

A STUDY OF THE ALCOHOL AND DRUG HEALTH OF WISCONSIN AMERICAN INDIAN ADULTS LIVING ON OR NEAR RESERVATIONS

Substance Use Disorders and Treatment Needs Among Wisconsin American Indian Adults

Final Report

Introduction

In a survey of over 60 American Indian reservations in North America, 70 percent of respondents rated substance abuse problems among the top three health priorities (McKenzie, 1994). Substance abuse exacts a great social, economic, health, and public safety toll on society. Effective prevention and treatment programs can reverse the loss. As such, Tribal members, Tribal legislatures and administrators, and state and federal policy makers in the areas of human services, health care, education, criminal justice, traffic safety, and economic development need objective information on the prevalence of alcohol and other drug abuse for planning purposes. To date, estimates of substance abuse and need for treatment among American Indians in Wisconsin have been made from secondary sources with very little primary data collection. In addition to prevalence information, this study also identifies the met and unmet need for treatment, compares the results with other similar studies, and provides policy and program recommendations.

This study was funded under a federal Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment contract #270-98-7057. To conduct the study, the Wisconsin Department of Health and Family Services entered into contracts with four Tribal nations to complete random telephone or personal interviews with Tribal members living on or near the reservation. During the recruitment phase of the project, it was learned that a fifth Wisconsin Tribe would be conducting its own independent but comparable survey in terms of method, questionnaire items, sample, and timing. Arrangements were made to purchase their raw data, which was analyzed along with the data from the other four Tribes. Agreements with the Tribal nations prohibit the disclosure of the individual Tribes included in the study. Each Tribal agency was given a report identifying their respective findings. A contract with the University of Wisconsin Survey Center was also entered into for interviewer training.

Background of the Problem of Substance Abuse Among American Indians

More highly concentrated and potent alcohol beverages were introduced to indigenous peoples of North America by European colonists in the 1600's. By 1832, the United States Congress passed a law prohibiting sales of alcohol to and among American Indians. The law wasn't repealed until 1953 when it was determined to be discriminatory. After the repeal, only about one-third of Tribal nations in the country lifted their prohibition against alcohol indicating that the majority of Tribes preferred a culture free from "strong drink."

Studies of substance abuse among American Indians report higher than average rates of alcohol-related problems. Graves (1967) found that the rate of alcoholism among American Indians was 25 percent versus 8 percent among Caucasians. Caetano (1983) found a similar result. Jessor's (1978) study revealed that 42 percent of American Indian youth are experiencing problems associated with alcohol vs. 34 percent of Caucasian youth. Patrie (1979) discovered that the rate of alcohol-related deaths among American Indians exceeded Caucasians by almost six times. Recent Indian Health Service data indicate a high prevalence of alcohol-related deaths among American Indians aged 25 to 44.

In addition, there may be differences in drinking practices among Tribal groups. Some Tribes may be mostly abstinent, while others may have high levels of alcohol and drug use and abuse. Northern United States reservations, for example, have higher rates of alcohol abuse than southern United States reservations. American Indians living in urban areas tend to have higher rates of drug use than those living on reservations and more males use alcohol than females. It is the purpose of this study to present

a clearer picture of the rate of alcohol and other drug abuse problems on Wisconsin reservations.

Before presenting the methodology, sample, and findings from the study survey, it is important to dispel some myths about substance abuse among American Indian peoples (May, 1996):

Myth: American Indians metabolize alcohol differently than other people groups (such as Caucasians, African Americans, Latinos, Asian Americans, etc.). American Indians have a biological weakness to alcohol that others don't have.

Fact: Metabolism of alcohol among all people groups is related to prior drinking history and body weight, not race or ethnicity.

Myth: Drinking patterns and problems are unique among American Indians.

Fact: Drinking patterns and problems among American Indians are influenced by the same factors as other people groups. These factors include genetics, age, social norms and laws, social involvement, economics, mental health, emotional pain or trauma, self-esteem, and environment. Substance abuse is not caused by race.

Generally speaking, American Indians are a people facing significant legal, financial and health-threatening challenges including underemployment, poverty-level incomes, and widespread lack of health insurance. Federal Department of Justice statistics show that arrests per capita for alcohol violations (DUI, liquor laws, drunk and disorderly) among American Indians are double that of the general population. Fifty percent of American Indian jail inmates reported drinking at the time of the offense vs. 40 percent among the general population of inmates. Seventy percent of American Indian jail inmates committing violent crimes were drinking at the time of the offense.

