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CBHSQ DATA REVIEW

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Substance Use and Mental Health Issues among U.S.-Born American Indians or Alaska Natives Residing on and off Tribal Lands

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Abstract

Background. About 22 percent of American Indians/Alaska Natives (AI/ANs) reside on reservations or other trust lands, which contain unique governments, histories, traditions, communities, languages, and behavioral health challenges. In general, there is a lack of nationally representative data on the substance use and mental health of AI/ANs residing on and off tribal lands. This report provides methodological information on how to obtain estimates of behavioral health outcomes for populations living on and off tribal lands and provides some initial estimates.

Methods. Combined 2005 to 2014 National Survey on Drug Use and Health (NSDUH) data included about 31,900 self-identified U.S.-born AI/AN adolescents and adults aged 12 or older residing on (n = 5,400) or off (n = 26,500) tribal lands. Data were analyzed to examine differences in mental health, substance use, and treatment receipt among U.S.-born AI/ANs residing on and off tribal lands.

Results. For many of the behavioral health topics analyzed, U.S.-born AI/AN adults and adolescents residing on tribal lands were equally or less likely than U.S.-born AI/AN adults and adolescents residing off tribal lands to experience the behavioral health challenges. For example, U.S.-born AI/AN adults residing on tribal lands were equally or less likely than those residing off tribal lands to have past year mental health problems. Although U.S.-born AI/AN adults residing on tribal lands were less likely than those residing off tribal lands to smoke cigarettes daily and to use alcohol, marijuana, cocaine/crack, and heroin in the past month, they were more likely to have past year substance use disorder and alcohol use disorder. Despite a higher need for substance use treatment, U.S.-born AI/AN adults residing on tribal lands were less likely than those residing off tribal lands to receive substance use treatment at a specialty facility. Among U.S.-born AI/AN adolescents, past year major depressive episode was less likely among those residing on tribal lands compared with those living off tribal lands. U.S.-born AI/AN adolescents residing on tribal lands were more likely to use cigarettes or tobacco in the past month than those residing off tribal lands. AI/AN adolescents residing on tribal lands were not more likely to use alcohol or illicit drugs in the past month than those residing off tribal lands; however, they were more likely to need substance use treatment in the past year than those residing off tribal lands.

Conclusions. This study found significant differences in the mental health and substance use of the U.S.-born AI/AN population by tribal land residential status, which forms the foundation for future efforts to understand differences in the behavioral health landscape of U.S.-born AI/ANs residing on and off tribal lands. This study examined the differences in behavioral health outcomes by tribal land residential status for the nation based on a large nationally representative sample. However, although these data are nationally representative, the estimates in this report may not be representative of any specific U.S.-born AI/AN tribe or village.

1. Introduction

More than 5.2 million people (approximately 2 percent of the U.S. population) identified as American Indians or Alaska Natives, either alone or in combination with other races.[1] American Indians/Alaska Natives (AI/ANs) are a diverse group; some are members of a tribe, whereas others are not. There are 567 federally recognized AI/AN tribes, more than 100 state-recognized tribes, and additional tribes that are neither state nor federally recognized. About 22 percent of AI/ANs reside on reservations or other trust lands, and 60 percent reside in metropolitan areas—the lowest percentage of any racial/ethnic group to reside in urban areas.[1] Many tribal lands are remote and cover vast geographic areas that may have limited access to behavioral health services.[2] Tribal nations have unique governments, histories, traditions, communities, languages, and behavioral health challenges.[3]

Research has consistently found that AI/ANs experience high rates of substance use and some mental health issues (e.g., posttraumatic stress) compared with the U.S. general population.[4] The prevalence of substance use and mental health issues among AI/ANs is linked with social determinants of health, including poverty, lack of opportunity, violence and victimization, chronic stress, and barriers to culturally competent behavioral health care.[3,5,6,7] Disparities in the prevalence of substance use and mental health issues among AI/ANs may also be viewed as a legacy of historical trauma—that is, the intergenerational impact of massacres; forced relocation; involuntary removal of children to boarding schools; and bans on native language, traditions, and cultural practices.[3,8]

The historical federal policies toward AI/ANs may affect their substance use and mental health today.[4] AI/ANs are more likely than the general population to struggle economically, reside in substandard or overcrowded housing, and reside in impoverished communities on and off tribal lands. Federal policies not only influenced where AI/ANs lived through the establishment of reservations, but they also affected whether AI/ANs continued to live on and off tribal lands. For example, until the 1950s most American Indians resided on or near reservations or in tribal jurisdictional territories in Oklahoma. After the 1956 Indian Relocation Act, about 200,000 American Indians were moved to cities with the aim of assimilating them into majority culture. Concurrently, many tribes had their federal status and support terminated. Facing discrimination, many relocated American Indians ended up homeless, unemployed, and impoverished.[9] Although the history of Alaska Natives differs from that of American Indians, Alaska Natives too faced oppression and battles for indigenous rights.[10] In recent decades, there has been progress in AI/AN self-determination, including a reclamation of traditions and cultural practices and an increase in research on AI/AN resilience. However, disparities in health and economic status persist for many.[11]

Given the persistent disparities in the health of AI/ANs and the relevance of tribal land residency on the health and economic resources available to AI/ANs, research on the intersection of health disparities and tribal land residency is needed. However, research on AI/AN populations faces numerous challenges, including difficulties in obtaining nationally representative samples of sufficient size. As a result, there is a lack of nationally representative data on the mental health of AI/ANs residing on and off tribal lands. Although a few studies have indicated lower rates of mental health disorders (excluding posttraumatic stress disorder [PTSD]) among AI/ANs residing on tribal lands compared with the general population,[12,13,14,15] direct comparisons with AI/ANs residing off tribal lands have rarely been conducted. The few comparisons that have been made focus on small samples from a single tribe or tribal areas that do not represent the diversity of the AI/AN experience. For example, a small study of 314 randomly selected American Indian adolescents residing on reservations or in nonreservation urban areas in the Southwest found that those residing in urban areas had lower lifetime estimates of suicidal thoughts than their reservation-dwelling counterparts (20 vs. 33 percent, respectively).[16] However, this study sampled only American Indian adolescents in one area of one state, and therefore the results cannot be assumed to generalize to the national population of AI/AN adolescents. A review of the literature did not identify any community-based epidemiologic studies

of AI/ANs comparing the mental health of AI/ANs residing on tribal lands with the mental health of a comparable group of AI/ANs residing off tribal lands. In addition, in the existing research on the substance use and mental health of AI/ANs, many studies are based on national surveys for which tribal residential status (residing on and off tribal lands) is unclear. For example, data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), a nationally representative study of adults in the United States, were analyzed by Brave Heart and colleagues[14] to assess mental health conditions among AI/ANs in general; but this analysis did not identify whether the respondent resided on tribal lands. Consequently, it is not possible to determine whether tribal land residency was related to the Brave Heart finding that AI/ANs were more likely to experience lifetime anxiety and mood disorders than non-Hispanic/Latino whites, even though the Brave Heart results are inconsistent with findings from studies using samples of those residing on tribal lands.

Even though no nationally representative studies were found examining the relationship between tribal land residency and substance use and mental health, several studies have examined different aspects of substance use and mental health among the AI/AN population. Findings from the Koss et al.[17] study of American Indian adults across seven reservations in the United States showed high levels of alcohol dependence. Although there was great variability across tribal nations (ranging from 21 to 56 percent for men and 17 to 30 percent for women), the estimates for the tribal nations tended to be higher than the U.S. national averages for men and women (19.0 percent for men and 8.9 percent for women nationwide). Beals and colleagues[15] found that rates of alcohol dependence tended to be higher among adult American Indians residing on two reservations in the Southwest and Northern Plains than national comparisons. Similarly, studies of AI/ANs not restricted to samples of those residing on reservations found higher rates of substance use disorders for AI/ANs than for non-Hispanic/Latino whites. Analyses of NESARC data indicated that AI/AN men and women had higher rates of alcohol and drug dependence but not abuse than non-Hispanic/Latino whites.[14] Analyses using criteria from the *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition (DSM-5),[18] suggest that AI/ANs were more likely to have ever experienced an illicit drug use disorder than their white counterparts (17.2 vs. 10.8 percent).[19] However, data from the National Health Interview Survey indicate that AI/ANs were more likely to abstain from alcohol and less likely to report moderate to heavy drinking than non-Hispanic/Latino whites,[13,20] suggesting that the research on this population provides a variety of perspectives, and rates of substance use versus substance use disorders may be important distinctions for consideration. We found no studies directly assess differences in behavioral health outcomes among AI/AN adolescents residing on tribal lands versus residing off tribal lands. However, research is consistent in showing that a higher proportion of AI/AN adolescents residing on and off tribal lands use cigarettes, alcohol, marijuana, inhalants, stimulants, and oxycodone and engage in binge drinking compared with adolescents of other races/ethnicities.[21,22,23,24]

The behavioral health care treatment system for AI/ANs is complicated further by tribal sovereignty and U.S. treaty responsibilities. AI/ANs receive health care services through the Indian Health Service (IHS), but with limited resources and the large geographical spread of AI/ANs residing in tribal areas, it is difficult for IHS to serve all who are eligible.[3,25,26] Access to substance use and mental health services among AI/ANs may also be more difficult to assess because they are less likely than their white counterparts to have private insurance due to higher poverty and unemployment rates.[27] Although AI/ANs are less likely to have private insurance, some could have access to health care and other services through the IHS. Although there is a large unmet need for mental health and substance use treatment, AI/ANs appear to use services (including informal and traditional services) at a similar or higher level than the general population in certain areas of the United States.[14] The largest epidemiologic study of behavioral health conducted on tribal lands in the Southwest and Northern Plains indicates that 35 percent of those with a substance use disorder and 25 percent of those with a depressive or anxiety disorder in the past year received treatment. Of those who

received treatment, about half received biomedical care; but the use of care from a traditional healer and 12-step programs also was common (42 and 39 percent, respectively).[28] American Indian men residing on tribal lands in the Southwest and Northern Plains were more likely than the general population to seek help for substance use problems from specialty providers, but American Indian women residing on tribal lands in the Southwest and Northern Plains were less likely to seek specialty care for emotional disorders than those in the general population.[29] Interviews with parents or guardians of American Indian adolescents residing in the four American Indian reservations in the Northern Midwest and five Canadian First Nations reserves showed a strong preference for traditional, informal services over medical services, and on-reservation services were preferred to off-reservation services.[7] Limited research was found on mental health and substance use treatment receipt among Alaska Natives, and research comparing treatment receipt among Alaska Natives residing in rural Alaska villages compared with those living in urban settings is particularly limited.

The purpose of this report is twofold, to provide methodological information on using the National Survey on Drug Use and Health (NSDUH) to generate estimates specific to AI/ANs residing on and off tribal lands and to examine differences in mental health, substance use, and treatment receipt among AI/ANs residing on and off tribal lands. A better understanding of mental health, substance use, and treatment receipt among AI/ANs residing on and off reservations may help improve service provision and identify the populations with the greatest need for prevention and treatment services.

2. Methods

2.1 Data Sources

Data analyzed in this study are from the 2005 to 2014 NSDUHs. NSDUH is the primary source of information on mental health, mental health service use, substance use, and substance use treatment receipt among the civilian, noninstitutionalized population of the United States aged 12 years old or older. NSDUH covers residents of households and individuals in noninstitutional group quarters (e.g., shelters, boarding houses, college dormitories, migratory workers' camps, halfway houses). The survey excludes people with no fixed address (e.g., homeless people not in shelters), military personnel on active duty, and residents of institutional group quarters, such as jails, nursing homes, mental institutions, and long-term care hospitals. Ten years of comparable data were combined to provide sufficient sample sizes for analyses.

Most NSDUH questions are administered with audio computer-assisted self-interviewing (ACASI) in English and Spanish to provide respondents with a private and confidential mode for responding to sensitive questions and increase accurate reporting about sensitive topics. Less sensitive items, including questions about race and Hispanic origin, are administered by interviewers using computer-assisted personal interviewing (CAPI). For more information on the NSDUH study design, see *Behavioral Health Trends in the United States: Results from the 2014 National Survey on Drug Use and Health*.[30,31]

The sample used in these analyses included about 31,900 self-identified U.S.-born AI/AN adolescents and adults aged 12 or older residing on (n = 5,400) or off (n = 26,500) tribal lands.[a,32] Data were restricted to U.S.-born AI/ANs because the non-U.S.-born American Indians were indigenous persons emigrated from South and Central America who self-identified as American Indian. Indigenous persons from South

[a] The proportion of AI/ANs identified as living on tribal lands is slightly lower (weighted 17 vs. 22 percent) than that reported by the U.S. Census Bureau, primarily because of differences in data collection and the restriction to U.S.-born AI/ANs for these analyses.

and Central America have behavioral health needs different from U.S.-born AI/ANs due to cultural, geographic, and migration patterns.[33,34,35] Preliminary analyses of NSDUH data comparing U.S.-born and non-U.S.-born AI/ANs suggested there were significant demographic differences that may lead to different behavioral health and service use profiles.

Furthermore, because of methodological and definitional differences in some behavioral health outcome variables between adults and adolescents, analyses were conducted separately for adults (aged 18 or older) and adolescents (aged 12 to 17). The final sample sizes included approximately 18,500 U.S.-born adults residing on (n = 3,400) and off (n = 15,100) tribal lands, and 13,400 U.S.-born adolescents residing on (n = 2,000) and off (n = 11,400) tribal lands. Specific sample sizes and years of data used for each behavioral health outcome are presented in Tables B.1 and B.2.

To provide context to the NSDUH substance use and mental health data, this report provides information on the demographic distributions among AI/AN adults and adolescents. Differences between these numbers and Census Bureau population numbers reflect the fact that NSDUH data are from a sample survey subject to sampling error and survey weight calibration methodology, are collected directly from youths and adults and not through a household proxy, and are annual estimates based on pooled data from 2005 to 2014. For more information, see the statistical inference report in the 2014 NSDUH methodological resource book.[31]

2.2 Measures

2.2.1 AI/AN Status

NSDUH assesses racial and ethnic status by first asking respondents if they are Hispanic, Latino, or of Spanish origin or descent. Respondents are then asked to select from a list all of the races that describe them (white, black or African American, American Indian or Alaska Native, Native Hawaiian, Guamanian or Chamorro, Samoan, Other Pacific Islander, Asian, or another group).[b] NSDUH does not ask respondents about their tribal affiliation. In this report, U.S.-born respondents who reported being American Indian or Alaska Native either alone or in combination with another race group were categorized as U.S.-born AI/AN, regardless of ethnic status.

2.2.2 Tribal Land Residential Status

Beginning with the 2014 survey, a unique census block code was assigned to every NSDUH respondent record. This allowed for the exact identification of whether the respondent resided on any of the seven American Indian, Alaska Native, and Native Hawaiian Area types (AIANNHAs) as defined by the U.S. Census Bureau: (1) federally recognized American Indian reservations and off-reservation trust land areas, (2) Hawaiian home lands, (3) Alaska Native village statistical areas, (4) state-recognized American Indian reservations, (5) Oklahoma tribal statistical areas, (6) tribal-designated statistical areas, and (7) state-designated tribal statistical areas.[36] Although it is widely known that AI/ANs reside near tribal lands or also live far distant from them, this geographic area describes an area where AI/ANs overwhelmingly predominated the population.

Census blocks are the lowest level of geography for census data and are the building blocks for all geographical areas (including AIANNHAs) defined by the Census Bureau.[c] Starting from 2014, the Census

[b] Guamanian or Chamorro and Samoan were added to NSDUH in 2013.

[c] See the following web pages: https://www.census.gov/newsroom/blogs/random-samplings/2011/07/what-are-census-blocks.html and https://www.census.gov/newsroom/blogs/random-samplings/2014/08/understanding-geographic-relationships-american-indian-areas.html.

block codes associated with each respondent could be precisely determined. Although census block codes could not exactly be associated with respondent records in prior years, census block codes are available for each sampled NSDUH segment (defined as a collection of census blocks) in all years. As a result, a proxy AIANNHA variable was developed for 2005 to 2013 NSDUH data at the segment level using data from those years and from the census. For each segment included in the NSDUH for the years 2005-2013, a proxy AIANNHA code was assigned by summing the number of dwelling units (DUs) within each of the AIANNHAs in the segment. The segment was defined as an AIANNHA if the majority of DUs belonged to a tribal area. Otherwise, the segment was defined as not belonging to any AIANNHA. For example, if a segment was comprised of two census blocks—one federally recognized American Indian reservation with five DUs and the other a non-AIANNHA with 20 DUs—then the segment would not be classified as majority AIANNHA. In order to assess the accuracy of this proxy method, in 2014 both exact and proxy AIANNHA codes were produced so that, for the first time, the exact (i.e., block-level) and proxy (i.e., segment-level) AIANNHA variable can be compared to determine the accuracy of the proxy variable. This comparison indicated that there is a strong correlation between block-level and segment-level designation of tribal land residential status, with 99.7 percent of the segments also being classified as tribal land residential status at the block level. This strong correlation between the proxy AIANNHA variable and the exact AIANNHA variable using 2014 data permitted the use of the proxy AIANNHA variable to identify tribal land residency status among AI/ANs in 2005 through 2013 NSDUH data. It also allowed pooling of these data from 2005 to 2014 to study mental health and substance use among AI/ANs residing on and off tribal lands. Because this report focuses on the AI/AN population, Native Hawaiian areas were not included.

2.2.3 Behavioral Health Characteristics

Behavioral health characteristics include mental health and substance use characteristics. In this report, past year mental health characteristics include major depressive episode (MDE) among adolescents and adults, any mental illness (AMI) and serious mental illness (SMI) among adults only, and mental health service use among adolescents and adults.

Mental Illness

MDE. Adults and adolescents were defined as having MDE if they had a period of 2 weeks or longer in the past 12 months when they experienced a depressed mood or loss of interest or pleasure in daily activities and they had at least some additional symptoms, such as problems with sleep, eating, energy, concentration, and self-worth.[d] NSDUH uses different age-adapted questions based on using the diagnostic criteria from DSM-IV to ask adults and adolescents about their experiences with MDE.[37] Some wordings of depression questions for adolescents were designed to make them more developmentally appropriate for adolescents. NSDUH also collects data on impairment in four major life activities or role domains because of past year MDE. These four domains are defined separately for adults aged 18 or older and adolescents aged 12 to 17 to reflect the different roles associated with the two age groups. Adults were defined as having MDE with severe impairment if their depression caused severe problems with their ability to manage at home, manage well at work, have relationships with others, or have a social life. Adolescents were defined as having MDE with severe impairment if their depression caused severe problems with their ability to do chores at home, do well at work or school, get along with their family, or have a social life. Given the differences in item wording and because of context effects, estimates of MDE and MDE with severe impairment for adults and adolescents cannot be combined to present estimates for those aged 12 or older and thus are provided separately. NSDUH has measured adolescent MDE since 2004 and adolescent MDE with severe

[d] NSDUH items were developed per criteria from DSM-IV but are also aligned with the criteria in DSM-5.[18]

impairment since 2006. NSDUH has measured adult MDE since 2005 and adult MDE with severe impairment since 2009.[30]

AMI and SMI. Starting in 2008, NSDUH began assessing AMI and SMI among adults.[e] AMI and SMI indicators in NSDUH are model based, created from a prediction model fit on data from respondents to the Mental Health Surveillance Study (MHSS) clinical study. The predictive model was developed using short scales measuring psychological distress (i.e., the Kessler-6 [K6])[38] and functional impairment (i.e., a modified version of the World Health Organization Disability Assessment Schedule [WHODAS])[39] in combination with the clinical diagnostic data. Specifically, the two short scales, an item on suicidal thoughts, age, and NSDUH-measured MDE were used as predictor variables of mental illness status in a statistical model. The mental illness status was assessed by administering the Structured Clinical Interview for DSM-IV-TR Axis I disorders, Research Version, Non-Patient Edition, to a clinical subsample of NSDUH.[40] The statistical model was then applied to the full NSDUH adult sample to classify each of the NSDUH adult respondents as having or not having AMI and SMI. AMI and SMI were not assessed among adolescents because of the differences in mental health definitions for adults and adolescents, and because NSDUH does not collect any comparable information on adolescents to develop a predictive model of mental illness status. For more details on the development of the AMI and SMI measurement in NSDUH, see the *Revised Estimates of Mental Illness from the National Survey on Drug Use and Health, Past Year Mental Disorders among Adults in the United States: Results from the 2008-2012 Mental Health Surveillance Study*, the MHSS design and estimation report, the MHSS operations report, and *Estimating Mental Illness among Adults in the United States: Revisions to the 2008 Estimation Procedures*.[41,42,43,44,45]

Suicidal Thoughts. Having serious thoughts of suicide was assessed among adults aged 18 or older by asking whether there was any time in the past 12 months when the respondents seriously thought about trying to kill themselves. Having suicidal thoughts in the past year was not assessed among adolescents.

