

# **OKLAHOMA**

## **STATE TREATMENT NEEDS ASSESSMENT STUDIES, ALCOHOL AND OTHER DRUGS**

Contract No. 270-94-0027

***FINAL REPORT ON STUDY #2,***

### ***SURVEY OF NATIVE AMERICAN ADULTS IN OKLAHOMA: AN ASSESSMENT OF SUBSTANCE USE AND NEEDS***

Submitted to:

**CENTER FOR SUBSTANCE ABUSE TREATMENT**

Submitted by:

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***Survey of Native American  
Adults in Oklahoma: An  
Assessment of Substance Use  
and Needs  
Final Report***

State of Oklahoma

Needs Assessment Studies,  
Treatment for Alcohol And Other Drugs  
CSAT Contract No. 270-94-0027

**APRIL 29, 1999**

## **EXECUTIVE SUMMARY**

### ***1.1 Background***

With funding from the federal Center for Substance Abuse Treatment (CSAT), the Oklahoma Department of Mental Health and Substance Abuse Services (DMHSAS) is conducting a family of studies that will supply Oklahoma with information the State needs to plan and provide effective substance abuse services for its citizens in need. The results of the studies will also meet the data reporting requirements of the federal government. A targeted household telephone survey of Native Americans is one component of the project, which also includes an adult household telephone survey and a face-to-face survey of the corrections population, including inmates, probationers and parolees. A social indicators study will be conducted to correlate estimates of treatment need with data from the Census, state agencies and other data sources. Finally, data from each of the surveys and the social indicator study will be combined in an integrative analysis to provide ongoing guidance for service planners and treatment providers. This document is an executive summary of the administration and results of the survey of Native Americans in Oklahoma.

### ***1.2 Methodology***

A Computed-Assisted Telephone Interviewing (CATI) system with random-digit-dialing was used to complete 1,200 telephone interviews for the study. The questionnaire used was developed by the National Technical Center for Substance Abuse Needs Assessment with funding from the CSAT. Questions about eight drugs commonly-used in Oklahoma (alcohol, marijuana, cocaine, heroin, hallucinogens, sedatives, stimulants, and inhalants) were asked in the survey.

There were 24,452 telephone numbers randomly selected for the sample. Of those, 1,614 were found to be eligible Native American respondents and 1,200 of those resulted in valid interviews. The overall response rate is about 74%. In addition, 460 Native Americans were reached through the general adult population survey (described

in a separate report) and their responses were combined with those from the targeted Native American surveys.

Screening for alcohol use was based on drinking behaviors differentiated by gender. For males, the screening item asked whether the respondent ever drank five or more drinks in one day at least once in the past 18 months. A drink is defined as a glass of wine or beer, a can of beer, a mixed drink, or a shot or jigger of hard liquor. Females were screened by asking for the average number of drinks consumed on days when the respondent drank in the last 18 months. An average of two or more drinks was the screening threshold. Any respondents identified by the screen were then asked in detail about alcohol use.

For purposes of the study, illicit drug use was defined as non-medical use of any of the eight drugs studied. Any respondent who answered “yes” to use of an illicit drug was asked in detail about using that drug. In the case of sedatives, medical use may also be important since sedatives may be used to alleviate or diminish symptoms of withdrawal from other substances.

The definition of need for treatment was developed from a standard clinical assessment text titled the *Diagnostic and Statistical Manual of Mental Disorders*, 3<sup>rd</sup> revised edition (DSM-III-R). That definition was operationalized in an assessment instrument known as the Diagnostic Interview Schedule and adapted by NTC for CSAT study participants. The nine DSM-III-R criteria are: (1) substance often taken in larger amounts or over a longer period than the person intended, (2) persistent desire or one or more unsuccessful efforts to cut down or control substance use, (3) a great deal of time spent in the activities necessary to get the substance, taking the substance, or recovering from its effects, (4) frequent intoxication or withdrawal symptoms when expected to fulfill major role obligations at work, school, or home, or when substance use is physically hazardous, (5) important social, occupational, or recreational activities given up or reduced because of substance use, (6) continued substance use despite knowledge of having a persistent or recurrent social, psychological, or physical problem that is caused or exacerbated by the use of the substance, (7) marked tolerance: need for markedly increased amounts of the substance (at least a 50% increase) in order to achieve intoxication or desired effect, or markedly diminished effect with continued use of the same amount, (8) characteristic withdrawal symptoms, and (9) substance often taken to relieve or avoid withdrawal symptoms. Based on the number and duration of these symptoms reported, a diagnosis of abuse or treatment need may have been determined.

Statistical analyses were performed on the survey data to produce estimates of substance use and treatment need for each of the eight DMHSAS sub-state planning areas by race and sex. Because regions of the state have very different populations, weights were assigned to estimates according to a population-to-sample-size ratio to adjust for the differences. The results provide regional groups with comparable data with which to assess the service needs in their areas.

A Descriptive Analysis has been prepared for service planners and treatment providers to provide more detailed information about the survey process and analyses. Some highlights from that Descriptive Analysis follow:

## 1.3 Results

### 1.3.1 Demographic Differences

- ❖ About 5.2% of females are in need of treatment (INT) while 13.0% of males were judged to be in need. That is, about 69% of those who are INT are male.
- ❖ The observed age distribution in the data was that about 13% of those from 18 to 34 were assessed to be INT, compared to 6.4% of those 35 and older.
- ❖ Those INT were found to be less likely than those who are NINT to be married (48% to 63%) and more likely to be separated (2.7% to 1.4%) or never married (36% to 15%). This is true even after adjustments are made for age differences between the two groups.
- ❖ Those NINT are less likely than those INT to have attended college (50% to 57%), but more likely to have obtained a college degree (24% to 17%). Thus, 52% of the NINT who attended college failed to attain a degree and 69% of the INT who attended college failed to get a degree.
- ❖ Those INT are more likely to be employed than are the NINT (75% to 62%). This holds true, even after the affects of age and gender are removed. However, 41% of males INT were found to be on-leave from work, indicating their substance use may be affecting their job performance.
- ❖ No income differences were identified, but those NINT were more likely to refuse to reveal their income (6.8% to 3.7%) and also more likely to say they did not know their income (6.3% to 4.6%).

### 1.3.2 Health and Treatment Issues

- ❖ Poor emotional health over the past 12 months was reported by 6.3% of those NINT and by 18.3% of those INT. INTs were also nearly twice as likely (39% to 20%) to report "fair" emotional health; leaving 73% of NINTs and 43% of INTs who reported their emotional health to be good.
- ❖ Approximately one-third (32%) of those assessed to be INT had received substance abuse treatment sometime in their lives. About 2% of those found to be currently NINT had ever received treatment.
- ❖ Of those estimated to be INT, 5.9% (0.5% of the total adult Native American population) reported receiving treatment within the 12 months preceding the interview.
- ❖ Prevalence of alcohol use is about the same for Native Americans as for other racial groups and the prevalence of illicit drug use is slightly higher. However, Native

Americans are about one and one half times as likely to need treatment, based on the duration and severity of their substance-related life problems.

### 1.3.3 Geographic Differences

- ❖ Need for treatment is distributed throughout the Regional Advisory Board areas (RABs) as shown in Table 1 and illustrated in Figure 1. A total of 15,142 or 9% of the adult Native American population in the state is estimated to have a need for alcohol and/or other drug treatment. The rate of need is highest in the Central, Tulsa and Southwest regions (around 13% of Native Americans in each of those regions are INT) and lowest in the North West (about 2.5% of Native Americans there are INT).

**Table 1**

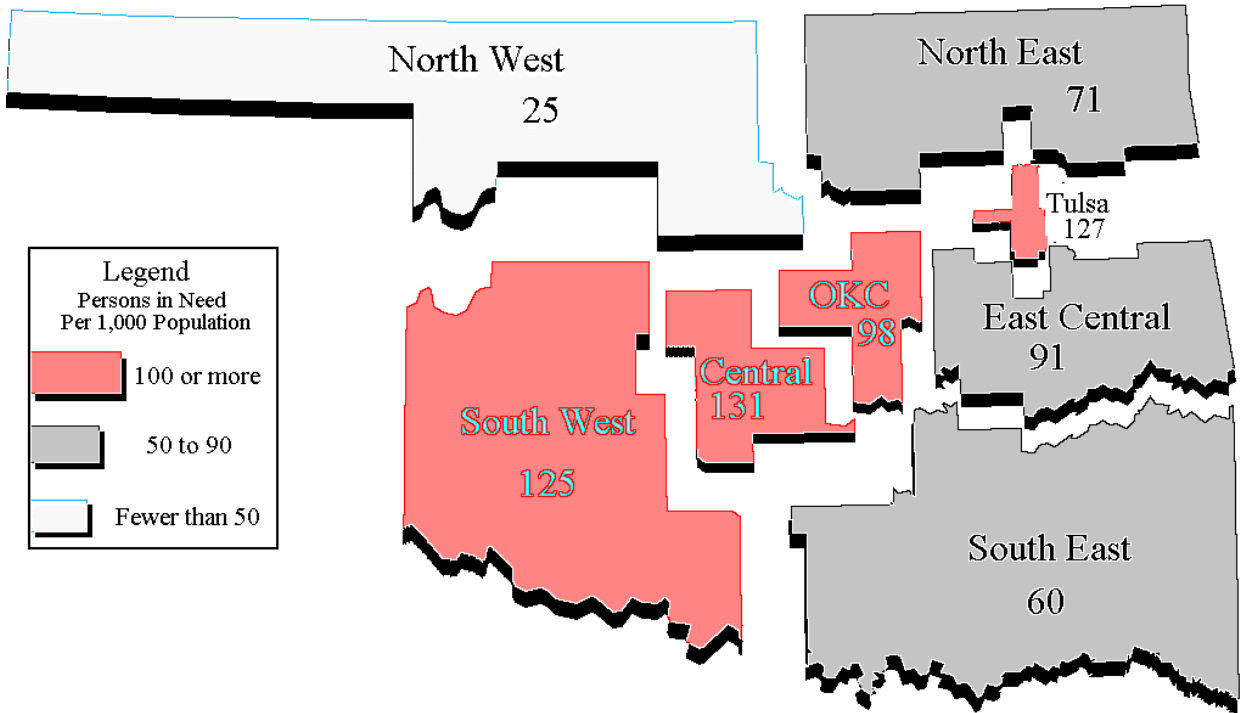
<b>Distribution of Substance Abuse* Treatment Need in Native Americans By Regional Advisory Board (RAB)</b>				
<b>Regional Advisory Board (RAB)</b>	<b>Native American Population</b>	<b>Percent of State Native American Population</b>	<b>Regional Number INT**</b>	<b>Regional Percent INT</b>
<b>Central</b>	10,290	6.1%	1,352	13.1%
<b>East Central</b>	39,702	23.5%	3,603	9.1%
<b>North East</b>	32,014	18.9%	2,258	7.1%
<b>North West</b>	2,804	1.7%	70	2.5%
<b>OKC</b>	23,995	14.2%	2,352	9.8%
<b>South East</b>	31,818	18.8%	1,925	6.0%
<b>South West</b>	10,996	6.5%	1,370	12.5%
<b>Tulsa</b>	17,469	10.3%	2,212	12.7%
<b>Total</b>	169,089	100.0%	15,142	9.0%

\* Substance Abuse includes alcohol and other drugs

\*\* INT = in need of treatment

## Native American Adults in Need of Alcohol and/or Drug Treatment

Per 1,000 Native American Adults in Population



**Figure 1: Native American Adults in Need of Alcohol and/or Drug Treatment**

### 1.3.4 Interpretation Issues

- ❖ A study of 40 face-to-face, item-by-item interviews with members of diverse Oklahoma tribes found the overall questionnaire was acceptable, but identified some survey questions in which working was awkward or difficult for Native Americans to interpret. Tests for cultural differences on these items will be conducted as part of the integrative analysis.
- ❖ The survey results demonstrate one relative strength and two apparent weaknesses of telephone surveys, as compared to face-to-face household surveys. The strength is the ability to collect relatively good data on alcohol use and abuse at low cost. One weakness is the relative difficulty of telephone interviews to uncover illicit drug use or abuse. A second weakness is that persons without telephones who need treatment will not be identified by a telephone survey. In the tables, alcohol and illicit drug use, abuse, and treatment need are displayed and compared with National Household Survey data on Native Americans.



## Oklahoma Survey Findings: Need for Treatment

**Table 2**

<b>Alcohol Treatment Need by Gender and Age (Percent)</b>						
Sex	Age Group					Total
	18-29	30-44	45-54	55-64	65+	
Female	9.8	5.2	4.6	0.7	-	5.0
Male	14.2	14.0	21.1	5.8	1.1	12.4
Total	12.1	9.6	12.2	3.2	0.5	8.5

**Table 3**

<b>Illicit Drug Treatment Need by Gender and Age (Percent)</b>						
Sex	Age Group					Total
	18-29	30-44	45-54	55-64	65+	
Female	2.5	0.7	0	0	0	0.9
Male	2.5	2.0	2.0	0	0	1.7
Total	2.5	0.3	0.9	0	0	1.3

### **1.4 Conclusions**

The survey of Native Americans in Oklahoma produced some expected results, e.g., those in need of treatment are most often younger, unmarried males, and while almost three-fourths of those NINT reported good emotional health, less than half of INTs did so. On the other hand, INTs were more likely to have attended some college (although less likely to graduate), were more likely to be employed.

