	-	-	-	-	2.9	0.5	5.2	
Other	-	-	-	-	-	-	3.1	2.2	4	

Source: Hawai'i YRBS via HHDW

Confidence Intervals are 95%

Table A-9. YOUTH Ever used methamphetamine by sex, grade, and ethnicity 2011, 2013, and 2015

	2011			2013			2015			Overall US 2015
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%
Total	3.4	2.4	4.3	4.3	3.1	5.5	3.8	3	4.6	3
Male	4.2	2.9	5.5	3.9	2.4	5.4	4.6	3.6	5.6	
Female	2.3	1.3	3.3	4.2	3	5.4	2.4	1.7	3.2	
9th grade	3.3	1.6	5	3.8	2.5	5.2	3.2	2.1	4.4	
10th grade	2.1	1.2	2.9	1.9	1.1	2.8	3.9	2.8	5.1	
11th grade	4.1	1.6	6.5	5.5	2.9	8.1	3.3	2.2	4.5	
12th grade	3.7	2.1	5.4	5.3	2.7	7.9	3.6	1.6	5.6	
Caucasian	5.3	2.3	8.2	6.4	4.1	8.6	2.6	1.3	4	
Native Hawaiian	2.9	1.5	4.3	4.8	2.9	6.7	4.9	3.6	6.3	
Filipino	2.6	1.2	4	2.2	0.8	3.7	2.5	1.2	3.9	
Japanese	1.2	0	2.9	3.5	0	7.7	2.3	0.2	4.4	
Other Asian	1.5	0	3.7	2.6	0.3	4.9	0.5	0	1.2	
Other Pacific Islander	2.9	0	6.3	2.4	0.2	4.5	2	0.2	3.9	
Other	3	1.9	4.2	4.2	2.3	6.1	4.8	3.5	6	

Source: Hawai'i YRBS via HHDW
 Confidence Intervals are 95%

Table A-10. YOUTH Ever used injection drugs by sex, grade, ethnicity, and sexual orientation in 2013 and 2015

	2011			2013			2015			Overall US 2015
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%
Total	Data not available			2.6	2.1	3.1	3.3	2.7	4	
Male	-	-	-	2.1	1.5	2.8	4.5	3.5	5.6	-
Female	-	-	-	2.7	2	3.5	1.9	1.2	2.6	
9th grade	-	-	-	3.3	1.8	4.8	2.9	1.6	4.2	
Heterosexual	-	-	-	1.9	1.4	2.4	1.7	1.2	2.2	
Questioning	-	-	-	10.9	2.4	19.4	6.3	0.5	12	
Lesbian, Gay, Bisexual	-	-	-	4	0.6	7.5	12.6	8.5	16.6	
10th grade	-	-	-	1.9	1	2.9	2.9	1.9	3.9	
11th grade	-	-	-	2	0.9	3.1	3.4	2.1	4.8	
12th grade	-	-	-	2.5	0.9	4.1	3.6	1.9	5.2	
Caucasian	-	-	-	3.3	1.6	5.1	2	0.5	3.5	
Native Hawaiian	-	-	-	2.3	1.5	3.1	4.8	3.7	5.8	
Filipino	-	-	-	1.8	0.6	3.1	2.7	1.4	4.1	
Japanese	-	-	-	1.2	0	3	2.5	0.1	4.9	
Other Asian	-	-	-	2.1	0	4.5	-	-	-	
Other Pacific Islander	-	-	-	6.5	0.5	12.6	2.5	0.4	4.7	
Other	-	-	-	3.1	2	4.2	3.5	2.3	4.8	

Source: Hawai'i YRBS via HHDW

Confidence Intervals are 95%

*Data not available for other Pacific Islander in 2015 and for the national rate in 2015

Table A-11. YOUTH Ever used prescription drugs without a doctor's prescription by sex, grade, ethnicity, and sexual orientation in 2011, 2013, and 2015

	2011			2013			2015			Overall US 2015
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%
Total	14.3	12.5	16.2	12.9	10.7	15.1	12.3	10.4	14.3	16.8
Male	14	12	16.1	11.5	8.9	14.1	12.9	11.4	14.5	
Female	14.5	11.7	17.3	14.2	11.9	16.4	11.3	8.4	14.2	
Heterosexual	13.1	11.5	14.7	11.6	9.4	13.7	9.9	8.5	11.2	
Questioning	12.7	4.7	20.8	18.8	8.7	28.9	19.1	9.9	28.3	
Lesbian, Gay, Bisexual	30	23.1	36.8	26.5	21.4	31.6	26.6	21	32.2	
9th grade	10.6	7.7	13.5	8.5	6	11.1	7.6	5.1	10	
10th grade	11.8	8.3	15.2	11.3	9.1	13.5	11.5	8.9	14	
11th grade	17.3	12.2	22.4	14.2	12.2	16.2	13.9	9.6	18.3	
12th grade	18.4	15.5	21.3	18.2	12.7	23.7	16.5	12.9	20.2	
Caucasian	22.2	18.6	25.9	19	14.9	23.1	16.2	12.6	19.8	
Native Hawaiian	14.2	11.6	16.8	16.5	13.5	19.6	14.8	11.4	18.1	
Filipino	9.3	6.9	11.7	7.2	4.5	9.8	7.7	5.5	9.9	
Japanese	11.1	5.7	16.5	11.1	4.1	18.2	8.5	5.5	11.6	
Other Asian	9.8	2.3	17.4	2.4	0.1	4.7	7	1.8	12.2	
Other Pacific Islander	10	5.3	14.7	7.5	4.4	10.6	4.5	1.6	7.4	
Other	17.2	14.3	20	15.7	12.7	18.8	15.2	12.3	18.1	

Source: Hawai'i YRBS via HHDW
Confidence Intervals are 95%

Table A-12. YOUTH Ever offered, given, or sold illegal drugs on school property by sex, grade, and ethnicity, in 2011, 2013, and 2015