Mental Health Service Use

Any Mental Health Service Use. Past year mental health service use was assessed among adults aged 18 or older by asking whether they (1) received treatment or counseling for any problem with emotions, "nerves," or mental health in any inpatient or outpatient setting, or (2) used prescription medication in the past 12-month period prior to the survey for a mental or emotional condition. Respondents were asked to not include treatment for use of alcohol or illicit drugs. These questions did not ask about treatment for a particular mental illness. Past year mental health service use was also assessed among adolescents by asking whether they received any treatment or counseling in the past year in different settings for emotional or behavioral problems that were not caused by substance use. However, unlike adults, adolescents were not asked about their use of prescription medication for their emotional or behavioral problems. Assessment of mental health service use among adolescents varied slightly from adults in that adolescents were asked about services received through foster care, school, and juvenile justice settings in addition to inpatient and outpatient settings.

Treatment for Depression. Past year mental health service use for depression was asked as part of the MDE module of adult respondents since 2009 and of adolescents since 2006. Respondents who had met the criteria for having past year MDE were asked whether they saw or talked to a medical doctor or other helping professionals or took prescribed medication for their depression in the past year. If they did, the respondents with MDE were defined as having received treatment for their depression in the past year.

[e] Adults with SMI were defined as those who have any mental, behavioral, or emotional disorder in the past year that met DSM-IV criteria (excluding developmental disorders and substance use disorders) and also have any mental, behavioral, or emotional disorder that substantially interfered with or limited one or more major life activities.

Substance Use

All substance use characteristics in NSDUH are available for adults and adolescents for all of the years of data used in these analyses (2005 to 2014). The wording of the substance use-related measures was the same for adults and adolescents.

Tobacco Use. Past year and past month tobacco use included any use of cigarettes, snuff, chewing tobacco, smokeless tobacco, cigars, or pipe tobacco. Daily cigarette use was assessed among past month cigarette smokers by asking how many days the respondent smoked in the past 30 days.

Alcohol Use. Alcohol use characteristics included past year use, past month use, past month binge drinking, and past month heavy drinking. NSDUH includes questions about the recency of consumption of alcoholic beverages, such as beer, wine, whiskey, brandy, and mixed drinks. A "drink" is defined as a can or bottle of beer, a glass of wine or a wine cooler, a shot of liquor, or a mixed drink with liquor in it. Times when the respondent only had a sip or two from a drink are not considered to be consumption. Binge drinking was defined as five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy drinking was defined as binge drinking on 5 or more days in the past 30 days.

Illicit Drug Use. Illicit drug use characteristics included past year and past month use. NSDUH obtains information on marijuana, cocaine/crack, methamphetamine, heroin, hallucinogens, inhalants, and nonmedical use of prescription psychotherapeutics (i.e., pain relievers, tranquilizers, stimulants, and sedatives). Nonmedical use refers to use without a prescription of the individual's own or simply for the experience or feeling the drugs caused. Use of over-the-counter drugs and legitimate use of prescription drugs are not included.

Substance Use Disorder. Based on the DSM-IV, substance use disorders include abuse or dependence for alcohol and/or illicit drugs. Past year alcohol use disorder was based on DSM-IV criteria for alcohol abuse or alcohol dependence.[30,37] Respondents were classified as having alcohol use disorder if they endorsed at least one of the four abuse criteria or three or more of the seven dependence criteria. Past year illicit drug use disorder was similarly defined using DSM-IV criteria for abuse or dependence for any of the illicit drugs. Past year substance use disorder is defined as having past year alcohol use disorder, past year illicit drug use disorder, or both.

Substance Use Treatment

Substance Use Treatment Receipt. NSDUH respondents were asked about treatment for alcohol and drug problems, not including cigarettes. Included were treatment or counseling designed to reduce or stop substance use, detoxification, and any other treatment for medical problems associated with alcohol or drug use. Lifetime treatment receipt was assessed, and those reporting lifetime treatment receipt were queried about treatment received at any location in the past 12 months. Any location includes a hospital (inpatient), drug or alcohol rehabilitation facility (outpatient or inpatient), mental health center, emergency room, private doctor's office, prison or jail, or self-help group (e.g., Alcoholics Anonymous, Narcotics Anonymous). Receipt of specialty substance use treatment is defined as substance use treatment that a respondent received at a hospital (only as an inpatient), drug or alcohol rehabilitation facility (as an inpatient or outpatient), or mental health center.

Need for Substance Use Treatment. Respondents were classified as having a need for substance use treatment if they reported having received specialty substance use treatment in the past year or if they met criteria for a past year alcohol or illicit drug use disorder.

2.3 Analyses

As a first step, analyses were undertaken to evaluate the feasibility of using NSDUH data to assess mental health and substance use among AI/ANs residing on and off tribal lands. This process, discussed in more detail in Appendix A, provides support for statistical comparisons of substance use and mental health outcomes by tribal land residential status because there was no systematic or geographic coverage bias of 2005-2014 NSDUH sampling segments for these lands.

Second, analyses were conducted to evaluate any biases introduced by census-based changes during the 2005-2014 period. The 2005-2013 NSDUH data used the 2000 U.S. census data to create weights that are used in analysis to ensure that the NSDUH data are representative of the U.S. population. In 2014, this was changed to reflect the results of the 2010 U.S. census. The 2010 U.S. census also included changes to the state-designated tribal statistical areas, which may have affected the comparability of tribal area estimates before and after this change. Analyses were conducted to evaluate the comparability of these estimates, and the results supported the decision to combine the 2014 data with the 2005-2013 data. Details are presented in Appendix B.

Finally, analyses were conducted to compare behavioral health characteristics among AI/ANs residing on tribal lands versus residing off tribal lands. NSDUH employs a state-based design with an independent, multistage area probability sample within each state and the District of Columbia. To account for this complex survey sample design, including oversampling of adolescents (aged 12 to 17) and young adults (aged 18 to 25), all estimates were weighted[f] and analyses were conducted using SUDAAN® Software for Statistical Analysis of Correlated Data.[46] *T*-tests were performed to compare behavioral health outcomes among U.S.-born AI/AN adults and adolescents residing on tribal lands with those residing off tribal lands.

The observed differences between prevalence estimates were compared using indicators of statistical significance. Statistical significance is based on the *p* value of the test statistic and refers to the probability that a difference as large as that observed would occur because of random variability in the estimates if there were no difference in the prevalence estimates for the population groups being compared. The significance of observed differences is reported at the .05 level. Additionally, figures and tables provide the asymmetric 95 percent confidence intervals. Two significantly different estimates (at the .05 level of significance) may have overlapping 95 percent confidence intervals, and therefore confidence intervals should not be used to determine statistically significant differences in this report.[47,48,49]

The degree of freedom value used to calculate the confidence intervals and *p* values for each comparison was 900, a value used in other reports. However, because of differences in sampling across years, geographic differences, and the years of data used for each behavioral health outcome, 900 degrees of freedom may not accurately reflect the appropriate degrees of freedom for each outcome or comparison. Comparisons based on smaller degrees of freedom would result in slightly wider confidence intervals and somewhat larger *p* values. To examine the effect of using the same degree of freedom value across all comparisons, analyses were also conducted using the smallest, most conservative degree of freedom value (i.e., 120). This conservative test had only one minor effect on the results presented in this report. As discussed in the results section, using 900 degrees of freedom, adolescents residing on tribal lands were less likely to have past year MDE with severe impairment than those residing off tribal lands ($p = 0.0493$).

[f] Estimates are based solely on the weighted sample for each area and represent the civilian, noninstitutional population based on the selection probabilities (at each stage of selection), nonresponse adjustments, and adjustments to state- and national-level population estimates from the U.S. Census Bureau. No special adjustments were applied to adjust these weights to census population estimates for the tribal land areas.

Using the most conservative 120 degrees of freedom resulted in this difference no longer reaching statistical significance (p = 0.0513) at an alpha level of 0.05. However, it would have remained significant at an alpha level of 0.1.[g] No other p values were affected enough to change significance status. Therefore, the analyses using the 900 degrees of freedom are presented in this report.

Statistical tests have been conducted for all statements appearing in the text of this report that compare estimates between years or subgroups of the population. All statements that describe differences are significant at the .05 level. Statistically significant differences are described using terms such as "higher" and "lower." Statements that use terms such as "similar," "no difference," or "same" to describe the relationship between estimates denote that a difference is not statistically significant. Estimates from NSDUH that are designated as imprecise are not shown in this report and are noted by asterisks (*) in figures and tables. No statistical comparisons have been conducted when an estimate was designated as imprecise.

Procedures for determining the precision of estimates, suppressing estimates, calculating asymmetric confidence intervals and degrees of freedom, and conducting significance testing are noted in the statistical inference report in the 2014 NSDUH methodological resource book.[31]

3. Results

The results of analyses comparing behavioral health outcomes among U.S.-born AI/ANs residing on and off tribal lands are presented first for adults and then for adolescents. As mentioned in the methods section, individuals who self-identified as American Indian but who were born in South and Central America were excluded from these analyses because indigenous persons from South and Central America have behavioral health needs different from U.S.-born AI/ANs due to cultural, geographic, and migration patterns.[33,34,35] Demographics are presented first, followed by past year mental health outcomes, past month substance use, past year alcohol and illicit drug use disorders, then substance use treatment receipt. Complete tables with additional outcomes (e.g., past year substance use) are presented in Appendix C (Mental Health Tables) and Appendix D (Substance Use Tables).

3.1 Adults

3.1.1 Demographics

There were several differences in the demographic characteristics of U.S.-born AI/AN adults residing on tribal lands versus residing off tribal lands (Table 3.1). Those residing on tribal lands were more likely to be non-Hispanic AI/AN only and less likely to be Hispanic AI/AN only or non-Hispanic/Hispanic AI/AN in combination with another race than those residing off tribal lands. U.S.-born AI/AN adults residing on tribal lands were more likely to have less than a high school education and less likely to be a college graduate than those residing off tribal lands. Similarly, adults residing on tribal lands were less likely to be employed (either full time or part time) and more likely to be unemployed than those residing off tribal lands. U.S.-born AI/AN adults residing on tribal lands were less likely to live in a metropolitan area than those residing off tribal lands. Those residing on tribal lands were more likely to have health insurance but also more likely to have a family income below the federal poverty level than those residing off tribal lands. There were no significant differences between U.S.-born AI/AN adults residing on and off tribal lands relative to age group and gender. About 17.2 percent of U.S.-born AI/AN adults were aged 18 to 25, and a little less than half (48.1 percent) were males.

[g] Using 215 degrees of freedom for this particular comparison, which is a better approximation but an underestimate of the actual value, also resulted in this difference no longer reaching statistical significance (p = 0.0502). However, it is very close to achieving statistical significance. Thus, if the actual degree of freedom value was determined, it is expected that the computed p value would be even closer to or below 0.05.

TABLE 3.1 Demographic Characteristics of U.S.-Born American Indian/Alaska Native (AI/AN) Adults Aged 18 or Older, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014

Demographic	Total % (95% CI)	Residing on Tribal Lands % (95% CI)	Residing off Tribal Lands % (95% CI)	*T*-Test *P* Value
Race/Ethnicity				
Non-Hispanic U.S.-Born AI/AN Only	31.8 (29.8-33.8)	80.8 (77.3-83.9)	21.7 (19.9-23.5)	<.001
Non-Hispanic U.S.-Born AI/AN in Combination with Another Race	51.6 (49.6-53.5)	17.0 (14.0-20.5)	58.7 (56.7-60.7)	<.001
Hispanic U.S.-Born AI/AN Only	11.7 (11.0-12.4)	1.7 (1.2-2.6)	13.7 (12.9-14.6)	<.001
Hispanic U.S.-Born AI/AN in Combination with Another Race	5.0 (4.4-5.6)	0.4 (0.2-0.7)	5.9 (5.3-6.7)	<.001
Age Group				
18-25	17.2 (16.4-18.0)	17.2 (15.4-19.1)	17.2 (16.3-18.1)	0.994
26 or Older	82.8 (82.0-83.6)	82.8 (80.9-84.6)	82.8 (81.9-83.7)	0.994
Gender				
Male	48.1 (46.4-49.9)	47.2 (44.0-50.3)	48.3 (46.4-50.3)	0.536
Female	51.9 (50.1-53.6)	52.8 (49.7-56.0)	51.7 (49.7-53.6)	0.536
Education				
Less than High School	22.1 (20.7-23.6)	28.0 (24.5-31.8)	20.9 (19.4-22.6)	0.001
High School Graduate	33.6 (32.0-35.2)	38.0 (34.0-42.2)	32.7 (31.0-34.5)	0.021
Some College	29.7 (28.1-31.3)	26.4 (22.9-30.2)	30.3 (28.6-32.1)	0.056
College Graduate	14.6 (13.2-16.1)	7.6 (6.1-9.5)	16.1 (14.4-17.8)	<0.001
Employment				
Full Time	43.0 (41.3-44.7)	39.1 (35.9-42.3)	43.8 (41.9-45.8)	0.013
Part Time	14.6 (13.4-15.9)	11.6 (9.3-14.5)	15.2 (13.8-16.7)	0.016
Unemployed	6.6 (5.9-7.3)	8.3 (6.9-10.1)	6.2 (5.5-7.0)	0.016
Other	35.8 (34.0-37.6)	41.0 (37.5-44.6)	34.8 (32.7-36.8)	0.004
County Type				
Large Metro	38.7 (36.8-40.6)	5.9 (3.4-10.1)	45.5 (43.4-47.6)	<0.001
Small Metro	34.7 (32.9-36.5)	29.1 (24.8-33.8)	35.8 (34.0-37.7)	0.007
Nonmetro	26.6 (24.7-28.6)	65.0 (60.0-69.7)	18.7 (17.1-20.4)	<0.001
Health Insurance				
Insured[1]	83.8 (82.5-84.9)	89.8 (87.1-91.9)	82.5 (81.2-83.8)	<0.001
Uninsured	16.2 (15.1-17.5)	10.2 (8.1-12.9)	17.5 (16.2-18.8)	<0.001
Poverty[2]				
<100% of the Federal Poverty Level (FPL)	22.5 (21.1-24.0)	33.3 (29.7-37.0)	20.3 (18.8-21.8)	<0.001
100-199% of the FPL	26.9 (25.4-28.5)	28.3 (25.2-31.7)	26.6 (24.9-28.4)	0.373
>200% of the FPL	50.6 (48.7-52.4)	38.4 (34.8-42.1)	53.1 (51.1-55.1)	<0.001

[1] Insured is defined as having private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), CHAMPUS, TRICARE, CHAMPVA, the VA, military health care, or any other type of health insurance.

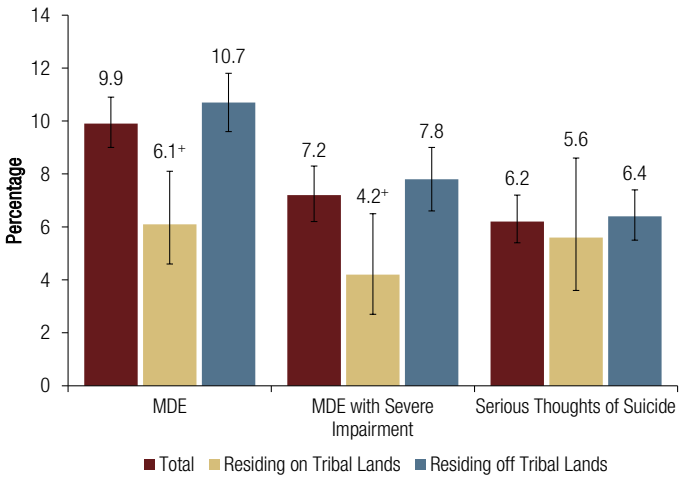
[2] Estimates are based on a definition of poverty level that incorporates information on family income, size, and composition and is calculated as a percentage of the U.S. Census Bureau's poverty thresholds. Respondents aged 18 to 22 who were living in a college dormitory were excluded.

NOTE: To provide context to the National Survey on Drug Use and Health (NSDUH) substance use and mental health data, this report provides information on the demographic distributions among U.S.-born AI/AN adults, which may differ from Census Bureau estimates. In part, these differences reflect that NSDUH data are from a sample survey subject to sampling error and survey weight calibration methodology, and are annual estimates based on pooled data from 2005 to 2014.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

3.1.2 Past Year Mental Health Conditions

FIGURE 3.1 Past Year Major Depressive Episode (MDE), MDE with Severe Impairment, and Serious Thoughts of Suicide among U.S.-Born American Indian/Alaska Native Adults Aged 18 or Older, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014

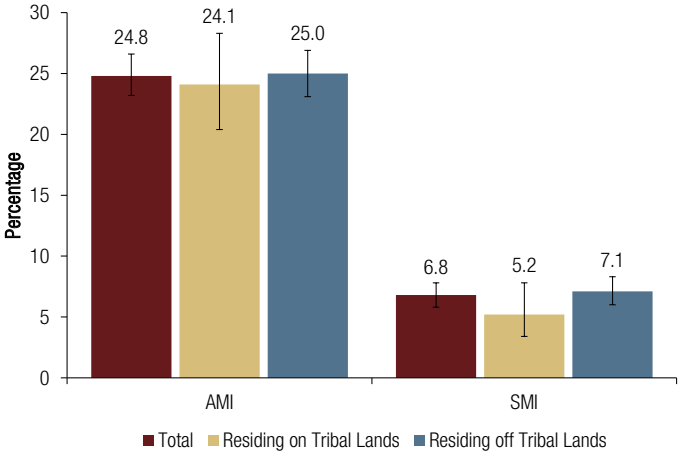


+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health: MDE, 2005-2014; MDE with Severe Impairment, 2009-2014; Serious Thoughts of Suicide, 2008-2014.

- An estimated 9.9 percent of U.S.-born AI/AN adults had past year MDE, and 7.2 percent had MDE with severe impairment (Figure 3.1). An estimated 6.2 percent of U.S.-born AI/AN adults had serious thoughts of suicide in the past year.
- Estimates of MDE and MDE with severe impairment were lower among U.S.-born AI/AN adults residing on tribal lands than among those residing off tribal lands (6.1 vs. 10.7 percent and 4.2 vs. 7.8 percent, respectively). There were no significant differences in serious thoughts of suicide among U.S.-born AI/AN adults by tribal land residential status.

FIGURE 3.2 Past Year Any Mental Illness (AMI) and Serious Mental Illness (SMI) among U.S.-Born American Indian/Alaska Native Adults Aged 18 or Older, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2008-2014



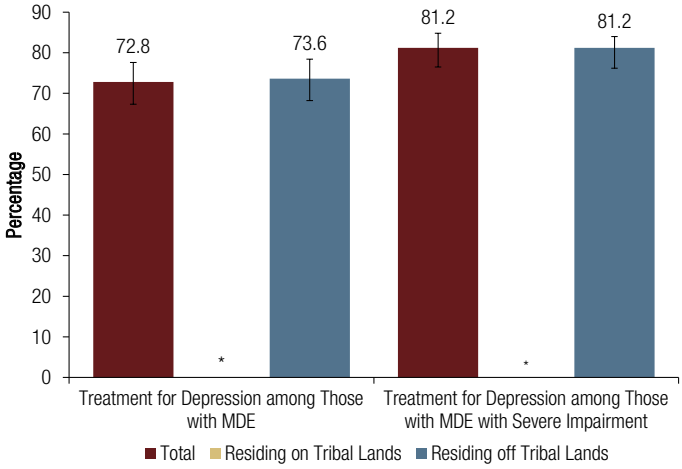
+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2008-2014.

- About 24.8 percent of U.S.-born AI/AN adults had AMI in the past year, and 6.8 percent had SMI in the past year (Figure 3.2).
- There were no significant differences in AMI or SMI estimates among U.S.-born AI/AN adults by tribal land residential status.

3.1.3 Past Year Mental Health Service Use

FIGURE 3.3 Past Year Treatment for Depression among U.S.-Born American Indian/Alaska Native Adults Aged 18 or Older with Past Year Major Depressive Episode (MDE) or MDE with Severe Impairment, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014



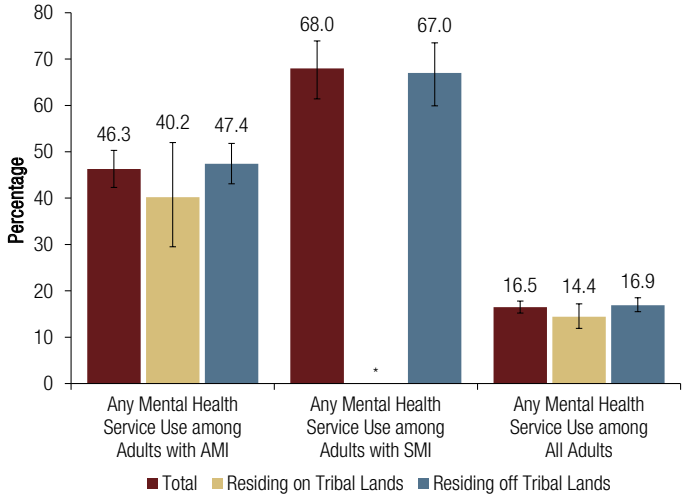
* Low precision; no estimate reported.

+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health: Treatment for Depression among Those with MDE, 2005-2014; Treatment for Depression among Those with MDE with Severe Impairment, 2009-2014.

- An estimated 72.8 percent of U.S.-born AI/AN adults who had past year MDE and 81.2 percent of U.S.-born AI/AN adults who had MDE with severe impairment received treatment for depression in the past year (Figure 3.3).
- Statistical imprecision prevented testing for differences in treatment receipt for depression by tribal land residential status.