At least two findings important to service planners and treatment providers were identified. Less than 6 percent of those INT had received treatment in the last year. Thus, the need for outreach and targeted services for Native Americans is apparent. It was also found that Native Americans' prevalence of alcohol and drug use is not much different from other race groups, but their symptoms indicate they are one and a half times as likely to need treatment; and those in urban areas have the highest need.

These and other results of the survey of Native Americans will be combined with the findings from the general population survey, the survey of corrections department offenders, as well as DMHSAS client treatment and Census demographic information, to produce a final project report that includes social indicators and an integrative analysis. Numbers of Native Americans in need of AOD treatment in each region of the state will be compared to counts of clients served to give state and regional planners an overview of the extent to which treatment need is being met, so resource allocations and budget requests can be made. Comparisons of demographics of persons in need

and clients being served will help guide outreach efforts within regions. In addition, comparisons of level of treatment needed with levels of care available and services provided can be used to direct changes in staffing patterns and service delivery.

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## **DESCRIPTIVE ANALYSIS**

### **1. Introduction and Background**

#### ***1.1 Overview of the Oklahoma Studies***

This report documents work performed under the Center for Substance Abuse Treatment (CSAT) contract 270-94-0027 by the Oklahoma Department of Mental Health and Substance Abuse Services. The two project subcontractors are the Center for Economic and Management Research in the Michael Price College of Business Administration at the University of Oklahoma (CEMR), and the Department of Biostatistics and Epidemiology in the College of Public Health at the University of Oklahoma Health Sciences Center (BSE). Principal investigators for those subcontracts are Dr. David Penn and Dr. David Smith, respectively.

The Oklahoma Department of Mental Health and Substance Abuse Services (DMHSAS), the Single State Authority for alcohol and drug abuse in Oklahoma, is conducting a family of studies that will meet the data reporting requirements of the federal government, and supply State decision makers with information they need to plan and provide effective substance abuse services for Oklahomans who need them. Modules of work are in progress to address three population groups: The survey of adult Native Americans reported here; a general adult population telephone survey; and a face-to-face survey of the corrections population, including inmates, probationers and parolees. In addition, a social indicator analysis is being performed to correlate social, economic, treatment and criminal justice data with survey results. A final study period will be used to compile data from the five studies and prepare them for distribution to planners, administrators, other policy makers, and researchers.

This document is a report on administration and results of the Native American Adult Population Telephone Survey. The design and implementation will be described, the quality and accuracy of the data set will be assessed with any necessary adjustments, and the results will be briefly examined. Detailed analyses, to be reported at a later date, are being performed which will use the data from the various surveys to develop social indicators for each sub-state area and to arrive at a more comprehensive measure of treatment need. This project fills an important void since the only recent data on which planners can rely is a study by The Human Services Research Institute (1990) which developed synthetic estimates of treatment need in Oklahoma in 1989 and

1990. Comparisons of the current survey estimates with those estimates and estimates from the general adult telephone survey performed earlier are presented in the analysis section of this report.

One problem with which service planners contend is the population distribution of the state. Oklahoma has a population of 3.2 million people, half of whom live in and around two metropolitan areas: Oklahoma City and Tulsa. The remainder of the state is sparsely populated. This was a significant limiting factor in planning the substance abuse needs assessment. The Department has 19 mental health catchment areas defined as aggregations or sub-divisions of counties. These areas would have been desirable to use for substance abuse planning as well, but the sparseness of the population in rural areas would have led to a prohibitively expensive study. For the department's planning purposes, to make better use of limited resources, the 19 mental health service areas were aggregated into eight Regional Advisory Board areas (RABs). These are the areas for which sub-state estimates will be calculated (see Appendix A, Sub-state Planning Areas Map). For the special populations, areas were further aggregated so estimates for three to five areas will be calculated. In the final analysis stage of the project, data from the adult household study and social indicator study will be used with special population study results to create synthetic estimates for all eight RAB areas.

#### 1.1.1 General Aims

*The first broad objective* for Oklahoma's State Treatment Needs Assessment project is to develop statewide and sub-state treatment need and demand estimates for each of the required core drugs (alcohol, marijuana, cocaine, heroin, sedatives, stimulants and hallucinogens, as well as inhalants) for the general adult population, for Native Americans, and for supervisees of the Department of Corrections, using established CSAT and National Technical Center protocols.

*The second broad objective* for the project is to analyze the compiled population study data with social indicator data and validation studies to prepare reports of treatment need and demand by sub-state planning area to be used by planners, administrators, legislators and other policy makers for the funding, development, location, modification, implementation and evaluation of substance abuse services for Oklahomans.

*The third broad objective* is to cooperate with CSAT, the National Technical Center for Substance Abuse Needs Assessment (NTC) and other states by participating in conferences, inter-state projects, data sharing, and reporting as directed by CSAT.

*The fourth objective* is to use the results of the data collection and analysis efforts to comply with the statutory requirements for reporting for the Substance Abuse Prevention and Treatment Block Grant.

## **1.2 Native American Study Overview**

Oklahoma has the largest Native American population of any state in the nation. Further distinguishing Native Americans in Oklahoma from those in other states is the fact there are no reservations in the State. Although some tribe members live in traditional areas of rural Oklahoma, many have dispersed into the non-Native populations, both urban and rural. DMHSAS funds projects aimed at providing services to various tribal groups in the State and is cooperating with tribes and other state agencies in some cases to develop special treatment programs for Native Americans. For this reason, it is important to have regional estimates of need and demand that are specific to this population and more precise than would be possible if only the expected percentage of respondents to the adult general population survey (about 500) were available. The principal investigator on our subcontract with the Oklahoma University Health Sciences Center, College of Public Health, Department of Biostatistics and Epidemiology, is also working with the State Health Department on a CDC-sponsored telephone survey of Native Americans to complete a behavioral risk factor surveillance study. A protocol developed for that project to identify and verify Native American respondents was used in this study.

### **1.2.1 Purpose Of The Study**

The purpose of this telephone survey of the Native American adult population in Oklahoma is to aid substance abuse treatment planning for programs serving Native Americans and to inform resource allocation decisions concerning such programs. The study will provide decision-makers with estimates of (1) the prevalence of use and abuse of alcohol; marijuana; heroin; cocaine; hallucinogens; sedatives; stimulants, including methamphetamines; and inhalants among Native Americans; and (2) the need and demand for substance abuse treatment among Native People throughout the state. Methamphetamines and inhalants have been included in the study because Oklahoma service providers have identified them as frequent drugs of abuse among their clients. Methamphetamine use is increasing in Oklahoma and the prevalence of inhalant use is important because of the implications for younger users. (The median age of first use for inhalants in recent DMHSAS client data was 14 years – one year earlier than the median age of first use for alcohol and marijuana.) The other substance suggested by NTC for study, non-narcotic analgesics, has not been observed at rates in the treatment population significant enough to justify inclusion in the study and its use does not have the same implications for younger Oklahomans who may be brought into the drug culture by early use.

In developing and conducting this project, Oklahoma has followed the telephone survey protocol developed by NTC. A telephone survey offers several advantages: it is a cost-effective method for obtaining a scientifically valid sample of responses across a state and within sub-state regions, while providing more information than other methods of data collection (McAuliffe, *et al.*, 1994).

Native Americans are the fastest growing minority in the United States, and Oklahoma is home to the largest Native American population in the country. Of the nation's 1.9 million American Indians identified in the 1990 census, about 13 percent (252,420) live in Oklahoma (U.S. Census Bureau, 1992). Almost 31 percent of the 308,132 Cherokee tribe members live in Oklahoma (94,460), over 52 percent of the Choctaw (43,062), and 23,955 Creek (55 percent of their entire population). Substance abuse has been shown to be one of the major health problems of Native Americans, both adults and children. Many studies have provided evidence of the problem, but reliable data on the extent and patterns of drug and alcohol use among Native Americans have been scarce (Beauvais and LaBoueff, 1985). Many reporting systems, such as those used on reservations, are inefficient and diagnoses of alcoholism or drug abuse are rarely reported. Where quantitative assessment has been attempted, it is usually limited to one or two locations and little generalization is possible. Alcohol use prevalence rates have varied from 30 percent to 80 percent in previous studies, due, in large part, to the variability of drinking habits among tribes and geographical areas (May, 1982). Although there are at least 38 tribes represented in Oklahoma, there have been no known statewide prevalence studies conducted on substance abuse among Native Americans.

Previous prevalence studies in other states have not provided a complete picture of alcohol and drug abuse among Native Americans, but indirect measures certainly suggest the problem is widespread. A review of vital statistics on the leading cause of death among Native Americans revealed that this group represented a disproportionate share of the deaths for a variety of conditions – American Indians were more likely to die of tuberculosis (a Native American's risk is 320 percent greater), alcoholism (284 percent greater), accidents (136 percent), diabetes (115 percent), homicide (81 percent), and suicide (26 percent) (HIS, 1989). Further, Native Americans have higher rates in other areas that have been shown to be related to substance abuse. Native Americans experience a high rate of depression and anxiety (National Plan for Native American Mental Health Services, 1989), and are committed to mental hospitals twice as often as Whites and other minorities (Willis, 1990). The FBI Uniform Crime Reports continue to show Indians arrested disproportionately more than other groups. In particular, Indians are arrested for alcohol violations (liquor laws, drunkenness, disorderly conduct, and vagrancy) at rates greater than statistically expected. It should be emphasized, however, that not all arrests result in convictions. In fact, most Indian arrests are misdemeanors and many are dismissed by the courts.

Economically, Native Americans are at the bottom of the scale among minorities in this country. Among many tribes, the severity of socio-cultural stresses associated with the inability to provide for one's family can be great. The harsh conditions in which many Native Americans find themselves living may, and often do, lead to alcohol use and abuse (Willis, 1990; May, 1977). In particular, crowded households are correlated positively with sibling friction, child neglect and abuse, and overall family breakdown. Hoffman and Noem (1975), in a study of alcoholism in 51 families of Native Americans versus 1,474 non-Indian families, found the incidence of alcoholism among relatives of alcoholic Indians was significantly greater than it was among relatives of alcoholic non-

Indians. They hypothesized that exposure to heavy drinking during childhood, social frustration and poor socioeconomic conditions were critical dimensions relating to Native American alcoholism. The severe economic deprivation suffered by Native Americans is clearly illustrated in Oklahoma. A review of counties in the State shows that more than one-half have greater than 40 percent of their Native American families receiving incomes less than the poverty level. Statistics also show that, although many Native Americans are eligible for public assistance, the great majority do not receive this assistance (U.S. Census, 1990).

The significant size of the Native American population in Oklahoma, the significant substance abuse problems that occur in this population, and the potential for ameliorating those problems through planning services informed by an accurate assessment of need, all led to the inclusion of Native Americans as subjects of a targeted survey in the Oklahoma family of studies.

### 1.2.2 Literature on Telephone Surveys

The literature on telephone surveys in substance abuse needs assessment is reviewed from a very pragmatic perspective by Geller and McAuliffe (1994). From their review and other sources, we draw the following conclusions concerning telephone surveying of treatment needs in Oklahoma.

Telephone surveys are quite cost effective in substance abuse research. Bias attributed to such surveys compared with face-to-face surveys has proven to be of little or no practical significance. This is especially true when response rates are improved through the use of callbacks and refusal conversions. Research has shown that the difference in substance use rates between face-to-face and telephone surveys is much smaller when the telephone survey has a high response rate (Gfroerer and Hughes, 1991).

Some face-to-face surveying can be used to supplement the telephone survey in order to both assess and limit the amount of bias introduced. In Oklahoma, face-to-face surveys with probationers and parolees will, in part, serve this purpose. This should be particularly useful for comparing rates of illicit drug use which, as previously mentioned, may not be accurately reflected in the telephone survey data.

Random selection of individuals within households is a necessary part of eliminating bias in the survey. This is quite true in Oklahoma where survey experience has shown females, in marriage and/or partnership situations, are the partner most often answering the phone. This survey serves as an example of that among Native American citizens of the state. From the start, it was anticipated that males would be more difficult to capture and one-to-one quotas (a policy that each interviewer should attempt to interview 1 male for every female interview completed) were established to minimize the problem. During preliminary analysis, results showed that the sample was disproportionately female, and more rigorous attempts were made to target males in the household. Eventually, it became necessary, after finding a Native American household, to ask for

the adult *male* with the last birthday rather than just the *adult* with the last birthday. Even after the careful planning and efforts to recruit males, the gender profile of the sample is somewhat more female than the population (about 60% vs. 52%).

#### 1.2.2.1 Phone Ownership

National statistics indicate that approximately 25% of Native Americans do not have telephones and Oklahoma figures for Native Americans have been estimated at 21% (US Census Bureau, Detailed Housing Characteristics, 1990).

Aquilino (1992) compared survey responses of subjects who owned telephones to those who did not. Differences in substance use were so small between the two groups that no significant distortion in estimates would be introduced through the exclusion of households without phones. While it was initially believed those results would support the use of telephone surveying for this project, two significant concerns have arisen which call that into question. First is the concern about the mode effect of telephone interviews themselves; data from our general adult telephone survey when compared with National Household Survey on Drug Abuse data suggest telephone interviews are perceived by respondents as less private than are self-administered interviews such as those used for the National Household Survey (see Section 3 of ODMHSAS, 1999). The second concern is the economic status of households without telephones. Since persons who might seek and/or be provided services from the DMHSAS system are primarily those in economic categories below 200% of the Federal Poverty Level (FPL), and since persons in those categories are the most likely to be inaccessible by telephone, the estimated need for treatment among the system's most likely clients is underestimated. Methods for adjusting for this underrepresentation will be investigated during the final integrative analysis.

