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**American Indian and Alaska Native  
Mental Health Research**

**The Journal of the National Center  
Volume 5, Number 3, 1993**

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This issue of the journal presents four articles that speak to a common subject, namely, the nature, perception, and impact of alcohol or other substance abuse among Indian and Native people. However, each addresses a different level of concern. Mail and Johnson, in the first paper, entitled "Boozing, sniffing, and toking: An overview of the past, present, and future of substance use by American Indians," chronicle the history of alcohol and other substances in this special population, emphasizing current epidemiological data, patterns of use, and the development of policies of control. In this regard, the authors add new data from the Indian Health Service's Alcohol Treatment Guidance System (ATGS). Their contribution ends with a timely comment on recent programmatic examples of preventive interventions, further illustrating the planning and policy questions anticipated by May (1992) in a previous issue of this journal.

Kettl and Bixler's paper, "Alcohol and suicide in Alaska Natives," reports a retrospective review of hospital records from the Alaska Native Medical Center that paid particular attention to factors distinguishing individuals completing suicide from age-, sex-, and race-matched controls. A history of alcohol abuse and prior attempts proved to be strongly associated with completed suicide and was significantly more common among completers than matched controls. These findings suggest the need to develop and implement appropriate screening measures for individuals seen through primary care settings, and they underscore the importance of past attempts as among the best available, yet imperfect, predictors of risk for suicide. The authors' observations in this regard are congruent with those reported in an earlier special issue of this journal (see Volume 1, Issue 3) and a forthcoming monograph (Volume 4).

"Attributional antecedents of alcohol use in American Indian and Euroamerican adolescents" considers yet another facet of the subject at hand. Sage and Burns extend our understanding of the perceptions that Indian and non-Indian youth hold in regard to alcohol use and alcohol-related problems. Employing a widely used measure of antecedents to alcohol use, the authors surveyed several hundred students (grades 9 and 11) attending high schools located on the Salish-Kootenai Indian Reservation in northwestern Montana. The scale in question asked respondents to indicate the degree to which they attributed responsibility for alcohol use and related problems to the person, environment, stressful events, other people, heredity, disease, or fate. Important gender and ethnic differences emerged in the ensuing patterns of attribution that Sage and Burns argue have important implications for subsequent intervention. Their emphasis on

the application of these findings is consistent with state-of-the-art prevention efforts that increasingly acknowledge the complex nature of risk for alcohol use and abuse, thereby suggesting the need to anticipate multiple points of intervention, including cognition and affect, as well as behavior.

Finally, Lee, in her article "Differential deviance and social control mechanisms among two groups of Yup'ik Eskimo," returns us to the broader social and cultural context in which alcohol use and related social pathologies occur. The author shares her initial inquiries into the field's long-standing interest in the relationship among social disorganization, accompanying deviance, and mechanisms, formal as well as informal, of social control. In this report, Lee chronicles the history of sociocultural change among Alaska Natives and traces the gradual accumulation of considerable evidence in regard to the erosion of local control and the increase of social pathologies such as alcohol abuse and violence. By comparing the relative frequency of such deviance observed in Yupi'it and non-Yupi'it Nation villages, distinguished in terms of the adoption of local-option alcohol-control laws, the author tests a series of hypotheses about expected differences between them. The anticipated differences are indeed found. The former, who have assumed direct responsibility for control of alcohol and related problems, rather than assign it to external authorities, report significantly fewer alcohol-related incidents (e.g., public drunkenness and felonies) than their counterparts. Although Lee acknowledges several potential confounds of and alternative explanations for these findings, she provides an intriguing glimpse of a phenomenon that bears much closer scrutiny.