FIGURE 3.4 Past Year Any Mental Health Service Use among U.S.-Born American Indian/Alaska Native Adults Aged 18 or Older, by Mental Illness and by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014



AMI = any mental illness; SMI = serious mental illness.

* Low precision; no estimate reported.

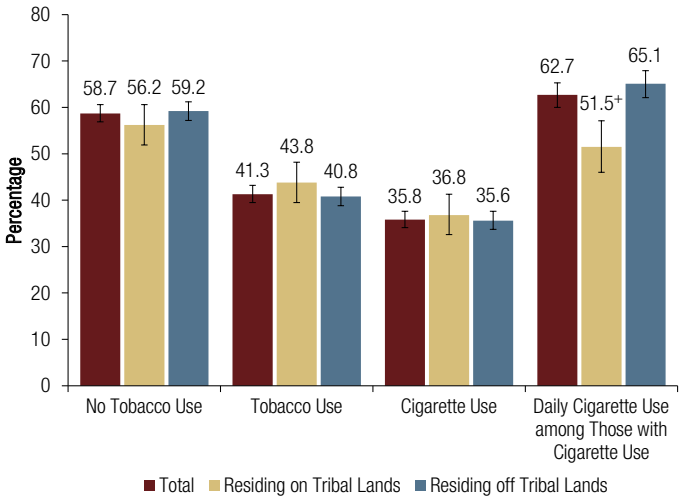
+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health: Any Mental Health Service Use among Adults with AMI or SMI, 2008-2014; Any Mental Health Service Use among All Adults, 2005-2014.

- An estimated 46.3 percent of U.S.-born AI/AN adults with AMI and 68.0 percent of those with SMI received mental health services in the past year (Figure 3.4). About 16.5 percent of all U.S.-born AI/AN adults received mental health services in the past year.
- There were no significant differences in the estimates of receipt of mental health services among U.S.-born AI/AN adults with AMI or among all U.S.-born AI/AN adults by tribal land residential status.

3.1.4 Past Month and Past Year Substance Use

FIGURE 3.5 Past Month Tobacco and Cigarette Use among U.S.-Born American Indian/Alaska Native Adults Aged 18 or Older, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014

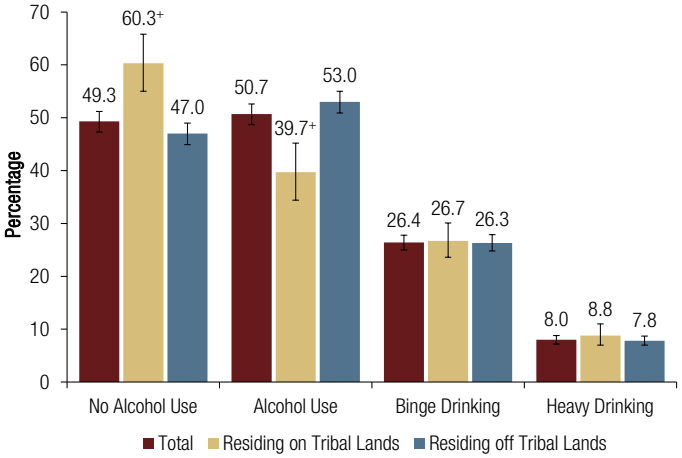


+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- More than half (58.7 percent) of U.S.-born AI/AN adults did not use tobacco products in the past month. About a third (35.8 percent) of U.S.-born AI/AN adults smoked cigarettes in the past month, and two thirds (62.7 percent) of U.S.-born AI/AN adult past month cigarette smokers used cigarettes daily (Figure 3.5).
- There were no significant differences in past month tobacco use and in past month cigarette use among U.S.-born AI/AN adults by tribal land residential status. However, among U.S.-born AI/AN adults who used cigarettes in the past month, those residing on tribal lands were significantly less likely to use cigarettes daily than those residing off tribal lands (51.5 vs. 65.1 percent).
- Similar to past month results, there were no significant differences in past year tobacco use and past year cigarette use among U.S.-born AI/AN adults by tribal land residential status (Table D.1).

FIGURE 3.6 Past Month Alcohol Use, Binge Drinking, and Heavy Drinking among U.S.-Born American Indian/Alaska Native Adults Aged 18 or Older, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014

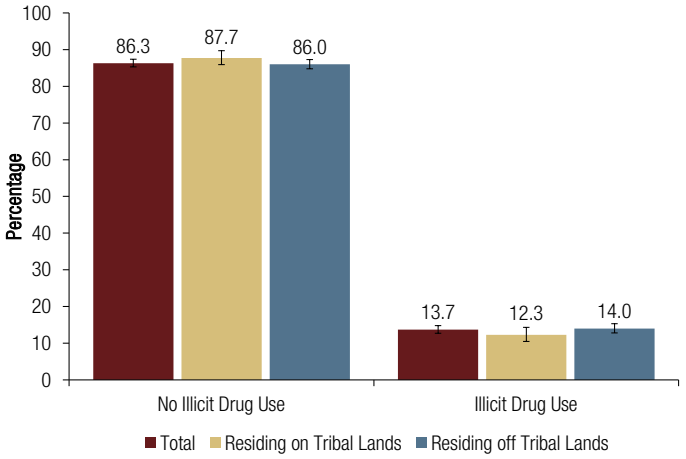


+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- An estimated 49.3 percent of U.S.-born AI/AN adults had no alcohol use in the past month (Figure 3.6). About 26.4 percent of U.S.-born AI/AN adults engaged in binge drinking in the past month, and 8.0 percent engaged in heavy drinking in the past month.
- U.S.-born AI/AN adults residing on tribal lands had significantly lower rates of past month alcohol use than those residing off tribal lands (39.7 vs. 53.0 percent). There were no significant differences in estimates of past month binge or heavy drinking among U.S.-born AI/AN adults by tribal land residential status.
- Past year alcohol use patterns were similar in that those residing on tribal lands had significantly lower estimates of past year use than those residing off tribal lands (55.8 vs. 67.5 percent; Table D.1).

FIGURE 3.7 Past Month Illicit Drug Use among U.S.-Born American Indian/Alaska Native Adults Aged 18 or Older, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014

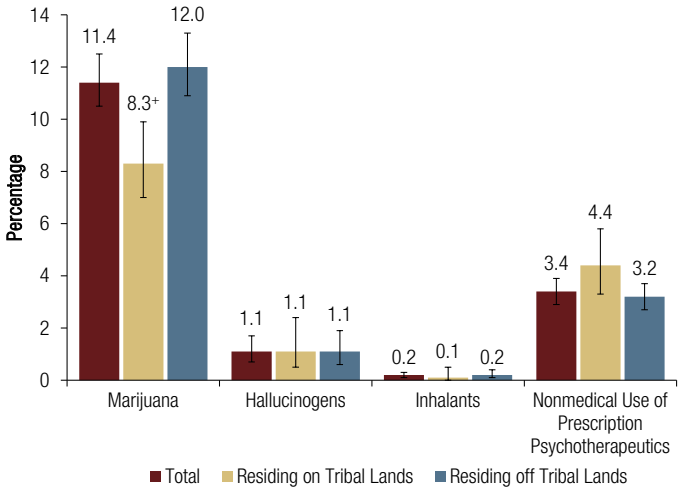


+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- The majority (86.3 percent) of U.S.-born AI/AN adults had no past month illicit drug use (Figure 3.7).
- There were no significant differences in past month illicit drug use among U.S.-born AI/AN adults by tribal land residential status.
- Past year illicit drug use patterns were similar to those for past month use among U.S.-born AI/AN adults residing on tribal lands versus residing off tribal lands (Table D.1).

FIGURE 3.8 Past Month Marijuana, Hallucinogen, and Inhalant Use and Nonmedical Use of Prescription Psychotherapeutics among U.S.-Born American Indian/Alaska Native Adults Aged 18 or Older, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014

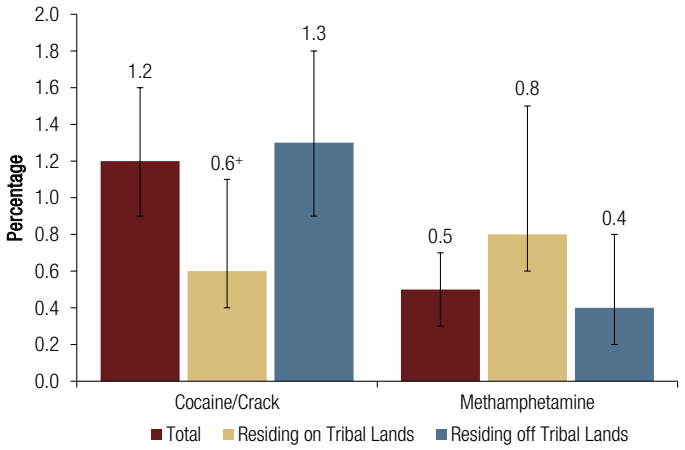


+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- About 11.4 percent of U.S.-born AI/AN adults used marijuana in the past month, 1.1 percent used hallucinogens, 0.2 percent used inhalants, and 3.4 percent had nonmedical use of prescription psychotherapeutics (prescription pain relievers, stimulants, sedatives, or tranquilizers; Figure 3.8).
- Estimates of past month marijuana use were lower among U.S.-born AI/AN adults residing on tribal lands than among those residing off tribal lands (8.3 vs. 12.0 percent). There were no significant differences in past month hallucinogen use, inhalant use, and nonmedical use of prescription psychotherapeutics among U.S.-born AI/AN adults by tribal land residential status.
- Patterns of past year use were similar to past month use for marijuana, hallucinogens, and nonmedical use of prescription psychotherapeutics. However, past year use of inhalants was significantly lower among those residing on tribal lands than among those residing off tribal lands (0.4 vs. 0.8 percent; Table D.1).

FIGURE 3.9 Past Month Cocaine/Crack and Methamphetamine Use among U.S.-Born American Indian/Alaska Native Adults Aged 18 or Older, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014

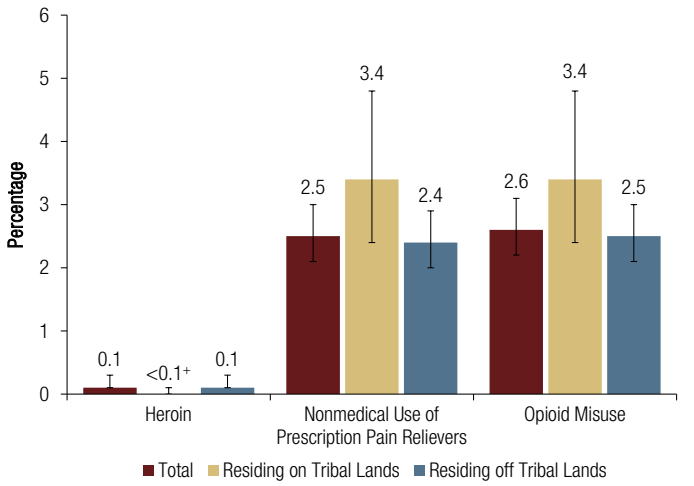


+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- About 1.2 percent of U.S.-born AI/AN adults used cocaine/crack in the past month, and 0.5 percent used methamphetamine (Figure 3.9).
- U.S.-born AI/AN adults residing on tribal lands were significantly less likely to have used cocaine/crack in the past month than those residing off tribal lands (0.6 vs. 1.3 percent). There were no significant differences in past month methamphetamine use among U.S.-born AI/AN adults by tribal land residential status.
- Results for past year use were similar. Estimates of past year cocaine/crack use were lower among those residing on tribal lands than among those residing off tribal lands, but estimates of methamphetamine use were similar regardless of tribal land residential status (Table D.1).

FIGURE 3.10 Past Month Heroin Use, Nonmedical Use of Prescription Pain Relievers, and Any Opioid Misuse among U.S.-Born American Indian/Alaska Native Adults Aged 18 or Older, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014



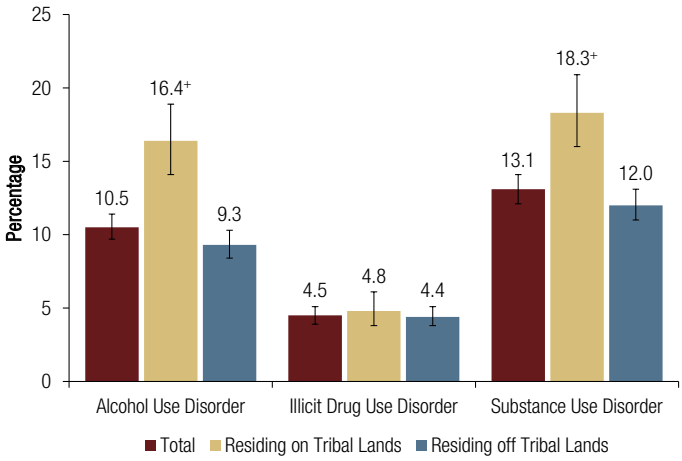
+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- About 0.1 percent of U.S.-born AI/AN adults used heroin in the past month, and 2.5 percent had nonmedical use of prescription pain relievers (Figure 3.10). About 2.6 percent of U.S.-born AI/AN adults had any opioid misuse in the past month (heroin use or nonmedical use of prescription pain relievers).
- Estimates of heroin use were significantly lower among U.S.-born AI/AN adults residing on tribal lands than among those residing off tribal lands (< 0.1 vs. 0.1 percent). There were no significant differences in past month nonmedical use of prescription pain relievers or misuse of any opioids among U.S.-born AI/AN adults by tribal land residential status.
- Results of past year use were slightly different. There were no significant differences in past year use of heroin, nonmedical use of prescription pain relievers, or any opioid misuse by tribal land residential status (Table D.1).

3.1.5 Past Year Substance Use Disorders

FIGURE 3.11 Past Year Alcohol Use Disorder, Illicit Drug Use Disorder, and Substance Use Disorder among U.S.-Born American Indian/Alaska Native Adults Aged 18 or Older, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014



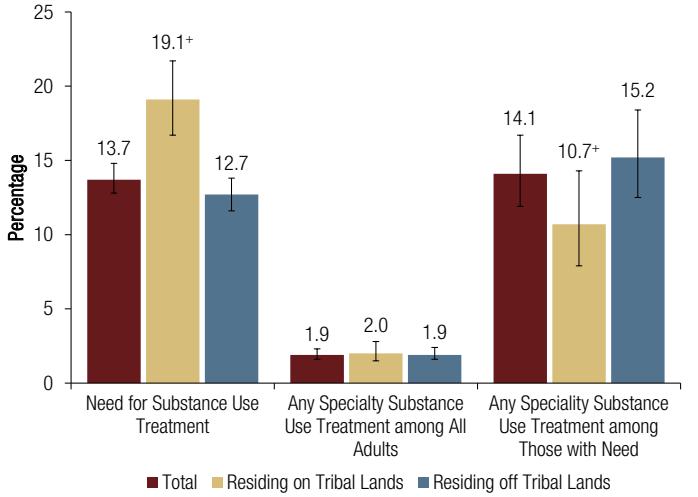
+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- About 10.5 percent of U.S.-born AI/AN adults had an alcohol use disorder in the past year, 4.5 percent had any illicit drug use disorder, and 13.1 percent had a substance use disorder (i.e., alcohol or illicit drug use disorder; Figure 3.11).
- U.S.-born AI/AN adults residing on tribal lands were significantly more likely to have an alcohol use disorder than those residing off tribal lands (16.4 vs. 9.3 percent). Similarly, a higher percentage of U.S.-born AI/AN adults residing on tribal lands had a substance use disorder in the past year compared with those residing off tribal lands (18.3 vs. 12.0 percent).
- There were no significant differences in past year illicit drug use disorder by tribal land residential status.

3.1.6 Past Year Substance Use Treatment

FIGURE 3.12 Past Year Need and Receipt of Specialty Substance Use Treatment among U.S.-Born American Indian/Alaska Native Adults Aged 18 or Older, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014



+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- About 13.7 percent of U.S.-born AI/AN adults needed substance use treatment in the past year (Figure 3.12). About 1.9 percent of all U.S.-born AI/AN adults received specialty substance use treatment in the past year, and 14.1 percent of those who needed substance use treatment received specialty treatment in the past year.
- The need for substance use treatment was higher among U.S.-born AI/AN adults residing on tribal lands than among those residing off tribal lands (19.1 vs. 12.7 percent). In contrast, among those who needed treatment in the past year, U.S.-born AI/AN adults residing on tribal lands were less likely to receive specialty substance treatment than those residing off tribal lands (10.7 vs. 15.2 percent). There were no significant differences by tribal land residential status in the receipt of any specialty substance use treatment in the past year among all U.S.-born AI/AN adults.

3.2 Adolescents

3.2.1 Demographics

There were several significant differences in the demographic characteristics of U.S.-born AI/AN adolescents residing on tribal lands versus those residing off tribal lands (Table 3.2). Adolescents residing on tribal lands were significantly more likely to be non-Hispanic U.S.-born AI/AN only than those residing off tribal lands. However, those residing on tribal lands were less likely to be Hispanic U.S.-born AI/AN only or non-Hispanic/Hispanic U.S.-born AI/AN in combination with another race than those residing off tribal lands. Adolescents residing on tribal lands were less likely to live in a metropolitan area than those residing off tribal lands. Adolescents residing on tribal lands were more likely to have health insurance than those residing off tribal lands but also more likely to have a family income below the federal poverty level than those residing off tribal lands. There were no significant differences in gender distribution among U.S.-born AI/AN adolescents by tribal land residential status.

TABLE 3.2 Demographic Characteristics of U.S.-Born American Indian/Alaska Native (AI/AN) Adolescents Aged 12 to 17, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014

Demographic	Total % (95% CI)	Residing on Tribal Lands % (95% CI)	Residing off Tribal Lands % (95% CI)	*T*-Test *P* Value
Race/Ethnicity				
Non-Hispanic U.S.-Born AI/AN Only	25.4 (23.6-27.3)	76.7 (72.3-80.6)	16.1 (14.7-17.6)	<.001
Non-Hispanic U.S.-Born AI/AN in Combination with Another Race	39.6 (37.9-41.3)	20.1 (16.4-24.3)	43.1 (41.3-44.9)	<.001
Hispanic U.S.-Born AI/AN Only	26.2 (25.0-27.5)	2.4 (1.6-3.6)	30.5 (29.2-31.9)	<.001
Hispanic U.S.-Born AI/AN in Combination with Another Race	8.8 (8.0-9.7)	0.8 (0.4-1.5)	10.3 (9.4-11.2)	<.001
Gender				
Male	50.4 (48.9-51.8)	50.3 (46.4-54.2)	50.4 (48.8-51.9)	0.959
Female	49.6 (48.2-51.1)	49.7 (45.8-53.6)	49.6 (48.1-51.2)	0.959
County Type				
Large Metro	44.4 (42.7-46.3)	5.7 (3.0-10.7)	51.5 (49.6-53.3)	<.001
Small Metro	31.3 (29.7-33.0)	25.6 (21.0-31.0)	32.3 (30.7-34.0)	<.012
Nonmetro	24.3 (22.5-26.1)	68.7 (62.8-74.0)	16.2 (14.7-17.8)	<.001
Health Insurance				
Insured[1]	92.7 (91.9-93.3)	96.5 (95.0-97.6)	92.0 (91.1-92.7)	<.001
Uninsured	7.3 (6.7-8.1)	3.5 (2.4-5.0)	8.0 (7.3-8.9)	<.001
Poverty[2]				
<100% of the Federal Poverty Level (FPL)	31.9 (30.4-33.5)	39.6 (35.5-43.9)	30.5 (28.9-32.2)	<.001
100-199% of the FPL	27.7 (26.3-29.1)	28.9 (25.3-32.8)	27.4 (26.0-28.9)	0.463
>200% of the FPL	40.4 (38.8-42.1)	31.5 (27.3-35.9)	42.0 (40.3-43.8)	<.001

[1] Insured is defined as having private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), CHAMPUS, TRICARE, CHAMPVA, the VA, military health care, or any other type of health insurance.

[2] Estimates are based on a definition of poverty level that incorporates information on family income, size, and composition and is calculated as a percentage of the U.S. Census Bureau's poverty thresholds.

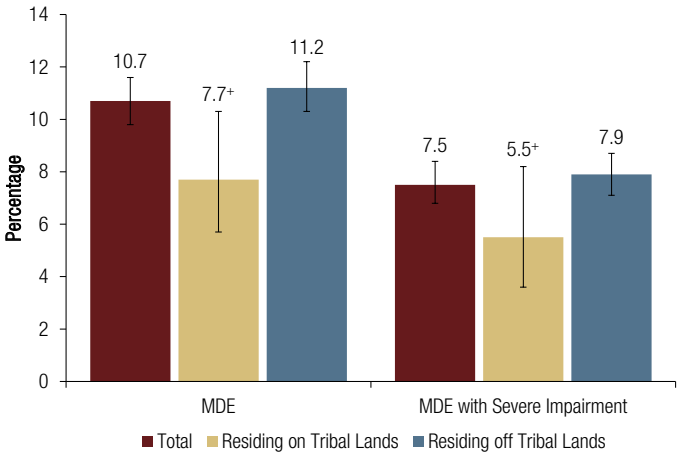
NOTE: *P* value indicates significance level of differences in the estimates between Residing on Tribal Lands and Residing off Tribal Lands.