#### 1.2.3 Summary of Changes to the NTC Questionnaire

From June, 1996 to September, 1996 researchers in the Department of Biostatistics and Epidemiology of the College of Public Health at the University of Oklahoma conducted interviews with Native Americans using the standard protocol for substance abuse, including drugs and alcohol. The work was performed as part of a subcontract with the Department of Mental Health and Substance Abuse Services. The principal investigator is Dr. David Smith. The purpose of these interviews included determining the acceptability of the interview procedures and questions to Native Americans. The purpose also included the identification of problems or issues of interpretation of specific items among Native Americans. The sections that were the focus of the interviews were substance abuse and alcohol use and abuse. The researchers also developed and used questions about ethnic identity, including cultural participation and language use.



A total of 40 interviews were conducted across three locations in Oklahoma. One of these locations was in Oklahoma City. One location was in the rural, Western part of the state. One location was in the semi-rural central part of the state.

One location was a general medical clinic for American Indians that includes substance abuse services. Another location was a substance abuse treatment center for American Indians. The third location was on the site of a tribal headquarters where some health and social services are conducted.

All of the respondents were American Indians from diverse tribes. Their degree of association with their native culture varied, assessed by language usage, participation in cultural events, ancestry, and other characteristics. Their places of residence were both urban and rural. All of the respondents were substance users, some of multiple substances.

Our results showed that, overall, the standard interview instrument was highly acceptable to Native Americans. The questions were, on the whole, interpretable and amenable to cogent responses. The breadth of substances was generally judged complete by the respondents. Some respondents suggested adding questions about crank.

Some problems of quantity may occur in interviews of Native Americans. Respondents indicated that they do not measure alcohol consumption in specific quantitative terms of drinks. Many respondents consumed alcohol in highly social groups with others. Sometimes these groups could be quite large. Various kinds of alcohol are usually contributed by each participant and individual contributions are shared equally. The alcohol is not perceived as private to each participant, but rather as a shared resource. Each participant drinks with the others, more or less equally, until the alcohol is completely consumed. While this pattern may be found with other groups as well, the respondents saw this as consistent with ethnic communal or sharing values.

There may also be some cultural influence related to the question, "Have you often drunk more than you intended to?" Intentionality does not seem to be a strong concept among the people interviewed. Consider the situation mentioned above where individuals came together in a social gathering and drank all the alcohol they had. It is their practice or pattern, but not their intention, to have 10-20 drinks. One respondent suggested that use of the word "planned" may be more appropriate than "intended".

We may also find that the item about coping by making personal rules fits less well with this culture. The wording is: "Some people try to control their drinking by making rules, like not drinking alone, or not before 5 o'clock. Have you ever made any rules because you were having trouble limiting the amount you were drinking." Again, the key is that limits on drinking are assumed to be set by the available supply, not by an abstract assessment of what is an "appropriate" amount to drink.

Time shifts from “past eighteen months” to “past month” to “ever” can contribute to difficulty in accurately answering questions. Difficulty with the time frame also occurs with questions about problems related to drinking, e.g., family objections. Respondents frequently needed to be cued to the time frame in these questions.

Individuals who have patterns of cycling through periods of abuse and abstinence have great difficulty with the timing of events. It appears from the BSE study the difficulty is related to the questions in addition to the difficulty they have with recalling their behavior.

Awkward question wording sometimes contributed to difficulty in answering the questions. One respondent said, “These questions are hard to listen to.” Examples included:

1. On days when you drank an alcoholic beverage in the past eighteen months, on average about how many drinks would you have?
2. During the past month, how many days per week or per month did you drink any alcoholic beverages, on the average?
3. Have you often been high from drinking in a situation where it increased your chances of getting hurt--for instance, when driving a car or boat, using knives, machinery or guns, crossing against traffic, climbing or swimming?
4. Follow-up question to c: When was the last time? (This is difficult to answer in relation to such an assortment of situations.)
5. Did you ever drink most days for a month or more once you realized it was causing any of these problems? (This is very difficult. The Respondent must consider a list of 6 problems and then answer the question. Respondents would sometimes get confused about whether the focus was on drinking most days for a month or more or on continuing to drink when they had a problem.)

Sometimes, follow-up questions seemed awkward to respondents. Consider, for example, making personal rules because they were having trouble limiting the amount they are drinking. These items are then followed by questions about duration, frequency and timing (did you try that several times or for a month or longer and when was the last time you made rules?). The follow-up questions sometimes seemed puzzling to the respondents, that is, we had to repeat them or explain them.

Some response choices may not fit well with the respondents. For example, on the question about frequency of drinking in the past eighteen months, respondents who drank about every other weekend found the choices difficult and confusing: almost every day, 3-4 days a week, 1 or 2 days a week, 1-3 days a month, less than once a month.

The analysis of data from both sets of interviews is ongoing with the purpose of a clearer understanding of the quantitative responses from the survey.

Although some minor problems were tentatively identified by this study, the questionnaire itself was not altered in response. This was decided to be in the best interest of the project for several reasons. First, altering the instrument would have led to inconsistent instrument presentation across studies. To compare Native Americans with the other study respondents and to properly integrate responses from all studies, instrument consistency was a necessary condition. It was also decided the proper way to proceed was to address empirically the questions raised by the study. This will be done using the large sample of item responses collected on the original instrument. Cultural difference hypotheses concerning individual items might then be tested using data that could only be collected if no alterations were made. Finally, the lengthy preparation already undertaken by CSAT and CSAT contractors to arrive at the current instrument deserves the benefit of the doubt until and unless tests of the cultural difference hypotheses can be supported with data.

Therefore, the only changes proposed to the basic methodology defined by NTC were the addition of (1) initial screening questions to identify Native Americans, probationers, and parolees who might be surveyed in other project studies; 2) items specific to corrections inmates, probationers and parolees; and 3) a brief series of questions designed to identify persons who may also have mental health or domestic violence service needs. The importance of including these items is based on (1) DMHSAS being not only the Single State Authority for substance abuse services, but also having responsibility for mental health and domestic violence services in Oklahoma; and (2) the integration and coordination of these three service areas being a high priority because substance abuse often occurs with mental illness (Regier, *et al.*, 1990) and domestic violence (Kantor and Straus, 1989), and exacerbates the problems of both. The added items are not analyzed for this report, but summaries of that information and its relation to substance abuse treatment needs will be reported at project completion.

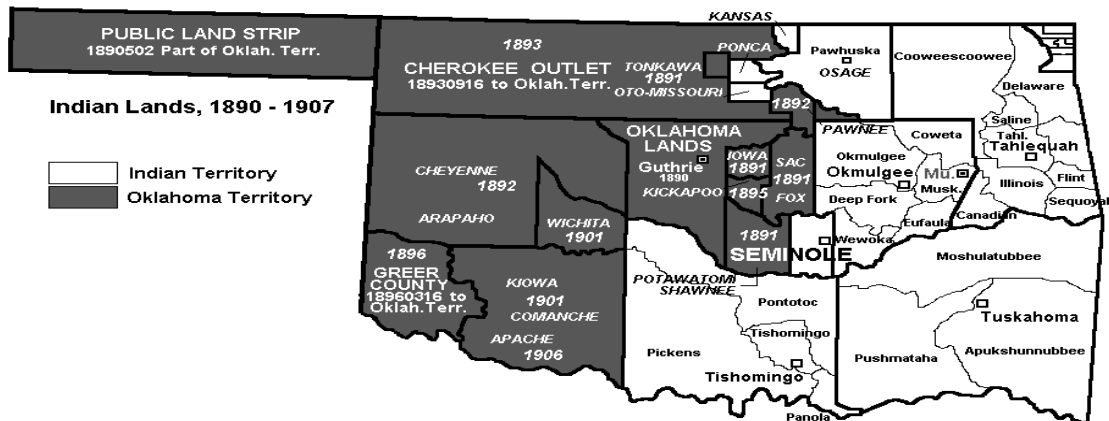
For the added mental health questions, two sets of items recommended by Ronald C. Kessler, professor and program director at Harvard University will be used. Dr. Kessler and his colleagues are reviewing and modifying items from several scales for inclusion in the revised National Health Interview Survey. They are using Item Response Theory to develop a short psychological distress scale (6-10 items) with maximum information value that is reliable across subsamples of the U.S. population (Kessler and Mroczek, 1994). For domestic violence, they have recommended the use of three items taken from the work of Straus (1990) that identify conflict tactics used by respondents. In addition, the Canadian survey on Violence Against Women (Canadian Centre for Justice Statistics, 1993) has been mined for appropriate items. Dr. Kessler has expressed interest in including Oklahoma's responses to these items in a national database and analysis he is preparing.

### 1.3 Geography, Regional Subdivisions, and Population

The state of Oklahoma has a population of about 3.2 million persons across 77 counties and 2 major metropolitan areas. Of those 3.2 million, approximately 252,400 are Native Americans. Figures 1 and 2 below show the development of current population concentrations of Native Americans in Oklahoma.

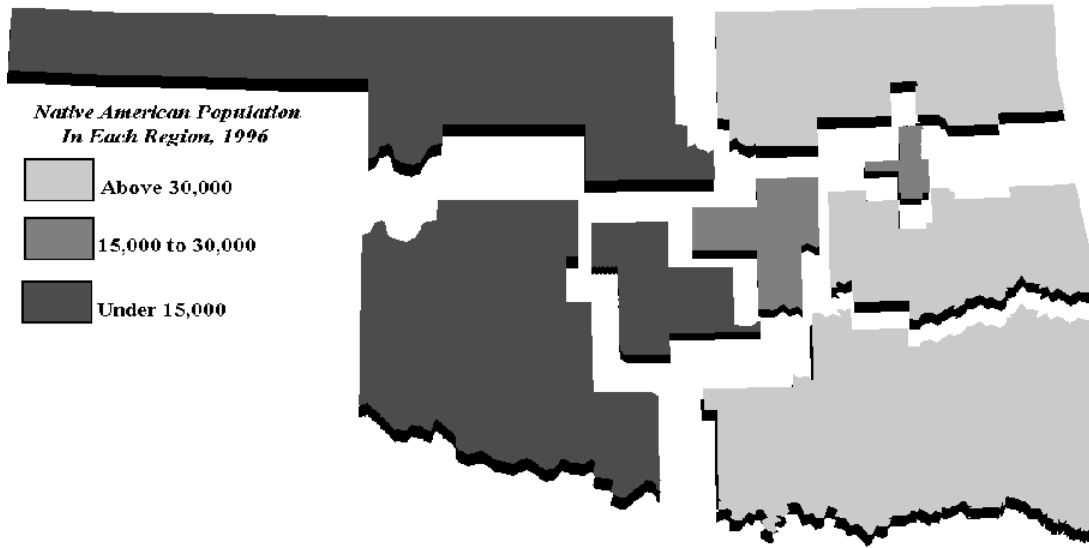
“Indian Territory,” as the area was originally known, was opened up to non-Native settlers in the land-run programs of the 1890s. The result was a division into definite Native and non-Native territories as shown the map in Figure 1. Those areas shown in the lighter color on the map were allotted to Natives. The settlers were, for that moment, mostly contained within the dark-colored area which was called “Oklahoma Territory.”

In 1907, the two territories were consolidated and became Oklahoma, the 47<sup>th</sup> of the United States. Non-Natives have, since that time, become the majority population and the Native population has become a smaller and smaller proportion of the whole. The distribution of the current Native population, though less geographically concentrated, still shows the effect of that century-old partitioning. The map in Figure 2 shows current Native population in the Regional Advisory Board regions of the state. As before, the light color represents higher concentrations and the darker colors represent relatively lower population concentrations.



**Figure 1**

Indian Territory map from Salas Vara de Rey, Joaquin, “Historical and Political Maps of the Modern Age,” internet URL: <http://personal.redestib.es/naoero1968>. Population estimates for 1996 from the Center for Economic and Management Research, University of Oklahoma.



**Figure 2**

## **2. Research Design and Execution**

### **2.1 Sample Design and Selection**

The sample of Native Americans was drawn from two sources: (1) interviews of the adult population (Study #1 under this contract); and (2) targeted supplemental interviews of Native Americans (this study). The adult population study provided interviews with approximately 460 Native Americans in Oklahoma. Another 1,200 interviews were obtained through the targeted screening, for a total sample size of 1,660.

The sample was stratified by gender, age group (18-29, 30-44, 45-64, and 65+), and region of the state (Oklahoma City Metropolitan Statistical Area, Tulsa Metropolitan Statistical Area, and Rest of State).

**Table 1**

Native American Adult Population and Sample			
Area	Population	Sample	Half-Length Confidence Interval
OKC MSA	33,867	312	0.024
Tulsa MSA	33,458	330	0.024
Remainder	101,764	1,018	0.014
State Total	169,088	1,660	0.010

Source for population data: Oklahoma Employment Security Commission, Population Estimates, 1990 - 1996 Census of Population and Housing: 94-171 Data, Population Estimates Branch, unpublished data.