SPERO M. MANSON, Ph.D.  
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**BOOZING, SNIFFING, AND TOKING:  
AN OVERVIEW OF THE PAST, PRESENT, AND  
FUTURE OF SUBSTANCE USE BY AMERICAN INDIANS**

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and  
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*Abstract: This paper provides an overview of Indian peoples, alcohol misuse, and the prevalence of drug and inhalant experience. Early use of alcohol among North American Native peoples may represent early chemical warfare to gain European advantage over an "enemy." The magnitude of the present-day problem of alcohol and substance misuse is described in mortality rates and proportionate use reports. The use of other drugs and substances, such as inhalants, amphetamines, sedatives, and hallucinogens is examined. A brief overview of the history and complex relationships between American Indians and alcohol from the time of initial contact to the present is sketched out before approaches to primary, secondary and tertiary prevention are considered. The issue of potential conflict between tribal statutes and health objectives is noted. Some possible solutions are proposed.*

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Earlier versions of this paper were presented at the USPHS Professional Association annual meeting (Las Vegas, 1987) and the American Indian Firefighters Drug Free Work Place Conference (Tucson, 1991), sponsored by the Native American Research & Training Center, College of Medicine, University of Arizona. This article was written by Patricia D. Mail and Sandra Johnson in their private capacity. No official support or endorsement by the U.S. Public Health Service or its agencies is intended or should be inferred.

### The Magnitude of the Problem

The survival of Indian<sup>1</sup> people today continues to be challenged by the abusive use of alcohol. The theories about why this is so are legion, ranging from the biological (e.g., Indians are genetically different) to the psychological (e.g., Indians drink because of low self-esteem, anxiety, frustration, boredom, powerlessness, peer pressure, and isolation) to the sociocultural or environmental (e.g., Indians drink as a response to cultural disruption, acculturation, deculturation, governmental paternalism, deprivation, lack of aboriginal exposure to alcohol, persistence of traditional patterns, poverty, or as recreation) (Mail, 1984).

Rarely, if ever, is it observed in the literature on Indian drinking that Indians may drink because they become addicted to alcohol, and the addiction demands more alcohol to prevent such sequelae as withdrawal and delirium tremens. Or, perhaps, that they drink because people in the society at large continue to drink, and they are exposed to the same advertisements and inducements as everyone else. Or that failure to learn alternative drinking styles because of prohibition, discrimination, and isolation have permitted intergenerational transmission of a highly distinctive and destructive style of drinking and abuse of other drugs or substances. A 1987 survey of 49 hospitals operated by the Indian Health Service (IHS) found that one out of four Indian/Alaska Native inpatients was hospitalized for an alcohol-related condition (Martin & Helgerson, 1987). The most telling data, however, are the mortality data. All of the top 10 leading causes of death in Indians between the ages of 15 and 44 can be attributed to the direct or indirect effects of alcohol misuse (Mail & Palmer, 1985). Thus, alcohol misuse hastens or underlies death from such conditions as heart disease, unintentional injuries (or "accidents"), cancers, diabetes, pneumonia, homicide, and suicide.

Historically, men of all races appear statistically to have the problem of alcohol and other drug use far more often and in greater numbers than women. Indians have consistently shown greater rates of death due to alcohol abuse than members of all other races. For example, the 1981–1983 death rate for alcoholism and cirrhosis for Indians/Alaska Natives ranged from more than 3 times (Alaska, Bemidji, Nashville, and Navajo areas) to greater than 11 times (Billings area) that of the U.S. all-races rate for 1982 (see Table 1). The good news is that since 1969, the overall rate of death due to alcoholism has been steadily decreasing.

In 1987 the rate of Indian and Alaska Native deaths due to alcoholism was still 4.3 times the rate for U.S. all-races (IHS, 1990, p. 45). And, reviewing the age-specific information, Indians in the 15- to 24-year age group had death rates considerably higher than those of all other popula-

tions. The death rate for Indian males was high for all age groups, with one exception. Indian female rates exceeded those of Indian males in the 15–24 age group (IHS, 1990, p. 46).

Indian death rates due to injuries from motor vehicle crashes are three times greater than that of the U.S. population, and many of these are associated with alcohol intoxication (Berkelman, Herndon, Callaway, Stivers, Howard, Bezjak, & Sikes, 1985; Mail, 1987). The combination of drugs and alcohol undoubtedly contributes to suicides, homicides and violent death, as well as child battering and family disruption. Indian death rates due to acts of violence are more than double the U.S. rate, and Indian deaths due to unintentional injuries in some areas are six times greater than the U.S. rate (see Table 2).