NOTE: To provide context to the National Survey on Drug Use and Health (NSDUH) substance use and mental health data, this report provides information on the demographic distributions among AI/AN adolescents, which may differ from Census Bureau estimates. In part, these differences reflect that NSDUH data are from a sample survey subject to sampling error and survey weight calibration methodology, are collected directly from youths and not through a household proxy, and are annual estimates based on pooled data from 2005 to 2014.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

3.2.2 Past Year Major Depressive Episode

FIGURE 3.13 Past Year Major Depressive Episode (MDE) and MDE with Severe Impairment among U.S.-Born American Indian/Alaska Native Adolescents Aged 12 to 17, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014



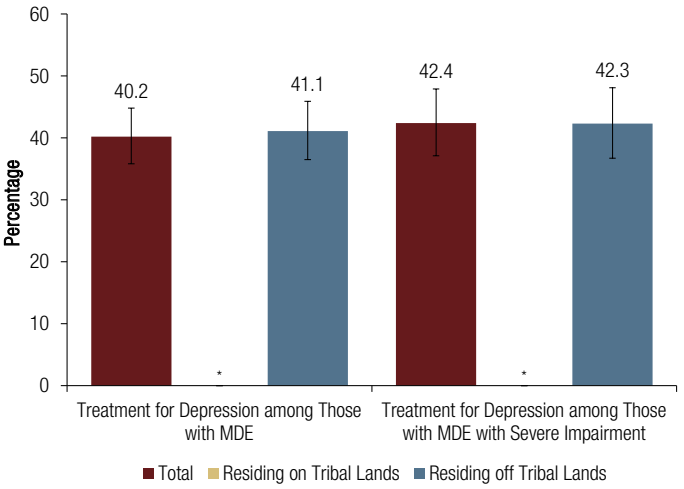
+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health: MDE, 2005-2014; MDE with Severe Impairment, 2006-2014.

- An estimated 10.7 percent of U.S.-born AI/AN adolescents aged 12 to 17 had MDE in the past year, and 7.5 percent had MDE with severe impairment (Figure 3.13).
- U.S.-born AI/AN adolescents residing on tribal lands were significantly less likely to have MDE or MDE with severe impairment than those residing off tribal lands (7.7 vs. 11.2 percent and 5.5 vs. 7.9 percent, respectively).

3.2.3 Past Year Mental Health Service Use

FIGURE 3.14 Past Year Treatment for Depression among U.S.-Born American Indian/Alaska Native Adolescents Aged 12 to 17 with Major Depressive Episode (MDE) or MDE with Severe Impairment, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2006-2014



* Low precision; no estimate reported.

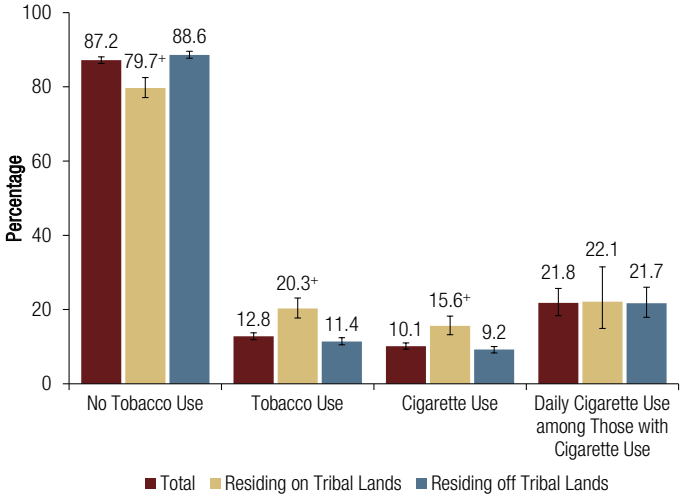
+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2006-2014.

- An estimated 40.2 percent of U.S.-born AI/AN adolescents who had past year MDE and 42.4 percent of U.S.-born AI/AN adolescents who had MDE with severe impairment received treatment for depression in the past year (Figure 3.14).
- Comparisons of MDE by tribal land residential status were not conducted due to the imprecision of estimates for those residing on tribal lands.

3.2.4 Past Month and Past Year Substance Use

FIGURE 3.15 Past Month Tobacco and Cigarette Use among U.S.-Born American Indian/Alaska Native Adolescents Aged 12 to 17, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014

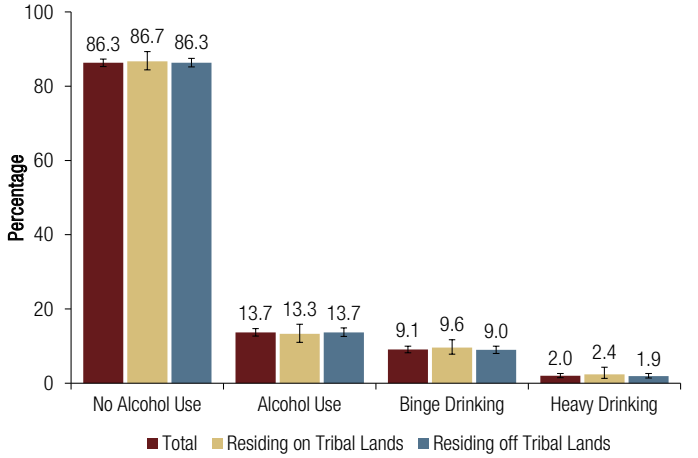


+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- The majority (87.2 percent) of U.S.-born AI/AN adolescents did not use any tobacco products in the past month (Figure 3.15). About 10.1 percent of U.S.-born AI/AN adolescents smoked cigarettes in the past month, and about 21.8 percent of U.S.-born AI/AN adolescent past month cigarette smokers used cigarettes daily.
- U.S.-born AI/AN adolescents residing on tribal lands were significantly more likely to report past month tobacco use and past month cigarette use than those residing off tribal lands (20.3 vs. 11.4 percent and 15.6 vs. 9.2 percent, respectively). Among U.S.-born AI/AN adolescents who used cigarettes in the past month, there were no significant differences in estimates of daily smoking for those residing on tribal lands versus residing off tribal lands.
- Patterns of past year tobacco and cigarette use were similar to those for past month estimates, with adolescents residing on tribal lands having higher estimates than those residing off tribal lands (Table D.3).

FIGURE 3.16 Past Month Alcohol Use, Binge Drinking, and Heavy Drinking among U.S.-Born American Indian/Alaska Native Adolescents Aged 12 to 17, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014

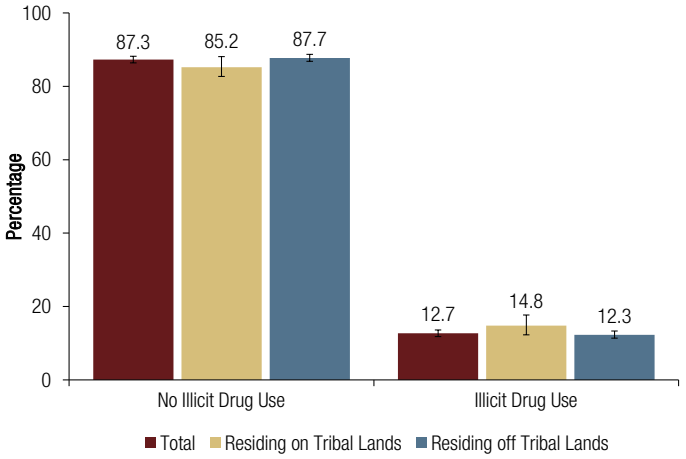


+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- Most (86.3 percent) U.S.-born AI/AN adolescents did not use alcohol in the past month. However, about 9.1 percent of U.S.-born AI/AN adolescents reported binge drinking, and 2.0 percent reported heavy drinking in the past month (Figure 3.16).
- There were no significant differences in past month alcohol use, binge drinking, or heavy drinking among U.S.-born AI/AN adolescents by tribal land residential status.
- Patterns of past year alcohol use were similar to those for past month alcohol use with no significant differences by tribal land residential status (Table D.3).

FIGURE 3.17 Past Month Illicit Drug Use among U.S.-Born American Indian/Alaska Native Adolescents Aged 12 to 17, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014

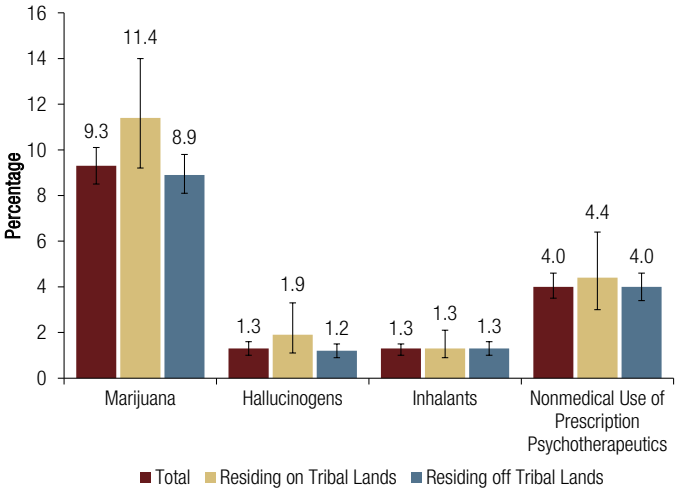


+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- Most (87.3 percent) U.S.-born AI/AN adolescents had no illicit drug use in the past month (Figure 3.17).
- There were no significant differences in past month illicit drug use among U.S.-born AI/AN adolescents by tribal land residential status.
- Different results were indicated when examining past year illicit drug use by tribal land residential status. About 28.5 percent of U.S.-born AI/AN adolescents residing on tribal lands had used any illicit drugs in the past year compared with 22.8 percent of those residing off tribal lands (Table D.3).

FIGURE 3.18 Past Month Marijuana, Hallucinogen, and Inhalant Use and Nonmedical Use of Prescription Psychotherapeutics among U.S.-Born American Indian/Alaska Native Adolescents Aged 12 to 17, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014

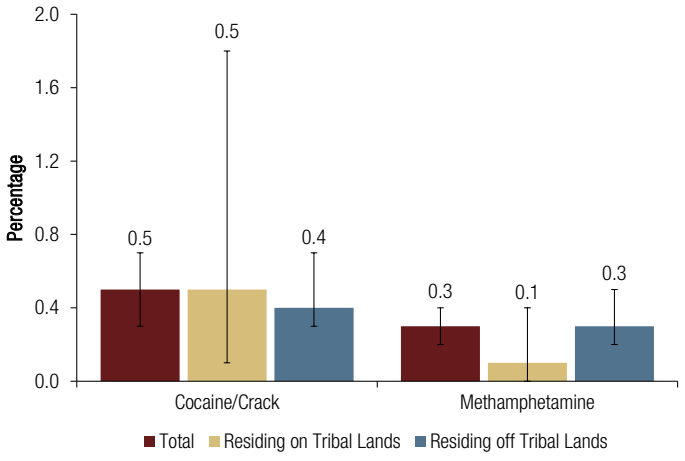


+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- About 9.3 percent of U.S.-born AI/AN adolescents used marijuana in the past month, 1.3 percent used hallucinogens, and a similar percentage (1.3 percent) used inhalants (Figure 3.18). About 4.0 percent of U.S.-born AI/AN adolescents had nonmedical use of prescription psychotherapeutics (pain relievers, stimulants, sedatives, and tranquilizers).
- There were no significant differences in estimates of marijuana, hallucinogen, or inhalant use or nonmedical use of prescription psychotherapeutics in the past month among U.S.-born AI/AN adolescents by tribal land residential status.
- Estimates of past year use of marijuana were significantly higher among U.S.-born AI/AN adolescents residing on tribal lands than among those residing off tribal lands (20.2 vs. 16.2 percent). However, there were no significant differences by tribal land residential status in estimates of past year hallucinogen use, inhalant use, or nonmedical use of prescription psychotherapeutics (Table D.3).

FIGURE 3.19 Past Month Cocaine/Crack and Methamphetamine Use among U.S.-Born American Indian/Alaska Native Adolescents Aged 12 to 17, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014



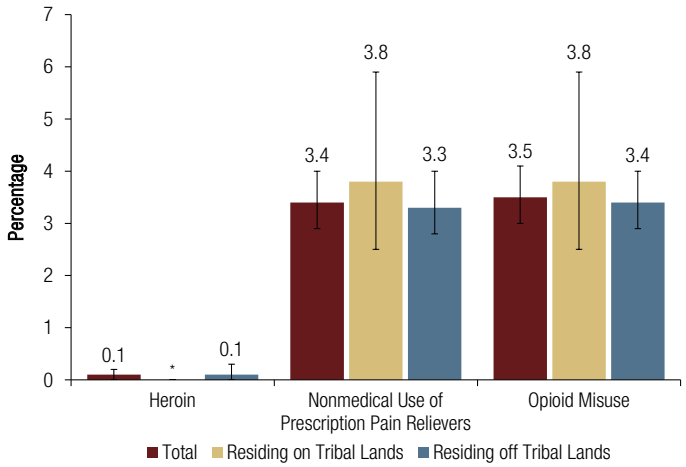
+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- About 0.5 percent of U.S.-born AI/AN adolescents used cocaine/crack in the past month,[h] and 0.3 percent used methamphetamine (Figure 3.19).
- There were no significant differences in past month cocaine/crack and methamphetamine use among U.S.-born AI/AN adolescents by tribal land residential status.
- Patterns of results of past year cocaine/crack use and past year methamphetamine use were similar to those for past month use (Table D.3).

[h] Confidence intervals of percentages are based on logit transformations that produce asymmetrical bounds that may be more pronounced as variances increase and as percentages get closer to 0 or 100 percent. Estimates of past month cocaine/crack use among AI/AN adolescents residing on tribal lands meet all NSDUH criteria for reliability.

FIGURE 3.20 Past Month Heroin Use, Nonmedical Use of Prescription Pain Relievers, and Opioid Misuse among U.S.-Born American Indian/Alaska Native Adolescents Aged 12 to 17, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014



* Low precision; no estimate reported.

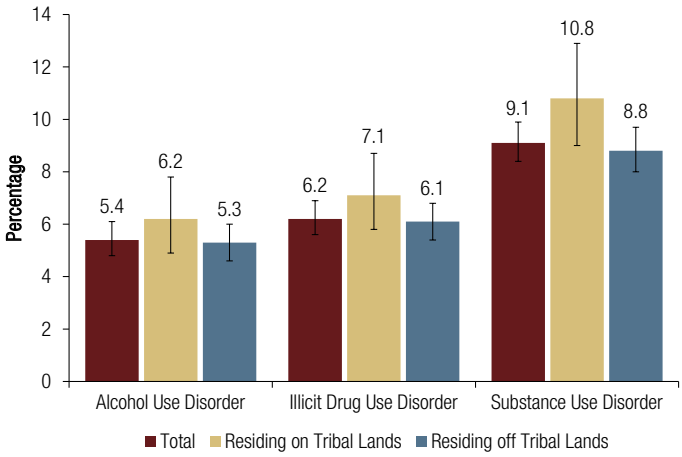
+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- An estimated 0.1 percent of U.S.-born AI/AN adolescents used heroin in the past month, 3.4 percent had past month nonmedical use of prescription pain relievers, and 3.5 percent had past month opioid misuse (heroin use or nonmedical use of prescription pain relievers; Figure 3.20).
- There were no significant differences in nonmedical use of prescription pain relievers or misuse of opioids among U.S.-born AI/AN adolescents by tribal land residential status.
- For past year heroin use, the estimate for residing on tribal lands was not suppressed (Table D.3). About 0.2 percent of U.S.-born AI/AN adolescents residing on tribal lands used heroin in the past year, similar to the 0.3 percent of those residing off tribal lands. There were no significant differences in nonmedical use of prescription pain relievers or any opioid misuse in the past year by tribal land residential status.

3.2.5 Past Year Substance Use Disorders

FIGURE 3.21 Past Year Alcohol Use Disorder, Illicit Drug Use Disorder, and Substance Use Disorder among U.S.-Born American Indian/Alaska Native Adolescents Aged 12 to 17, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014



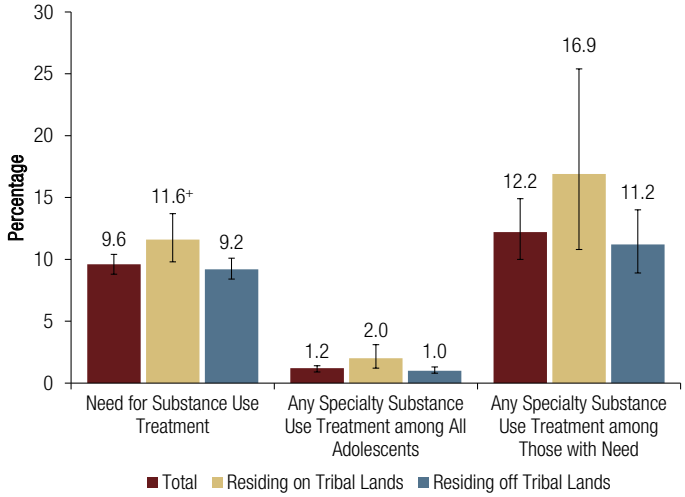
+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- An estimated 5.4 percent of U.S.-born AI/AN adolescents had an alcohol use disorder in the past year, 6.2 percent had an illicit drug use disorder, and 9.1 percent had a substance use disorder (i.e., alcohol or illicit drug use disorder; Figure 3.21).
- There were no significant differences in estimates for past year alcohol use disorder, illicit drug use disorder, or substance use disorder among U.S.-born AI/AN adolescents by tribal land residential status.

3.2.6 Past Year Substance Use Treatment

FIGURE 3.22 Past Year Need and Receipt of Specialty Substance Use Treatment among U.S.-Born American Indian/Alaska Native Adolescents Aged 12 to 17, by Tribal Land Residential Status, Percentages and 95 Percent Confidence Intervals: NSDUH 2005-2014



+ Difference in estimates between Residing on Tribal Lands and Residing off Tribal Lands is significant ($p < .05$).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

- About 9.6 percent of U.S.-born AI/AN adolescents needed substance use treatment in the past year (Figure 3.22). About 1.2 percent of all U.S.-born AI/AN adolescents received specialty substance use treatment in the past year, and 12.2 percent of those who needed substance use treatment received specialty treatment in the past year.
- U.S.-born AI/AN adolescents residing on tribal lands were more likely to have a need for substance use treatment in the past year than those residing off tribal lands (11.6 vs. 9.2 percent). In contrast, there were no significant differences by tribal land residential status in receipt of specialty substance use treatment in the past year among all U.S.-born AI/AN adolescents or among those who needed treatment in the past year.

4. Discussion

4.1 Summary of Results

The findings in this report highlight differences in mental health, substance use, and treatment receipt among U.S.-born AI/ANs by tribal land residential status. These findings are summarized in Exhibits 4.1 and 4.2. In short, U.S.-born AI/AN adults residing on tribal lands were equally or less likely than those residing off tribal lands to have past year mental health problems (Exhibit 4.1). However, U.S.-born AI/AN adults living on tribal lands were more likely to have past year substance use disorder and alcohol use disorder, despite being less likely than those residing off tribal lands to smoke cigarettes daily and to use alcohol, marijuana, cocaine/crack, and heroin in the past month. Moreover, despite a higher need for substance use treatment, U.S.-born AI/AN adults residing on tribal lands were less likely than those residing off tribal lands to have specialty substance use treatment in the past year.

Among U.S.-born AI/AN adolescents, past year MDE (i.e., depression) was less likely among those residing on tribal lands compared with those living off tribal lands (Exhibit 4.2). Examining substance use outcomes,

EXHIBIT 4.1 Summary of Results Comparing U.S.-Born American Indian/Alaska Native (AI/AN) Adults Aged 18 or Older Residing on Tribal Lands with U.S.-Born AI/AN Adults Residing off Tribal Lands: NSDUH, 2005-2014

U.S.-Born AI/AN Adults on Tribal Lands *More* Likely than Those off Tribal Lands to Have…

- Past year alcohol use disorder
- Past year any substance use disorder
- Past year need for substance use treatment
- Co-occurring mental health and substance use disorder in the past year*

U.S.-Born AI/AN Adults on Tribal Lands *Equally* Likely with Those off Tribal Lands to Have…

- Serious thoughts of suicide in the past year
- Past year any mental illness
- Past year serious mental illness
- Past year mental health service use
- Past year mental health service use among those with any mental illness
- Past month cigarette or tobacco use
- Past month binge drinking
- Past month heavy drinking
- Past month illicit drug use
- Past month use of hallucinogens, inhalants, or methamphetamine, or any opioid misuse
- Past month nonmedical use of prescription psychotherapeutics or pain relievers
- Past year illicit drug use disorder
- Receipt of past year specialty substance use treatment among all adults

U.S.-Born AI/AN Adults on Tribal Lands *Less* Likely than Those off Tribal Lands to Have…

- Past year major depressive episode (MDE) (i.e., depression) with or without severe impairment
- Daily cigarette use among past month cigarette users
- Past month alcohol use
- Past month use of marijuana, crack/cocaine, or heroin
- Receipt of past year specialty substance use treatment among those with a need for treatment

*Not presented in text. See Table D.1 for estimates.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

EXHIBIT 4.2 Summary of Results Comparing U.S.-Born American Indian/Alaska Native (AI/AN) Adolescents Aged 12 to 17, by Tribal Land Residential Status: NSDUH 2005-2014

U.S.-Born AI/AN Adolescents on Tribal Lands *More* Likely than Those off Tribal Lands to Have…

- Past month cigarette use
- Past month tobacco use
- Past year need for substance use treatment

U.S.-Born AI/AN Adolescents on Tribal Lands *Equally* Likely with Those off Tribal Lands to Have…

- Daily cigarette use among past month cigarette users
- Past month alcohol use
- Past month binge alcohol use
- Past month heavy alcohol use
- Past month illicit drug use
- Past month use of marijuana, cocaine/crack, hallucinogens, inhalants, methamphetamine, or any opioid misuse
- Past month nonmedical use of prescription psychotherapeutics or pain relievers
- Past year alcohol use disorder
- Past year illicit drug use disorder
- Past year any substance use disorder
- Receipt of past year specialty substance use treatment
- Receipt of past year specialty substance use treatment among those with a treatment need

U.S.-Born AI/AN Adolescents on Tribal Lands *Less* Likely than Those off Tribal Lands to Have…

- Past year major depressive episode (MDE) (i.e., depression) with or without severe impairment*

*Difference in the estimate of past year MDE with severe impairment by tribal land residential status is not significant at .05 when using the most conservative degrees of freedom, but it remains significant at the 0.1 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

U.S.-born AI/AN adolescents living on tribal lands were more likely to need substance use treatment in the past year than those residing off tribal lands despite having similar estimates of any past month illicit drug use and past year use of many of the illicit drugs than those residing off tribal lands. However, they were more likely to use cigarettes and tobacco in the past month than those residing off tribal lands.