	2011			2013			2015			Overall US 2015
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%
Total	31.7	28.8	34.6	31.2	29.3	33.2	25.4	23.5	27.4	21.7
Male	35.6	32.3	38.9	34.2	32.1	36.3	25.9	23.7	28	
Female	28.1	24.9	31.2	28.4	24.8	31.9	24.9	22.1	27.6	
9th grade	30.9	26.2	35.6	29.9	24.9	34.9	24	20.7	27.3	
10th grade	30.5	27.5	33.6	27.3	23.8	30.8	27.6	23.2	31.9	
11th grade	34.7	29.7	40.3	33.6	30	37.2	26.4	22.3	30.5	
12th grade	30.9	26.8	34.9	34.5	30.6	38.3	23.5	20.1	27	
Caucasian	40.6	34.9	46.2	37.6	29.6	45.5	29.8	23.2	36.3	
Native Hawaiian	26.6	22.3	30.9	33.3	29.8	36.8	26.9	24.2	29.7	
Filipino	32.1	27.9	36.2	24	20.1	27.9	23	18.5	27.6	
Japanese	21	15	26.9	29.9	17.8	42	19.8	16.4	23.1	
Other Asian	19.7	10.5	28.9	26.5	15.5	37.5	18.4	13.8	23.1	
Other Pacific Islander	36.4	25.6	47.2	34.8	25.9	43.7	30	23.8	36.3	
Other	34.7	30.4	39.1	34.9	32.1	37.6	27.5	25	30.1	

Source: Hawai'i YRBS via HHDW
 Confidence Intervals are 95%

Table A-13. YOUTH Ridden in a car driven by someone, including themselves, who was high or had been using alcohol or drugs during the past 30 days by sex, grade, and ethnicity, in 2011, 2013, and 2015

	2011			2013			2015			Overall US 2015
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%
Total	Data not available			23	20.8	25.2	20.3	18.5	22	
Male	-	-	-	21.5	18.6	24.4	19.3	17	21.5	
Female	-	-	-	24.4	21.5	27.3	21.2	18.4	24	
9th grade	-	-	-	19.7	16.4	23.1	14.5	11.9	17.1	
10th grade	-	-	-	19.8	14.8	24.8	21.5	19.1	23.8	
11th grade	-	-	-	25.1	21.6	28.5	21.2	17.5	24.9	
12th grade	-	-	-	28.4	22.9	33.9	25.1	20.8	29.3	
Caucasian	-	-	-	23.9	19.2	28.6	20	16.1	23.9	
Native Hawaiian	-	-	-	32.1	27.6	36.6	27.5	24.5	30.6	
Filipino	-	-	-	18.1	14.9	21.2	15.2	12.4	18.1	
Japanese	-	-	-	12.4	7.8	17	14.6	9.6	19.6	
Other Asian	-	-	-	8.6	4.7	12.4	5.8	0	11.5	
Other Pacific Islander	-	-	-	31.1	23.9	38.2	20.9	15.3	26.4	
Other	-	-	-	24.8	21.3	28.2	23.9	20.4	27.4	

Source: Hawai'i YRBS via HHDW
Confidence Intervals are 95%

Appendix B: Data Tables for Adult Marijuana and Other Drug Indicators

Table B-1. ADULT Drug use indicators in 2011-2012, 2012-2013, 2013-2014, and 2014-2015

Measure	Population	2011-2012			2012-2013			2013-2014			2014-2015			Overall US rate*
		%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	
30-day marijuana use	Age 18-25	18.2	15.4	21.3	18.8	15.9	22.1	15.9	13.1	19.1	16.1	13.4	19.2	19.7
30 day marijuana use	Age 26+ years	5.7	4.3	7.5	6.9	5.3	9.0	6.7	5.1	8.7	6.9	5.5	8.6	6.6
Past year used Cocaine	Age 18-25	4.4	3.3	5.9	4.4	3.2	6.0	4.2	3.0	5.9	5.2	3.7	7.2	5.0
Past year used Cocaine	Age 26+ years	1.4	0.9	2.1	1.3	0.8	2.1	1.2	0.8	2.0	1.5	1.0	2.3	1.4
30-day illicit drug use other than marijuana	Age 18-25	7.6	6.0	9.7	6.9	5.3	8.9	5.2	3.8	7.1	-	-	-	6.6
30-day illicit drug use other than marijuana	Age 26+ years	2.9	2.0	4.1	2.9	2.0	4.3	2.6	1.8	3.7	-	-	-	2.7
Past year used Heroin	Age 18-25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.4	0.2	0.9	0.7
Past year used Heroin	Age 26+ years	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.2	0.1	0.6	0.3

		2011-2012			2012-2013			2013-2014			2014-2015			Overall US rate*
Measure	Population	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%
Past year used prescription pain relievers without doctor's prescription	Age 18-25	10.0	8.0	12.4	10.0	7.9	12.4	7.5	5.8	9.6	-	-	-	8.3
Past year used prescription pain relievers without doctor's prescription	Age 26+ years	3.3	2.4	4.5	3.6	2.6	5.0	3.6	2.7	4.9	-	-	-	3.2

Source: NSDUH

Confidence Intervals are at 95%

“-“ indicates that data was not available at the state-level for that year

*Overall U.S. Rate is for the last available year

Table B-2. ADULT Perceptions of great risk from marijuana use in 2011-2012, 2012-2013, and 2013-2014

Population	2011-2012			2012-2013			2013-2014			Overall US rate for 2013-2014
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%
Age 18-25	14.4	12.0	17.2	13.2	10.9	15.8	13.2	10.9	16.0	14.2
Age 26+ years	31.7	28.2	35.4	29.1	25.5	33.0	29.2	25.8	32.8	30.1

Source: NSDUH

Confidence Intervals are at 95%

*Data not available for 2014-2015

Table B-3. ADULT Received prescription opioid pain relievers in the past year (age 18+), 2015.