Note: Counties included in Metropolitan Statistical Area (MSA) totals: Oklahoma City MSA – Canadian, Cleveland, Logan, McClain, Oklahoma and Pottawatomie Counties; Tulsa MSA – Creek, Osage, Rogers, Tulsa and Wagoner Counties.

## **2.2 Data Collection and Response Rates**

### **2.2.1 Data Collection**

Telephone interviews were performed by the university subcontractor. Interviews were programmed in a Computer-Assisted Telephone Interviewing (CATI) system using the WYNGZ computer language for use on Macintosh computers.

Features of the CATI system include:

*Automatic error checking* - response values are checked against the proper valid ranges as the interview progresses; interviewers are immediately prompted if the response value is not within the valid response range;

*Item non-response* - the CATI system can require the interviewer to enter a response to each question, thus minimizing the problem of item nonresponse; and

*Response tracking* - the CATI system records the telephone number and ID number for each interview, allowing quality control tracking.

Programmers had experience completing several applications of the CATI system using the WYNGZ programming language. At the beginning of the project, the programmer and survey research specialist jointly reviewed the questionnaire, discussing potential problem areas and skip patterns. During programming, the programmer and survey staff were in constant contact to resolve problems and interpretations of the needs of the survey project. After testing by the programming staff, the program was tested by the survey research staff to ensure the language of the questionnaire was preserved, skip patterns were accurately replicated, and response data were accurately and reliably recorded.

*Interviewer Recruiting and Training.* The university subcontractor employs a mix of adult and student telephone interviewers at the University of Oklahoma campus. Potential interviewers were carefully screened, particularly for clarity of speech on the telephone and also the ability to operate a mouse-driven CATI system. In-person applications are not accepted by the survey research program; potential interviewers must first telephone a survey supervisor. The supervisor then ascertains the ability of the

interview candidate to communicate over the telephone; those who do not pass this test are not asked for an in-person interview. Those who are asked to interview in-person must demonstrate an ability to learn the use of a mouse-driven CATI system.

During training, interviewers received instruction in the following topics:

- . the purpose of the household survey and the family of studies
- . characteristics of quality interviewing
- . use of the CATI system
- . proper pacing of questions
- . focusing on the questionnaire as written; limiting explanations
- . writing down responses verbatim
- . importance of avoiding bias and probing for clarification when answers are ambiguous
- . logistical details regarding interview scheduling and transmitting forms to survey center
- . the importance of emphasizing that participation is voluntary and responses are confidential

Interviewers were instructed to maintain a neutral tone of voice, but one that elicits interest on the part of the respondent. Interviewers were taught the interviews should not be done rapidly, but at a speed that can be followed with only a modest degree of concentration on the part of the respondent. Interviewers were instructed to limit comments to positive prompts such as 'I see' and 'thank you,' and never to interject their opinions during an interview. In addition, interviewers were trained to deal with problems that typically arise during interviews. Role playing techniques were used in this phase of training. Finally, interviewers completed several practice interviews under supervision of survey project staff.

An interviewer manual was prepared during the first six months of the study period. The manual described the study and summarized the information presented at the interviewer training session, including 1) the purpose, importance, and sponsorship of the survey, 2) answers to typical questions asked by respondents, 3) expectations of the interviewer including work schedules and expected levels of productivity, 4) techniques on how to deal with a difficult respondent, 5) techniques that can be used to minimize refusals, 6) details regarding benefits and payment rates for interviewers, 7) procedures for converting refusals, 8) screening procedures for inclusion in the profile sample, and 9) drug slang that may be used or understood by respondents.

*Sample Administration.* The Mitofsky-Waksberg Random Digit Dialing (RDD) technique was used to generate the required phone numbers. Mitofsky, a CBS television network survey analyst, discovered that residential telephone numbers tend to group in clusters. Once a residential cluster of phone numbers is identified, a larger proportion of phone numbers within the cluster are likely to be residential. The technique results in a much greater call success rate than is the case with ordinary RDD.

The two-stage phone number selection process takes advantage of the clustering of residential phone numbers. A cluster usually consists of the first eight digits of a ten digit phone number; (405) 942-73XX is the cluster for the number (405) 942-7342. Thus, a maximum of 100 numbers exist within each cluster.

*Call Administration.* Paper and pencil were used to record the disposition of each call made by interviewers. Phone numbers were distributed to interviewers on call sheets; the interviewer recorded a code on a call sheet to represent the disposition of each call for that phone number. All call sheets were collected by supervisors after completion of the interviewing session. Supervisors reviewed the call sheets, then redistributed them to interviewers as needed for call backs. Use of one call sheet for each phone number simplified the process of distributing phone numbers for call backs in subsequent interviewing sessions.

The disposition code of each call that occurs during an interviewing session was recorded in a personal computer spreadsheet the next day. Results of the calls during the previous day were compiled on a daily basis, along with cumulative results of all calling to date. In addition, the number of completions within each cluster was carefully monitored on a daily basis. These reports allowed monitoring of interviewer productivity, as well as tracking of completion, nonresponse, and refusal rates. Upon contact with a potential respondent household, the last birthday method was used to select an adult from the household as the interviewee, i.e., the adult who had the most recent birthday was interviewed.

The university survey staff have found that most responses occur during weeknights after 5 p.m., but before 9 p.m. Therefore, most calling was done Monday through Friday, 5 p.m. through 9 p.m. Respondents not contacted during the weekday evening hours were called during daytime hours. Up to eight attempts were made to contact a respondent.

Most refusals occurred almost immediately after contact with the respondent. Careful interviewer training helped minimize refusals, but a substantial number of refusals did occur nevertheless. Often, the refusals occurred before any determination of racial/ethnic membership. Assumptions about the proportion of Native Americans among those have been applied to calculate response rates. A portion of refusals were recalled to convert to a response. The importance and confidentiality of the study were stressed by the interviewer in the hopes of obtaining cooperation. Calls that were coded 'Adamant Refusal' were not recalled.

*Quality Control.* Frequent and systematic monitoring of interviewer performance is critical for the purpose of ensuring proper delivery of questions to the respondent. Interviews were monitored by supervisors periodically; more heavily during the first few interviews. Monitoring of interviews occurred without the knowledge of the interviewer. Feedback to the interviewer was provided concerning items such as tone of voice, speed of the interview, follow-up comments, and reading the question exactly as worded.

Subsequent to the completion of interviews during a session of typically 4 to 5 hours, the CATI data file was reviewed by survey supervisors. This review focused on completeness of the interviews, correct entry of phone numbers and ID codes, and clarity and spelling regarding open-ended questions. Incomplete interviews or



ambiguous entries in open-ended questions were settled with the interviewer. In some instances, an additional call to the respondent was required to clear up a problem.

Respondents were assured of the confidentiality of their responses. Data regarding individual responses will not be released to anyone external to the research team. Data released to analysts on the research team includes ID code identifiers only; no phone numbers associated with responses were released to the research team. Names and addresses of respondents were neither asked nor recorded if offered. Respondents were told the survey is voluntary and that they might skip any question they did not care to answer. Interviewers were reminded they should not discuss responses with anyone external to the research team.

### 2.2.2 Response Rates

Tables 6 and 7 show data from the interviewer telephone logs. Of 24,452 telephone numbers, 15,353 were working numbers, of those, 12,734 were residential numbers and 1,614 were considered eligible respondents. Of the calls to eligible respondents, 1,200 resulted in valid interviews. The overall response rate is 74%. The regional response rates were 72% in Tulsa, 76% in the Non-metro area and 78% in Oklahoma City.

**Table 2**

CALL DATA FOR NATIVE AMERICAN STUDY						
	Average Calls Needed to Connect	Average Calls per Callback	Average Calls per Completion	Total Phone Numbers	Total Calls	Total Completions
State	2.50	3.75	3.29	24,452	72,753	1,200
Nonmetro	2.47	4.08	3.22	12,285	36,896	792
OKC	2.45	3.13	3.39	7,445	20,998	226
Tulsa	2.66	3.84	3.41	4,716	14,872	183
--A connect is defined as the first occurrence of an answer at the number, the first connection with a household, whether person or answering machine or a compute /fax/modem.						
--Callbacks are calls subsequent to an initial connect.						

**Table 3**

TELEPHONE RESPONSE RATE			
Line #	Status	Value	Instructions
1	Telephone #s in sample	24,452	
2	Known not in service	7,221	
3	Unanswered	1,878	
4	Known working #s	15,353	(Line 1 - Line 2 - Line 3)
5	Business working #s	2,619	
6	Working residential numbers	12,734	(Line 4 - Line 5)
7a	Ineligible respondents	10,544	
7b	Percent ineligible	82.8%	(Line 7a) / (Line6)

7c	Total refusals *	857	
7d	Refusals assumed ineligible	710	(Line 7b) * (Line 7c)
7	Total ineligible	11,254	(Line 7a + Line 7d)
8	Known eligible respondents	1,480	(Line 6 - Line 7)
9	Estimated eligible respondents	323	(1 - Line 7b) * (Line 3)
10	Total eligible	1,803	(Line 8 + Line 9)
11	Refusals assumed eligible	147	(Line 7c - Line 7d)
11b	Unanswered, assumed eligible	323	
12	Unavailable for interview	121	
13	Incomplete interviews	12	
14	Completed interviews	1,200	
	Response Rate (%)	67%	(Line 14) / (Line 10)

## 2.3 Definitions of Terms and Measures

### 2.3.1 Illicit Drug Use

The Oklahoma Native American survey employed the core set of drugs defined by the National Technical Center for Substance Abuse Needs Assessment (NTC, see McAuliffe, *et al.*, 1994). The five core drugs are Marijuana; Hallucinogens; Cocaine; Heroin and other opiates; and alcohol. In addition, the Oklahoma study includes Sedatives, Stimulants and Inhalants as other important drugs of abuse. Primarily, illicit drug use means the non-medical use of any of these substances. In the case of sedatives, medical use may also be important since sedatives may be used to alleviate or diminish symptoms of withdrawal from other substances.

### 2.3.2 Alcohol Use

Screening for alcohol use was based on drinking behaviors differentiated by gender. For males, the screening item asked whether the respondent ever drank 5 or more drinks in one day at least once in the past 18 months. A drink is defined as “a glass of wine or beer, a can of beer, a mixed drink, or a shot or jigger of hard liquor” (McAuliffe, 1994, Chapter 6, page 6-16). The reported sensitivity and specificity for the item have been reported as 90.2% and 51.9%, respectively. Females were screened by asking for the average number of drinks consumed on days when the respondent drank in the last 18 months. An average of 2 or more was the cut point. The reported sensitivity and specificity are 90.6% and 36.4%, respectively. Any respondents caught by the screen (males answering “yes” to their item and females reporting an average of 2 or more drinks) were then asked in detail about alcohol use. See Chapter 6 of McAuliffe, *et al.* (1994) for further details on operationalizations for screening items.

### 2.3.3 Symptoms of Dependence and Abuse

“Dependence” and “Abuse” are conditions defined by the severity and duration of behaviors, perceptions and sensory experiences of the individual in question. McAuliffe, *et al.* (1994) have defined the project-specific approach to assessing these conditions. Using the questionnaire items designed to measure the nine symptoms of treatment need (see Table 4), this method evaluates the presence or absence of each symptom

and its duration. A diagnosis of substance dependence is made if the respondent has three or more symptoms and the durations of two or more symptoms are sufficient for that substance. If no diagnosis of dependence is fitting then the criteria for substance abuse are evaluated. An individual is given a diagnosis of substance abuse if he/she is determined **not** dependent but has one or more symptoms with two or more durations deemed of sufficient length as specified in McAuliffe's Chapter 25.

### 2.3.4 Need for Substance Abuse Treatment

The definition of need for treatment is developed from the *Diagnostic and Statistical Manual of Mental Disorders*, 3<sup>rd</sup> revised edition (DSM-III-R; American Psychological Association, 1987,1989), operationalized in the Diagnostic Interview Schedule (DIS) by Robins, *et al.* (1981) and adapted by McAuliffe, *et al.* (1994) for this CSAT project. The nine DSM-III-R criteria are shown in Table 4.

**Table 4**

<b>DSM-III-R Criteria for Establishing Substance Abuse Treatment Need</b>	
1.	Substance often taken in larger amounts or over a longer period than the person intended.
2.	Persistent desire or one or more unsuccessful efforts to cut down or control substance use.
3.	A great deal of time spent in the activities necessary to get the substance, taking the substance, or recovering from its effects.
4.	Frequent intoxication or withdrawal symptoms when expected to fulfill major role obligations at work, school, or home, or when substance use is physically hazardous.
5.	Important social, occupational, or recreational activities given up or reduced because of substance use.
6.	Continued substance use despite knowledge of having a persistent or recurrent social, psychological, or physical problem that is caused or exacerbated by the use of the substance.
7.	Marked tolerance: need for markedly increased amounts of the substance (at least a 50% increase) in order to achieve intoxication or desired effect, or markedly diminished effect with continued use of the same amount.
8.	Characteristic withdrawal symptoms.
9.	Substance often taken to relieve or avoid withdrawal symptoms.

From McAuliffe's text comes the following definition:

*"We will define anybody with a lifetime diagnosis of substance abuse or dependence who both used the substance and had a symptom in the past 18 months as in need of some sort of treatment in the past year."*

The final operationalizations employed in the study are documented in Chapter 3, “Drug Treatment Need,” of McAuliffe, *et al.* (1994).