4.2 Comparison with Other Studies

To date, few studies have focused specifically on U.S.-born AI/ANs comparing tribal land residential status, making comparisons with other studies challenging. Moreover, comparisons with prior literature are complicated by differences in study methodology (e.g., methods of mental illness measurement and groups sampled). Despite these differences, the results of these analyses provide mixed support for prior findings of differences by tribal land residential status. For example, prior studies have shown that U.S.-born AI/AN adults and adolescents residing on tribal lands have lower rates of depression than those residing off tribal lands, which was supported by these findings.[12,14,15] In contrast, this report did not find differences in the prevalence of past year AMI and SMI among U.S.-born AI/AN adults by tribal land residential status, differing from that found in other studies.[12,14]

Some literature suggests that U.S.-born AI/ANs living on tribal lands may be less likely to use alcohol but that those who do use alcohol may be more likely to develop an alcohol use disorder.[29,47] The findings in this report appear to support this. Although U.S.-born AI/AN adults residing on and off tribal lands reported similar levels of binge and heavy drinking, those residing on tribal lands were more likely to meet criteria for an alcohol use disorder and need substance use treatment. Findings were somewhat similar for U.S.-born AI/AN adolescents. The proportion of U.S.-born AI/AN adolescents reporting heavy and binge drinking were similar regardless of tribal land residential status, as was the prevalence of alcohol or drug use disorders. However, U.S.-born AI/AN adolescents residing on tribal lands were more likely to need substance use treatment than those residing off tribal lands. More research is needed to understand how contextual characteristics of tribal land residence may be associated with more severe symptoms and consequences of alcohol use than residential life off tribal lands.

4.3 Strengths and Limitations

This report provides a novel examination of how to use NSDUH data to produce behavioral health estimates for AI/ANs residing on and off tribal lands and compares substance use and mental health estimates among U.S. born AI/ANs by tribal land residential status. This is the first study to use a nationally representative sample of U.S.-born AI/ANs to examine differences in mental health, mental health service use, substance use, and substance use treatment among those residing on tribal lands compared with those residing off tribal lands. However, a few limitations need to be acknowledged.

- First, although using a nationally representative sample provides sufficient sample size to examine the differences in behavioral health outcomes by tribal land residential status, not all tribal lands are sampled, and it would be erroneous to assume that the overall population estimates are representative of any specific U.S.-born AI/AN tribe or village.
- Second, this research uses NDSUH data to identify differences in the substance use and mental health characteristics by tribal land residential status. NSDUH does not, and cannot, address the reasons behind these differences.
- Third, there are statistical limitations to acknowledge. Despite having a larger sample size than most previous research, sample sizes were still insufficient for estimating some substance use and mental health indicators with precision, and some comparisons presented in this report have large confidence intervals, resulting in percentage differences in estimates that were not statistically significant.
- Fourth, estimates and analyses were based on 10-year annual averages and therefore do not capture any changes or shifts in the nature and extent of behavioral health outcomes over time among U.S.-born AI/ANs residing on and off tribal lands.

- Fifth, not all statistically significant differences in estimates translate into clinically relevant differences. These analyses identify statistical significance but not whether these differences are clinically meaningful.
- Sixth, although efforts were made to minimize misclassification of AI/ANs by tribal land residential status based on the proxy AIANNHA variable (as defined in Section 2.2.2), some AI/ANs were misclassified to be residing on or off tribal lands. The weighted misclassification rate was 0.03 percent based on the analyses of the 2014 NSDUH data between the block-level (actual) and segment-level (proxy) designations of tribal land residential status. However, the misclassification rate based on 2005-2013 NSDUH data is unknown and thus, may be higher or lower than 0.03 percent due to the use of the proxy AIANNHA variable as the actual, block-level tribal land designation was not available for those years. In addition, the accuracy of all NSDUH AIANNHA variables (actual or proxy) is dependent on the accuracy of census data and methods used by the Census Bureau to identify and update tribal area definitions and boundaries along with associated housing and demographic attributes.
- Finally, this report focuses on descriptive analyses, unadjusted for additional characteristics, such as poverty status and age, which may be associated with mental health and substance use.

This research is the first step to examine the behavioral health indicators of U.S.-born AI/ANs using NSDUH data. Future investigations will examine these outcomes in consideration of demographic and other differences across populations. An example of future research may be to evaluate whether U.S.-born AI/AN adults and adolescents living near, but not on, tribal lands, more closely resemble U.S.-born AI/ANs living on tribal lands or the general population living off tribal lands. Numerous factors, including tribal culture and identity, proximity and access to the IHS, and general health insurance status, may all affect behavioral health characteristics, including substance use, mental illness, and substance use and mental health service use.

This report forms the foundation for future efforts to understand differences in the behavioral health landscape of U.S.-born AI/ANs residing on and off tribal lands. This research shows that the significant differences found in the mental health and substance use of the U.S.-born AI/AN population by tribal land residential status merit further research.

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References

1. U.S. Census Bureau. (2016, August 5). *U.S. Census Bureau: American Indians by the numbers* (Infoplease ed.). Boston, MA: Sandbox Networks, Inc.
2. Akee, R. K. Q., & Taylor, J. B. (2014). *Social and economic change on American Indian reservations: A databook of the US censuses and the American Community Survey 1990–2010.* Sarasota, FL: The Taylor Policy Group.
3. Substance Abuse and Mental Health Services Administration. (2016). *The national tribal behavioral health agenda.* Rockville, MD: Substance Abuse and Mental Health Services Administration.
4. Gone, J. P., & Trimble, J. E. (2012). American Indian and Alaska Native mental health: Diverse perspectives on enduring disparities. *Annual Review of Clinical Psychology, 8*, 131-160. https://doi.org/10.1146/annurev-clinpsy-032511-143127
5. Legha, R., Raleigh-Cohn, A., Fickenscher, A., & Novins, D. K. (2014). Challenges to providing quality substance abuse treatment services for American Indian and Alaska Native communities: Perspectives of staff from 18 treatment centers. *BMC Psychiatry, 14*(181), 1-10. https://doi.org/10.1186/1471-244x-14-181
6. Freitas-Murrell, B., & Swift, J. K. (2015). Predicting attitudes toward seeking professional psychological help among Alaska Natives. *American Indian and Alaska Native Mental Health Research, 22*(3), 21-35.
7. Walls, M. L., Johnson, K. D., Whitbeck, L. B., & Hoyt, D. R. (2006). Mental health and substance abuse services preferences among American Indian people of the northern Midwest. *Community Mental Health Journal, 42*(6), 521-535. https://doi.org/10.1007/s10597-006-9054-7
8. Brave Heart, M. Y. H., Chase, J., Elkins, J., & Altschul, D. B. (2011). Historical trauma among indigenous peoples of the Americas: Concepts, research, and clinical considerations. *Journal of Psychoactive Drugs, 43*(4), 282-290. https://doi.org/10.1080/02791072.2011.628913
9. Dickerson, D. L., & Johnson, C. L. (2012). Mental health and substance abuse characteristics among a clinical sample of urban American Indian/Alaska Native youths in a large California metropolitan area: A descriptive study. *Community Mental Health Journal, 48*(1), 56-62. https://doi.org/10.1007/s10597-010-9368-3
10. Segal, B. (1998). Drinking and drinking-related problems among Alaska Natives. *Alcohol Research and Health, 22*(4), 276.
11. Office of Minority Health. (2017, February 6, 2017). *Profile: American Indian/Alaska Native.* Retrieved May 8, 2017, from https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=62
12. Gilder, D. A., Wall, T. L., & Ehlers, C. L. (2004). Comorbidity of select anxiety and affective disorders with alcohol dependence in southwest California Indians. *Alcoholism: Clinical and Experimental Research, 28*(12), 1805-1813. https://doi.org/10.1097/01.alc.0000148116.27875.b0
13. Barnes, P., Adams, P., & Powell-Griner, E. (2010). *Health characteristics of the American Indian or Alaska Native adult population: United States, 2004–2008*. Hyattsville, MD: National Center of Health Statistics.
14. Brave Heart, M. Y., Lewis-Fernandez, R., Beals, J., Hasin, D. S., Sugaya, L., Wang, S., . . . Blanco, C. (2016). Psychiatric disorders and mental health treatment in American Indians and Alaska Natives: Results of the National Epidemiologic Survey on Alcohol and Related Conditions. *Social Psychiatry and Psychiatric Epidemiology, 51*(7), 1033-1046. https://doi.org/10.1007/s00127-016-1225-4
15. Beals, J., Manson, S. M., Whitesell, N. R., Mitchell, C. M., Novins, D. K., Simpson, S., & Spicer, P. (2005). Prevalence of major depressive episode in two American Indian reservation populations: Unexpected findings with a structured interview. *American Journal of Psychiatry, 162*(9), 1713-1722. https://doi.org/10.1176/appi.ajp.162.9.1713
16. Freedenthal, S., & Stiffman, A. R. (2004). Suicidal behavior in urban American Indian adolescents: A comparison with reservation youth in a southwestern state. *Suicide and Life-Threatening Behavior, 34*(2), 160-171.
17. Koss, M. P., Yuan, N. P., Dightman, D., Prince, R. J., Polacca, M., Sanderson, B., & Goldman, D. (2003). Adverse childhood exposures and alcohol dependence among seven Native American tribes. *American Journal of Preventive Medicine, 25*(3), 238-244. https://doi.org/10.1016/S0749-3797(03)00195-8
18. American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
19. Grant, B. F., Goldstein, R. B., Saha, T. D., Chou, S. P., Jung, J., Zhang, H., . . . Huang, B. (2015). Epidemiology of DSM-5 alcohol use disorder: Results from the National Epidemiologic Survey on Alcohol and Related Conditions III. *JAMA Psychiatry, 72*(8), 757-766. https://doi.org/10.1001/jamapsychiatry.2015.0584
20. Indian Health Service. (2015, March). *Trends in Indian health 2014 edition.* Retrieved from https://www.ihs.gov/dps/includes/themes/newihstheme/display_objects/documents/Trends2014Book508.pdf
21. Chen, H.-J., Balan, S., & Price, R. K. (2012). Association of contextual factors with drug use and binge drinking among white, Native American, and mixed-race adolescents in the general population. *Journal of Youth and Adolescence, 41*(11), 1426-1441. https://doi.org/10.1007/s10964-012-9789-0
22. Plunkett, M., & Mitchell, C. M. (2000). Substance use rates among American Indian adolescents: Regional comparisons with monitoring the future high school seniors. *Journal of Drug Issues, 30*(3), 593-620. https://doi.org/10.1177/002204260003000305
23. Spear, S., Longshore, D., McCaffrey, D., & Ellickson, P. (2005). Prevalence of substance use among white and American Indian young adolescents in a northern plains state. *Journal of Psychoactive Drugs, 37*(1), 1-6. https://doi.org/10.1080/02791072.2005.10399743
24. Stanley, L. R., Harness, S. D., Swaim, R. C., & Beauvais, F. (2014). Rates of substance use of American Indian students in 8th, 10th, and 12th grades living on or near reservations: Update, 2009-2012. *Public Health Reports, 129*(2), 156-163. https://doi.org/10.1177/003335491412900209
25. Levinson, D. (October 2016). *Indian Health Service Hospitals: Longstanding challenges warrant focused attention to support quality care*. Retrieved from https://oig.hhs.gov/oei/reports/oei-06-14-00011.pdf

26. Artiga, S., & Arguello, R. (2013, October 2013). *Issue Brief: Health coverage and care for American Indians and Alaska Natives.* Retrieved from https://www.kff.org/disparities-policy/issue-brief/health-coverage-and-care-for-american-indians-and-alaska-natives/

27. Urban Indian Health Institute. (2016). *Community health profile: National aggregate of urban Indian health program service areas.* Seattle, WA: Urban Indian Health Institute. Retrieved from http://www.uihi.org/resources/reports/

28. Beals, J., Novins, D. K., Spicer, P., Whitesell, N. R., Mitchell, C. M., & Manson, S. M. (2006). Help seeking for substance use problems in two American Indian reservation populations. *Psychiatric Services, 57*(4), 512-520. https://doi.org/10.1176/ps.2006.57.4.512

29. Beals, J., Manson, S. M., Whitesell, N. R., Spicer, P., Novins, D. K., & Mitchell, C. M. (2005). Prevalence of DSM-IV disorders and attendant help-seeking in 2 American Indian reservation populations. *Archives of General Psychiatry, 62*(1), 99-108. https://doi.org/10.1001/archpsyc.62.1.99

30. Center for Behavioral Health Statistics and Quality. (2015). *Behavioral health trends in the United States: Results from the 2014 National Survey on Drug Use and Health.* (HHS Publication No. SMA 15-4927, NSDUH Series H-50). Retrieved from https://www.samhsa.gov/data/

31. Center for Behavioral Health Statistics and Quality. (2016). *2014 National Survey on Drug Use and Health: Methodological resource book* (Section 13, Statistical inference report). Retrieved from https://www.samhsa.gov/data/

32. U.S. Census Bureau. (2013, October 13). *American Indian and Alaska Native Heritage Month: November 2013* (Profile America Facts for Features, CB13-FF.26). Retrieved January 11, 2018, from https://www.census.gov/newsroom/facts-for-features/2013/cb13-ff26.html

33. Alvarez, J., Jason, L. A., Olson, B. D., Ferrari, J. R., & Davis, M. I. (2007). Substance abuse prevalence and treatment among Latinos and Latinas. *Journal of Ethnicity in Substance Abuse, 6*(2), 115-141. https://doi.org/10.1300/j233v06n02_08

34. Dillon, F. R., De La Rosa, M., Sastre, F., & Ibañez, G. (2013). Alcohol misuse among recent Latino immigrants: The protective role of preimmigration familismo. *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors, 27*(4), 956-965. https://doi.org/10.1037/a0031091

35. Montenegro, R. A., & Stephens, C. Indigenous health in Latin America and the Caribbean. *Lancet, 367*(9525), 1859-1869. https://doi.org/10.1016/S0140-6736(06)68808-9

36. U.S. Census Bureau. (2017, January 31). *Geographic terms and concepts: American Indian, Alaska Native, and Native Hawaiian areas. Geography.* Retrieved July 14, 2017, from https://www.census.gov/geo/reference/gtc/gtc_aiannha.html

37. American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

38. Kessler, R. C., Barker, P. R., Colpe, L. J., Epstein, J. F., Gfroerer, J. C., Hiripi, E., . . . Zaslavsky, A. M. (2003). Screening for serious mental illness in the general population. *Archives of General Psychiatry, 60*, 184-189. https://doi.org/10.1001/archpsyc.60.2.184

39. Novak, S. P., Colpe, L. J., Barker, P. R., & Gfroerer, J. C. (2010). Development of a brief mental health impairment scale using a nationally representative sample in the USA. *International Journal of Methods in Psychiatric Research, 19*(S1), 49-60.

40. First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (2002). Structured *Clinical Interview for DSM-IV-TR Axis I Disorders, Research Version, Non-patient Edition (SCID-I/NP)*. New York, NY: New York State Psychiatric Institute, Biometrics Research.

41. Center for Behavioral Health Statistics and Quality. (2013). *The NSDUH Report: Revised estimates of mental illness from the National Survey on Drug Use and Health.* Retrieved from https://www.samhsa.gov/data/

42. Center for Behavioral Health Statistics and Quality. (2014a). *CBHSQ Data Review: Past year mental disorders among adults in the United States: Results from the 2008-2012 Mental Health Surveillance Study.* Retrieved from https://www.samhsa.gov/data/

43. Center for Behavioral Health Statistics and Quality. (2014b). *Results from the 2013 National Survey on Drug Use and Health: Summary of national findings* (HHS Publication No. SMA 14-4863, NSDUH Series H-48). Retrieved from https://www.samhsa.gov/data/

44. Center for Behavioral Health Statistics and Quality. (2014c). *2012 National Survey on Drug Use and Health: Methodological resource book* (Section 16a, 2012 Mental Health Surveillance Study: Design and estimation report). Retrieved from https://www.samhsa.gov/data/

45. Substance Abuse and Mental Health Services Administration. (2013). *2012 National Survey on Drug Use and Health: A revised strategy for estimating the prevalence of mental illness.* Retrieved from https://www.samhsa.gov/data/

46. RTI International. (2013). *SUDAAN®,* Release 11.0.1 [computer software]. Research Triangle Park, NC: Author.

47. Cornell Statistical Consulting Unit. (2008, October). *Overlapping confidence intervals and statistical significance* (Cornell University StatNews # 73). Retrieved January 11, 2018, from https://www.cscu.cornell.edu/news/statnews/stnews73.pdf

48. Payton, M. E., Greenstone, M. H., & Schenker, N. (2003). Overlapping confidence intervals or standard error intervals: What do they mean in terms of statistical significance? *Journal of Insect Science, 3*, 34. https://doi.org/10.1673/031.003.3401

49. Schenker, N., & Gentleman, J. F. (2001, August). On judging the significance of differences by examining the overlap between confidence intervals. *American Statistician, 55*(3), 182-186. https://doi.org/10.1198/000313001317097960

50. U.S. Census Bureau: Geography Division. (2010). *2010 TIGER/Line® Shapefiles: American Indian area geography*. Retrieved May 8, 2017, from https://www.census.gov/cgi-bin/geo/shapefiles/index.php?year=2010&layergroup=American+Indian+Area+Geography

51. Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: L. Erlbaum Associates.