A 2000 Wisconsin health insurance study (Bureau of Health Information, 2001) found that 94 percent of Wisconsin adults have health insurance. Rates of health insurance among American Indians and the poor were 85 percent and 82 percent respectively. This can vary from Tribe to Tribe. The federal Indian Health Service reports that American Indian rates of tuberculosis, accidents, diabetes, pneumonia, arthritis, heart disease, homicide, and suicide far exceed rates in the general population. Data from the 2000 National Household Survey on Drug Abuse (NHSDA; Office of Applied Studies, 2001) show much higher than average rates of cigarette smoking among American Indian youth.

Health Effects of Alcohol and Other Drug Use

It is unlikely that there are any significant health benefits from drinking alcohol (National Institute on Alcohol Abuse and Alcoholism, 1997). The published research touting the health benefits of alcohol use is generally spurious. That is, important variables are not taken into account as part of the research. When a connection or link is found between moderate alcohol use and lowered risk of heart disease, the connection cannot be explained completely by alcohol consumption or the lack of alcohol consumption. Serum cholesterol levels are more a factor in heart disease or stroke than alcohol consumption. It is a well established fact that when the body is metabolizing alcohol, it is not able to metabolize cholesterol. Exercise, eating better, quitting smoking, or lowering stress are a better prescription for preventing heart disease than drinking moderate amounts of alcohol.

There is ample bona fide research on the ill effects of alcohol use. Alcohol consumption has been shown to put people at risk for cancer, reproductive and sleep dysfunction. Data from Wisconsin death certificates put the average age of death for persons dying from alcohol-related causes at 54 (Wisconsin Bureau of Health Information). Alcohol consumption has been attributed to lowered levels of vital nutrients in the body such as protein (the amino acid phenylalanine), potassium, magnesium, zinc, vitamins B1, B6, B12, and folate. Any consumption of alcohol during pregnancy increases the risk of placental abruption, fetal malformations, child development problems, stillbirth, sudden infant death syndrome, and other adverse pregnancy outcomes. While it can be said that less alcohol is better than more, there is no clear lower threshold of drinking at which an individual can be completely safe from

negative consequences including trouble with police, doctor, boss, accidental injury, or health problems. Even at low levels of drinking there is some degree of risk.

Despite some misconceptions, marijuana is an addictive substance that causes impaired memory and judgement, anxiety, restlessness, panic reactions, mood swings, lack of ambition, damage to brain cells, damage to the body's immune system, sinusitis, asthma, inflammation of the pharynx, bronchitis, lung lesions, hormonal imbalance, infant defects, and can result in death (National Institute on Drug Abuse, 2002). Since 1997, six Wisconsin deaths have been documented as being attributed to marijuana use (Wisconsin Bureau of Health Information). Research suggests that smoking marijuana may be more of a cancer risk than smoking tobacco. The tar portion of marijuana smoke, compared to that of tobacco, contains higher concentrations of carcinogenic hydrocarbons, a key factor in promoting human lung cancer. Marijuana smoke deposits four times as much tar in the respiratory tract as does a comparable amount of tobacco, thus increasing exposure to carcinogens.

Study Method

The study was announced to Wisconsin's eleven Tribal nations and each was sent an application requesting their participation. Wisconsin received responses from four Tribes and contracts were signed with them. Each of the Tribes did the following:

1. Gave feedback to the researchers on the content, usefulness, and cultural appropriateness of the survey instrument.
2. Received training on survey procedures and etiquette.
3. Hired interviewers.
4. Drew a random sample of adult Tribal members from Tribal rolls using a computerized random number generator or a manually drawn systematic sample with a random starting point.
5. Announced the survey to their members, conducted in-person or telephone interviews, whichever was appropriate, and offered a financial incentive to each respondent.
6. Entered the survey data into an electronic spreadsheet or database.
7. Submitted the raw data files to the researchers for analysis.

The Questionnaire

The interview schedule used in this study was adapted from a discriminant analysis of data from the 1997 Wisconsin household survey (Dold, 1999; Yun, 1999). Discriminant analysis refers to a common statistical analysis technique whereby multiple variables or question items are reduced in such a way that the resulting variables or items maximally separate two populations. The 1997 Substance Dependence Needs Assessment Questionnaire (version 6.2) was shortened by including only those questions that were highly discriminating of respondents being classified as substance abusers. This procedure has been used by social researchers in much the same way as electronic scientists seek smaller and faster components. In a classic Wisconsin study of 910 juveniles in secure detention by James Halikas, M.D. (1982), as few as three questionnaire items correctly identified youth with a substance use disorder. The three items in the Halikas study had a "false-positive" rate of 10 percent and a "false-negative" rate of 6 percent. This resulted in a "net" error rate of only 4 percent (slightly over-identifying substance use disorders) and a correct identification rate of 96 percent.