## **2.4 Data Processing and Analysis**

Weights were assigned according to the population-to-sample-size ratio in the particular stratum occupied by an observation. Strata were defined by combinations of region (3 levels), gender (2 levels), and age (4 levels). The 24 different weights thus assigned ranged from 60 to 188. The median weight was 95, the average 102, and the standard deviation was 30.2.

Subsequent to review by the survey supervisors, data entered by the CATI system were transposed into a rectangular format for analysis with SAS and SUDAAN statistical software applications for the personal computer. A code book was developed indicating valid response ranges for each variable and also the name used to represent each variable in the data file. The code book also contains documentation regarding skip patterns used in the questionnaire.

The completed surveys were combined the data with that from 460 Native American interviews done in the general adult telephone survey and a CD-ROM with 1,660 interviews were supplied to DMHSAS. The final dataset had been pre-cleaned and screened, and a number of interviews were rejected as not up to standards because of missing data, interviewer judgments of the interview, and/or other issues of data quality.

The dataset was evaluated and tested a second time at DMHSAS and a few remaining data-quality issues were resolved. The resolution of those problems and concerns is documented in the following.

### **2.4.1 Data Quality**

Open-ended responses required editing and recoding to correct spelling, replace those entries which duplicated an offered response category, and, in one instance, to provide data for an item omitted from the CATI questionnaire.

*Native American Tribe* contained a number of spelling errors and some responses which duplicated a standard choice. These were corrected and combined for compliance with the original data format of the project.

*Injected Drugs* contained miscodings because “Methamphetamines” was not included in item E.6.a: “Tell me which drugs you injected by answering ‘yes’ when I mention its name,” in the CATI programming. The open-ended responses were culled for references to methamphetamines (“crank,” “speed,” “meth,” etc.) and the missing item was created from those responses. Sixteen respondents were coded that way; however, it is quite likely that some individuals who have injected methamphetamines did not get coded as such because they were not asked directly about that drug. Other corrections included recoding to indicate opiate injection when morphine, Demerol and

Dilaudid appeared in the open-ended responses; and recoding for hallucinogens when PCP was entered. The final correction in this area involved spelling mistakes.

*Unemployed* categories given in the open-ended responses were often re-statements of the categories offered in the original item. Instances of “retired,” “disabled,” and “full-time student,” among others were found and recoded.

### 3. Prevalence and Correlates of Alcohol and Other Drug Use

#### 3.1 Estimates of Alcohol Use

The table shows estimated alcohol use by age, sex, and time period. The rate estimates are those obtained by weighting each observation according to the population proportion represented by the sex, age and region subgroup from which it is collected.

All tables in this section have companion tables in Appendix B which provide standard errors and confidence intervals for both population estimates and the estimated rates.

**Table 5**

PREVALENCE OF ALCOHOL USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX								
Age Group	Sex	Total Population	Population Estimates			Rate Estimates (%)		
			Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days
18-29	Female	24,867	23,230	18,364	10,425	93.4	73.9	41.9
	Male	25,851	24,540	20,142	11,663	94.9	77.9	45.1
	Total	50,718	47,770	38,505	22,089	94.2	75.9	43.6
30-44	Female	24,912	23,190	15,577	8,362	93.1	62.5	33.6
	Male	24,328	23,799	17,714	10,895	97.8	72.8	44.8
	Total	49,240	46,990	33,291	19,257	95.4	67.6	39.1
45-54	Female	12,748	11,611	5,614	2,903	91.1	44.0	22.8
	Male	10,774	10,683	6,592	4,198	99.2	61.2	39.0
	Total	23,522	22,294	12,205	7,100	94.8	51.9	30.2
55-64	Female	9,694	7,393	2,545	1,161	76.3	26.3	12.0
	Male	9,428	8,762	3,926	2,667	92.9	41.6	28.3
	Total	19,121	16,155	6,471	3,828	84.5	33.8	20.0
65-99	Female	14,097	8,853	2,225	921	62.8	15.8	6.5
	Male	9,827	8,931	3,203	1,841	90.9	32.6	18.7
	Total	23,924	17,784	5,428	2,763	74.3	22.7	11.5
All Reported Ages*	Female	86,318	74,277	44,325	23,772	84.0	50.1	26.9
	Male	80,208	76,715	51,577	31,264	95.2	64.0	38.8
	Total	166,525	150,992	95,901	55,036	89.3	56.7	32.5

\* Total differs from total population of 169,089 due to missing values in age categories.

### 3.2 Estimates of Other Drug Use

Illicit drug use is tabled here, beginning with the use of “any” illicit drug and continuing with tables for each individual drug in the study.

**Table 6**

PREVALENCE OF ILLICIT DRUG USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX (Any Illicit Drug)								
Age Group	Sex	Total Population	Population Estimates			Rate Estimates (%)		
			Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days
18-29	Female	24,867	10,991	2,305	1,357	44.2	9.3	5.5
	Male	25,851	14,256	3,613	2,260	55.1	14.0	8.7
	Total	50,718	25,247	5,917	3,616	49.8	11.7	7.1
30-44	Female	24,912	13,776	1,287	590	55.3	5.2	2.4
	Male	24,328	16,529	1,884	852	67.9	7.7	3.5
	Total	49,240	30,305	3,171	1,442	61.5	6.4	2.9
45-54	Female	12,748	3,599	260	60	28.2	2.0	0.5
	Male	10,774	5,759	500	-	53.5	4.6	-
	Total	23,522	9,358	760	60	39.8	3.2	0.3
55-64	Female	9,694	743	-	-	7.7	-	-
	Male	9,428	1,244	91	91	13.2	1.0	1.0
	Total	19,121	1,987	91	91	10.4	0.5	0.5
65 +	Female	14,097	189	-	-	1.3	-	-
	Male	9,827	925	-	-	9.4	-	-
	Total	23,924	1,114	-	-	4.7	-	-
All Reported Ages*	Female	86,318	29,298	3,851	2,007	33.1	4.4	2.3
	Male	80,208	38,713	6,088	3,202	48.0	7.6	4.0
	Total	166,525	68,011	9,939	5,210	40.2	5.9	3.1

\* Total differs from total population of 169,089 due to missing values in age categories.

**Table 7**

PREVALENCE OF MARIJUANA USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX								
Age Group	Sex	Total Population	Population Estimates			Rate Estimates (%)		
			Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days
18-29	Female	24,867	10,811	1,866	1,177	43.5	7.5	4.7
	Male	25,851	13,845	3,332	1,958	53.6	12.9	7.6
	Total	50,718	24,656	5,198	3,134	48.6	10.2	6.2
30-44	Female	24,912	13,549	1,181	484	54.4	4.7	1.9
	Male	24,328	16,126	1,382	574	66.3	5.7	2.4
	Total	49,240	29,675	2,563	1,057	60.3	5.2	2.1
45-54	Female	12,748	3,599	190	60	28.2	1.5	0.5
	Male	10,774	5,668	394	-	52.6	3.7	-
	Total	23,522	9,267	585	60	39.4	2.5	0.3
55-64	Female	9,694	743	-	-	7.7	-	-
	Male	9,428	1,244	91	91	13.2	1.0	1.0
	Total	19,121	1,987	91	91	10.4	0.5	0.5
65 +	Female	14,097	189	-	-	1.3	-	-
	Male	9,827	841	-	-	8.6	-	-
	Total	23,924	524	-	-	24.4	-	-
All Reported Ages*	Female	86,318	28,891	3,236	1,721	32.7	3.7	1.9
	Male	80,208	37,724	5,199	2,622	46.8	6.4	3.3
	Total	166,525	66,109	8,436	4,343	39.1	5.0	2.6

\* Total differs from total population of 169,089 due to missing values in age categories.

**Table 8**

PREVALENCE OF COCAINE USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX								
Age Group	Sex	Total Population	Population Estimates			Rate Estimates (%)		
			Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days
18-29	Female	24,867	2,949	307	180	11.9	1.2	0.7
	Male	25,851	2,905	828	188	11.2	3.2	0.7
	Total	50,718	5,854	1,135	368	11.5	2.2	0.7
30-44	Female	24,912	2,783	106	106	11.2	0.4	0.4
	Male	24,328	4,682	154	-	19.3	0.6	-
	Total	49,240	7,465	260	106	15.2	0.5	0.2
45-54	Female	12,748	698	-	-	5.5	-	-
	Male	10,774	1,621	-	-	15.0	-	-
	Total	23,522	2,319	-	-	9.9	-	-
55-64	Female	9,694	84	-	-	0.9	-	-
	Male	9,428	182	-	-	1.9	-	-
	Total	19,121	266	-	-	1.4	-	-
65 +	Female	14,097	-	-	-	-	-	-
	Male	9,827	-	-	-	-	-	-
	Total	23,924	-	-	-	-	-	-
All Reported Ages*	Female	86,318	6,514	414	286	7.4	0.5	0.3
	Male	80,208	9,390	982	188	11.6	1.2	0.2
	Total	166,525	15,905	1,395	474	9.4	0.8	0.3

\* Total differs from total population of 169,089 due to missing values in age categories.



**Table 9**

PREVALENCE OF INHALANT USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX								
Age Group	Sex	Total Population	Population Estimates			Rate Estimates (%)		
			Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days
18-29	Female	24,867	1,001	180	180	4.0	0.7	0.7
	Male	25,851	750	-	-	2.9	-	-
	Total	50,718	1,750	180	180	3.5	0.4	0.4
30-44	Female	24,912	665	-	-	2.7	-	-
	Male	24,328	1,536	-	-	6.3	-	-
	Total	49,240	2,201	-	-	4.5	-	-
45-54	Female	12,748	84	-	-	0.7	-	-
	Male	10,774	560	91	-	5.2	0.8	-
	Total	23,522	645	91	-	2.7	0.4	-
55-64	Female	9,694	-	-	-	-	-	-
	Male	9,428	91	-	-	1.0	-	-
	Total	19,121	91	-	-	0.5	-	-
65 +	Female	14,097	-	-	-	-	-	-
	Male	9,827	-	-	-	-	-	-
	Total	23,924	-	-	-	-	-	-
All Reported Ages*	Female	86,318	1,751	180	180	2.0	0.2	0.2
	Male	80,208	2,937	91	-	3.6	0.1	-
	Total	166,525	4,687	271	180	2.8	0.2	0.1

\* Total differs from total population of 169,089 due to missing values in age categories.

**Table 10**

PREVALENCE OF HALLUCINOGEN USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX								
Age Group	Sex	Total Population	Population Estimates			Rate Estimates (%)		
			Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days
18-29	Female	24,867	2,589	382	-	10.4	1.5	-
	Male	25,851	4,108	1,297	677	15.9	5.0	2.6
	Total	50,718	6,697	1,679	677	13.2	3.3	1.3
30-44	Female	24,912	2,344	106	-	9.4	0.4	-
	Male	24,328	4,740	377	154	19.5	1.6	0.6
	Total	49,240	7,084	483	154	14.4	1.0	0.3
45-54	Female	12,748	638	-	-	5.0	-	-
	Male	10,774	2,273	106	-	21.1	1.0	-
	Total	23,522	2,911	106	-	12.4	0.5	-
55-64	Female	9,694	-	-	-	-	-	-
	Male	9,428	288	-	-	3.1	-	-
	Total	19,121	288	-	-	1.5	-	-
65 +	Female	14,097	94	-	-	0.7	-	-
	Male	9,827	-	-	-	-	-	-
	Total	23,924	94	-	-	0.4	-	-
All Reported Ages*	Female	86,318	5,665	488	-	6.4	0.6	-
	Male	80,208	11,409	1,780	831	14.2	2.2	1.0
	Total	166,525	17,074	2,268	831	10.1	1.3	0.5

\* Total differs from total population of 169,089 due to missing values in age categories.

**Table 11**

PREVALENCE OF STIMULANT USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX								
Age Group	Sex	Total Population	Population Estimates			Rate Estimates (%)		
			Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days
18-29	Female	24,867	2,896	566	180	11.7	2.3	0.7
	Male	25,851	3,514	979	677	13.6	3.8	2.6
	Total	50,718	6,410	1,545	857	12.6	3.0	1.7
30-44	Female	24,912	3,568	182	106	14.3	0.7	0.4
	Male	24,328	5,895	447	223	24.2	1.8	0.9
	Total	49,240	9,463	629	330	19.2	1.3	0.7
45-54	Female	12,748	843	70	-	6.6	0.6	-
	Male	10,774	2,440	106	-	22.7	1.0	-
	Total	23,522	3,283	176	-	14.0	0.7	-
55-64	Female	9,694	121	-	-	1.2	-	-
	Male	9,428	577	-	-	6.1	-	-
	Total	19,121	697	-	-	3.6	-	-
65 +	Female	14,097	-	-	-	-	-	-
	Male	9,827	84	-	-	0.9	-	-
	Total	23,924	84	-	-	0.3	-	-
All Reported Ages*	Female	86,318	7,428	818	286	8.4	0.9	0.3
	Male	80,208	12,509	1,532	900	15.5	1.9	1.1
	Total	166,525	19,936	2,349	1,187	11.8	1.4	0.7

\* Total differs from total population of 169,089 due to missing values in age categories.