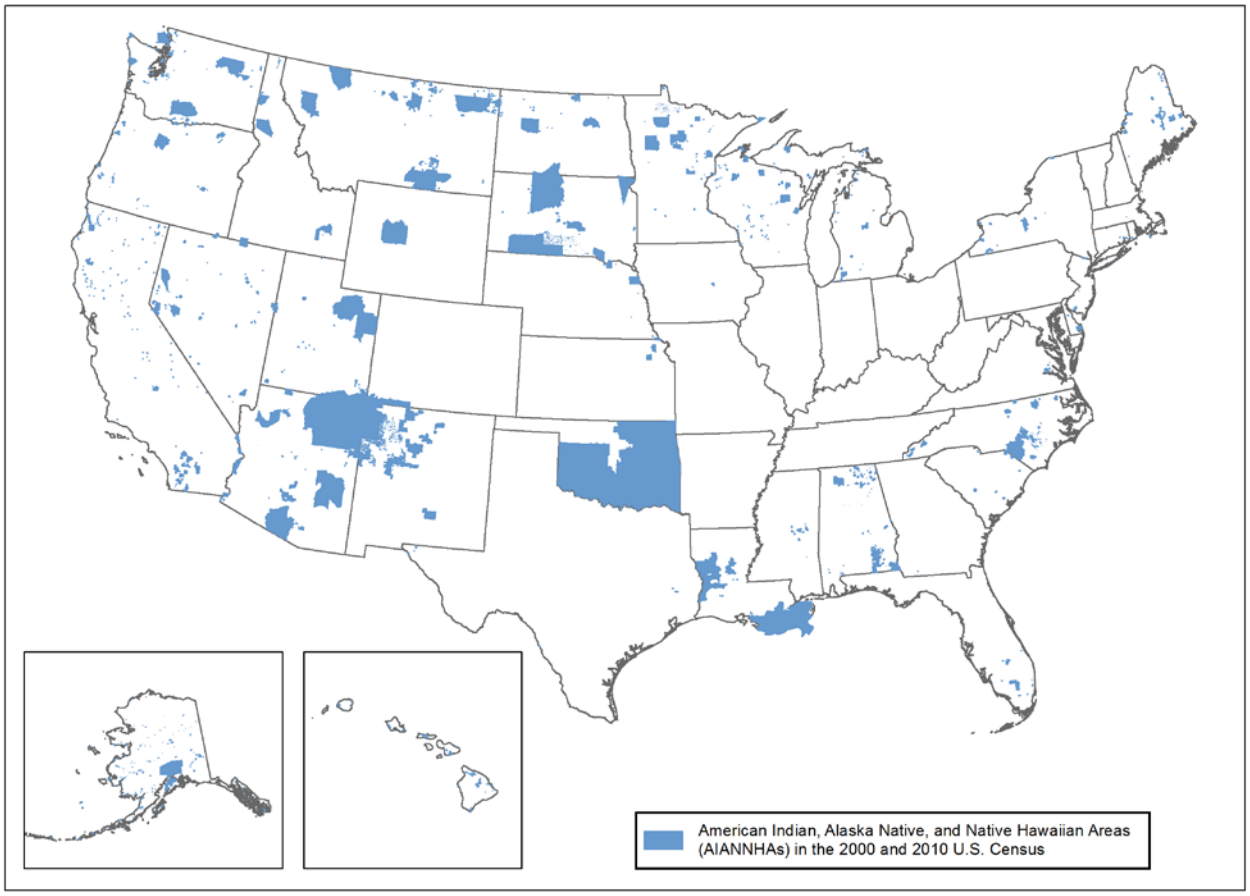
Appendix A: Evaluation of NSDUH Tribal Land Coverage

Prior to producing estimates of mental health and substance use on tribal lands, an evaluation of the geographic coverage of the National Survey on Drug Use and Health (NSDUH) on American Indian/Alaska Native (AI/AN) tribal lands in the continental United States, Alaska, and Hawaii during the years 2005 to 2014 was conducted. The analysis had two goals: (1) to qualitatively assess whether there was a systematic bias to exclude or include AI/AN tribal lands as compared with the rest of the United States, and (2) to quantitatively assess the percentage of AI/AN tribal lands covered by NSDUH during those years. Definitions of AI/AN tribal lands were obtained from the U.S. Census Bureau.[50] Because the tribal land definitions changed between the 2000 and 2010 decennial censuses, the tribal lands based on the 2000 and 2010 censuses were plotted on a single map to reveal differences. Although the changes were minimal, both boundaries were left on the map. NSDUH segment boundaries were then added for each survey year between 2005 and 2014. Segment maps were used internally to evaluate coverage, but are not shown in this report due to confidentiality reasons.

The resulting map showed no systematic or geographic bias of NSDUH segments either falling or not falling within AI/AN tribal lands.

Figure A.1 shows all federal and state AI/AN tribal lands as reported by either the 2000 or 2010 decennial census. These lands include federal reservations, trust lands, Hawaiian home lands, Alaska Native village statistical areas, state statistical areas, and federal/state joint use areas. In addition to mapping the NSDUH coverage of tribal land areas, coverage ratios were examined for all AI/ANs, alone or in combination with

FIGURE A.1 American Indian, Alaska Native, and Native Hawaiian Areas in the 2000 and 2010 U.S. Censuses



NOTE: Small polygons of less than 190 square miles have been cartographically embellished to improve visual clarity.

other races/ethnicities. Coverage is the proportion of the target population that the survey data represents; a coverage ratio of 100.0 percent would indicate that all of the targeted population was represented by the survey data. Comparing the 2005-2014 midpoint (July 1, 2009) with the 2010 U.S. census estimates, NSDUH has a coverage ratio of 99.2 percent for AI/ANs aged 12 or older (NSDUH N = 5,179,295 vs. Census N = 5,220,579). Note that these comparisons are for all AI/ANs, regardless of country of origin and census estimates are for all ages, whereas NSDUH includes those aged 12 or older. Further evaluation of the 2014 NSDUH data specifically indicates good coverage of the AI/AN tribal lands, with an absolute relative difference between the U.S. census estimates for the seven American Indian, Alaska Native, and Native Hawaiian Areas (AIANNHAs) of less than 1.0 percent (Census N = 4,849,600 vs. NSDUH N = 4,816,700).

Appendix B: Comparability of 2014 with 2005-2013 NSDUH Estimates for Behavioral Health Outcomes, by Tribal Land Residential Status

The 2005-2013 National Survey on Drug Use and Health (NSDUH) data use intercensal population estimates adjusted from the 2000 decennial census conducted by the U.S. Census Bureau to create weights that are used in analysis to ensure that the NSDUH data are representative of the U.S. population. In the 2014 NSDUH, the weights were based off intercensal population estimates adjusted from the 2010 decennial census population. However, the 2010 census included changes to the state-designated tribal statistical areas, which may have affected the comparability of tribal area estimates before and after this change. Specifically, the U.S. Census Bureau had three partnership programs through which it collected updates to the inventory, boundaries, and attributes of American Indian, Alaska Native, and Native Hawaiian Areas (AIANNHAs): the annual Boundary and Annexation Survey, the State Reservation Program, and the Tribal Statistical Areas Program. These programs include working directly with federal, state, tribal, and local governments to review and update these areas.[36] The 2010 census data contained new entities, deleted entities, mergers, consolidations, and added counties. These changes were not isolated to particular areas. Prior NSDUH analyses have indicated that the weighted percentage of people residing in AIANNHAs was significantly lower in 2014 than in 2013 (1.41 vs. 1.84 percent, $p = 0.012$).

Based on the statistically significant decrease in NSDUH tribal area coverage, analyses were conducted to evaluate the comparability of behavioral health estimates from 2014 with those from 2005 to 2013. The purpose of these analyses was to determine the appropriateness of combining the 2014 NSDUH data with prior years and verify that tribal land designation changes did not unduly influence any behavioral health outcomes. Because of differences in sample sizes, years of data collection, and the influence of natural trends that might affect comparison results, estimates from combined 2005-2014 survey years were compared with estimates from combined 2005-2013 survey years for most outcomes. Additionally, some outcomes were not collected as early as 2005, resulting in different survey years with different sample sizes (Tables B.1 and B.2).

To account for both the complex survey design and the covariance resulting from the nonmutually exclusive overlap of segments (but different households within segments) over adjacent survey years, SUDAAN® software was used to properly estimate the corresponding variances of these differences. Observed differences between estimates were evaluated in terms of statistical significance with the standard *t*-test (with specified degrees of freedom) at a critical level of 0.05. Additional information on these testing procedures can be found in the statistical inference report in the 2014 NSDUH methodological resource book.[31] When sample sizes are large and there is a substantial overlap of sample between the comparison groups, many differences reported in this comparability assessment are likely to be statistically significant even when the difference is small. Additionally, statistical significance does not relate to the size of the difference. To assist with this evaluation, effect size measures (the distance between two proportions or probabilities) using Cohen's H were also incorporated. Using Cohen's guidelines,[51] only effect sizes greater than 0.2 were considered to be "meaningful differences."

Results indicated that behavioral health estimates for both U.S.-born AI/AN adolescents and adults from 2005 to 2013 were largely comparable with those that included 2014 data. The majority of estimates for behavioral health indicators were not significantly different when comparing combined 2005-2014 data with 2005-2013 data. Among estimates that did demonstrate a statistically significant difference, the effect sizes for all estimates were negligible. Table B.3 shows the range of the lowest five and highest five effect size estimates for significantly different estimates among adults, and Table B.4 shows the same for adolescents. In both cases, effect sizes ranged from 0 to less than 0.03, which indicates a statistical but not meaningful difference in estimates. Based on these analyses, data from 2014 were pooled with the earlier years of data for analysis.

TABLE B.1 Sample Sizes and Years of Data Used for Analyses of Behavioral Health Outcomes among U.S.-Born American Indian/Alaska Native *Adults Aged 18 or Older*, by Tribal Land Residential Status: NSDUH 2005-2014

Behavioral Health Outcome[1]	Sample Size			Years of Data Used in the Report
	Total	Residing on Tribal Lands	Residing off Tribal Lands	
Major Depressive Episode (MDE); Any Mental Health Service Use; All Illicit Drug Use Outcomes; Alcohol and Tobacco Outcomes; Substance Use Disorder; Receipt of Substance Use Treatment	18,500	3,400	15,100	2005-2014
Any Mental Illness (AMI); Serious Mental Illness (SMI); Serious Thoughts of Suicide; Any Mental Health Service among Those with AMI; Any Mental Health Service among Those with SMI; Co-Occurrence of Substance Use Disorder and AMI; Co-Occurrence of Substance Use Disorder and SMI	13,500	2,400	11,100	2008-2014
MDE with Severe Impairment; Treatment for Depression among Those with MDE; Treatment for Depression among Those with MDE with Severe Impairment	11,700	2,100	9,500	2009-2014

[1] Some behavioral health outcomes included in this report were not collected as early as 2005, resulting in different survey years with different sample sizes.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

TABLE B.2 Sample Sizes and Years of Data Used for Analyses of Behavioral Health Outcomes among U.S.-Born American Indian/Alaska Native *Adolescents Aged 12 to 17*, by Tribal Land Residential Status: NSDUH 2005-2014

Behavioral Health Outcome[1]	Sample Size			Years of Data Used in the Report
	Total	Residing on Tribal Lands	Residing off Tribal Lands	
Major Depressive Episode (MDE); Any Mental Health Service Use; All Illicit Drug Use Outcomes; Alcohol and Tobacco Outcomes; Substance Use Disorder; Receipt of Substance Use Treatment	13,400	2,000	11,400	2005-2014
MDE with Severe Impairment; Treatment for Depression among Those with MDE with Severe Impairment	12,200	1,800	10,400	2006-2014

[1] Some behavioral health outcomes included in this report were not collected as early as 2005, resulting in different survey years with different sample sizes.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

TABLE B.3 Examination of Comparability of Behavioral Health Estimates for 2005 to 2014 and 2005 to 2013 among U.S.-Born American Indian/Alaska Native (AI/AN) *Adults Aged 18 or Older*, by Tribal Land Residential Status, Top Five Lowest and Highest Cohen's H Values Where the *T*-Test Indicated Significant Differences: Percentages, 95 Percent Confidence Intervals (CIs), *T*-Test *P* Values, and Cohen's H: NSDUH 2005-2014

Behavioral Health Outcome, by Tribal Land Residential Status	2005-2014		2005-2013		Testing 2005-2014 versus 2005-2013	
	%	95% CI	%	95% CI	*T*-Test *P* Value	Cohen's H
Lowest 5 Cohen's H Where *T*-Test Is Significant						
Past Month Crack Use						
Total U.S.-Born AI/AN	0.5	(0.3-0.7)	0.5	(0.3-0.8)	**0.0005**	**0.0000**
Residing on Tribal Lands	0.2	(0.0-0.9)	0.2	(0.0-1.0)	0.2565	0.0000
Residing off Tribal Lands	0.5	(0.3-0.9)	0.6	(0.3-1.0)	0.0010	0.0135
Any Illicit Drug Use Disorder[1,2]						
Total U.S.-Born AI/AN	4.5	(3.9-5.1)	4.6	(4.0-5.3)	**0.0258**	**0.0048**
Residing on Tribal Lands	4.8	(3.8-6.1)	5.0	(3.9-6.5)	0.2089	0.0093
Residing off Tribal Lands	4.4	(3.8-5.1)	4.6	(3.9-5.3)	0.0598	0.0096
Past Year Crack Use						
Total U.S.-Born AI/AN	0.8	(0.6-1.1)	0.9	(0.6-1.3)	**0.0004**	**0.0109**
Residing on Tribal Lands	0.5	(0.2-1.1)	0.6	(0.3-1.3)	0.0459	0.0135
Residing off Tribal Lands	0.9	(0.6-1.2)	1.0	(0.7-1.4)	**0.0016**	**0.0103**
Past Year Alcohol or Any Illicit Drug Use Treatment[3]						
Total U.S.-Born AI/AN	3.0	(2.6-3.5)	3.1	(2.6-3.6)	0.0758	0.0058
Residing on Tribal Lands	3.3	(2.6-4.2)	3.1	(2.4-4.0)	0.1864	0.0114
Residing off Tribal Lands	2.9	(2.5-3.5)	3.1	(2.6-3.7)	**0.0030**	**0.0117**
Highest 5 Cohen's H Where *T*-Test Is Significant						
Past Year Cigarette Use						
Total U.S.-Born AI/AN	40.5	(38.7-42.3)	41.3	(39.3-43.3)	**0.0038**	**0.0163**
Residing on Tribal Lands	42.2	(37.9-46.6)	42.5	(37.8-47.5)	0.5981	0.0061
Residing off Tribal Lands	40.1	(38.2-42.2)	41.0	(38.8-43.2)	**0.0030**	**0.0183**
Past Month Cigarette Use						
Total U.S.-Born AI/AN	35.8	(34.1-37.6)	36.6	(34.7-38.5)	**0.0041**	**0.0166**
Residing on Tribal Lands	36.8	(32.6-41.3)	37.3	(32.5-42.3)	0.4931	0.0104
Residing off Tribal Lands	35.6	(33.7-37.6)	36.4	(34.3-38.6)	**0.0041**	**0.0167**
Alcohol or Any Illicit Drug Use Treatment among Those Needing Treatment[3,4]						
Total U.S.-Born AI/AN	18.5	(16.1-21.3)	19.0	(16.3-22.0)	0.2326	0.0128
Residing on Tribal Lands	15.3	(11.9-19.5)	14.3	(10.7-18.9)	0.2572	0.0282
Residing off Tribal Lands	19.5	(16.5-22.9)	20.3	(17.1-24.0)	**0.0460**	**0.0200**

NOTE: Bolded items indicate the top five lowest and highest Cohen's H effect size values where the *t*-test *p* value was significant ($p < .05$). Effect sizes of 0.2 or greater are considered to be meaningful differences.

[1] Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription psychotherapeutics used nonmedically. The estimates for nonmedical use of prescription psychotherapeutics, stimulants, and methamphetamine incorporated in these summary estimates do not include data from new methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the 2008 national findings report. See the following reference: Office of Applied Studies. (2009). *Results from the 2008 National Survey on Drug Use and Health: National findings* (HHS Publication No. SMA 09-4434, NSDUH Series H-36). Rockville, MD: Substance Abuse and Mental Health Services Administration.

[2] Past year substance use disorder is defined as meeting criteria for illicit drug or alcohol dependence or abuse. Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). See the following reference: American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

[3] Substance use treatment refers to treatment received in order to reduce or stop illicit drug or alcohol use or for medical problems associated with illicit drug or alcohol use. It includes treatment received at any location, such as a hospital (inpatient), rehabilitation facility (inpatient or outpatient), mental health center, emergency room, private doctor's office, self-help group, or prison/jail.

[4] Respondents were classified as needing treatment for a substance use problem if they met the criteria for a substance use disorder as defined in DSM-IV (see footnote 2 for the reference) or received treatment for illicit drug or alcohol use at a specialty facility (i.e., drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient only], or mental health center). Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription psychotherapeutics used nonmedically, including data from original methamphetamine questions but not including new methamphetamine items added in 2005 and 2006.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

TABLE B.4 Examination of Comparability of Behavioral Health Estimates for 2005 to 2014 and 2005 to 2013 among U.S.-Born American Indian/Alaska Native (AI/AN) *Adolescents Aged 12 to 17*, by Tribal Land Residential Status, Top Five Lowest and Highest Cohen's H Values Where the *T*-Test Indicated Significant Differences: Percentages, 95 Percent Confidence Intervals (CIs), *T*-Test *P* Values, and Cohen's H: NSDUH 2005-2014

Behavioral Health Outcome, by Tribal Land Residential Status	2005-2014		2005-2013		Testing 2005-2014 versus 2005-2013	
	%	95% CI	%	95% CI	*T*-Test *P* Value	Cohen's H
Lowest 5 Cohen's H Where *T*-Test Is Significant						
Past Month Crack Use						
Total U.S.-Born AI/AN	0.1	(0.0-0.1)	0.1	(0.0-0.1)	**0.0332**	**0.0000**
Residing on Tribal Lands	0.1	(0.0-0.4)	0.1	(0.0-0.4)	0.3251	0.0000
Residing off Tribal Lands	0.1	(0.0-0.1)	0.1	(0.0-0.2)	0.0559	0.0000
Past Year Alcohol or Illicit Drug Use Specialty Treatment[1]						
Total U.S.-Born AI/AN	1.2	(0.9-1.4)	1.2	(1.0-1.5)	**0.0332**	**0.0000**
Residing on Tribal Lands	2.0	(1.2-3.1)	2.0	(1.2-3.3)	0.6741	0.0000
Residing off Tribal Lands	1.0	(0.8-1.3)	1.1	(0.9-1.4)	0.0194	0.0098
Past Year Core and Noncore Methamphetamine Use[2]						
Total U.S.-Born AI/AN	0.8	(0.6-1.2)	0.9	(0.7-1.3)	<0.0001	0.0109
Residing on Tribal Lands	0.6	(0.3-0.9)	0.6	(0.4-1.1)	**0.0025**	**0.0000**
Residing off Tribal Lands	0.9	(0.6-1.3)	1.0	(0.7-1.5)	<0.0001	0.0103
Past Month Methamphetamine Use[3]						
Total U.S.-Born AI/AN	0.2	(0.1-0.4)	0.3	(0.2-0.4)	0.0003	0.0201
Residing on Tribal Lands	0.1	(0.0-0.4)	0.1	(0.0-0.5)	0.1142	0.0000
Residing off Tribal Lands	0.3	(0.1-0.4)	0.3	(0.2-0.5)	**0.0007**	**0.0000**
Past Month Core and Noncore Methamphetamine Use[2]						
Total U.S.-Born AI/AN	0.3	(0.2-0.4)	0.3	(0.2-0.5)	**<0.0001**	**0.0000**
Residing on Tribal Lands	0.1	(0.0-0.4)	0.1	(0.0-0.5)	0.1235	0.0000
Residing off Tribal Lands	0.3	(0.2-0.5)	0.3	(0.2-0.6)	**0.0002**	**0.0000**
Highest 5 Cohen's H Where *T*-Test Is Significant						
Past Year Inhalant Use						
Total U.S.-Born AI/AN	4.4	(3.9-5.0)	4.7	(4.1-5.4)	0.0001	0.0144
Residing on Tribal Lands	3.6	(2.8-4.7)	4.0	(3.1-5.2)	**0.0003**	**0.0209**
Residing off Tribal Lands	4.5	(4.0-5.2)	4.8	(4.2-5.6)	0.0014	0.0142
Past Year Hallucinogen Use						
Total U.S.-Born AI/AN	3.8	(3.2-4.5)	3.9	(3.3-4.7)	0.3693	0.0052
Residing on Tribal Lands	5.7	(3.6-9.1)	6.2	(3.8-10.0)	**0.0240**	**0.0211**
Residing off Tribal Lands	3.5	(3.0-4.1)	3.5	(3.0-4.1)	0.8968	0.0000
Past Year Substance Use Disorder[4,5]						
Total U.S.-Born AI/AN	9.1	(8.4-9.9)	9.6	(8.8-10.5)	0.0003	0.0172
Residing on Tribal Lands	10.8	(9.0-12.9)	11.6	(9.6-13.9)	**0.0004**	**0.0254**
Residing off Tribal Lands	8.8	(8.0-9.7)	9.3	(8.4-10.3)	0.0059	0.0174
Past Year Any Illicit Drug Use Disorder[4,5]						
Total U.S.-Born AI/AN	6.2	(5.6-6.9)	6.6	(5.9-7.3)	0.0010	0.0163
Residing on Tribal Lands	7.1	(5.8-8.7)	7.8	(6.3-9.6)	**0.0001**	**0.0267**
Residing off Tribal Lands	6.1	(5.4-6.8)	6.4	(5.6-7.2)	0.0183	0.0124
Past Year Alcohol or Any Illicit Drug Use Treatment[4,5,6]						
Total U.S.-Born AI/AN	9.6	(8.8-10.4)	10.1	(9.3-11.0)	0.0002	0.0168
Residing on Tribal Lands	11.6	(9.8-13.7)	12.5	(10.5-14.8)	**0.0029**	**0.0277**
Residing off Tribal Lands	9.2	(8.4-10.1)	9.7	(8.8-10.6)	0.0026	0.0171

(continued)

TABLE B.4 Examination of Comparability of Behavioral Health Estimates for 2005 to 2014 and 2005 to 2013 among U.S.-Born American Indian/Alaska Native (AI/AN) *Adolescents Aged 12 to 17*, by Tribal Land Residential Status, Top Five Lowest and Highest Cohen's H Values Where the *T*-Test Indicated Significant Differences: Percentages, 95 Percent Confidence Intervals (CIs), *T*-Test *P* Values, and Cohen's H: NSDUH 2005-2014 *(continued)*

NOTE: Bolded items indicate the top five lowest and highest Cohen's H effect size values where the *t*-test *p* value was significant ($p < .05$). Effect sizes of 0.2 or greater are considered to be meaningful differences.

[1] Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription psychotherapeutics used nonmedically. The estimates for nonmedical use of prescription psychotherapeutics, stimulants, and methamphetamine incorporated in these summary estimates do not include data from new methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the 2008 national findings report. See the following reference: Office of Applied Studies. (2009). *Results from the 2008 National Survey on Drug Use and Health: National findings* (HHS Publication No. SMA 09-4434, NSDUH Series H-36). Rockville, MD: Substance Abuse and Mental Health Services Administration.