No (%)	Lower CI	Upper CI	Yes – 1 (%)	Lower CI	Upper CI	Yes -2 or more (%)	Lower CI	Upper CI
87.1	86	88.3	10.8	9.7	11.8	2.1	1.6	2.6

Source: BRFSS

*Data not available for 2011-2014

Table B-4. ADULT Types of prescription opioid pain relievers in the past year (age 18+), 2015.

Type of prescription opioid pain reliever	Percent (%) reporting yes
Vicodin	3.2
Hydrocodone	2.5
Oxycodone	2.3
Tylenol with Codeine	2.1
Percocet	1.7
Tramadol	1.2
Morphine	0.5
Oxycontin	0.5
Other	1.2

Source: BRFSS

Confidence Intervals are not available

*Data not available for 2011-2014

Table B-5. ADULT At least one prescription opioid pain reliever in the past year (age 18+), 2015.

Population	%	Lower CI	Upper CI
Females	13.4	11.8	15
Males	12.3	10.7	14
Ages 18-24	12.3	8.4	16.1
Ages 25-34	12.4	9.3	15.5
Ages 35-44	14.5	10.8	18.2
Ages 45-54	15.7	12.8	18.7
Ages 55-64	13.8	11.4	16.2
Ages 65-74	11.7	9.5	13.8
Ages 75 and over	7.7	5.3	10.1

Source: BRFSS

*Data not available for 2011-2014

Table B-6. ADULT Duration taking prescription opioid pain relievers in the past year (age 18+), 2015.

Length of time	%
1 – 7 days	38
8 days – 1 year	37
Longer than 1 year	25

Source: BRFSS

Confidence Intervals are not available

*Data not available for 2011-2014

Table B-7. ADULT Use of illicit substances 1 month before pregnancy, 2011 – 2014.

Population	2011			2012			2013			2014		
	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI	%	Lower CI	Upper CI
Overall	6.4	5.1	7.9	6.7	5.2	8.5	7.4	5.8	9.4	5.3	4	7
<20 years old	14.4	7.5	25.7	24.6	13.9	40.2	16.7	8	31.4	-	-	-
20-24 years old	9	6.2	12.9	8.9	5.7	13.4	9.5	6.1	14.6	6	3.4	10.2
25-34 years old	5.6	4	7.8	5.4	3.7	7.7	6.6	4.6	9.3	6.6	4.7	9.2
35+ years old	2.4	1.1	5	2.5	1.1	5.3	5	2.7	9	-	-	-
Caucasian	9.3	6.4	13.4	6.4	4.1	9.9	8	5.3	12	7.5	4.8	11.6
Native Hawaiian	7.9	5.6	11.1	10.7	7.4	15.3	10.7	7.5	15	6.6	4.1	10.6
Chinese	4.3	0.8	19.5	7.6	3	17.8	1.7	0.4	6	-	-	-
Filipino	4.9	2.4	10.1	1.8	0.7	4.8	3.2	1.1	8.8	-	-	-
Japanese	1.5	0.7	3.4	3.5	1	11.3	9.6	4.2	20.6	-	-	-
Other	3.9	1.9	7.8	6.7	3.4	12.6	3.9	1.6	9.5	-	-	-

Source: PRAMS

“-“ indicates that the data is not available for the indicated population.

*Data unavailable for 2015.

Table B-8. ADULT Use of illicit substances during pregnancy, 2011.

Population	2011		
	%	Lower CI	Upper CI
Overall	3.4	2.5	4.6
<20 years old	7.3	2.6	19.2
20-24 years old	4	2.2	6.5
25-34 years old	3.5	2.3	5.2
35+ years old	1.2	0.6	2.3
Caucasian	3.6	2.1	5.9
Native Hawaiian	5.2	3.3	8.1
Chinese	3.6	0.5	21.1
Filipino	3.1	1.2	7.5
Japanese	0.7	0.2	2.4
Other	2	1.1	3.5

Source: PRAMS

*Data unavailable for 2012 - 2015.

Appendix C: SAMHSA’s Substance Abuse Prevention National Outcome Measures (NOMs)

Measure	Source Item and Measure Calculation	Source of Data	Item Code (If survey based)	Respondent Age Group	Level of Aggregation and Data Source
Reduced Morbidity: Abstinence from Drug Use/Alcohol Use					
30-Day Use	<p><i>“During the past 30 days, that is, since [DATEFILL], on how many days did you smoke part or all of a cigarette?”</i></p> <p>[Response option: Write in a number between 0 and 30.]</p> <p>Outcome Reported: Percent who reported having smoked a cigarette during the past 30 days.</p>	NSDUH	CG07	Adult, Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
	<p><i>“During the past 30 days, that is, since [DATEFILL], on how many days did you use [other tobacco products]”</i></p> <p>[Response option: Write in a number between 0 and 30.]</p> <p>Outcome Reported: Percent who reported having used a tobacco product other than cigarettes during the past 30 days, calculated by combining responses to questions about individual tobacco products (snuff, chewing tobacco, pipe tobacco).</p>	NSDUH	Multiple Items	Adult, Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>

Measure	Source Item and Measure Calculation	Source of Data	Item Code (If survey based)	Respondent Age Group	Level of Aggregation and Data Source
	<p><i>“Think specifically about the past 30 days, that is from [DATEFILL] through today. During the past 30 days, on how many days did you drink one or more drinks of an alcoholic beverage?”</i> [Response option: Write in a number between 0 and 30.]</p> <p>Outcome Reported: Percent who reported having used alcohol during the past 30 days.</p>	NSDUH	ALCC29a	Underage, Legal Age	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
	<p><i>“Think specifically about the past 30 days, from [DATEFILL] up to and including today. During the past 30 days, on how many days did you use marijuana or hashish?”</i> [Response option: Write in a number between 0 and 30.]</p> <p>Outcome Reported: Percent who reported having used marijuana or hashish during the past 30 days.</p>	NSDUH	MJ06	Adult, Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
	<p><i>“Think specifically about the past 30 days, from [DATEFILL] up to and including today. During the past 30 days, on how many days did you use [any other illegal drug]?”</i></p> <p>Outcome Reported: Percent who reported having used illegal drugs other than marijuana or hashish during the past 30 days, calculated by combining responses to questions about individual drugs (heroin, cocaine, stimulants, hallucinogens, inhalants, prescription drugs used without doctors’ orders).</p>	NSDUH	Multiple Items	Adult, Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>