**Table 12**

PREVALENCE OF SEDATIVE USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX								
Age Group	Sex	Total Population	Population Estimates			Rate Estimates (%)		
			Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days
18-29	Female	24,867	1,641	307	180	6.6	1.2	0.7
	Male	25,851	2,046	339	-	7.9	1.3	-
	Total	50,718	3,688	646	180	7.3	1.3	0.4
30-44	Female	24,912	2,072	213	106	8.3	0.9	0.4
	Male	24,328	3,470	98	-	14.3	0.4	-
	Total	49,240	5,542	311	106	11.3	0.6	0.2
45-54	Female	12,748	508	-	-	4.0	-	-
	Male	10,774	1,379	107	-	12.8	1.0	-
	Total	23,522	1,887	107	-	8.0	0.5	-
55-64	Female	9,694	70	-	-	0.7	-	-
	Male	9,428	182	-	-	1.9	-	-
	Total	19,121	251	-	-	1.3	-	-
65 +	Female	14,097	-	-	-	-	-	-
	Male	9,827	-	-	-	-	-	-
	Total	23,924	-	-	-	-	-	-
All Reported Ages*	Female	86,318	4,291	520	286	4.9	0.6	0.3
	Male	80,208	7,077	544	-	8.8	0.7	-
	Total	166,525	11,367	1,064	286	6.7	0.6	0.2

\* Total differs from total population of 169,089 due to missing values in age categories.

**Table 13**

PREVALENCE OF HEROIN USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX								
Age Group	Sex	Total Population	Population Estimates			Rate Estimates (%)		
			Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days
18-29	Female	24,867	255	-	-	-	-	-
	Male	25,851	604	151	-	2.3	0.6	-
	Total	50,718	858	151	-	1.7	0.3	-
30-44	Female	24,912	302	-	-	-	-	-
	Male	24,328	1,102	-	-	-	-	-
	Total	49,240	1,404	-	-	-	-	-
45-54	Female	12,748	224	-	-	-	-	-
	Male	10,774	955	-	-	-	-	-
	Total	23,522	1,178	-	-	-	-	-
55-64	Female	9,694	-	-	-	-	-	-
	Male	9,428	91	-	-	-	-	-
	Total	19,121	91	-	-	-	-	-
65 +	Female	14,097	-	-	-	-	-	-
	Male	9,827	-	-	-	-	-	-
	Total	23,924	-	-	-	-	-	-
All Reported Ages*	Female	86,318	780	-	-	0.9	-	-
	Male	80,208	2,751	151	-	3.4	0.2	-
	Total	166,525	3,531	151	-	2.1	0.1	-

\* Total differs from total population of 169,089 due to missing values in age categories.

### 3.3 Relating Drug and Alcohol Use to Individual Characteristics

Table 14

Need for Alcohol and/or Drug Abuse Treatment						
Relationship to Individual Characteristics						
Category	Level	Sample Size	Percent of Level in Need of Treatment (Weighted to population)			Weighted Total
			Female	Male	Total	
Age Group	18-29	354	10.3	15.6	13.0	50,718
	30-44	505	5.7	14.6	10.1	49,240
	45-54	295	4.6	21.1	12.2	23,522
	55-64	239	0.7	5.8	3.2	19,122
	65-99	240	0.0	1.1	0.5	23,924
Marital Status	Divorced	224	6.4	18.4	11.6	21,311
	Separated	33	14.7	49.7	24.9	3,681
	Widowed	115	0.9	4.6	1.6	10,256
	Married	1,060	3.1	11.0	6.9	104,541
	Never Married	224	15.4	14.9	15.1	28,927
Employment Status	Unemployed	637	4.0	9.7	6.0	60,731
	Part Time	145	7.8	24.9	13.7	15,145
	On Leave	5	0.0	41.2	26.3	574
	Full Time	868	5.9	13.1	10.1	92,093
	Refused	5	0.0	0.0	0.0	545
Income	\$0 - \$10k	173	5.9	15.1	9.5	17,597
	\$10k - \$20k	341	4.4	12.5	8.3	35,708
	\$20k-\$30k	300	7.1	19.0	13.1	31,016
	\$30k-\$40k	223	4.6	7.9	6.2	23,097
	\$40k +	409	4.0	13.8	9.2	40,174
Education	No School	12	0.0	0.0	0.0	1,139
	Grades 1-8	60	0.0	6.9	3.1	5,835
	Some HS	188	8.3	9.6	8.9	19,355
	HS or GED	570	4.5	12.0	8.1	57,842
	Some College	427	7.2	19.0	13.0	45,381
	Assoc Degree	116	4.2	10.7	7.2	11,434
	4-Year Degree	198	3.2	8.7	5.8	19,548
Adv Degree	89	3.9	13.5	8.3	8,555	
Federal Poverty Level	Unknown	214	6.1	6.2	6.1	21,497
	100% or Less	162	6.1	11.7	8.3	17,074
	101%-200%	439	5.4	16.1	10.5	45,468
	Over 200%	845	4.6	13.0	9.0	85,049
Region	Tulsa Metro	330	2.8	16.2	9.4	33,458
	OKC Metro	312	8.2	11.7	9.8	33,867
	Non-Metro	1,018	5.1	12.4	8.5	101,764
Emotional Health	Poor	129	15.7	31.6	22.4	12,400
	Fair	368	11.8	22.6	15.9	37,166
	Good	1,159	1.3	9.3	5.4	119,146

The table above shows the relationship of individual characteristics such as education, income, and employment to this study’s assessment of treatment need. The rates shown are estimated using sample weights to reflect the state Native American population estimates as closely as possible. Sample sizes are provided so the reader can better understand the relative importance of specific rates.

A good example of the need for sample size information is employment status. From the treatment-need rates, one can see that 41% of males on leave from work were assessed to be INT. The sample size is 5, however, and that information provides the reader a context within which to assess the rate.

#### 4. Need for Treatment of Alcohol and Other Drug Use

##### 4.1 Overall Prevalence of Treatment Need

The evaluation of symptoms and durations presented in the data reveal substance abuse treatment needs as displayed in the following.

**Table 15**

Alcohol Treatment Need by Gender and Age (Percent)						
Sex	Age Group					Total
	18-29	30-44	45-54	55-64	65+	
Female	9.8	5.2	4.6	0.7	-	5.0
Male	14.2	14.0	21.1	5.8	1.1	12.4
Total	12.1	9.6	12.2	3.2	0.5	8.5

**Table 16**

Illicit Drug Treatment Need by Gender and Age (Percent)						
Sex	Age Group					Total
	18-29	30-44	45-54	55-64	65+	
Female	2.5	0.7	0.0	0.0	0.0	0.9
Male	2.5	2.0	2.0	0.0	0.0	1.6
Total	2.5	1.3	0.9	0.0	0.0	1.3

**Table 17**

<b>Distribution of Treatment Need in Native Americans by Regional Advisory Board (RAB)</b>				
<b>Regional Advisory Board (RAB)</b>	<b>Native American Population</b>	<b>Percent of State Native Population</b>	<b>Number In Need</b>	<b>Percent In Need</b>
<b>Central</b>	10,290	6.1%	1,352	13.1%
<b>East Central</b>	39,702	23.5%	3,603	9.1%
<b>North East</b>	32,014	18.9%	2,258	7.1%
<b>North West</b>	2,804	1.7%	70	2.5%
<b>OKC</b>	23,995	14.2%	2,352	9.8%
<b>South East</b>	31,818	18.8%	1,925	6.0%
<b>South West</b>	10,996	6.5%	1,370	12.5%
<b>Tulsa</b>	17,469	10.3%	2,212	12.7%
<b>Total</b>	169,089	100.0%	15,142	9.0%

**4.2 Native Americans and Relative Risk**

One important question for decision makers of all kinds is “How do Native Americans differ from the general Oklahoma population regarding substance use, abuse and need for treatment?” The table below is a general look at that question.

As shown, the prevalence of alcohol use is nearly identical in the two samples while Native Americans are only slightly more likely to use illicit drugs than is the general population. Native Americans are, however, about 1.5 times as likely to be in need of treatment. The indication, and one issue which will be studied using this data, is that while Native Americans are not more likely than other Oklahomans to be users of drugs and alcohol, the pattern of their use (especially of alcohol) appears to be more problematic than that of the general population. The cultural assessment interview data and the telephone survey data will provide rich information on this issue.



**Table 18**

<b>Category</b>	<b>Native American Sample (Percent)</b>	<b>General Adult Sample (Percent)</b>	<b>Native American Relative Risk</b>
<b>In Need of Treatment</b>			
Alcohol &/or Drugs	9.00	5.65	1.59
Drugs Only	1.26	0.86	1.47
Alcohol Only	8.50	5.26	1.62
<b>Alcohol Use</b>			
Lifetime	89.3	90.1	1.0
Last 18 Months	56.7	57.1	1.0
Last 30 Days	32.6	36.8	0.9
<b>Illicit Drug Use</b>			
Lifetime	40.2	33.4	1.2
Last 18 Months	5.9	5.0	1.2
Last 30 Days	3.1	2.1	1.5

## **5. Conclusions**

The Oklahoma Treatment Needs Assessment Project has produced information that will be immediately useful to DMHSAS, providers, service recipients and other substance abuse treatment system stakeholders. Results of the Native American survey indicate there are differences in treatment need that can be distinguished by gender, age, marital status, level of educational attainment, federal poverty status and employment status. The DMHSAS client database collects client demographic and service information that can also be categorized by these variables. As a result, three important sets of calculations can be made to provide valuable information for treatment resource planners. First, the numbers of people in need of AOD treatment can be compared to the numbers of persons being served in each Regional Advisory Board area to determine the overall extent to which treatment need is being addressed. Planners can compare the percent of met need across regions, along with resource distribution to establish a plan for re-distributing resources, or for justifying and allocating new resources. Second, those being treated can be categorized by the same demographic variables as were collected in the needs survey and compared to their distributions among those needing treatment. The results of this comparison will give planners within each region goals for outreach and help develop strategies for reaching population sub-groups in need. Finally, because the Oklahoma client database collects information on individual services provided to clients by the level of care within which the services were received, the distribution of need for treatment by level of care, as identified by the needs survey, can be compared to the distribution of services currently provided by level of care. This will give planners specific targets for resource allocation and re-alignment within each of the regions.

In Section 3.3, Table 14 displays the relations between need and individual characteristics. The categories by which need data are aggregated in that table can also be used to compile data from the Oklahoma client data system. Once constructed, the two tables of need and met need can be compared. These comparisons will be completed in the final analysis of the data that synthesizes results from all components of the Oklahoma study. However, a few examples of similar comparisons can be provided using Native American survey results and recent client demographic information. In Table 19, the distribution of Native American substance abuse clients served by region is compared to the distribution of those estimated in need of substance abuse treatment by the survey. As can be seen, the number served ranges from 7 to 77 percent of the number estimated in need of treatment. About 69 percent of those estimated in need of treatment are males. Using the client information that is further disaggregated by gender in the table, it can be seen that the distribution of males are about 65 percent of those served.

The comparisons described above will be compiled by state and by region, and distributed to stakeholder groups, along with the reports on the other components of the Oklahoma Substance Abuse Treatment Needs Assessment Project, to support the state's treatment planning activities.

**Table 19**

Comparison of Admitted Clients Served in FY98 To Persons in Need of Substance Abuse Treatment Among Native Americans					
Regional Advisory Board	Admitted Clients Served			In Need of Treatment	Percent in Need Served
	Female	Male	Total		
Central	74	88	162	1,352	12.0%
East Central	98	160	258	3,603	7.2%
North East	143	349	492	2,258	21.7%
North West	26	28	54	70	77.1%
OKC Metro	143	259	402	2,352	17.0%
South East	54	132	186	1,925	9.7%
South West	78	180	258	1,370	18.8%
Tulsa Metro	162	237	399	2,212	18.0%
Statewide	778	1,433	2,211	15,142	14.6%