The discriminant analysis conducted on the survey items and substance use disorder definitions in this study slightly over-identified substance use disorders in only 3 percent of cases and correctly identified disorders in 97 percent of cases in the general population surveyed (Yun, 1999). Research by Hoffmann (1995) and Brown (1997) also support this approach. In the Hoffmann and Brown studies, the selected questionnaire items and corresponding substance use disorder definitions correctly predicted a substance use disorder in 81 to 99 percent of persons in medical and substance abuse treatment populations. Consequently, the interview questions used in this study and definitions of substance abuse and dependence were reduced without affecting the tool's overall ability to identify substance abuse and dependency consistent with Diagnostic and Statistical Manual of the American Psychiatric Association

(DSM-IV) definitions.

The Sample

According to the 2000 U.S. Bureau of the Census, the total American Indians living in Wisconsin is 48,270. There are 11 Tribal nations in Wisconsin, with a total of 15,280 American Indians living on or near their respective reservations. It should be noted that while each of the Tribal nations publish their own population figures (Note: in some instances Tribal figures were more than twice those reported by the Census Bureau), for purposes of this study, Census Bureau published figures were used. The Census Bureau-reported reservation population of the five Tribes participating in the study is 7,745.

The total adults living in the five participating Tribal areas is 5,810. To keep the risk of sampling error low, a standard table for determining a sample size at the 95 percent confidence level was consulted (Research Division of the National Education Association).

According to the table, a statistically valid survey sample would be a minimum of 360 respondents. All counted, 663 interviews were completed and considered valid for the analysis. The individual Tribal survey samples are in Table 1 above. The overall study response rate was 64 percent, and was calculated by dividing the number of interviews used in the analysis by the initial sample of eligible Tribal member names drawn.

Reported Percent	95% Confidence Interval
5%	3.43% - 6.57%
10%	7.84% - 12.16%
20%	17.13% - 22.87%
30%	26.71% - 33.29%
40%	36.48% - 43.52%
50%	46.41% - 53.59%
60%	56.48% - 63.52%
70%	66.71% - 73.29%

**Table 1:
Tribal Survey
Sample Sizes**

Tribes 1: 100
 Tribes 2: 100
 Tribes 3: 100
 Tribes 4: 299
 Tribes 5: 64
Total: 663

Table 2: Study Sample Age Distribution

	Five Tribes' General Population	Study Respondents
Age 18-29	32%	23%
Age 30-39	25%	26%
Age 40-49	17%	23%
Age 50-59	19%	15%
Age 60 +	7%	13%
Total	100%	100%

The study respondents resembled the general population of the Tribes. The gender distribution among the five Tribes' general population is 49 percent male and 51 percent female. The gender breakdown among the survey respondents was 50 percent male and 50 percent female. Table 2 displays the comparative age distributions.

Study Limitations

The size of individual Tribal samples was determined by the survey budget, therefore, individual Tribal samples are generally not large enough to draw statistically valid conclusions about individual Tribes. Most Wisconsin Tribes have at least 1,000 members, and would need samples of at least 280 to be statistically valid. However, the study's combined Tribal results are considered to be meaningful and useful for drawing general conclusions about the alcohol and other drug abuse problems and needs among Wisconsin American Indians living on or near reservations.

Since the survey is taken on a sample of the population, there is some degree of error which occurs. Percentages reported from the combined survey data should be viewed in terms of a precision range above and below the reported percentage. The following assumptions were made in determining the confidence intervals for the total survey sample: total population size - 5,810; sample size - 663; and 95 percent confidence level. See the table to the left for confidence intervals. For example, if the survey reported percent is 60, we can be 95 percent confident that the actual percent is between 56.48 and 63.52.

The approach used to classify respondents as having a substance use disorder and being in need of treatment was derived from techniques that are used in clinical settings by qualified professionals. While the study interviewers were trained in interviewing etiquette, their role was not that of a clinician. It is important to remember that the study respondents classified as having a substance use disorder and in

need of treatment have not actually received a clinical diagnosis of substance abuse or dependence.

Definitions of substance use disorders vary slightly among the studies that are compared to the Wisconsin study. For example, the definitions of substance use disorders in the other state studies were directly derived from the DSM-IV definitions, while the Wisconsin study definitions were derived from a discriminant analysis of the DSM-IV items as described previously.