Measure	Source Item and Measure Calculation	Source of Data	Item Code (If survey based)	Respondent Age Group	Level of Aggregation and Data Source
Age at First Use	<p><i>“How old were you the first time you smoked part or all of a cigarette?”</i> [Response option: Write in age at first use.]</p> <p>Outcome Reported: Average age at first use of cigarettes.</p>	NSDUH	CG04	Adult, Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
	<p><i>“How old were you the first time you used [any other tobacco product] †?”</i> [Response option: Write in age at first use.]</p> <p>Outcome Reported: Average age at first use of tobacco products other than cigarettes.</p>	NSDUH	Multiple Items	Adult, Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
	<p><i>“Think about the first time you had a drink of an alcoholic beverage. How old were you the first time you had a drink of an alcoholic beverage? Please do not include any time when you only had a sip or two from a drink.”</i> [Response option: Write in age at first use.]</p> <p>Outcome Reported: Average age at first use of alcohol.</p>	NSDUH	AL02	Adult, Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>

Measure	Source Item and Measure Calculation	Source of Data	Item Code (If survey based)	Respondent Age Group	Level of Aggregation and Data Source
	<p><i>“How old were you the first time you used marijuana or hashish?”</i> [Response option: Write in age at first use.]</p> <p>Outcome Reported: Average age at first use of marijuana or hashish.</p>	NSDUH	MJ02	Adult, Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
	<p><i>“How old were you the first time you used [other illegal drugs] †?”</i> [Response option: Write in age at first use.]</p> <p>Outcome Reported: Average age at first use of other illegal drugs.</p>	NSDUH	Multiple Items	Adult, Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
Perceived Risk of Harm of Use	<p><i>“How much do people risk harming themselves physically and in other ways when they smoke one or more packs of cigarettes per day?”</i> [Response options: No risk, slight risk, moderate risk, great risk, “don’t know”]</p> <p>Outcome Reported: Percent reporting moderate or great risk.</p>	NSDUH	RK01a	Adult, Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>

Measure	Source Item and Measure Calculation	Source of Data	Item Code (If survey based)	Respondent Age Group	Level of Aggregation and Data Source
	<p><i>“How much do people risk harming themselves physically and in other ways when they smoke marijuana once or twice a week?”</i></p> <p>[Response options: No risk, slight risk, moderate risk, great risk, “don’t know”]</p> <p>Outcome Reported: Percent reporting moderate or great risk.</p>	NSDUH	RK01c	Adult, Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
	<p><i>“How much do people risk harming themselves physically and in other ways when they have five or more drinks of an alcoholic beverage once or twice a week?”</i></p> <p>[Response options: No risk, slight risk, moderate risk, great risk, “don’t know”]</p> <p>Outcome Reported: Percent reporting moderate or great risk.</p>	NSDUH	RK01k	Underage, Legal Age	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
Disapproval of Substance Use	<p><i>“How do you feel about someone your age smoking one or more packs of cigarettes a day?”</i></p> <p>[Response options: Neither approve nor disapprove, somewhat disapprove, strongly disapprove, don’t know]</p> <p>Outcome Reported: Percent somewhat or strongly disapproving.</p>	NSDUH	YE19a	Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>

Measure	Source Item and Measure Calculation	Source of Data	Item Code (If survey based)	Respondent Age Group	Level of Aggregation and Data Source
	<p><i>“How do you think your close friends would feel about you smoking one or more packs of cigarettes a day?”</i></p> <p>[Response options: Neither approve nor disapprove, somewhat disapprove, strongly disapprove, don’t know]</p> <p>Outcome Reported: Percent reporting that their friends would somewhat or strongly disapprove.</p>	NSDUH	YE20a	Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
	<p><i>“How do you feel about someone your age trying marijuana or hashish once or twice?”</i></p> <p>[Response options: Neither approve nor disapprove, somewhat disapprove, strongly disapprove, don’t know]</p> <p>Outcome Reported: Percent somewhat or strongly disapproving.</p>	NSDUH	YE19b	Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
	<p><i>“How do you feel about someone your age using marijuana once a month or more?”</i></p> <p>[Response options: Neither approve nor disapprove, somewhat disapprove, strongly disapprove, don’t know]</p> <p>Outcome Reported: Percent somewhat or strongly disapproving.</p>	NSDUH	YE19b1	Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>

Measure	Source Item and Measure Calculation	Source of Data	Item Code (If survey based)	Respondent Age Group	Level of Aggregation and Data Source
	<p><i>“How do you feel about someone your age having one or two drinks of an alcoholic beverage nearly every day?”</i></p> <p>[Response options: Neither approve nor disapprove, somewhat disapprove, strongly disapprove, don’t know]</p> <p>Outcome Reported: Percent somewhat or strongly disapproving.</p>	NSDUH	YE19c	Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
Employment/Education					
Perception of Workplace Policy	<p><i>“Would you be more or less likely to want to work for an employer that tests its employees for drug or alcohol use on a random basis?”</i></p> <p>[Response options: More likely, less likely, would make no difference]</p> <p>Outcome Reported: Percent reporting that they would be more likely to work for an employer conducting random drug and alcohol tests.</p>	NSDUH	QD53	Adult, Youth 15 years or older	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>
ATOD-Related Suspensions and Expulsions	– MEASURE UNDER DEVELOPMENT –				
Daily School Attendance	<p>Measure calculation: Average daily attendance (NCES defined) divided by total enrollment and multiplied by 100.</p>	National Center for Education Statistics, Common Core of Data: The National Public Education Finance Survey available for download at http://nces.ed.gov/ccd/stfis.asp		Not collected from individuals	<p>State (NCES)</p> <p>Community (State Dept. of Ed., Local School District)</p>