Death rates are easy to measure because death is a very final statistic. But within the Indian communities, the disability, economic and emotional losses, secondary infections, demands on medical and social services, costs for police efforts related to alcohol, and overall cost in human suffering are not well measured. The real impact of alcohol, drug, and other substance misuse has yet to be fully measured.

#### Lack of Homogeneity

Alcohol-involved mortality among Indians is not homogeneous among tribes or even within any given tribe. A study of four alcohol-related causes of death in Oklahoma found proportionately more Indians died from alcohol-related causes than blacks or whites (Dufour, Bertolucci, & Malin, 1985). Analysis by tribe indicated that the Cheyenne-Arapaho tribe had proportionately far more alcohol-related deaths than the Seminole tribe. The Cherokee tribe had a slightly higher percentage than the Seminole and, thus, was similar to Oklahoma whites and Oklahoma blacks in the percentage of alcohol-related deaths.

Studies of Indian drinking patterns usually show a heavy and often binge-like mode of drinking (Westermeyer & Baker, 1986), which is the type of drinking that tends to lead to alcohol-related morbidity and mortality. In some recent studies, white males surpass Indian males in the use of alcohol. For instance, in a recently reported study of drinking, smoking, and illicit drug use among high school seniors, it is interesting to note that the group with the highest percentage of alcohol use in the last 12 months was not Indians, but whites. In this study, 82% of Indian males were reported to have used alcohol in the last 12 months, while 88.3% of white males reported using. For females, the percentage of drinkers was 81.3% for Indians and 88.6% for whites (Bachman, Wallace, O'Malley, Johnston,

Kurth, & Neighbors, 1991). This supports an earlier finding that more non-Indian high school seniors used alcohol within the last month than Indian seniors (Beauvais, Oetting, Wolf, & Edwards, 1989).

In a paper originally prepared for the Secretary's Task Force on Black and Minority Health, it was noted that "alcohol use varies tremendously from one tribe to the next — some tribes have proportionately fewer drinking adults than the U.S. population as a whole (30% compared to 67%) whereas other tribes have more drinkers (69% to 80%) — with the prevalence of alcohol-related problems also being highly variable" (USDHHS, 1985). Indian youth have higher rates of drug use for all drugs than non-Indian youth, but there is, again, great variation by tribe. This is illustrated by a report of a survey of Montana Indian school children in which it was noted

**Table 1 Mortality Rates Due to Alcoholism**

Population	Alcoholism and Cirrhosis	Alcoholic Psychosis	Alcohol Dependence Syndrome	Alcoholic Cirrhosis	Other Cirrhosis
U.S., 1982	12.3	0.2	1.3	4.6	9.9
IHS, 1981-1983					
All Areas	52.7	0.0	13.2	25.3	13.4
Aberdeen	89.3	2.2	14.2	51.4	21.4
Alaska	32.7	0.8	9.9	9.8	12.2
Albuquerque	75.0	0.0	30.6	31.6	12.9
Bemidji	39.7	0.0	5.9	13.4	20.4
Billings	136.9	2.8	25.0	84.0	25.1
Nashville	35.0	2.9	3.1	7.4	21.7
Navajo	34.1	0.6	13.4	14.3	5.8
Oklahoma	32.8	0.9	7.6	15.2	9.2
Phoenix	103.6	1.7	32.5	52.4	16.9
Portland	79.0	0.0	14.4	40.5	24.1
Tucson	97.9	0.0	18.3	52.2	27.4

1. IHS Office of Program Statistics, Special Report, 14 November 1985. Annual age-adjusted rates per 100,000 population (1940 standard). A significant proportion of these deaths are alcohol-related. Includes ICD-9 Codes 291, 303, and 571.0-571.9.