Many individuals question the accuracy of self-reported data on sensitive topics such as alcohol and drug use claiming that respondents will give socially desirable answers rather than truthful answers. Actually, studies (Harrison, 1995) have demonstrated that surveys do provide useful and meaningful data and most people will be truthful if the research has a legitimate purpose and they can trust that their individual answers will be kept private and confidential. The interview questionnaire itself included some questions to evaluate the quality and integrity of the interview and data such as, “When I asked you about your use of drugs like marijuana, cocaine and the like, how truthful and honest did you feel you could be?” For the entire sample, 97.7 percent responded that they felt they could be “very honest” in their answers. Interviewer perceptions were also recorded such as, “Was the respondent cooperative? Was the respondent honest?” In only 1.9 percent of the original completed surveys the interviewer indicated that the survey results were questionable. These were subsequently eliminated from analysis.

The study’s principal findings that follow are divided into six sections: alcohol and other drug use; substance use disorders; treatment experiences; funding for treatment; barriers to treatment; and recommendations to reduce alcohol and drug problems on the reservation.

Alcohol and Other Drug Use

Table 3 below and the graph to the right present the comparative alcohol use practices among the study’s Tribal samples and other similar studies. Rates of current alcohol use among the Wisconsin Tribes is 46 percent. Current use of alcohol among Wisconsin American Indians is significantly lower than the general population, all races. In comparison to American Indian Tribes in other states, Wisconsin’s rate of alcohol use is higher, but comparable to the NHSDA survey, American Indian sample.

Table 3: Alcohol Use

Survey/Study	Any Use of Alcohol in the Past 12 Months	Any Use of Alcohol in the Past 30 Days
5 WI Tribes Combined ¹	62%	46%
Other State Adult American Indian Studies ²	54%	35%
NHSDA Adult American Indian Sample ³	56%	46%
Wisconsin Statewide Adult Household Survey, All Races ⁴	81%	65%

Table and Figure Notes:

¹Rates based upon the entire study sample

²Other State Adult American Indian Studies include those completed in Arizona, Montana, North Dakota, Oklahoma, South Dakota, and Wyoming (average)

³NHSDA: 1998 National Household Survey on Drug Abuse (adult American Indian sample)

⁴Wisconsin Statewide Household Survey, 1997 (adults; all races)

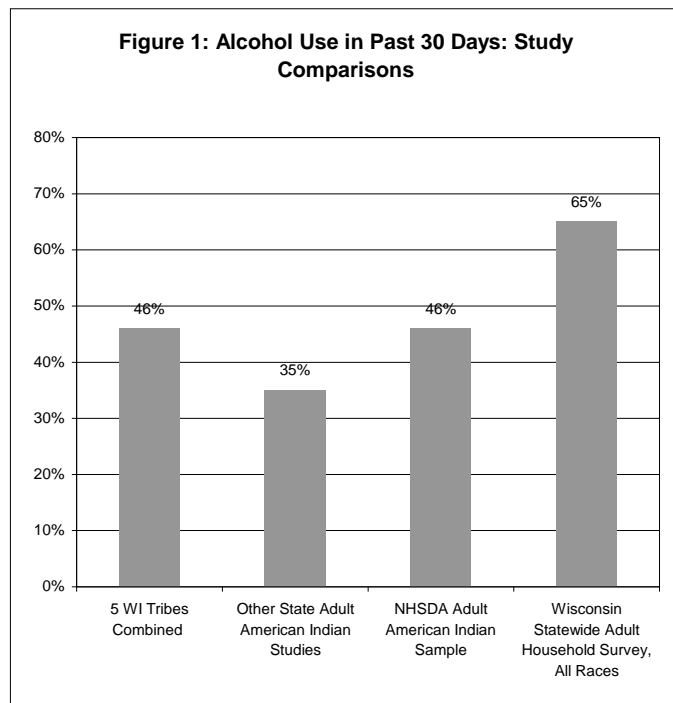


Table 4 and the chart to the right on the next page show the non-medical and illegal use of mood altering drugs. Non-medical means using a drug not prescribed by a doctor, using a drug in a way the doctor did not intend, using it to get high or see what it feels like, or non-ceremonial use of a drug. The rates of mood altering drug use among the Wisconsin Tribes is 19 percent. Use of drugs among Wisconsin American Indians is significantly higher than the general population. Wisconsin's American Indian rate of drug use is similar to American Indian Tribes in other states.