Measure	Source Item and Measure Calculation	Source of Data	Item Code (If survey based)	Respondent Age Group	Level of Aggregation and Data Source
Crime and Criminal Justice					
Driving While Under the Influence of Alcohol	<p><i>“During the past 12 months, have you driven a vehicle while you were under the influence of alcohol only?”</i></p> <p>[Response Options: Yes, No, “don’t know”]</p> <p>Outcome Reported: Percent reporting “Yes.”</p>	NSDUH	SP06b	Underage, Legal Age - 16 years or older	Program (Program NOMs Instrument)
Alcohol-Related Traffic Fatalities	<p>Measure calculation: The number of alcohol-related traffic fatalities divided by the total number of traffic fatalities and multiplied by 100.</p>	National Highway Traffic Safety Administration Fatality Analysis Reporting System		Not collected from individuals	State (NHTSA-FARS)
Alcohol and Drug-Related Arrests	<p>Measure calculation: The number of alcohol and drug-related arrests divided by the total number of arrests and multiplied by 100.</p>	Arrest data by state obtainable from the report Crime in the U.S., issued annually by FBI’s Uniform Crime Reporting Program. Obtainable at https://www.ucrdatatool.gov/		Not collected from individuals	State (UCR-FBI) Community (State and/or Local Law Enforcement Agencies)
Social Support/Social Connectedness					
Family Communication Around Drug Use	<p><i>“During the past 12 months, how many times have you talked with your child about the dangers or problems associated with the use of tobacco, alcohol, or other drugs?”*</i></p> <p>[Response options: 0 times, 1 to 2 times, A few times, Many times, don’t know]</p> <p>Outcome Reported: Percent of parents reporting that they have talked to their child at least once.</p>	NSDUH	PE03	Adult	State (NSDUH), Community (Community Survey), Program (Program NOMs Instrument)

Measure	Source Item and Measure Calculation				Source of Data	Item Code (If survey based)	Respondent Age Group	Level of Aggregation and Data Source
	<p><i>“Now think about the past 12 months, that is, from [DATEFILL] through today. During the past 12 months, have you talked with at least one of your parents about the dangers of tobacco, alcohol, or drug use? By parents, we mean either your biological parents, adoptive parents, stepparents, or adult guardians, whether or not they live with you.”</i> [Response options: Yes, No, don’t know]</p> <p>Outcome Reported: Percent reporting having talked with a parent.</p>				NSDUH	YE08	Youth	State (NSDUH), Community (Community Survey), Program (Program NOMs Instrument)
Access/Service Capacity								
Number of Persons Served by Age, Gender, Race, Ethnicity	Age	Race	Ethnicity	Gender	MDS, Prevention Database Builder, Program Outcome Data		Not collected from individuals	State (MDS, Prevention Database Builder), Program (Program Outcome Data)
	0-4	• Am. Indian / AK Native	• Not Hispanic / Latino	• Female				
	5-11	• Asian	• Hispanic / Latino	• Male				
	12-14	• Black / African American	• Total	• Total				
	15-17	• Native Hawaiian / Other Pacific Islander						
	18-20	• White						
	21-24	• More than one race						
	25-44	• Unknown						
	45-64	• Other						
	65+	• Total						
Total								

Measure	Source Item and Measure Calculation	Source of Data	Item Code (If survey based)	Respondent Age Group	Level of Aggregation and Data Source
Retention					
Percentage of Youth Seeing (Reading, Watching, Listening) a Prevention Message	<p><i>“During the past 12 months, have you seen or heard any alcohol or drug prevention messages from sources [outside school], such as posters, pamphlets, radio, or TV?”</i></p> <p><i>[Response options: yes, no, don’t know]</i></p> <p>Outcome Reported: Percent reporting having been exposed to prevention message.</p>	NSDUH	YE25	Youth	<p>State (NSDUH),</p> <p>Community (Community Survey),</p> <p>Program (Program NOMs Instrument)</p>

† The question was asked about each tobacco product separately and the youngest age at first use was taken as the measure.

‡ The question was asked about each drug in this category separately and the youngest age at first use was taken as the measure.

*NSDUH does not ask this question of all sampled parents. It is a validation question posed to parents of 12-year-old through 17-year-old survey respondents. Therefore, the responses are not representative of the population of parents in a state. The sample sizes are often too small for valid reporting.

** This is a summary of four separate NSDUH questions each asking about a specific type of prevention message delivered within a specific context.

Appendix D: References

- Andersson, B., Miller, P., Beck, F., & Chomynova, P. (2009). The prevalences of and perceived risks from drug use among teenagers in 33 European countries. *Journal of Substance Use, 14*(3-4), 189-196.
- Arthur, M. W., Hawkins, D. J., Pollard, J. A., Catalano, R. F., & Baglioni, A. J., Jr. (2002). Measuring risk and protective factors for use, delinquency, and other adolescent problem behaviors: The Communities That Care Youth Survey. *Evaluation Review, 26*(2), 575-601.
- Atherton, O.E., Conger, R.D., Ferrer, E., & Robins, R.W. (2015). Risk and protective factors for early substance use initiation: A longitudinal study of Mexican-origin youth. *Journal of Research on Adolescence, 26*(4): 864-879.
- Beyers, J. M., Toumbourou, J. W., Catalano, R. F., Arthur, M. W., & Hawkins, J. D. A cross-national comparison of risk and protective factors for adolescent substance use: The United States and Australia. *Journal of Adolescent Health, 35*(1), 3-16.
- Boardman, J. D., Finch, B. K., Ellison, C. G., Williams, D. R., & Jackson, J. S. (2001). Neighborhood Disadvantage, Stress, and Drug Use among Adults. *Journal of Health and Social Behavior, 42*(2), 151-165. doi: 10.2307/3090175.
- Bouchery, E. E., Harwood, H. J., Sacks, J. J., Simon, C. J., & Brewer, R. D. (2011). Economic costs of excessive alcohol consumption in the U.S., 2006. *American Journal of Preventive Health, 41*(5), 516 – 524.
- Britancourt, T., Tissot, M.C.R.G., Fidalgo, T.M., Galduroz, J.C.F., & da Silveira Filho, D.X. (2016). Factors associated with illicit drugs' lifetime and frequent/heavy use among students results from a population survey. *Psychiatry Research, 237*, 290-295.
- Center for Behavioral Health Statistics and Quality. (2015). *2013-2014 National Survey on Drug Use and Health: Model-Based Prevalence Estimates (50 States and the District of Columbia)*. Substance Abuse and Mental Health Services Administration, Rockville, MD.
- Center for Behavioral Health Statistics and Quality. (2014). *2012-2013 National Survey on Drug Use and Health: Model-Based Prevalence Estimates (50 States and the District of Columbia)*. Substance Abuse and Mental Health Services Administration, Rockville, MD.
- Center for Behavioral Health Statistics and Quality. (2013). *2011-2012 National Survey on Drug Use and Health: Model-Based Prevalence Estimates (50 States and the District of Columbia)*. Substance Abuse and Mental Health Services Administration, Rockville, MD.
- Cleveland, M.J., Feinberg, M.E., & Greenberg M.T. (2010). Protective families in high- and low-risk environments: Implications for adolescent substance use. *Journal of Youth and Adolescence, 39*(2), 114–126.
- Cleveland, M.J., Feinberg, M.E., Bontempo, D.E., & Greenberg, M.T. (2008). The role of risk and protective factors in substance use across adolescence. *Journal of Adolescent Health, 43*(2), 157-164.