2. National Center for Health Statistics data for underlying cause of death.

3. IHS population includes those American Indians and Alaska natives living in countries that are included in the Indian Health Services Areas. Data for California are not shown separately because Indian race on death certificates are underreported. California data are included in the overall IHS rate.

**Table 2 Alcohol-Related Mortality**

Population	Motor Vehicle Accident	Unin- tentional Injury	Violence		Drug Abuse	Child Battering	Fires	
			Total	Suicide				Homicide
U.S., 1982	19.3	36.6	20.8	11.6	9.7	NA	NA	2.0
IHS, 1981-1983								
<b>All Areas</b>	<b>63.3</b>	<b>116.5</b>	<b>43.1</b>	<b>18.3</b>	<b>19.1</b>	<b>5.5</b>	<b>0.3</b>	<b>5.6</b>
<b>Aberdeen</b>	<b>103.5</b>	<b>176.7</b>	<b>85.5</b>	<b>30.9</b>	<b>39.8</b>	<b>7.4</b>	<b>0.4</b>	<b>8.8</b>
<b>Albuquerque</b>	<b>31.5</b>	<b>193.8</b>	<b>62.0</b>	<b>19.7</b>	<b>25.8</b>	<b>20.0</b>	<b>0.3</b>	<b>9.9</b>
<b>Bemidji</b>	<b>66.7</b>	<b>105.9</b>	<b>55.2</b>	<b>32.5</b>	<b>16.3</b>	<b>4.3</b>	<b>0.4</b>	<b>0.0</b>
<b>Billings</b>	<b>130.8</b>	<b>224.9</b>	<b>77.7</b>	<b>36.0</b>	<b>37.1</b>	<b>6.0</b>	<b>1.1</b>	<b>14.9</b>
<b>Nashville</b>	<b>42.0</b>	<b>91.0</b>	<b>34.4</b>	<b>9.3</b>	<b>23.1</b>	<b>1.5</b>	<b>1.6</b>	<b>2.7</b>
<b>Navajo</b>	<b>95.9</b>	<b>156.3</b>	<b>36.1</b>	<b>15.6</b>	<b>13.2</b>	<b>5.6</b>	<b>0.0</b>	<b>3.2</b>
<b>Oklahoma</b>	<b>45.0</b>	<b>66.7</b>	<b>19.4</b>	<b>6.6</b>	<b>11.4</b>	<b>2.6</b>	<b>0.1</b>	<b>4.3</b>
<b>Phoenix</b>	<b>67.3</b>	<b>122.4</b>	<b>63.8</b>	<b>26.9</b>	<b>31.5</b>	<b>6.8</b>	<b>0.6</b>	<b>6.6</b>
<b>Portland</b>	<b>62.3</b>	<b>110.9</b>	<b>43.8</b>	<b>20.9</b>	<b>18.1</b>	<b>4.5</b>	<b>0.5</b>	<b>6.9</b>
<b>Tucson</b>	<b>75.9</b>	<b>113.9</b>	<b>97.1</b>	<b>56.7</b>	<b>37.5</b>	<b>8.5</b>	<b>0.7</b>	<b>3.3</b>

1. National Center for Health Statistics data for underlying cause of death. Annual age-adjusted rates per 100,000 population. A significant proportion of these deaths are alcohol-related. Data for California are not shown separately because Indian race on death certificates is underreported there. California data is included in the overall IHS rate.

2. Excluding deaths from addiction.

IHS population = American Indians/Alaska Natives living in counties that are included in the Indian Health Service area.

that adolescents from one tribe accounted for the majority of the reported use of marijuana and alcohol and incidents of gasoline sniffing (Streit & Nicolich, 1977). The implication of these observations is that there is a need to define subpopulations at risk in order to appropriately direct preventive measures or community interventions and determine the equitable allocation of treatment and rehabilitation resources.