[2] Past year substance use disorder is defined as meeting criteria for illicit drug or alcohol dependence or abuse. Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). See the following reference: American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

[3] Substance use treatment refers to treatment received in order to reduce or stop illicit drug or alcohol use or for medical problems associated with illicit drug or alcohol use. It includes treatment received at any location, such as a hospital (inpatient), rehabilitation facility (inpatient or outpatient), mental health center, emergency room, private doctor's office, self-help group, or prison/jail.

[4] Respondents were classified as needing treatment for a substance use problem if they met the criteria for a substance use disorder as defined in DSM-IV (see footnote 2 for the reference) or received treatment for illicit drug or alcohol use at a specialty facility (i.e., drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient only], or mental health center). Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription psychotherapeutics used nonmedically, including data from original methamphetamine questions but not including new methamphetamine items added in 2005 and 2006.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

Appendix C: Mental Health Tables

TABLE C.1 Mental Health Characteristics among U.S.-Born American Indian/Alaska Native (AI/AN) *Adults Aged 18 or Older*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2006-2014

Mental Health Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Past Year Major Depressive Episode[1]			
Total U.S.-Born AI/AN	9.9	(9.0-10.9)	N/A
Residing on Tribal Lands	6.1	(4.6-8.1)	N/A
Residing off Tribal Lands	10.7	(9.6-11.8)	<0.0001
Past Year Major Depressive Episode with Severe Impairment[2]			
Total U.S.-Born AI/AN	7.2	(6.2-8.3)	N/A
Residing on Tribal Lands	4.2	(2.7-6.5)	N/A
Residing off Tribal Lands	7.8	(6.6-9.0)	0.0017
Past Year Serious Thoughts of Suicide[3]			
Total U.S.-Born AI/AN	6.2	(5.4-7.2)	N/A
Residing on Tribal Lands	5.6	(3.6-8.6)	N/A
Residing off Tribal Lands	6.4	(5.5-7.4)	0.5827
Any Mental Illness in Past Year[4]			
Total U.S.-Born AI/AN	24.8	(23.2-26.6)	N/A
Residing on Tribal Lands	24.1	(20.4-28.3)	N/A
Residing off Tribal Lands	25.0	(23.1-26.9)	0.7013
Serious Mental Illness in Past Year[5]			
Total U.S.-Born AI/AN	6.8	(5.8-7.8)	N/A
Residing on Tribal Lands	5.2	(3.4-7.8)	N/A
Residing off Tribal Lands	7.1	(6.0-8.3)	0.1230

N/A = not applicable.

[1] Major depressive episode (MDE) is defined based on the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), which specifies a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of specified depression symptoms. Respondents with unknown past year MDE data were excluded. See the following reference: American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

[2] Impairment is based on the Sheehan Disability Scale role domains, which measure the impact of a disorder on a person's life. Impairment is defined as the highest severity level of role impairment across four domains: (1) home management, (2) work, (3) close relationships with others, and (4) social life. Ratings of 7 or more on a 0 to 10 scale were considered severe impairment. Respondents with unknown impairment data were excluded. Data are from the 2009-2014 NSDUHs. See the following reference: Leon, A. C., Olfson, M., Portera, L., Farber, L., & Sheehan, D. V. (1997). Assessing psychiatric impairment in primary care with the Sheehan Disability Scale. *International Journal of Psychiatry in Medicine, 27*(2), 93-105. https://doi.org/10.2190/t8em-c8yh-373n-1uwd

[3] Respondents were asked, "At any time in the past 12 months, did you seriously think about trying to kill yourself?" If they answered "Yes," they were categorized as having serious thoughts of suicide in the past year. Respondents with unknown suicide information were excluded. Data are from the 2008-2014 NSDUHs.

[4] Any mental illness (AMI) is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder, assessed by the Mental Health Surveillance Study (MHSS) *Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Research Version—Axis I Disorders* (MHSS-SCID), which is based on the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR). See the following reference: American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author. Three categories of mental illness severity are defined based on the level of functional impairment: mild mental illness, moderate mental illness, and serious mental illness. AMI includes people in any of the three categories. These mental illness estimates are based on a predictive model and are not direct measures of diagnostic status. For details on the methodology, see Section B.4.3 in Appendix B of the 2013 mental health findings report. See the following reference: Center for Behavioral Health Statistics and Quality. (2014). *Results from the 2013 National Survey on Drug Use and Health: Mental health findings* (HHS Publication No. SMA 14-4887, NSDUH Series H-49). Rockville, MD: Substance Abuse and Mental Health Services Administration. Data are from the 2008-2014 NSDUHs.

[5] Serious mental illness (SMI) is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder, assessed by the Mental Health Surveillance Study (MHSS) *Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Research Version—Axis I Disorders* (MHSS-SCID), which is based on the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR) (see footnote 4 for the reference). SMI includes people with diagnoses resulting in serious functional impairment. These mental illness estimates are based on a predictive model and are not direct measures of diagnostic status. For details on the methodology, see Section B.4.3 in Appendix B of the 2013 mental health findings report (see footnote 4 for the reference). Data are from the 2008-2014 NSDUHs.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2006-2014.

TABLE C.2 Mental Health Service Use among U.S.-Born American Indian/Alaska Native (AI/AN) *Adults Aged 18 or Older*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014

Mental Health Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Past Year Mental Health Service Use			
Any Mental Health Service Use			
Total U.S.-Born AI/AN	16.5	(15.2-17.8)	N/A
Residing on Tribal Lands	14.4	(11.9-17.2)	N/A
Residing off Tribal Lands	16.9	(15.5-18.5)	0.1049
Any Mental Health Service Use among People with Any Mental Illness[1]			
Total U.S.-Born AI/AN	46.3	(42.3-50.3)	N/A
Residing on Tribal Lands	40.2	(29.5-52.0)	N/A
Residing off Tribal Lands	47.4	(43.1-51.8)	0.2572
Any Mental Health Service Use among People with Serious Mental Illness[2]			
Total U.S.-Born AI/AN	68.0	(61.4-73.9)	N/A
Residing on Tribal Lands	*	(*-*)	N/A
Residing off Tribal Lands	67.0	(59.9-73.5)	*
Receipt of Treatment for Depression in Past Year			
Any Treatment for Depression in Past Year among Those with Major Depressive Episode[3]			
Total U.S.-Born AI/AN	72.8	(67.3-77.6)	N/A
Residing on Tribal Lands	*	(*-*)	N/A
Residing off Tribal Lands	73.6	(68.2-78.4)	*
Any Treatment for Depression in Past Year among Those with Major Depressive Episode with Severe Impairment[4]			
Total U.S.-Born AI/AN	81.2	(76.5-85.1)	N/A
Residing on Tribal Lands	*	(*-*)	N/A
Residing off Tribal Lands	81.2	(76.2-85.4)	*

N/A = not applicable.

*Low precision; no estimate reported.

NOTE: Past year mental health service use is defined as having received inpatient treatment/counseling or outpatient treatment/counseling or having used prescription medication for problems with emotions, nerves, or mental health. Respondents were not to include treatment for illicit drug or alcohol use. Respondents with unknown treatment/counseling information were excluded.

NOTE: Receipt of treatment for depression in the past year is defined as seeing or talking to a health or alternative service professional or using prescription medication for depression in the past year. Respondents with unknown treatment data were excluded.

[1] Any mental illness (AMI) is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder, assessed by the Mental Health Surveillance Study (MHSS) *Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Research Version—Axis I Disorders* (MHSS-SCID), which is based on the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR). See the following reference: American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author. Three categories of mental illness severity are defined based on the level of functional impairment: mild mental illness, moderate mental illness, and serious mental illness. AMI includes people in any of the three categories. These mental illness estimates are based on a predictive model and are not direct measures of diagnostic status. For details on the methodology, see Section B.4.3 in Appendix B of the 2013 mental health findings report. See the following reference: Center for Behavioral Health Statistics and Quality. (2014). *Results from the 2013 National Survey on Drug Use and Health: Mental health findings* (HHS Publication No. SMA 14-4887, NSDUH Series H-49). Rockville, MD: Substance Abuse and Mental Health Services Administration. Data are from the 2008-2014 NSDUHs.

[2] Serious mental illness (SMI) is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder, assessed by the Mental Health Surveillance Study (MHSS) *Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Research Version—Axis I Disorders* (MHSS-SCID), which is based on the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR). SMI includes people with diagnoses resulting in serious functional impairment. These mental illness estimates are based on a predictive model and are not direct measures of diagnostic status. For details on the methodology, see Section B.4.3 in Appendix B of the 2013 mental health findings report (see footnote 1 for the reference). Data are from the 2008-2014 NSDUHs.

[3] Major depressive episode (MDE) is defined based on the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), which specifies a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of specified depression symptoms. See the following reference: American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author. Respondents with unknown past year MDE data were excluded.

[4] Impairment is based on the Sheehan Disability Scale role domains, which measure the impact of a disorder on a person's life. Impairment is defined as the highest severity level of role impairment across four domains: (1) home management, (2) work, (3) close relationships with others, and (4) social life. Ratings of 7 or more on a 0 to 10 scale were considered severe impairment. Respondents with unknown impairment data were excluded. Data are from the 2008-2014 NSDUHs. See the following reference: Leon, A. C., Olfson, M., Portera, L., Farber, L., & Sheehan, D. V. (1997). Assessing psychiatric impairment in primary care with the Sheehan Disability Scale. *International Journal of Psychiatry in Medicine, 27*(2), 93-105. https://doi.org/10.2190/t8em-c8yh-373n-1uwd

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

TABLE C.3 Past Year Major Depressive Episode and Treatment for Major Depressive Episode among U.S.-Born American Indian/Alaska Native (AI/AN) *Adolescents Aged 12 to 17*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014

Mental Health Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Past Year Major Depressive Episode			
Total U.S.-Born AI/AN	10.7	(9.8-11.6)	N/A
Residing on Tribal Lands	7.7	(5.7-10.3)	N/A
Residing off Tribal Lands	11.2	(10.3-12.2)	0.0039
Past Year Major Depressive Episode with Severe Impairment[1]			
Total U.S.-Born AI/AN	7.5	(6.8-8.4)	N/A
Residing on Tribal Lands	5.5	(3.6-8.2)	N/A
Residing off Tribal Lands	7.9	(7.1-8.7)	0.0493
Receipt of Treatment for Depression in Past Year[2]			
Any Treatment for Depression in Past Year among Those with Major Depressive Episode			
Total U.S.-Born AI/AN	40.2	(35.8-44.8)	N/A
Residing on Tribal Lands	*	(*-*)	N/A
Residing off Tribal Lands	41.1	(36.5-45.9)	*
Any Treatment for Depression in Past Year among Those with Major Depressive Episode with Severe Impairment[1]			
Total U.S.-Born AI/AN	42.4	(37.1-47.9)	N/A
Residing on Tribal Lands	*	(*-*)	N/A
Residing off Tribal Lands	42.3	(36.7-48.1)	*

N/A = not applicable.

*Low precision; no estimate reported.

NOTE: Major depressive episode (MDE) is defined based on the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), which specifies a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of specified depression symptoms. See the following reference: American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author. Respondents with unknown past year MDE data were excluded.

[1] Impairment is based on the Sheehan Disability Scale role domains, which measure the impact of a disorder on a person's life. Impairment is defined as the highest severity level of role impairment across four domains: (1) home management, (2) work, (3) close relationships with others, and (4) social life. Ratings of 7 or more on a 0 to 10 scale were considered severe impairment. Respondents with unknown impairment data were excluded. Data are from the 2006-2014 NSDUHs.

[2] Receipt of treatment for depression in the past year is defined as seeing or talking to a health or alternative service professional or using prescription medication for depression in the past year. Respondents with unknown treatment data were excluded.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

Appendix D: Substance Use Tables

TABLE D.1 Substance Use Characteristics among U.S.-Born American Indian/Alaska Native (AI/AN) *Adults Aged 18 or Older*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014

Substance Use Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Past Month Tobacco Use			
Any Tobacco Use[1]			
Total U.S.-Born AI/AN	41.3	(39.5-43.2)	N/A
Residing on Tribal Lands	43.8	(39.5-48.2)	N/A
Residing off Tribal Lands	40.8	(38.8-42.8)	0.2242
Cigarette Use			
Total U.S.-Born AI/AN	35.8	(34.1-37.6)	N/A
Residing on Tribal Lands	36.8	(32.6-41.3)	N/A
Residing off Tribal Lands	35.6	(33.7-37.6)	0.6264
Daily Cigarette Use[2]			
Total U.S.-Born AI/AN	22.5	(20.9-24.1)	N/A
Residing on Tribal Lands	19.0	(15.9-22.6)	N/A
Residing off Tribal Lands	23.2	(21.4-25.0)	0.0329
Daily Cigarette Use among Past Month Cigarette Users[2]			
Total U.S.-Born AI/AN	62.7	(60.0-65.3)	N/A
Residing on Tribal Lands	51.5	(46.0-57.1)	N/A
Residing off Tribal Lands	65.1	(62.1-67.9)	<0.0001
Past Month Alcohol Use			
Any Alcohol Use			
Total U.S.-Born AI/AN	50.7	(48.7-52.6)	N/A
Residing on Tribal Lands	39.7	(34.4-45.2)	N/A
Residing off Tribal Lands	53.0	(50.9-55.0)	<0.0001
Binge Alcohol Use[3]			
Total U.S.-Born AI/AN	26.4	(25.0-27.8)	N/A
Residing on Tribal Lands	26.7	(23.6-30.1)	N/A
Residing off Tribal Lands	26.3	(24.8-27.9)	0.8127
Heavy Alcohol Use[4]			
Total U.S.-Born AI/AN	8.0	(7.2-8.8)	N/A
Residing on Tribal Lands	8.8	(7.0-11.0)	N/A
Residing off Tribal Lands	7.8	(7.0-8.7)	0.3598
Past Month Illicit Drug Use			
Any Illicit Drug Use[5]			
Total U.S.-Born AI/AN	13.7	(12.7-14.8)	N/A
Residing on Tribal Lands	12.3	(10.5-14.3)	N/A
Residing off Tribal Lands	14.0	(12.8-15.3)	0.1309
Marijuana			
Total U.S.-Born AI/AN	11.4	(10.5-12.5)	N/A
Residing on Tribal Lands	8.3	(7.0-9.9)	N/A
Residing off Tribal Lands	12.0	(10.9-13.3)	0.0001

(continued)

TABLE D.1 Substance Use Characteristics among U.S.-Born American Indian/Alaska Native (AI/AN) *Adults Aged 18 or Older*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014 *(continued)*

Substance Use Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Cocaine/Crack			
Total U.S.-Born AI/AN	1.2	(0.9-1.6)	N/A
Residing on Tribal Lands	0.6	(0.4-1.1)	N/A
Residing off Tribal Lands	1.3	(0.9-1.8)	0.0225
Crack			
Total U.S.-Born AI/AN	0.5	(0.3-0.7)	N/A
Residing on Tribal Lands	0.2	(0.0-0.9)	N/A
Residing off Tribal Lands	0.5	(0.3-0.9)	0.0802
Heroin			
Total U.S.-Born AI/AN	0.1	(0.1-0.3)	N/A
Residing on Tribal Lands	<0.16	(0.0-0.1)	N/A
Residing off Tribal Lands	0.1	(0.1-0.3)	0.0399
Hallucinogens			
Total U.S.-Born AI/AN	1.1	(0.7-1.7)	N/A
Residing on Tribal Lands	1.1	(0.5-2.4)	N/A
Residing off Tribal Lands	1.1	(0.6-1.9)	0.9303
Inhalants			
Total U.S.-Born AI/AN	0.2	(0.1-0.3)	N/A
Residing on Tribal Lands	0.1	(0.0-0.5)	N/A
Residing off Tribal Lands	0.2	(0.1-0.4)	0.4940
Core and Noncore Methamphetamine[7]			
Total U.S.-Born AI/AN	0.5	(0.3-0.7)	N/A
Residing on Tribal Lands	0.8	(0.4-1.6)	N/A
Residing off Tribal Lands	0.4	(0.3-0.7)	0.2351
Nonmedical Use of Prescription Psychotherapeutics[7,8,9]			
Total U.S.-Born AI/AN	3.4	(2.9-3.9)	N/A
Residing on Tribal Lands	4.4	(3.3-5.8)	N/A
Residing off Tribal Lands	3.2	(2.7-3.7)	0.0697
Nonmedical Use of Prescription Pain Relievers			
Total U.S.-Born AI/AN	2.5	(2.1-3.0)	N/A
Residing on Tribal Lands	3.4	(2.4-4.8)	N/A
Residing off Tribal Lands	2.4	(2.0-2.9)	0.1062
Opioid Misuse[10]			
Total U.S.-Born AI/AN	2.6	(2.2-3.1)	N/A
Residing on Tribal Lands	3.4	(2.4-4.8)	N/A
Residing off Tribal Lands	2.5	(2.1-3.0)	0.1486
Past Year Substance Use			
Any Tobacco Use[1]			
Total U.S.-Born AI/AN	46.9	(45.1-48.7)	N/A
Residing on Tribal Lands	50.1	(45.9-54.2)	N/A
Residing off Tribal Lands	46.2	(44.2-48.3)	0.1076

(continued)

TABLE D.1 Substance Use Characteristics among U.S.-Born American Indian/Alaska Native (AI/AN) *Adults Aged 18 or Older*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014 *(continued)*

Substance Use Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Cigarette Use			
Total U.S.-Born AI/AN	40.5	(38.7-42.3)	N/A
Residing on Tribal Lands	42.2	(37.9-46.6)	N/A
Residing off Tribal Lands	40.1	(38.2-42.2)	0.4068
Any Alcohol Use			
Total U.S.-Born AI/AN	65.5	(63.7-67.3)	N/A
Residing on Tribal Lands	55.8	(51.0-60.5)	N/A
Residing off Tribal Lands	67.5	(65.5-69.5)	<0.0001
Any Illicit Drug Use[5]			
Total U.S.-Born AI/AN	21.9	(20.6-23.2)	N/A
Residing on Tribal Lands	21.1	(18.6-23.8)	N/A
Residing off Tribal Lands	22.1	(20.6-23.6)	0.5174
Marijuana			
Total U.S.-Born AI/AN	17.3	(16.2-18.4)	N/A
Residing on Tribal Lands	14.1	(12.3-16.1)	N/A
Residing off Tribal Lands	17.9	(16.7-19.3)	0.0014
Cocaine/Crack			
Total U.S.-Born AI/AN	2.9	(2.5-3.4)	N/A
Residing on Tribal Lands	2.0	(1.5-2.8)	N/A
Residing off Tribal Lands	3.1	(2.6-3.6)	0.0172
Crack			
Total U.S.-Born AI/AN	0.8	(0.6-1.1)	N/A
Residing on Tribal Lands	0.5	(0.2-1.1)	N/A
Residing off Tribal Lands	0.9	(0.6-1.2)	0.1537
Heroin			
Total U.S.-Born AI/AN	0.4	(0.2-0.6)	N/A
Residing on Tribal Lands	0.2	(0.1-0.6)	N/A
Residing off Tribal Lands	0.4	(0.2-0.6)	0.1953
Hallucinogens			
Total U.S.-Born AI/AN	3.1	(2.5-3.8)	N/A
Residing on Tribal Lands	3.8	(2.4-6.1)	N/A
Residing off Tribal Lands	3.0	(2.4-3.7)	0.3775
Inhalants			
Total U.S.-Born AI/AN	0.7	(0.5-0.9)	N/A
Residing on Tribal Lands	0.4	(0.2-0.7)	N/A
Residing off Tribal Lands	0.8	(0.6-1.1)	0.0140
Core and Noncore Methamphetamine[7]			
Total U.S.-Born AI/AN	1.3	(1.0-1.7)	N/A
Residing on Tribal Lands	1.5	(1.0-2.2)	N/A
Residing off Tribal Lands	1.3	(0.9-1.8)	0.6327

(continued)

TABLE D.1 Substance Use Characteristics among U.S.-Born American Indian/Alaska Native (AI/AN) *Adults Aged 18 or Older*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014 *(continued)*

Substance Use Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Nonmedical Use of Prescription Psychotherapeutics[7,9]			
Total U.S.-Born AI/AN	8.0	(7.2-8.9)	N/A
Residing on Tribal Lands	8.6	(7.2-10.3)	N/A
Residing off Tribal Lands	7.9	(7.0-8.9)	0.4138
Nonmedical Use of Prescription Pain Relievers			
Total U.S.-Born AI/AN	6.1	(5.4-6.8)	N/A
Residing on Tribal Lands	6.6	(5.2-8.3)	N/A
Residing off Tribal Lands	5.9	(5.2-6.7)	0.4769
Opioid Misuse[10]			
Total U.S.-Born AI/AN	6.2	(5.6-6.9)	N/A
Residing on Tribal Lands	6.6	(5.2-8.3)	N/A
Residing off Tribal Lands	6.1	(5.4-7.0)	0.6229
Past Year Substance Use Disorder[11]			
Alcohol Use Disorder			
Total U.S.-Born AI/AN	10.5	(9.7-11.4)	N/A
Residing on Tribal Lands	16.4	(14.1-18.9)	N/A
Residing off Tribal Lands	9.3	(8.4-10.3)	<0.0001
Any Illicit Drug Use Disorder[5]			
Total U.S.-Born AI/AN	4.5	(3.9-5.1)	N/A
Residing on Tribal Lands	4.8	(3.8-6.1)	N/A
Residing off Tribal Lands	4.4	(3.8-5.1)	0.5318
Substance Use Disorder (Alcohol or Any Illicit Drug Use Disorder)[5]			
Total U.S.-Born AI/AN	13.1	(12.1-14.1)	N/A
Residing on Tribal Lands	18.3	(16.0-20.9)	N/A
Residing off Tribal Lands	12.0	(11.0-13.1)	<0.0001
Co-Occurring Mental Health and Substance Use Disorders in Past Year			
Substance Use Disorder and Any Mental Illness[12]			
Total U.S.-Born AI/AN	6.2	(5.4-7.1)	N/A
Residing on Tribal Lands	9.5	(6.5-13.6)	N/A
Residing off Tribal Lands	5.5	(4.8-6.4)	0.0315
Substance Use Disorder and Serious Mental Illness[13]			
Total U.S.-Born AI/AN	1.9	(1.5-2.5)	N/A
Residing on Tribal Lands	2.0	(1.0-4.1)	N/A
Residing off Tribal Lands	1.9	(1.5-2.5)	0.9086

N/A = not applicable.