- Debnam, K., Milam, A.J., Furr-Holden, D., & Bradshaw, C. (2016). The role of stress and spirituality in adolescent substance use. *Substance Use & Misuse, 51*(6), 733-741.
- DiNardo, J., & Lemieux, T. (1992). Alcohol, marijuana, and American youth: The unintended effects of government regulation. *National Bureau of Economic Research, 20*(6), 991-1010.
- Edwards, C., Giroux, D., & Okamoto, S.K. (2010). A review of the literature on Native Hawaiian youth and drug use: Implications for research and practice. *Journal of Ethnicity in Substance Abuse, 9*(3), 153-172.
- Ellickson, P.L., & Hays, R.D. (1992). On becoming involved with drugs: Modeling adolescent drug use over time. *Health Psychology, 11*(6), 377-385.
- Ewing, B. A, Osilla, K. C., Pedersen, E. R., Hunter, S. B., Miles, J. N.V., & D'Amico, E. J. (2015). Longitudinal family effects on substance use among an at-risk adolescent sample. *Addictive Behaviors 41*, 185-191.
- Fisher, S., Zapolski, T.C.B., Sheehan, C., & Barnes-Najor, J. (2017). Pathway of protection: Ethnic identity, self-esteem, and substance use among multiracial youth. *Addictive Behaviors, 72*, 27-32.
- Fleury, M.J., Grenier, G., Bamvita, J.M., Perreault, M., & Caron, J. (2014). Predictors of alcohol and drug dependence. *Canadian Journal of Psychiatry, 59*(4), 203-212.
- Grant, B. F., & Dawson, D. A. (1998). Age of onset of drug use and its association with DSM-IV drug abuse and dependence: Results from the national longitudinal alcohol epidemiologic survey. . *Journal of Substance Abuse, 10*(2), 163-173.
- Guo, J., Hawkins, J. D., Hill, K. G., & Abbott, R. D. (2001). Childhood and adolescent predictors of alcohol abuse and dependence in young adulthood. *Journal of Studies on Alcohol, 62*(6), 754–762.
- Hawai‘i Health Data Warehouse (HHDW). (2016). *Alcohol & Drug Use at School in Hawai‘i, by School type, state, gender, Grade Level, and DOH Race-Ethnicity, * for the Years 2033 - 2015*. Retrieved from http://hhdw.org/wp-content/uploads/YRBS_School_IND_00004.pdf
- Hawai‘i Health Data Warehouse (HHDW). (2016). *Heroin and Injection Drug Use in Hawai‘i, by School type, state, gender, Grade Level, and DOH Race-Ethnicity, * for the Years 2013 - 2015*. Retrieved from http://hhdw.org/wp-content/uploads/YRBS_Substance-Abuse_IND_00017.pdf
- Hawai‘i Health Data Warehouse (HHDW). (2016). *Lifetime Drug Use (Part 1) by School Type, State, Gender, Grade Level, and DOH Race-Ethnicity, * for the Years 2001 – 2015*. Retrieved from http://hhdw.org/wp-content/uploads/YRBS_Substance%20Abuse_IND_00003.pdf
- Hawai‘i Health Data Warehouse (HHDW). (2016). *Lifetime Drug Use (Part 2) in Hawaii, by School Type, State, Gender, Grade Level, and DOH Race-Ethnicity, * for the Years 2001 – 2015*. Retrieved from http://hhdw.org/wp-content/uploads/YRBS_Substance%20Abuse_IND_00004.pdf
- Hawai‘i Health Data Warehouse (HHDW). (2016). *Marijuana Use in Hawai‘i, by School type, gender, Grade Level, and DOH Race-Ethnicity, * for the Years 2005 - 2015*. Retrieved from http://hhdw.org/wp-content/uploads/YRBS_Substance%20Abuse_IND_00005.pdf