### Women

Historically, women have had a remarkable record for not abusing, but it is very worrisome to observe how quickly women are catching up. Moreover, the data indicate an increase in women's abuse of alcohol — with all of the irreparable consequences of family disruption and alcohol damage to the unborn of the next generation (May & Hymbaugh, 1982/1983; Dorris, 1989). There are three reports that suggest that alcohol use by Indian women needs to be examined more carefully than it has been. Johnson (1980) noted, after reviewing sex-specific cirrhosis mortality data for 1975 and 1976, that females accounted for nearly half of the cirrhosis deaths among Indians, compared to one third of the deaths for white and black women. This finding is supported by a Minnesota study (Hutchison, 1983) that showed Indian women in that state to have the highest cirrhosis death rate of all groups (black, white, Indian male, and female).

Mulligan (1984), after reviewing medical records for all alcohol-related hospital admissions in calendar year 1982 to the Santa Fe Indian Hospital, noted that when appropriate laboratory values were obtained on patients, a significant number of women were identified as alcohol abusers. An epidemiology of fetal alcohol syndrome in the Southwest revealed that although a minority of women were found to be heavy alcohol users, those women were the ones to give birth to more than one alcohol-damaged baby (May, Hymbaugh, Aase, & Samet, 1983).

### Moderate Drinkers, Abstainers, and Spontaneous Remission

Then there is a group of Indians never discussed: the moderate drinkers. Alcohol use may be viewed on a continuum from abstinent to alcoholic. There are Indian individuals who can use alcohol and do not move beyond social drinking to drunkenness. They may be in the minority, but they exist. This makes a lie out of the stereotype of the drunken Indian. Alcohol plus Indian does not automatically equate with drunkenness. Leland (cited in NIAAA, 1978) suggests that the majority of Indians drink responsibly or do not drink at all.

There is another group of Indians that is rarely discussed: those who drink heavily, even alcoholically, and then stop suddenly when they are about 40 years old without severe withdrawal problems or apparent difficulty in maintaining sobriety (Burns, Daily, & Moskowitz, 1974; Medicine, 1982). For many men, this is the time when they assume some of the duties of an elder within the tribe. This "quitting" phenomenon also has been observed among women. The women, usually between the ages 35 and 40, report that they stop because they cannot reprimand their children for drinking unless they set an example themselves (Medicine, 1982).

There is clearly a need for additional research into Indian alcohol use (as contrasted with abuse) in order to better establish coping mechanisms for coexisting with alcohol. Yet this "firewater myth" is so imbedded in our national history that it is very difficult to see beyond it to the reality and the truth. What is the firewater myth? It is the belief entrenched in the collective folk wisdom that Indians are genetically predisposed to pathological responses to alcohol, including intense craving for liquor and uncontrolled behavior when drunk. As early as 1976 (Bennion and Li, 1976), comparisons of metabolism of alcohol between whites and Indians demonstrated no significant differences between the races. Yet the issue remains controversial, and the myth is perpetuated in the border towns adjacent to reservations, as well as on the reservations themselves.

#### Do Indians Have a "Firewater" Gene?

Behind the "firewater myth" lies the implication that Indians have a "firewater gene." This hypothesized condition has been the impetus for much research that has investigated the possibility of the existence of an extrasensitive vulnerability to alcoholism in various races and ethnic groups. Alcoholism does tend to run in families, and the familial nature of alcoholism has been confirmed by numerous reports in the modern scientific literature (NIAAA, 1990, pp. 43–68).

There are several possible mechanisms. Genes might play a direct role in the development of alcoholism, as in affecting the body's metabolism of alcohol, or they might play a less direct role, influencing a person's temperament or personality in such a way that the person becomes vulnerable to alcoholism. Several pioneering studies of Scandinavian adoptees (Goodwin, Schulsinger, Hermansen, Guze, & Winokur, 1973; Goodwin, Schulsinger, Moller, Hermansen, Winokur, & Guze, 1974) found that children of alcoholics who were adopted by nonalcoholic families and grew up in a nondrinking environment still tended to develop alcoholism as adults in numbers of cases beyond that which could be expected by chance.