[1] Tobacco products include cigarettes, smokeless tobacco (i.e., chewing tobacco or snuff), cigars, or pipe tobacco. Tobacco product use in the past year excludes past year pipe tobacco use but includes past month pipe tobacco use.

[2] Daily cigarette use is defined as smoking every day for at least 30 days. Smokers are defined as smoking at least one cigarette in the past 30 days.

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

[4] Heavy alcohol use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

[5] Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription psychotherapeutics used nonmedically. The estimates for nonmedical use of prescription psychotherapeutics, stimulants, and methamphetamine incorporated in these summary estimates do not include data from new methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the 2008 national findings report. See the following reference: Office of Applied Studies. (2009). *Results from the 2008 National Survey on Drug Use and Health: National findings* (HHS Publication No. SMA 09-4434, NSDUH Series H-36). Rockville, MD: Substance Abuse and Mental Health Services Administration.

[6] Estimate is > 0.00 but less than 0.05.

[7] Estimates of nonmedical use of prescription psychotherapeutics and methamphetamine in the designated rows include data from new methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in NSDUH reports prior to the 2007 national findings report. See the following reference: Office of Applied Studies. (2008). *Results from the 2007 National Survey on Drug Use and Health: National findings* (HHS Publication No. SMA 08-4343, NSDUH Series H-34). Rockville, MD: Substance Abuse and Mental Health Services Administration. Also see Section B.4.8 in Appendix B of the 2008 national findings report (see footnote 5 for the reference).

[8] Estimates of methamphetamine do not include data from new methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the 2008 national findings report (see footnote 5 for the reference).

[9] Nonmedical use of prescription psychotherapeutics includes the nonmedical use of prescription pain relievers, tranquilizers, stimulants, and sedatives and does not include over-the-counter drugs. Nonmedical use is defined as use without a prescription of the individual's own or simply for the experience or feeling the drugs caused.

[10] Opioid misuse includes heroin use or nonmedical use of prescription pain relievers.

[11] Past year substance use disorder is defined as meeting criteria for illicit drug or alcohol dependence or abuse. Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). See the following reference: American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

[12] Any mental illness (AMI) is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder, assessed by the Mental Health Surveillance Study (MHSS) *Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Research Version—Axis I Disorders* (MHSS-SCID), which is based on the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR). See the following reference: American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author. Three categories of mental illness severity are defined based on the level of functional impairment: mild mental illness, moderate mental illness, and serious mental illness. AMI includes people in any of the three categories. These mental illness estimates are based on a predictive model and are not direct measures of diagnostic status. For details on the methodology, see Section B.4.3 in Appendix B of the 2013 mental health findings report. See the following reference: Center for Behavioral Health Statistics and Quality. (2014). *Results from the 2013 National Survey on Drug Use and Health: Mental health findings* (HHS Publication No. SMA 14-4887, NSDUH Series H-49). Rockville, MD: Substance Abuse and Mental Health Services Administration.

[13] Serious mental illness (SMI) is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder, assessed by the Mental Health Surveillance Study (MHSS) *Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Research Version—Axis I Disorders* (MHSS-SCID), which is based on the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR) (see footnote 12 for the reference). SMI includes people with diagnoses resulting in serious functional impairment. These mental illness estimates are based on a predictive model and are not direct measures of diagnostic status. For details on the methodology, see Section B.4.3 in Appendix B of the 2013 mental health findings report (see footnote 12 for the reference).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

TABLE D.2 Substance Use Treatment among U.S.-Born American Indian/Alaska Native (AI/AN) *Adults Aged 18 or Older*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014

Substance Use Treatment Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Need for Substance Use Treatment in Past Year			
Total U.S.-Born AI/AN	13.7	(12.8-14.8)	N/A
Residing on Tribal Lands	19.1	(16.7-21.7)	N/A
Residing off Tribal Lands	12.7	(11.6-13.8)	<0.0001
Received Any Substance Use Treatment in Past Year			
Total U.S.-Born AI/AN	3.0	(2.6-3.5)	N/A
Residing on Tribal Lands	3.3	(2.6-4.2)	N/A
Residing off Tribal Lands	2.9	(2.5-3.5)	0.3918
Received Substance Use Treatment at Specialty Facility			
Total U.S.-Born AI/AN	1.9	(1.6-2.3)	N/A
Residing on Tribal Lands	2.0	(1.5-2.8)	N/A
Residing off Tribal Lands	1.9	(1.6-2.4)	0.7657
Received Substance Use Treatment at Specialty Facility among Those Needing Treatment			
Total U.S.-Born AI/AN	14.1	(11.9-16.7)	N/A
Residing on Tribal Lands	10.7	(7.9-14.3)	N/A
Residing off Tribal Lands	15.2	(12.5-18.4)	0.0416

N/A = not applicable.

NOTE: Respondents were classified as needing treatment for a substance use problem if they met the criteria for a substance use disorder as defined in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) or received treatment for illicit drug or alcohol use at a specialty facility (i.e., drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient only], or mental health center). Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription psychotherapeutics used nonmedically, including data from original methamphetamine questions but not including new methamphetamine items added in 2005 and 2006. See the following reference: American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

NOTE: Received any substance use treatment refers to treatment received in order to reduce or stop illicit drug or alcohol use or for medical problems associated with illicit drug or alcohol use. It includes treatment received at any location, such as a hospital (inpatient), rehabilitation facility (inpatient or outpatient), mental health center, emergency room, private doctor's office, self-help group, or prison/jail.

NOTE: Received substance use treatment at a specialty facility refers to treatment received at a hospital (inpatient only), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop illicit drug or alcohol use or for medical problems associated with illicit drug or alcohol use.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

TABLE D.3 Substance Use Characteristics among U.S.-Born American Indian/Alaska Native (AI/AN) *Adolescents Aged 12 to 17*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014

Substance Use Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Past Month Tobacco Use			
Any Tobacco Use[1]			
Total U.S.-Born AI/AN	12.8	(11.9-13.7)	N/A
Residing on Tribal Lands	20.3	(17.7-23.1)	N/A
Residing off Tribal Lands	11.4	(10.5-12.4)	<0.0001
Cigarette Use			
Total U.S.-Born AI/AN	10.1	(9.3-11.0)	N/A
Residing on Tribal Lands	15.6	(13.2-18.2)	N/A
Residing off Tribal Lands	9.2	(8.3-10.0)	<0.0001
Daily Cigarette Use[2]			
Total U.S.-Born AI/AN	2.2	(1.8-2.7)	N/A
Residing on Tribal Lands	3.4	(2.3-5.1)	N/A
Residing off Tribal Lands	2.0	(1.6-2.5)	0.0504
Daily Cigarette Use among Past Month Cigarettes Users[2]			
Total U.S.-Born AI/AN	21.8	(18.3-25.7)	N/A
Residing on Tribal Lands	22.1	(14.9-31.5)	N/A
Residing off Tribal Lands	21.7	(17.9-26.0)	0.9266
Past Month Alcohol Use			
Any Alcohol Use			
Total U.S.-Born AI/AN	13.7	(12.7-14.7)	N/A
Residing on Tribal Lands	13.3	(11.0-15.9)	N/A
Residing off Tribal Lands	13.7	(12.6-14.9)	0.7393
Binge Alcohol Use[3]			
Total U.S.-Born AI/AN	9.1	(8.2-10.0)	N/A
Residing on Tribal Lands	9.6	(7.8-11.7)	N/A
Residing off Tribal Lands	9.0	(8.0-10.0)	0.5892
Heavy Alcohol Use[4]			
Total U.S.-Born AI/AN	2.0	(1.5-2.6)	N/A
Residing on Tribal Lands	2.4	(1.3-4.3)	N/A
Residing off Tribal Lands	1.9	(1.4-2.6)	0.5386
Past Month Illicit Drug Use			
Any Illicit Drug Use[5]			
Total U.S.-Born AI/AN	12.7	(11.8-13.6)	N/A
Residing on Tribal Lands	14.8	(12.3-17.7)	N/A
Residing off Tribal Lands	12.3	(11.4-13.3)	0.1008
Marijuana			
Total U.S.-Born AI/AN	9.3	(8.5-10.1)	N/A
Residing on Tribal Lands	11.4	(9.2-14.0)	N/A
Residing off Tribal Lands	8.9	(8.1-9.8)	0.0580

(continued)

TABLE D.3 Substance Use Characteristics among U.S.-Born American Indian/Alaska Native (AI/AN) *Adolescents Aged 12 to 17*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014 *(continued)*

Substance Use Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Cocaine/Crack			
Total U.S.-Born AI/AN	0.5	(0.3-0.7)	N/A
Residing on Tribal Lands	0.5	(0.1-1.8)	N/A
Residing off Tribal Lands	0.4	(0.3-0.7)	0.8239
Crack			
Total U.S.-Born AI/AN	0.1	(0.0-0.1)	N/A
Residing on Tribal Lands	0.1	(0.0-0.4)	N/A
Residing off Tribal Lands	0.1	(0.0-0.1)	0.9397
Heroin			
Total U.S.-Born AI/AN	0.1	(0.0-0.2)	N/A
Residing on Tribal Lands	*	(*-*)	N/A
Residing off Tribal Lands	0.1	(0.0-0.3)	*
Hallucinogens			
Total U.S.-Born AI/AN	1.3	(1.0-1.6)	N/A
Residing on Tribal Lands	1.9	(1.1-3.3)	N/A
Residing off Tribal Lands	1.2	(0.9-1.5)	0.1874
Inhalants			
Total U.S.-Born AI/AN	1.3	(1.0-1.5)	N/A
Residing on Tribal Lands	1.3	(0.9-2.1)	N/A
Residing off Tribal Lands	1.3	(1.0-1.6)	0.8029
Core and Noncore Methamphetamine[6]			
Total U.S.-Born AI/AN	0.3	(0.2-0.4)	N/A
Residing on Tribal Lands	0.1	(0.0-0.4)	N/A
Residing off Tribal Lands	0.3	(0.2-0.5)	0.1044
Nonmedical Use of Prescription Psychotherapeutics[6,7]			
Total U.S.-Born AI/AN	4.0	(3.5-4.6)	N/A
Residing on Tribal Lands	4.4	(3.0-6.4)	N/A
Residing off Tribal Lands	4.0	(3.4-4.6)	0.6151
Nonmedical Use of Prescription Pain Relievers			
Total U.S.-Born AI/AN	3.4	(2.9-4.0)	N/A
Residing on Tribal Lands	3.8	(2.5-5.9)	N/A
Residing off Tribal Lands	3.3	(2.8-4.0)	0.5828
Opioid Misuse[8]			
Total U.S.-Born AI/AN	3.5	(3.0-4.1)	N/A
Residing on Tribal Lands	3.8	(2.5-5.9)	N/A
Residing off Tribal Lands	3.4	(2.9-4.0)	0.6287
Past Year Substance Use			
Any Tobacco Use[1]			
Total U.S.-Born AI/AN	20.3	(19.1-21.5)	N/A
Residing on Tribal Lands	29.0	(26.2-32.0)	N/A
Residing off Tribal Lands	18.7	(17.5-19.9)	<0.0001

(continued)

TABLE D.3 Substance Use Characteristics among U.S.-Born American Indian/Alaska Native (AI/AN) *Adolescents Aged 12 to 17*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014 *(continued)*

Substance Use Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Cigarette Use			
Total U.S.-Born AI/AN	16.7	(15.6-17.9)	N/A
Residing on Tribal Lands	23.9	(20.9-27.2)	N/A
Residing off Tribal Lands	15.4	(14.3-16.6)	<0.0001
Any Alcohol Use			
Total U.S.-Born AI/AN	29.1	(27.8-30.4)	N/A
Residing on Tribal Lands	27.9	(25.0-31.0)	N/A
Residing off Tribal Lands	29.3	(27.9-30.8)	0.4176
Any Illicit Drug Use[5]			
Total U.S.-Born AI/AN	23.7	(22.4-25.0)	N/A
Residing on Tribal Lands	28.5	(25.0-32.1)	N/A
Residing off Tribal Lands	22.8	(21.6-24.1)	0.0031
Marijuana			
Total U.S.-Born AI/AN	16.8	(15.8-17.9)	N/A
Residing on Tribal Lands	20.2	(17.5-23.3)	N/A
Residing off Tribal Lands	16.2	(15.1-17.4)	0.0127
Cocaine/Crack			
Total U.S.-Born AI/AN	1.5	(1.2-2.0)	N/A
Residing on Tribal Lands	2.2	(1.2-3.8)	N/A
Residing off Tribal Lands	1.4	(1.1-1.8)	0.2522
Crack			
Total U.S.-Born AI/AN	0.2	(0.1-0.4)	N/A
Residing on Tribal Lands	0.3	(0.1-0.8)	N/A
Residing off Tribal Lands	0.2	(0.1-0.4)	0.6643
Heroin			
Total U.S.-Born AI/AN	0.3	(0.2-0.5)	N/A
Residing on Tribal Lands	0.2	(0.1-0.7)	N/A
Residing off Tribal Lands	0.3	(0.2-0.5)	0.4638
Hallucinogens			
Total U.S.-Born AI/AN	3.8	(3.2-4.5)	N/A
Residing on Tribal Lands	5.7	(3.6-9.1)	N/A
Residing off Tribal Lands	3.5	(3.0-4.1)	0.1053
Inhalants			
Total U.S.-Born AI/AN	4.4	(3.9-5.0)	N/A
Residing on Tribal Lands	3.6	(2.8-4.7)	N/A
Residing off Tribal Lands	4.5	(4.0-5.2)	0.0911
Core and Noncore Methamphetamine[6]			
Total U.S.-Born AI/AN	0.8	(0.6-1.2)	N/A
Residing on Tribal Lands	0.6	(0.3-0.9)	N/A
Residing off Tribal Lands	0.9	(0.6-1.3)	0.1563

(continued)

TABLE D.3 Substance Use Characteristics among U.S.-Born American Indian/Alaska Native (AI/AN) *Adolescents Aged 12 to 17*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014 *(continued)*

Substance Use Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Nonmedical Use of Prescription Psychotherapeutics[6,7]			
Total U.S.-Born AI/AN	9.2	(8.4-10.1)	N/A
Residing on Tribal Lands	10.4	(8.3-13.0)	N/A
Residing off Tribal Lands	9.0	(8.2-9.9)	0.2662
Nonmedical Use of Prescription Pain Relievers			
Total U.S.-Born AI/AN	8.0	(7.2-8.8)	N/A
Residing on Tribal Lands	9.2	(7.2-11.8)	N/A
Residing off Tribal Lands	7.7	(7.0-8.6)	0.2183
Opioid Misuse[8]			
Total U.S.-Born AI/AN	8.0	(7.3-8.9)	N/A
Residing on Tribal Lands	9.4	(7.3-12.0)	N/A
Residing off Tribal Lands	7.8	(7.1-8.6)	0.1994
Past Year Substance Use Disorder[9]			
Alcohol Use Disorder			
Total U.S.-Born AI/AN	5.4	(4.8-6.1)	N/A
Residing on Tribal Lands	6.2	(4.9-7.8)	N/A
Residing off Tribal Lands	5.3	(4.6-6.0)	0.2557
Any Illicit Drug Use Disorder			
Total U.S.-Born AI/AN	6.2	(5.6-6.9)	N/A
Residing on Tribal Lands	7.1	(5.8-8.7)	N/A
Residing off Tribal Lands	6.1	(5.4-6.8)	0.1901
Substance Use Disorder (Alcohol or Any Illicit Drug Use Disorder)			
Total U.S.-Born AI/AN	9.1	(8.4-9.9)	N/A
Residing on Tribal Lands	10.8	(9.0-12.9)	N/A
Residing off Tribal Lands	8.8	(8.0-9.7)	0.0744

N/A = not applicable.

*Low precision; no estimate reported.

[1] Tobacco products include cigarettes, smokeless tobacco (i.e., chewing tobacco or snuff), cigars, or pipe tobacco. Tobacco product use in the past year excludes past year pipe tobacco use, but includes past month pipe tobacco use.

[2] Daily cigarette use is defined as smoking every day for at least 30 days. Smokers are defined as smoking at least one cigarette in the past 30 days.

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

[4] Heavy alcohol use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

[5] Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription psychotherapeutics used nonmedically. The estimates for nonmedical use of prescription psychotherapeutics, stimulants, and methamphetamine incorporated in these summary estimates do not include data from new methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the 2008 national findings report. See the following reference: Office of Applied Studies. (2009). *Results from the 2008 National Survey on Drug Use and Health: National findings* (HHS Publication No. SMA 09-4434, NSDUH Series H-36). Rockville, MD: Substance Abuse and Mental Health Services Administration.

[6] Estimates of nonmedical use of prescription psychotherapeutics and methamphetamine in the designated rows include data from new methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in NSDUH reports prior to the 2007 national findings report. See the following reference: Office of Applied Studies. (2008). *Results from the 2007 National Survey on Drug Use and Health: National findings* (HHS Publication No. SMA 08-4343, NSDUH Series H-34). Rockville, MD: Substance Abuse and Mental Health Services Administration. Also see Section B.4.8 in Appendix B of the 2008 national findings report (see footnote 5 for the reference).

[7] Nonmedical use of prescription psychotherapeutics includes the nonmedical use of prescription pain relievers, tranquilizers, stimulants, and sedatives and does not include over-the-counter drugs. Nonmedical use is defined as use without a prescription of the individual's own or simply for the experience or feeling the drugs caused.

[8] Opioid misuse includes heroin use or nonmedical use of prescription pain relievers.

[9] Past year substance use disorder is defined as meeting criteria for illicit drug or alcohol dependence or abuse. Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). See the following reference: American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.

TABLE D.4 Substance Use Treatment among U.S.-Born American Indian/Alaska Native (AI/AN) *Adolescents Aged 12 to 17*, by Tribal Land Residential Status, Percentages, 95 Percent Confidence Intervals (CIs), and *T*-Test *P* Values: NSDUH 2005-2014

Substance Use Treatment Characteristic, by Tribal Land Residential Status	%	95% CI	*T*-Test *P* Value
Need for Substance Use Treatment in Past Year			
Total U.S.-Born AI/AN	9.6	(8.8-10.4)	N/A
Residing on Tribal Lands	11.6	(9.8-13.7)	N/A
Residing off Tribal Lands	9.2	(8.4-10.1)	0.0263
Received Any Substance Use Treatment in Past Year			
Total U.S.-Born AI/AN	2.5	(2.1-3.0)	N/A
Residing on Tribal Lands	3.4	(2.4-4.8)	N/A
Residing off Tribal Lands	2.3	(1.9-2.9)	0.1041
Received Substance Use Treatment at Specialty Facility in Past Year			
Total U.S.-Born AI/AN	1.2	(0.9-1.4)	N/A
Residing on Tribal Lands	2.0	(1.2-3.1)	N/A
Residing off Tribal Lands	1.0	(0.8-1.3)	0.0507
Received Substance Use Treatment at Specialty Facility in Past Year among Those Needing Treatment			
Total U.S.-Born AI/AN	12.2	(10.0-14.9)	N/A
Residing on Tribal Lands	16.9	(10.8-25.4)	N/A
Residing off Tribal Lands	11.2	(8.9-14.0)	0.1443

N/A = not applicable.

NOTE: Respondents were classified as needing treatment for a substance use problem if they met the criteria for a substance use disorder as defined in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) or received treatment for illicit drug or alcohol use at a specialty facility (i.e., drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient only], or mental health center). Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription psychotherapeutics used nonmedically, including data from original methamphetamine questions but not including new methamphetamine items added in 2005 and 2006. See the following reference: American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

NOTE: Any substance use treatment refers to treatment received in order to reduce or stop illicit drug or alcohol use or for medical problems associated with illicit drug or alcohol use. It includes treatment received at any location, such as a hospital (inpatient), rehabilitation facility (inpatient or outpatient), mental health center, emergency room, private doctor's office, self-help group, or prison/jail.

NOTE: Substance use treatment at a specialty facility refers to treatment received at a hospital (inpatient only), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop illicit drug or alcohol use or for medical problems associated with illicit drug or alcohol use.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2005-2014.