- Hawaii State Department of Health, Hawaii Health Data Warehouse Pregnancy Risk Assessment Monitoring System. Retrieved on July 20, 2017 from Hawaii State Department of Health, Hawaii Health Data Warehouse Indicator-Based Information System for Public Health website: <http://ibis.hhdw.org/ibisph-view/>.
- Keys, K.M., Cerda, M., Brady, J.E., Havens, J.R., & Galea, S. (2014). Understanding the rural-urban differences in nonmedical prescription opioid use and abuse in the United States. *American Journal of Public Health, 104*(2), e52-e59.
- Kilmer, J. R., Hunt, S. B., Lee, C. M., & Neighbors, C. (2007). Marijuana use, risk perception, and consequences: Is perceived risk congruent with reality? *Addictive Behaviors, 32*(12), 3026-3033. doi: 10.1016/j.addbeh.2007.07.009.
- Kuntsche, E.N., & Kuendig, H. (2006). What is worse? A hierarchy of family-related risk factors predicting alcohol use in adolescence. *Substance Use & Misuse, 41*(1), 71–86.
- Lac, A., Alvaro, E.M., Crano W.D., & Siegel J.T. (2009). Pathways from parental knowledge and warmth to adolescent marijuana use: An extension to the theory of planned behavior. *Prevention Science, 10* (1), 22–32.
- Latendresse, S.J., Rose, R.J., Viken, R.J., Pulkkinen, L., Kaprio, J., & Dick, D.M.. (2008). Parenting mechanisms in links between parents' and adolescents' alcohol use behaviors. *Alcoholism: Clinical and Experimental Research, 32* (2), 322–330.
- Lopez-Quintero, C., & Neumark, Y. (2010). Effects of risk perception of marijuana use on marijuana use and intentions to use among adolescents in Bogotá, Colombia. *Drug and Alcohol Dependence, 109*(1-3), 65-72.
- Lynskey, M. T., Heath, A. C., Bucholz, K. K., Slutske, W. S., Madden, P. A. F., Nelson, E. C., . . . Martin, N. G. (2003). Escalation of Drug Use in Early-Onset Cannabis Users vs Co-twin Controls. *Journal of the American Medical Association, 289*(4), 427-433.
- Mauro, P. M., Canham, S. L., Martins, S. S., & Spira, A. P. (2015). Substance-use coping and self-rated health among US middle-aged and older adults. *Addictive Behaviors, 42*, 96-100. doi: <http://dx.doi.org/10.1016/j.addbeh.2014.10.031>
- Mason, W. A., & Windle, M. (2001). Family, religious, school and peer influences on adolescent alcohol use: a longitudinal study. *Journal of Studies on Alcohol, 62*(1), 44–53.
- McCabe, S.E., Hughes, T.L., Bostwick, W.B., West, B.T., & Boyd, C.J. (2009). Sexual orientation, substance use behaviors and substance dependence in the United States. *Addiction, 104*(8), 1333-1345.
- McGue, M., Iacono, W. G., Legrand, L. N., Malone, S., & Elkins, I. (2001). Origins and Consequences of Age at First Drink. I. Associations With Substance-Use Disorders, Disinhibitory Behavior and Psychopathology, and P3 Amplitude. *Alcoholism: Clinical and Experimental Research, 25*(8), 1156-1165.
- O’Connell, M. E., Boat, T., & Warner, K. E. (Eds.). (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. National Research Council

- and Institute of Medicine of the National Academies. Washington, D.C.: The National Academies Press.
- Oslin, D. W., Schonfeld, L., Wilford, B. B., & MacArthur, L. C. (2006). *Improving chronic disease outcomes for older adults: The link to substance use*. Silver Spring, MD: JBS International, Inc.
- Pearson, R. S. (2004). The 2003 Hawai'i student alcohol, tobacco, and other drug use study (1987-2003); Hawai'i adolescent prevention and treatment needs assessment. Honolulu: Hawai'i Department of Health, Alcohol and Drug Abuse Division.
- Rhodes, J. E., & Jason, L. A. (1990). A social stress model of substance abuse. *Journal of Consulting and Clinical Psychology*, 58(4), Aug 1990, 395-401.
- Robins, L. N., & Przybeck, T. R. (1985). Age of onset of drug use as a factor in drug and other disorders. *NIDA Research Monograph*, 56, 178-192.
- Roxburgh, A., Lea, T., de Wit, J., & Degenhardt, L. (2016). Sexual identity and prevalence of alcohol and other drug use among Australians in the general population. *International Journal of Drug Policy*, 28, 76-82.
- Schinke, S.P., Fang, L., & Cole, K.C. (2009). Preventing substance use among adolescent girls: 1-year outcomes of a computerized, mother–daughter program. *Addictive Behaviors*, 34(12), 1060–1064.
- Schwinn, T.M., Schinke, S.P., Hopkins, J., & Thom, B. (2016). Risk and protective factors associated with adolescent girls' substance use: Data from a nationwide Facebook sample. *Substance Abuse*, 37(4), 564-570.
- Stone, A.L., Becker, L.G., & Catalano, R.F. (2012). Review of risk and protective factors of substance use and problem use in emerging adulthood. *Addictive Behaviors*, 37, 747-775.
- Substance Abuse and Mental Health Services Administration (SAMHSA). *National Survey on Drug Use and Health (NSDUH): 2-Year R-DAS (2002 to 2003, 2004 to 2005, 2006 to 2007, 2008 to 2009, 2010 to 2011, and 2012 to 2013)*. Retrieved from <http://www.icpsr.umich.edu/icpsrweb/SAMHDA/studies/34482/datasets/1/sda>
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2014). *Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings* (NSDUH Series H-48, HHS Publication No. SMA 14-4863). Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from <http://www.samhsa.gov/data/sites/default/files/NSDUHresultsPDFWHTML2013/Web/NSDUHresults2013.pdf>
- Substance Abuse and Mental Health Services Administration (SAMHSA) Center for the Application of Prevention Technologies (CAPT). (n. d.). Information sheet 5: Developmental competencies and associated risk & protective factors by context [Fact sheet]. Retrieved from http://captus.samhsa.gov/sites/default/files/capt_resource/capt_behavioral_health_fact_sheets_20122.pdf_-_adobe_acrobat_pro.pdf
- Swendsen, J., Conway, K.P., Degenhardt, L., Glantz, M., Jin, R., Merikangas, K.R., . . . Kessler, R.C. (2010). Mental disorders as risk factors for substance use, abuse, and dependence: Results from the 10-year follow-up of the national comorbidity survey, *Addiction*, 105(6), 1117-1128.