Table 4: Drug Use

Survey/Study	Any Use of Mood Altering Drugs in the Past 12 Months
5 WI Tribes Combined	19%
Other State Adult American Indian Studies	19%
NHSDA Adult American Indian Sample	14.5%
Wisconsin Statewide Adult Household Survey, All Races	6%

Table 5: Drugs Used Illegally or for Non-Medical Purposes

Mood Altering Drug	Percent of Respondents Using in Past 12 Months	Average Times Used in Past 12 Months
Marijuana	14%	10
Cocaine	7%	6
Pain killers	4%	5
Tranquilizers	2%	6
Hallucinogens	1%	4
Sleeping pills	<1%	4
Inhalants	<1%	4
Stimulants	<1%	5
Heroin	<1%	5

Table Notes:

Pain killers such as codeine, morphine, darvon, demerol, dilaudid
 Tranquilizers such as valium, xanax, rohypnol, clonapin
 Hallucinogens such as LSD, PCP, peyote, mushrooms
 Sleeping pills such as phenobarbital, seconal
 Inhalants such as glue, lighter fluid, nitrous oxide, gasoline, whippets
 Stimulants such as amphetamines, benzedrine, dexedrine, preludin, speed, ice, crystal meth

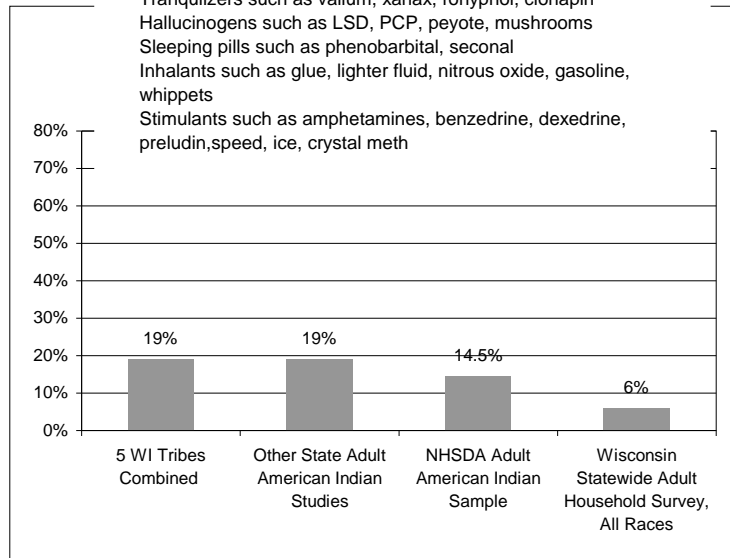


Table 5 summarizes the various drugs used for all Tribes combined. The most common mood altering drug used is marijuana. Marijuana use in the 12 months prior to the survey interview was reported by 14 percent of American Indian adults responding to the survey. On average, these persons reported using marijuana about 10 times during that 12-month period. Cocaine use was reported by 7 percent of respondents for an average of 6 times during the preceding 12 months; pain killers by 4 percent, tranquilizers (muscle relaxants) by 2 percent, hallucinogens by 1 percent, and the rest of the drugs by fewer than 1 percent.

Substance Use Disorders

In 1951, the World Health Organization defined alcohol or drug dependency as a disease and classified it as such in the International Classification of Diseases. By 1957, the American Medical Association acknowledged that substance use disorders were diseases. A recent Gallup Poll found that almost 90 percent of Americans believe that substance use disorders are diseases. When ascribing to the illness or disease concept with substance use disorders, accurate diagnosis (using medically accepted criteria) is critical. As an illness, alcohol or drug dependency is the progressive impairment of one's health that negatively affects the performance of vital bodily functions such as the liver, central and peripheral nervous systems, pancreas, stomach, and cardiovascular system. It is a maladaptive pattern of substance use leading to clinically significant impairment in physical, psychological, interpersonal, and vocational functioning. A substance use disorder is also a social illness resulting in family discord and break-up, reduced productivity, unemployment, crime, and financial problems. If left unchecked, persons will likely suffer disability and early death - the average age of death for alcohol dependent persons in

Wisconsin is about 54 years, 46 years for drug dependent persons.