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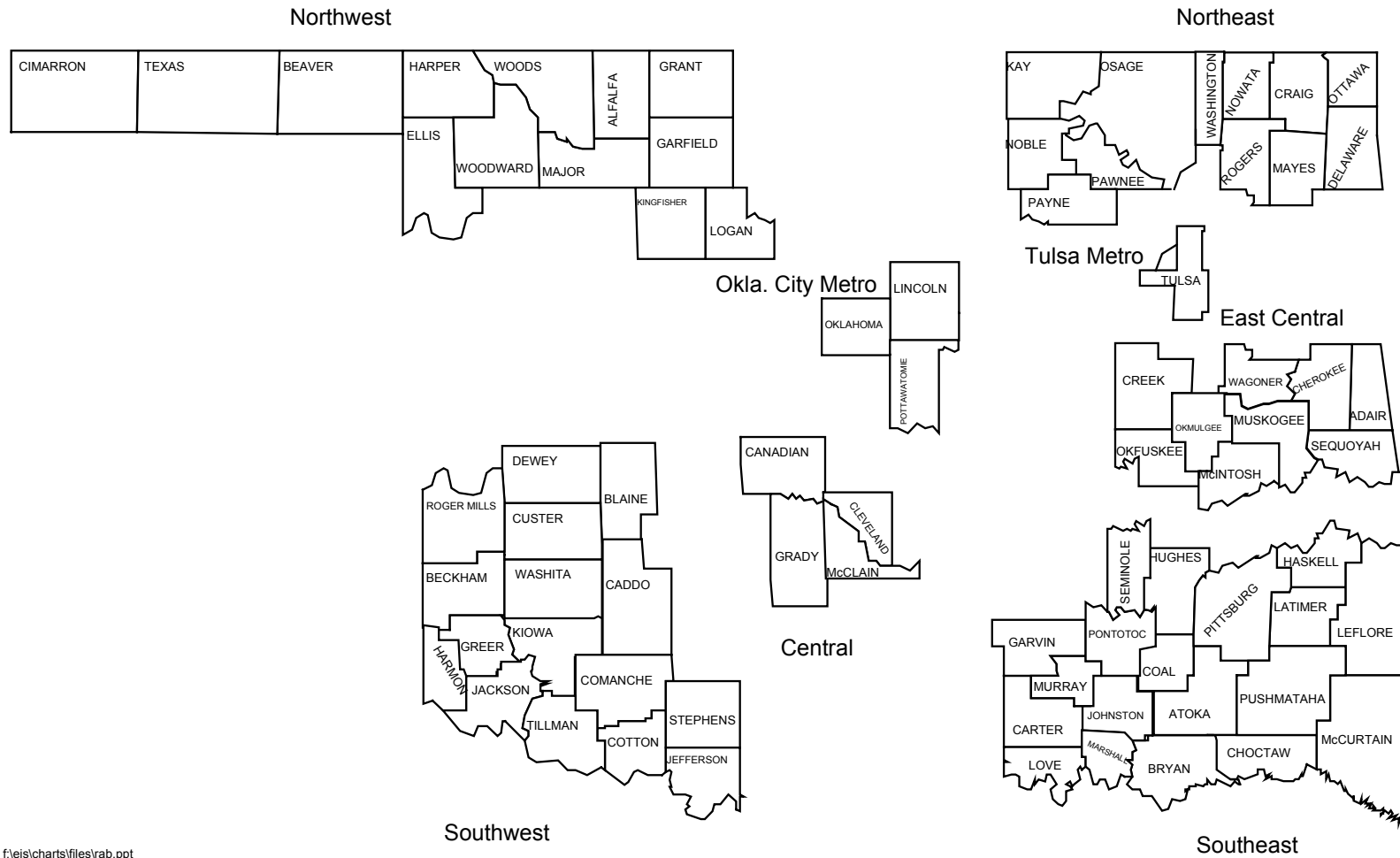
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## Appendices

## **Appendix A: Regional Advisory Boards (RABs)**

OKLAHOMA DEPARTMENT OF MENTAL HEALTH  
AND SUBSTANCE ABUSE SERVICES

**Regional Advisory Boards**



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## **Appendix B: Standard Error Tables**



<b>Table 1</b>										
PREVALENCE OF ALCOHOL USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX										
Age Group	Sex	Population Estimates			Rate Estimates (%)			Standard Errors of Estimates(%)		
		Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days
18-29	Female	22,103 - 23,918	16,745 - 19,759	8,676 - 12,258	88.9 - 96.2	67.3 - 79.5	34.9 - 49.3	1.8	3.1	3.7
	Male	23,358 - 25,178	18,297 - 21,638	9,732 - 13,654	90.4 - 97.4	70.8 - 83.7	37.6 - 52.8	1.7	3.3	3.9
	Total	46,325 - 48,759	36,076 - 40,644	19,451 - 24,800	91.3 - 96.1	71.1 - 80.1	38.4 - 48.9	1.2	2.3	2.7
30-44	Female	22,298 - 23,794	14,227 - 16,854	7,097 - 9,726	89.5 - 95.5	57.1 - 67.7	28.5 - 39.0	1.5	2.7	2.7
	Male	22,924 - 24,134	16,029 - 19,166	9,259 - 12,577	94.2 - 99.2	65.9 - 78.8	38.1 - 51.7	1.1	3.3	3.5
	Total	45,943 - 47,715	31,201 - 35,247	17,180 - 21,417	93.3 - 96.9	63.4 - 71.6	34.9 - 43.5	0.9	2.1	2.2
45-54	Female	11,002 - 12,021	4,736 - 6,523	2,201 - 3,748	86.3 - 94.3	37.1 - 51.2	17.3 - 29.4	2	3.6	3.1
	Male	10,206 - 10,760	5,612 - 7,494	3,257 - 5,221	94.7 - 99.9	52.1 - 69.6	30.2 - 48.5	0.8	4.5	4.7
	Total	21,608 - 22,744	10,914 - 13,486	5,921 - 8,403	91.9 - 96.7	46.4 - 57.3	25.2 - 35.7	1.2	2.8	2.7
55-64	Female	6,619 - 8,022	1,907 - 3,307	725 - 1,806	68.3 - 82.8	19.7 - 34.1	7.5 - 18.6	3.7	3.7	2.8
	Male	8,056 - 9,118	3,060 - 4,850	1,933 - 3,548	85.5 - 96.7	32.5 - 51.4	20.5 - 37.6	2.7	4.9	4.4
	Total	15,187 - 16,918	5,365 - 7,679	2,945 - 4,895	79.4 - 88.5	28.1 - 40.2	15.4 - 25.6	2.3	3.1	2.6
65-99	Female	7,709 - 9,903	1,515 - 3,183	501 - 1,654	54.7 - 70.3	10.7 - 22.6	3.6 - 11.7	4	3	2
	Male	8,226 - 9,343	2,322 - 4,228	1,150 - 2,813	83.7 - 95.1	23.6 - 43.0	11.7 - 28.6	2.8	5	4.3
	Total	16,435 - 18,963	4,227 - 6,851	1,920 - 3,910	68.7 - 79.3	17.7 - 28.6	8.0 - 16.3	2.7	2.8	2.1
All Ages	Female	72,264 - 76,082	41,727 - 46,923	21,262 - 26,461	81.7 - 86.0	47.2 - 53.0	24.0 - 29.9	1.1	1.5	1.5
	Male	75,238 - 77,802	48,676 - 54,356	28,319 - 34,314	93.3 - 96.5	60.4 - 67.4	35.1 - 42.6	0.8	1.8	1.9
	Total	148,538 - 153,185	91,902 - 99,850	51,136 - 59,085	87.8 - 90.6	54.4 - 59.1	30.2 - 34.9	0.7	1.2	1.2

<b>Table 2</b>										
PREVALENCE OF ILLICIT DRUG USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX (Any Illicit Drug)										
Age Group	Sex	Population Estimates			Rate Estimates (%)			Standard Errors of Estimates(%)		
		Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days
18-29	Female	9,231 - 12,813	1,403 - 3,697	705 - 2,553	37.1 - 51.5	5.6 - 14.9	2.8 - 10.3	3.7	2.3	1.8
	Male	12,313 - 16,136	2,523 - 5,075	1,398 - 3,574	47.6 - 62.4	9.8 - 19.6	5.4 - 13.8	3.8	2.5	2.1
	Total	22,574 - 27,922	4,425 - 7,827	2,449 - 5,280	44.5 - 55.1	8.7 - 15.4	4.8 - 10.4	2.7	1.7	1.4
30-44	Female	12,448 - 15,075	813 - 2,017	279 - 1,232	50.0 - 60.5	3.3 - 8.1	1.1 - 4.9	2.7	1.2	0.9
	Male	14,827 - 18,054	1,154 - 3,012	408 - 1,742	60.9 - 74.2	4.7 - 12.4	1.7 - 7.2	3.4	1.9	1.3
	Total	28,143 - 32,379	2,261 - 4,413	841 - 2,451	57.2 - 65.8	4.6 - 9.0	1.7 - 5.0	2.2	1.1	0.8
45-54	Female	2,834 - 4,477	99 - 671	7 - 471	22.2 - 35.1	0.8 - 5.3	0.1 - 3.7	3.3	1	0.5
	Male	4,744 - 6,748	212 - 1,137	-	44.0 - 62.6	2.0 - 10.6	-	4.8	2	0
	Total	8,102 - 10,674	388 - 1,468	6 - 587	34.4 - 45.4	1.6 - 6.2	0.0 - 2.5	2.8	1.1	0.3
55-64	Female	408 - 1,315	-	-	4.2 - 13.6	-	-	2.3	0	0
	Male	726 - 2,043	12 - 667	12 - 667	7.7 - 21.7	0.1 - 7.1	0.1 - 7.1	3.5	1	1
	Total	1,326 - 2,922	11 - 699	11 - 699	6.9 - 15.3	0.1 - 3.7	0.1 - 3.7	2.1	0.5	0.5
65 +	Female	50 - 691	-	-	0.4 - 4.9	-	-	0.9	0	0
	Male	446 - 1,818	-	-	4.5 - 18.5	-	-	3.4	0	0
	Total	588 - 2,070	-	-	2.5 - 8.7	-	-	1.5	0	0
All Ages	Female	26,923 - 31,774	2,804 - 5,265	1,192 - 3,358	30.4 - 35.9	3.2 - 6.0	1.3 - 3.8	1.4	0.7	0.6
	Male	35,725 - 41,718	4,685 - 7,869	2,152 - 4,735	44.3 - 51.7	5.8 - 9.8	2.7 - 5.9	1.9	1	0.8
	Total	64,075 - 72,023	8,128 - 12,125	3,785 - 7,148	37.9 - 42.6	4.8 - 7.2	2.2 - 4.2	1.2	0.6	0.5

<b>Table 3</b>											
PREVALENCE OF MARIJUANA USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX											
Age Group	Sex	Population Estimates			Rate Estimates (%)			Standard Errors of Estimates(%)			
		Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	
18-29	Female	9,055 - 12,637	1,066 - 3,182	576 - 2,343	36.4 - 50.8	4.3 - 12.8	2.3 - 9.4	3.7	2.1	1.7	
	Male	11,912 - 15,734	2,257 - 4,816	1,155 - 3,242	46.1 - 60.9	8.7 - 18.6	4.5 - 12.5	3.8	2.5	2	
	Total	21,989 - 27,337	3,809 - 7,017	2,065 - 4,704	43.4 - 53.9	7.5 - 13.8	4.1 - 9.3	2.7	1.6	1.3	
30-44	Female	12,175 - 14,898	715 - 1,926	214 - 1,075	48.9 - 59.8	2.9 - 7.7	0.9 - 4.3	2.8	1.2	0.8	
	Male	14,385 - 17,705	762 - 2,454	229 - 1,412	59.1 - 72.8	3.1 - 10.1	0.9 - 5.8	3.5	1.7	1.1	
	Total	27,518 - 31,755	1,753 - 3,718	556 - 1,992	55.9 - 64.5	3.6 - 7.6	1.1 - 4.0	2.2	1	0.7	
45-54	Female	2,834 - 4,477	58 - 611	7 - 471	22.2 - 35.1	0.5 - 4.8	0.1 - 3.7	3.3	0.9	0.5	
	Male	4,657 - 6,660	148 - 1,009	-	43.2 - 61.8	1.4 - 9.4	-	4.8	1.8	0	
	Total	8,012 - 10,584	264 - 1,273	6 - 587	34.1 - 45.0	1.1 - 5.4	0.0 - 2.5	2.8	1	0.3	
55-64	Female	408 - 1,315	-	-	4.2 - 13.6	-	-	2.3	0	0	
	Male	726 - 2,043	12 - 667	12 - 667	7.7 - 21.7	0.1 - 7.1	0.1 - 7.1	3.5	1	1	
	Total	1,326 - 2,922	11 - 699	11 - 699	6.9 - 15.3	0.1 - 3.7	0.1 - 3.7	2.1	0.5	0.5	
65 +	Female	50 - 691	-	-	0.4 - 4.9	-	-	0.9	0	0	
	Male	387 - 1,732	-	-	3.9 - 17.6	-	-	3.3	0	0	
	Total	5,197 - 6,509	-	-	21.7 - 27.2	-	-	1.4	0	0	
All Ages	Female	26,518 - 31,369	2,219 - 4,695	1,038 - 2,840	30.0 - 35.5	2.5 - 5.3	1.2 - 3.2	1.4	0.7	0.5	
	Male	34,742 - 40,735	3,826 - 7,021	1,715 - 3,985	43.1 - 50.5	4.7 - 8.7	2.1 - 4.9	1.9	1	0.7	
	Total	62,177 - 70,126	6,655 - 10,661	3,197 - 5,885	36.8 - 41.5	3.9 - 6.3	1.9 - 3.5	1.2	0.6	0.4	