- Tam, T.W., Weisner, C., & Mertens, J. (2000). Demographic characteristics, life context, and patterns of substance use among alcohol-dependent treatment clients in a health maintenance organization. *Alcoholism: Clinical and Experimental Research*, 24(12), 1803-1810.
- U. S. Census Bureau. (2016). *State & County QuickFacts: Hawaii*. Retrieved July 4, 2017, from <https://www.census.gov/quickfacts/fact/table/HI,US/PST045216>.
- U. S. Census Bureau. (2016). *State & County QuickFacts: Hawai'i County, Hawaii*. Retrieved July 4, 2017 from <https://www.census.gov/quickfacts/fact/table/hawaiicountyhawaii/PST045216>.
- U. S. Census Bureau. (2016). *State & County QuickFacts: Honolulu County, Hawaii*. Retrieved July 4, 2017 from <https://www.census.gov/quickfacts/fact/table/honolulucountyhawaii/PST045216>
- U. S. Census Bureau. (2016). *State & County QuickFacts: Kalawao County, Hawaii*. Retrieved July 4, 2017 from <https://www.census.gov/quickfacts/fact/table/kalawaocountyhawaii/PST045216>
- U. S. Census Bureau. (2016). *State & County QuickFacts: Kaua'i County, Hawaii*. Retrieved July 4, 2017 from <https://www.census.gov/quickfacts/fact/table/kauaicountyhawaii/PST045216>
- U. S. Census Bureau. (2016). *State & County QuickFacts: Maui County, Hawaii*. Retrieved July 4, 2017 from <https://www.census.gov/quickfacts/fact/table/mauicountyhawaii/PST045216>
- Wheeler, S. B. (2010). Effects of self-esteem and academic performance on adolescent decision-making: An examination of early sexual intercourse and illegal substance use. *Journal of Adolescent Health*, 47, 582-590.

* Race-ethnicity data from 2011 forward may not be comparable to data from previous years

Appendix E: List of SEOW Members

As of July 2017 (listed by organization)

SEOW Members	
<u>Name</u>	<u>Organization</u>
Tania Lowery St. John	Department of Health, Western States Information Network Research Group
Heather Lusk	The Community Health Outreach Work to Prevent AIDS Project (CHOW Project)
Pam Lichty	The Community Health Outreach Work to Prevent AIDS Project (CHOW Project)
Valerie Mariano	Hawai'i Department of the Attorney General, Community and Crime Prevention Branch and Crime Prevention and Justice Assistance Division
Paul Perrone	Hawai'i Department of the Attorney General, Crime Prevention and Justice Assistance Division
Alan Yamamoto	Hawai'i Department of Health, Alcohol and Drug Abuse Division
Allen Ramelb	Hawai'i Department of Health, Alcohol and Drug Abuse Division
Andrew Robles	Hawai'i Department of Health, Alcohol and Drug Abuse Division
Cheryl Labuguen	Hawai'i Department of Health, Alcohol and Drug Abuse Division
Dixie Jo Thompson	Hawai'i Department of Health, Alcohol and Drug Abuse Division
Joshua Philip	Hawai'i Department of Health, Alcohol and Drug Abuse Division
Karla Filibeck	Hawai'i Department of Health, Alcohol and Drug Abuse Division
John Valera	Hawai'i Department of Health, Alcohol and Drug Abuse Division
Mardelle Gustilo	Hawai'i Department of Health, Alcohol and Drug Abuse Division
David Jackson	Hawai'i Department of Health, Child and Adolescent Mental Health Division
Ranjani Starr	Hawai'i Department of Health, Communicable Disease and Public Health Nursing Division
Wendy Nihoa	Hawai'i Department of Health, Family Health Services Division
Thaddeus Pham	Hawai'i Department of Health, Harm Reduction Services Branch
Kari Benes	Hawai'i Department of Health, Emergency Medical Services & Injury Prevention System Branch
Dan Galanis	Hawai'i Department of Health, Emergency Medical Services & Injury Prevention System Branch
Therese Argoud	Hawai'i Department of Health, Emergency Medical Services & Injury Prevention System Branch
Florentina Salvail	Hawai'i Department of Health, Office of Health Status Monitoring

Kathleen Baker	Hawai'i Department of Health, Office of Health Status Monitoring
Joshua Holmes	Hawai'i Department of Health, Surveillance, Evaluation, & Epidemiology Office, Chronic Disease Prevention & Health Promotion Division
Gary Yabuta	Hawai'i High Intensity Drug Trafficking Areas (HIDTA)
Darlyn McFatrige	Hawai'i National Guard Counterdrug Support Program, Joint Domestic Operations
Reoni Ornellas	Hawai'i National Guard Counterdrug Support Program, Joint Domestic Operations
Robert McFatrige	Hawai'i National Guard Counterdrug Support Program, Joint Domestic Operations
Harvey Lee	The Institute for Family Enrichment (TIFFE)
Krystal Baba	The Institute for Family Enrichment (TIFFE)
Kristen Scholly	Manoa Alcohol Project
Cynthia Okazaki	Parents And Children Together
Javzan Azuma	University of Hawai'i, Center on the Family
Katalina McGlone	University of Hawai'i, Center on the Family
Sachin Ruikar	University of Hawai'i, Center on the Family
Sandé Nitta	University of Hawai'i, Center on the Family
Sarah Yuan	University of Hawai'i, Center on the Family
Deborah Goebert	University of Hawai'i, Department of Psychiatry
Jane Onoye	University of Hawai'i, Department of Psychiatry
Susanna Helm	University of Hawai'i, Department of Psychiatry
Rebecca Schweitzer	University of Hawai'i, Office of Public Health Studies
Claudio Nigg	University of Hawai'i, Office of Public Health Studies
Allison Wagner	University of Hawai'i, Office of Public Health Studies
Michelle Tong	University of Hawai'i, Office of Public Health Studies
Emilee Turner	University of Hawai'i, Office of Public Health Studies
Stephanie Nishimura	University of Hawai'i, John A. Burns School of Medicine
Michael Peacock	Vet 2 Vet