The two principal substance use disorders (abuse and dependence) have separate and unique medical definitions with abuse being the less severe of the two. Consistent with medical definitions and the discriminant analysis research described earlier, **abuse**, in this study, is defined as having any of the following symptoms in the past year:

- Using alcohol or mood-altering drugs even though family, friends, people at work, a doctor or minister object to use
- Being under the influence of alcohol or drugs when there's a chance of harm or injury
- Being injured when using alcohol or drugs
- Using alcohol or drugs even though there was a health problem that might be made worse by using
- Often wanting or needing to cut down on the use of alcohol or drugs
- Often using more alcohol or drugs than meant to
- Continuing to use alcohol or drugs after being arrested, taken to a detox center, or involved in a traffic accident due to use

Dependence, in this study, is defined as having two or more of the following symptom clusters in the past year:

- Often wanting or needing to cut down on use or controlling use by making personal rules
- Often using more than meant to, often using for a longer period of time than planned, or using for a couple of days or more without sobering up
- Finding out that using the same amount of a substance had less effect or having to use more than used to in order to get the same effect
- Being preoccupied with using alcohol or drugs
- Neglecting usual responsibilities, neglecting care of children, missing work frequently, or getting fired from a job due to use

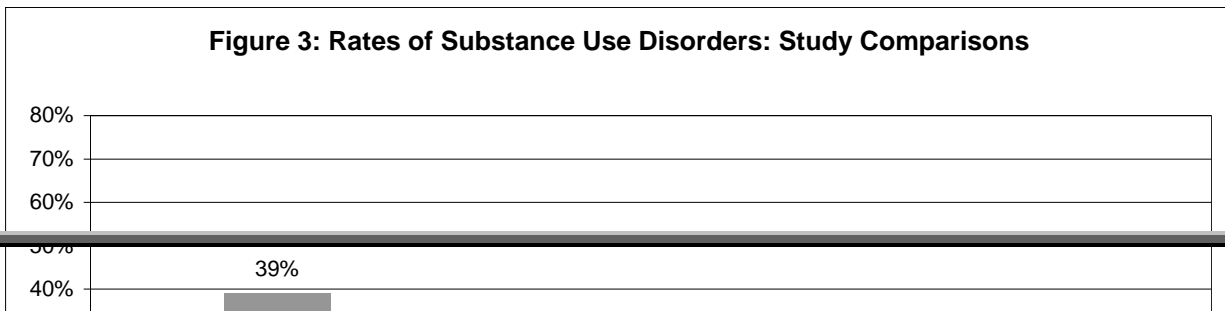
Both disorders require treatment interventions. Generally speaking, substance abuse requires a minimum of short-term outpatient treatment, and substance dependence requires more intensive outpatient or residential treatment.

Table 6 below and Figure 3 that follows present the rate of substance use disorders identified by the various studies. In comparison to American Indian Tribes in other states, Wisconsin's rate of substance use disorders is higher. If the combined treatment need rate (39 percent) from table 6 for the five participating Tribes, is applied to their combined adult population (5,810), the number of adult persons in need of treatment among the five Tribes is 2,265; 1,277 (abuse) require a minimum of short-term outpatient treatment and 988 (dependence) require intensive outpatient or residential treatment.

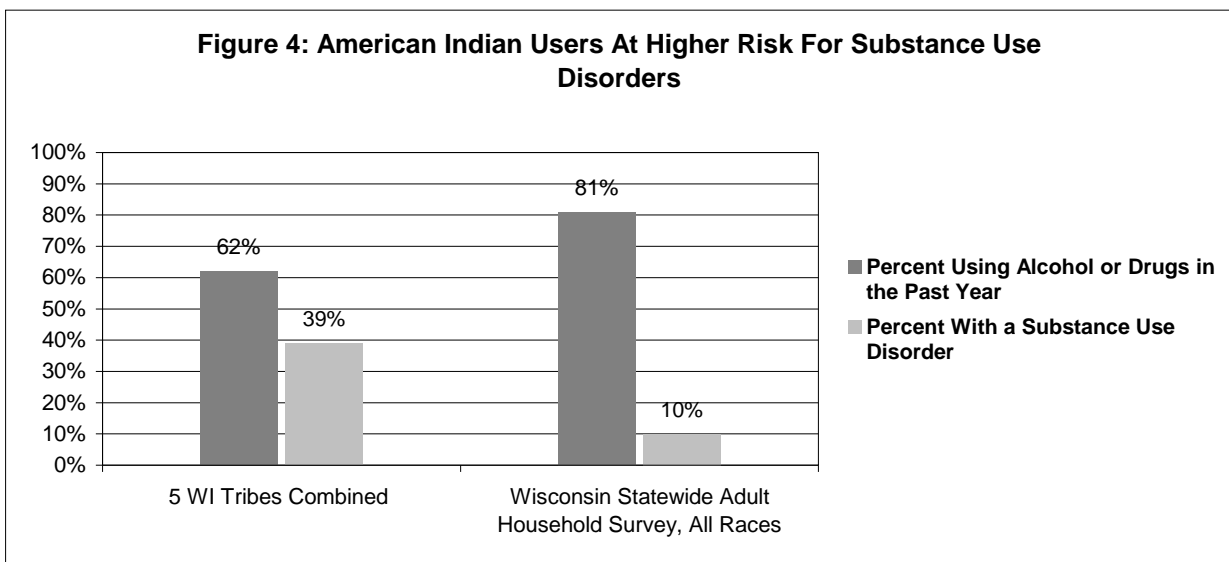
Table 6: Prevalence of Substance Use Disorders