<b>Table 4</b>											
PREVALENCE OF COCAINE USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX											
Age Group	Sex	Population Estimates			Rate Estimates (%)			Standard Errors of Estimates(%)			
		Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	
18-29	Female	1,999 - 4,267	74 - 1,252	179 - 179	8.0 - 17.2	0.3 - 5.0	0.7 - 0.7	2.3	0.9	0	
	Male	1,760 - 4,653	288 - 2,284	6 - 5,128	6.8 - 18.0	1.1 - 8.8	0.0 - 19.8	2.8	1.7	1.3	
	Total	4,289 - 7,895	470 - 2,693	55 - 2,375	8.5 - 15.6	0.9 - 5.3	0.1 - 4.7	1.8	1	0.7	
30-44	Female	2,054 - 3,727	17 - 654	107 - 107	8.2 - 15.0	0.1 - 2.6	0.4 - 0.4	1.7	0.4	0	
	Male	3,490 - 6,164	9 - 2,334	-	14.3 - 25.3	0.0 - 9.6	-	2.8	0.9	0.6	
	Total	6,049 - 9,144	40 - 1,633	7 - 1,578	12.3 - 18.6	0.1 - 3.3	0.0 - 3.2	1.6	0.5	0.3	
45-54	Female	376 - 1,266	-	-	2.9 - 9.9	-	-	1.7	0	0	
	Male	983 - 2,564	-	-	9.1 - 23.8	-	-	3.7	1	0	
	Total	1,578 - 3,354	-	-	6.7 - 14.3	-	-	1.9	0.5	0	
55-64	Female	84 - 84	-	-	0.9 - 0.9	-	-	0	0	0	
	Male	29 - 1,062	-	-	0.3 - 11.3	-	-	1.8	0	0	
	Total	74 - 928	-	-	0.4 - 4.9	-	-	0.9	0	0	
65 +	Female	-	-	-	-	-	-	0.7	0	0	
	Male	-	-	-	-	-	-	0	0	0	
	Total	-	-	-	-	-	-	0.4	0	0	
All Ages	Female	5,116 - 8,257	117 - 1,446	286 - 286	5.8 - 9.3	0.1 - 1.6	0.3 - 0.3	0.9	0.3	0	
	Male	7,523 - 11,647	372 - 2,558	3 - 11,036	9.3 - 14.4	0.5 - 3.2	0.0 - 13.7	1.3	0.6	0.5	
	Total	13,444 - 18,761	683 - 2,838	117 - 1,910	8.0 - 11.1	0.4 - 1.7	0.1 - 1.1	0.8	0.3	0.2	

<b>Table 5</b>											
PREVALENCE OF INHALANT USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX											
Age Group	Sex	Population Estimates			Rate Estimates (%)			Standard Errors of Estimates(%)			
		Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	
18-29	Female	304 - 3,087	15 - 1,960	26 - 1,171	1.2 - 12.4	0.1 - 7.9	0.1 - 4.7	2.4	0.9	0.7	
	Male	144 - 3,541	-	-	0.6 - 13.7	-	-	2.4	1.4	0.7	
	Total	658 - 4,492	2 - 11,690	11 - 2,728	1.3 - 8.9	0.0 - 23.0	0.0 - 5.4	1.7	0.8	0.5	
30-44	Female	162 - 2,569	-	-	0.7 - 10.3	-	-	1.9	0.4	0.4	
	Male	631 - 3,542	-	-	2.6 - 14.6	-	-	2.8	0.6	0	
	Total	1,034 - 4,562	-	-	2.1 - 9.3	-	-	1.7	0.4	0.2	
45-54	Female	1 - 6,591	-	-	0.0 - 51.7	-	-	1.7	0	0	
	Male	145 - 1,947	91 - 91	-	1.3 - 18.1	0.8 - 0.8	-	3.5	0	0	
	Total	163 - 2,406	91 - 91	-	0.7 - 10.2	0.4 - 0.4	-	1.9	0	0	
55-64	Female	-	-	-	-	-	-	0.9	0	0	
	Male	5 - 1,395	-	-	0.1 - 14.8	-	-	1.4	0	0	
	Total	3 - 2,223	-	-	0.0 - 11.6	-	-	0.8	0	0	
65 +	Female	-	-	-	-	-	-	0	0	0	
	Male	-	-	-	-	-	-	0	0	0	
	Total	-	-	-	-	-	-	0	0	0	
All Ages	Female	713 - 4,223	10 - 3,145	26 - 1,225	0.8 - 4.8	0.0 - 3.6	0.0 - 1.4	0.9	0.3	0.2	
	Male	1,448 - 5,842	0 - 70,311	-	1.8 - 7.2	0.0 - 87.2	-	1.3	0.5	0.2	
	Total	2,652 - 8,207	7 - 10,072	5 - 6,886	1.6 - 4.9	0.0 - 6.0	0.0 - 4.1	0.8	0.3	0.2	

<b>Table 6</b>											
PREVALENCE OF HALLUCINOGEN USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX											
Age Group	Sex	Population Estimates			Rate Estimates (%)			Standard Errors of Estimates(%)			
		Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	
18-29	Female	2,267 - 2,950	383 - 383	-	9.1 - 11.9	1.5 - 1.5	-	0.7	0	0	
	Male	3,536 - 4,753	1,025 - 1,638	677 - 677	13.7 - 18.4	4.0 - 6.3	2.6 - 2.6	1.2	0.6	0	
	Total	6,031 - 7,424	1,405 - 2,004	677 - 677	11.9 - 14.6	2.8 - 4.0	1.3 - 1.3	0.7	0.3	0	
30-44	Female	2,067 - 2,654	107 - 107	-	8.3 - 10.7	0.4 - 0.4	-	0.6	0	0	
	Male	4,064 - 5,495	377 - 377	153 - 153	16.7 - 22.6	1.6 - 1.6	0.6 - 0.6	1.5	0	0	
	Total	6,346 - 7,891	483 - 483	154 - 154	12.9 - 16.0	1.0 - 1.0	0.3 - 0.3	0.8	0	0	
45-54	Female	429 - 939	-	-	3.4 - 7.4	-	-	1	0	0	
	Male	1,738 - 2,920	106 - 106	-	16.1 - 27.1	1.0 - 1.0	-	2.8	0	0	
	Total	2,324 - 3,620	106 - 106	-	9.9 - 15.4	0.5 - 0.5	-	1.4	0	0	
55-64	Female	-	-	-	-	-	-	0	0	0	
	Male	151 - 543	-	-	1.6 - 5.8	-	-	1	0	0	
	Total	150 - 550	-	-	0.8 - 2.9	-	-	0.5	0	0	
65 +	Female	94 - 94	-	-	0.7 - 0.7	-	-	0	0	0	
	Male	-	-	-	-	-	-	0	0	0	
	Total	94 - 94	-	-	0.4 - 0.4	-	-	0	0	0	
All Ages	Female	5,167 - 6,208	488 - 488	-	5.8 - 7.0	0.6 - 0.6	-	0.3	0	0	
	Male	10,347 - 12,560	1,490 - 2,125	831 - 831	12.8 - 15.6	1.8 - 2.6	1.0 - 1.0	0.7	0.2	0	
	Total	15,793 - 18,446	1,959 - 2,624	831 - 831	9.3 - 10.9	1.2 - 1.6	0.5 - 0.5	0.4	0.1	0	

<b>Table 7</b>											
PREVALENCE OF STIMULANT USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX											
Age Group	Sex	Population Estimates			Rate Estimates (%)			Standard Errors of Estimates(%)			
		Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	
18-29	Female	1,916 - 4,286	200 - 1,563	26 - 1,171	7.7 - 17.2	0.8 - 6.3	0.1 - 4.7	2.4	1.2	0.7	
	Male	2,391 - 5,049	447 - 2,096	274 - 1,638	9.2 - 19.5	1.7 - 8.1	1.1 - 6.3	2.6	1.5	1.2	
	Total	4,823 - 8,422	862 - 2,739	379 - 1,916	9.5 - 16.6	1.7 - 5.4	0.7 - 3.8	1.8	0.9	0.7	
30-44	Female	2,697 - 4,659	47 - 689	17 - 654	10.8 - 18.7	0.2 - 2.8	0.1 - 2.6	2	0.5	0.4	
	Male	4,544 - 7,495	171 - 1,154	50 - 977	18.7 - 30.8	0.7 - 4.7	0.2 - 4.0	3.1	0.9	0.7	
	Total	7,846 - 11,322	291 - 1,348	102 - 1,056	15.9 - 23.0	0.6 - 2.7	0.2 - 2.1	1.8	0.5	0.4	
45-54	Female	475 - 1,460	12 - 409	-	3.7 - 11.5	0.1 - 3.2	-	1.9	0.5	0	
	Male	1,683 - 3,411	14 - 748	-	15.6 - 31.7	0.1 - 6.9	-	4.1	1	0	
	Total	2,428 - 4,375	47 - 646	-	10.3 - 18.6	0.2 - 2.7	-	2.1	0.5	0	
55-64	Female	29 - 488	-	-	0.3 - 5.0	-	-	0.9	0	0	
	Male	255 - 1,251	-	-	2.7 - 13.3	-	-	2.5	0	0	
	Total	344 - 1,386	-	-	1.8 - 7.2	-	-	1.3	0	0	
65 +	Female	-	-	-	-	-	-	0	0	0	
	Male	10 - 639	-	-	0.1 - 6.5	-	-	0.9	0	0	
	Total	9 - 770	-	-	0.0 - 3.2	-	-	0.4	0	0	
All Ages	Female	6,009 - 9,145	349 - 1,901	85 - 958	6.8 - 10.3	0.4 - 2.1	0.1 - 1.1	0.9	0.4	0.2	
	Male	10,452 - 14,884	822 - 2,831	445 - 1,810	13.0 - 18.5	1.0 - 3.5	0.6 - 2.2	1.4	0.6	0.4	
	Total	17,434 - 22,744	1,537 - 3,582	678 - 2,072	10.3 - 13.5	0.9 - 2.1	0.4 - 1.2	0.8	0.3	0.2	

<b>Table 8</b>											
PREVALENCE OF SEDATIVE USE AMONG NATIVE AMERICANS IN OKLAHOMA, BY AGE AND SEX											
Age Group	Sex	Population Estimates			Rate Estimates (%)			Standard Errors of Estimates(%)			
		Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	
18-29	Female	1,045 - 2,542	101 - 922	26 - 1,171	4.2 - 10.2	0.4 - 3.7	0.1 - 4.7	1.5	0.7	0.7	
	Male	1,478 - 2,811	339 - 339	-	5.7 - 10.9	1.3 - 1.3	-	1.3	0	0	
	Total	2,809 - 4,814	348 - 1,192	20 - 1,605	5.5 - 9.5	0.7 - 2.3	0.0 - 3.2	1	0.4	0.4	
30-44	Female	1,673 - 2,557	212 - 212	107 - 107	6.7 - 10.3	0.9 - 0.9	0.4 - 0.4	0.9	0	0	
	Male	2,696 - 4,419	97 - 97	-	11.1 - 18.2	0.4 - 0.4	-	1.8	0	0	
	Total	4,648 - 6,583	311 - 311	106 - 106	9.4 - 13.4	0.6 - 0.6	0.2 - 0.2	1	0	0	
45-54	Female	359 - 714	-	-	2.8 - 5.6	-	-	0.7	0	0	
	Male	993 - 1,886	22 - 508	-	9.2 - 17.5	0.2 - 4.7	-	2.1	0.8	0	
	Total	1,474 - 2,402	19 - 593	-	6.3 - 10.2	0.1 - 2.5	-	1	0.4	0	
55-64	Female	70 - 70	-	-	0.7 - 0.7	-	-	0	0	0	
	Male	65 - 495	-	-	0.7 - 5.3	-	-	1	0	0	
	Total	119 - 527	-	-	0.6 - 2.8	-	-	0.5	0	0	
65 +	Female	-	-	-	-	-	-	0	0	0	
	Male	-	-	-	-	-	-	0	0	0	
	Total	-	-	-	-	-	-	0	0	0	
All Ages	Female	3,502 - 5,246	267 - 1,011	85 - 958	4.0 - 5.9	0.3 - 1.1	0.1 - 1.1	0.5	0.2	0.2	
	Male	6,046 - 8,264	406 - 727	-	7.5 - 10.3	0.5 - 0.9	-	0.7	0.1	0	
	Total	10,111 - 12,767	779 - 1,452	90 - 909	6.0 - 7.6	0.5 - 0.9	0.1 - 0.5	0.4	0.1	0.1	

**Table 9**

PREVALENCE OF HEROIN USE AMONG NATIVE AMERICANS  
IN OKLAHOMA, BY AGE AND SEX

Age Group	Sex	Population Estimates			Rate Estimates (%)			Standard Errors of Estimates(%)		
		Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days	Lifetime	Last 18 Months	Last 30 Days
18-29	Female	-	-	-	-	-	-	1.9	0.9	0.7
	Male	0 - 22,753	7 - 2,858	-	0.0 - 88.0	0.0 - 11.1	-	2.1	0.9	0
	Total	0 - 49,138	3 - 6,894	-	0.0 - 96.9	0.0 - 13.6	-	1.4	0.6	0.4
30-44	Female	-	-	-	-	-	-	1.7	0.6	0.4
	Male	-	-	-	-	-	-	2.6	0.4	0
	Total	0 - 48,436	10 - 1,983	-	0.0 - 98.4	0.0 - 4.0	-	1.5	0.4	0.2
45-54	Female	-	-	-	-	-	-	1.5	0	0
	Male	-	-	-	-	-	-	3.3	1	0
	Total	-	-	-	-	-	-	1.7	0.5	0
55-64	Female	-	-	-	-	-	-	0.7	0	0
	Male	-	-	-	-	-	-	1.4	0	0
	Total	-	-	-	-	-	-	0.8	0	0
65 +	Female	-	-	-	-	-	-	0	0	0
	Male	-	-	-	-	-	-	0	0	0
	Total	-	-	-	-	-	-	0	0	0
All Ages	Female	164 - 3,627	-	-	0.2 - 4.1	-	-	0.7	0.3	0.2
	Male	1,454 - 5,130	6 - 3,372	-	1.8 - 6.4	0.0 - 4.2	-	1.1	0.3	0
	Total	1,824 - 6,772	33 - 2,686	-	1.1 - 4.0	0.0 - 1.6	-	0.7	0.2	0.1