Survey/Study	Substance Abuse in Past 12 Months	Substance Dependence in Past 12 Months	Substance Abuse or Dependence in Past 12 Months
5 WI Tribes Combined	22%	17%	39%
Other State Adult American Indian Studies	8%	17%	25%
Wisconsin Statewide Adult Household Survey, All Races	Not Avail.	Not Avail.	10%

Figure 3: Rates of Substance Use Disorders: Study Comparisons



A comparison of the overall rates of substance use disorders with alcohol or drug use rates (see the following figure) shows that American Indians who use are at higher risk of developing a disorder than the general population. As discussed earlier this is not the result of race because there is no evidence indicating that American Indians metabolize alcohol differently as a race, but factors such as genetics, age, social norms and laws, social involvement, economics, mental health, emotional pain or trauma, self-esteem, and environment are the real cause.



Treatment Experiences

All survey respondents were asked if they had sought or received some form of treatment for a substance use disorder in the past 12 months. Table 7 on the next page shows that about 4 percent of respondents had received treatment in the past 12 months. Comparing the 39 percent rate of substance use disorders (see Figure 3) with the current treatment rate (4 percent), only one-tenth of those currently in need of treatment received treatment in the past 12 months. Those respondents who did receive treatment generally described it as a positive experience.

Table 7: Treatment Experiences

Survey/Study	Received Substance Abuse Treatment in the Past 12 months	I Got The Kind of Help I Wanted		My Situation Improved	
		Treatment On Reservation	Treatment Off Reservation	Treatment On Reservation	Treatment Off Reservation
WI Tribe 1	3%	100%	100%	50%	100%

Table 8: Source of Funding

Public Sources	
Indian Health Service	48%
State, County, or Tribal funds	18%
Medicaid	5%
Subtotal	71%
Private Sources	
Private health insurance	23%
Own funds	4%
Veterans Benefits	2%
Subtotal	29%

WI Tribe 2	5%	100%	100%	67%	100%
WI Tribe 3	15%	100%	93%	100%	73%
WI Tribe 4	N.A.	N.A.	N.A.	N.A.	N.A.
WI Tribe 5	9%	100%	100%	100%	100%
5 WI Tribes Combined	4%	100%	94%	75%	78%
Other State Adult American Indian Samples	15%	N.A.	N.A.	N.A.	N.A.
Wisconsin Statewide Adult Household Survey, All Races	8%	N.A.	N.A.	N.A.	N.A.

N.A. – Not Available

Funding for Treatment

As discussed earlier in this report, funding for treatment services among American Indians is an issue for policy makers. Of the 44 survey respondents who had ever in their lifetime received treatment for a substance use disorder, Table 8 depicts the source of funding for treatment. As the data show, the vast majority of American Indians needing treatment for a substance use disorder depend upon public support for their treatment.

Barriers to Treatment

Of the 44 survey respondents who had ever received treatment for a substance use disorder, the most significant barrier to treatment reported (26 percent) is: the individual with a substance use disorder does not perceive the problem to be serious enough to seek help or the individual is in an environment where alcohol and drug abuse is considered “normal” behavior. Some call it denial, but it does point to a need to educate people about substance use disorders and motivate persons to seek help. The following are other lesser-mentioned barriers to treatment (28 percent had no opinion):

- (9%) Treatment is not relevant to my needs
- (8%) I’m afraid of what family or friends might think
- (7%) I lack transportation to get to treatment
- (6%) I can’t pay for treatment
- (6%) Treatment would conflict with my work schedule
- (5%) I’m afraid I will lose my job or income
- (5%) I have no one to care for my children while in treatment

Summary of Respondent Suggestions to Reduce Alcohol or Drug Problems on the Reservation

Two of the participating Tribes (a total of 200 respondents) included a survey question, “In your own opinion, what more could be done to reduce alcohol or other drug problems on the reservation?” The following is a tally (frequency of mentions) of the most prevalent responses:

- (29) More alcohol/drug-free activities for youth and adults
- (29) More public education
- (20) More alcohol beverage control on the reservation

- (14) More parental supervision of children
- (10) Stricter enforcement of illegal drug laws
- (4) Alcohol/drug screening for reservation employees
- (4) Create more jobs
- (2) Create more housing

Implications and Recommendations

This survey of the prevalence of substance use disorders on a sample of Wisconsin's American Indian reservations documents the need for prevention and treatment to be a high priority. Prevention and treatment are good investments of public and private funds resulting in savings in other public costs, decreases in threats to public safety, and increases in productivity. On the average, each dollar invested in treatment can yield a \$7 return to society (Gerstein, 1997). Studies of public investments in treatment have shown positive results in reducing crime and delinquency and decreases in work-related problems. Current study respondents who had received treatment generally described it as a positive experience.

Thirty-nine percent of the survey respondents and an estimated 2,265 persons on the five reservations surveyed are in need of treatment for a substance use disorder; 1,277 require a minimum of short-term outpatient treatment and 988 require intensive outpatient or residential treatment. Tribal elders, legislatures, and administrators are encouraged to use this information in planning health services. County, State, Federal, and private insurance industry policy makers are also advised to take note of the elevated prevalence of substance use disorders and need for public funds in Tribal areas as programs are developed and funding decisions are made.

As described earlier, genetics, age, social norms and laws, social involvement, economics, mental health, emotional pain or trauma, self-esteem, and environment are all factors affecting the alcohol and drug health on American Indian reservations. A poll of some Wisconsin Tribal members found that more alcohol/drug-free activities for youth and adults, more public education, more parental supervision of children, and more control of alcohol and illegal drugs should be undertaken. It will be the purpose of this section of the report to recommend some principles to guide programs that are implemented to address substance abuse on the reservations.

Prevention:

Successful prevention programs should be designed by the Tribal members themselves. Listening sessions that include persons from all segments of the reservation population being made up of users and non-users of substances, that develop relationships and rapport, that promote dialogue and avoid polarization, and that consider member-initiated options are effective in devising preventative approaches. Focus on areas of agreement rather than disagreement. Addressing related issues initially, such as employment and housing, may be a way to focus on areas of agreement.

Active participation in traditional Tribal activities such as artwork, crafts, songs, and lore have been proven to be effective.

Efforts must ultimately attempt to change norms, and values.

Prohibition is largely ineffective. Bootlegging and the off-reservation purchase of alcohol have circumvented policies of prohibition. Instead, approaches to control alcohol use are effective, such as:

- Reducing the number of establishments licensed to sell alcohol and regulating the type and location of licenses issued. For example, alcohol sold in bars has generally been found to produce more cases of alcohol-impaired driving, yet alcohol sold in grocery stores results in the lowest level of drinking and driving.
- Ban or limit alcohol and alcohol advertising at powwows and other community events.

- Strict enforcement of existing laws.
- Education of law enforcement personnel and Tribal leaders.

Treatment:

There is little published research on the effectiveness of American Indian treatment for substance use disorders. It is recommended that Tribal treatment programs institute modest approaches to evaluation of treatment to aid in improving treatment.

Traditional American Indian healing practices such as sweats, praying with a sacred pipe, and healers should be available to those who choose this manner of treatment. In addition to counseling, treatment adjuncts such as Antabuse medication, employment assistance, and financial help have been shown to be effective.

Counselors should be American Indian and have a strong Alcoholics Anonymous (AA) affiliation. Treatments should address underlying mental health issues such as anxiety and depression, trauma, and other disorders. Treatment plans should address issues of stable employment, good living conditions, and strong interpersonal relationships.

Prevention and Treatment:

Individuals who are more oriented to and identify with their culture are less likely to abuse alcohol or drugs. Both preventative and treatment approaches should consciously address issues of culture in a manner that fosters stronger identification in both American Indian society and Western society. Approaches should build bicultural competence and reduce feelings of alienation from society.

Prevention and treatment programs should target families with a history of alcohol or drug abuse and youth who are not doing well in school. They should strengthen family and peer group associations and relationships, emphasize the teaching of how to live and cope effectively without using alcohol or drugs.

Programs should strengthen religious and spiritual foundations and instill a sense of hope and direction for the future.

There should be a focus on education about substance use disorders and motivating persons to seek help. Services should address barriers such as stigma, transportation, work schedule, and child care.

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