Additionally, adoption studies of twins have identified a type of alcoholism in males that is influenced very little by environmental factors (Cloninger, Bohman, & Sigvardson, 1981; Petrakis, 1985; USDHHS, 1987). Thus, evidence has been found of a genetic predisposition of some type. However, ongoing research indicates that the answer is not a simple one. It is clear only that both genetics and environment are involved in the development of alcoholism and alcohol abuse, and the interaction of genetics and environment continues to be a focus of research investigation (NIAAA, 1990).

What are the implications for Indian people from these hypotheses? If there is a gene in families for alcoholism, then individuals at risk for having that gene should be aware of their increased risks for serious consequences if they elect to consume beverages containing alcohol. To prevent the disease, abstinence would be the only recourse. However, Indian communities now feel so overwhelmed by the negative consequences of abusive alcohol use that there is a general call for abstinence among all individuals. If ever realized, this would certainly prevent both addiction resulting from prolonged exposure and alcoholism in those individuals with a genetic susceptibility, but it is perhaps an unrealistic goal.

Although genetic studies are currently under way among Indian populations in both the United States and Canada, there is no firm research yet available that determines whether or not an "alcoholic gene" is present in individuals of Indian descent. Therefore, prevention must address other behaviors, beliefs, and practices already extant within the communities, such as drinking at an early age, rapid consumption, and general community acceptance of drunkenness.

#### Use of Drugs and Substances Other Than Alcohol

Alcohol misuse is well established as a major problem in Indian communities. Less information has been available about drug misuse, but more problems are being reported. Misuse or outright abuse of substances other than alcohol is responsible for large numbers of premature and preventable deaths, injuries, and illnesses, especially in adolescents and young adults. And substance misuse constitutes a major social and economic burden to individuals, families, employers, and communities.

While alcohol use and misuse are clearly a concern, there is increasing apprehension expressed about the use of other drugs and substances, especially by children and adolescents. Indian youth are much more likely than white youth to begin using marijuana and other drugs at younger ages (Young, 1987; Okwumabua & Duryea, 1987). The period of risk for drug

use initiation among Indian youth is between the ages of 10 and 13, with the onset among some individuals being as early as 5 to 6 years (Okwumabua & Duryea, 1987).

There is anecdotal as well as documented information that Indian individuals are increasingly using more than one substance at the same time, thereby increasing the prevalence of polydrug misuse (Burns, 1991; Cockerham, 1977; Mail, 1987; Okwumabua & Duryea, 1987; Shirt, 1990;<sup>2</sup> Welte & Barnes, 1987). The major concerns focus on inhalant use, use of illicit drugs, inappropriate use of prescription drugs, and the increasing use of tobacco products. The consideration of tobacco use (nicotine ingestion)<sup>3</sup> and prescription drug use is outside the scope of this paper.

In a 12-year study of Indian adolescents in schools around the nation, Beauvais et al. (1989) found that adolescent drug use increased sharply between 1975 and 1981 and that females used drugs at the same rate as males in lifetime prevalence. The overall picture of Indian adolescent drug use other than alcohol appears to be dropping, and even alcohol use is decreasing. There has been an observed decline from 1981 to 1985 and only a slight increase to 1988. A similar pattern is found nationwide. Results of the National High School Senior Survey and the National Household Survey, conducted by the National Institute on Drug Abuse (1992), show similar declines in both illicit drug use and alcohol, indicating that there had been no displacement effect and that young people had not merely substituted alcohol for drugs or vice versa (NIAAA, 1990, pp. 26–28). This may be a reflection of the broad-scale educational and judicial approach to drugs that has been undertaken in the country over the last decade (Beauvais et al., 1989). Bachman and colleagues also reported a decline in use of several illicit drugs in their national high school senior surveys from 1976 through 1989 (Bachman et al., 1991). Table 3 shows the proportion of Indian students reporting use of various substances over 15 years of sampling by various researchers.

Other surveys of Indian drug use indicate that, on the whole, Indian people do not widely abuse some of the more commonly abused drugs in non-Indian communities. Examination of service data (Table 4) related to drug abuse suggests that, in fact, drug problems within Indian communities may be less of a problem than for the U.S. population as a whole. Outpatient visits are low, and hospital discharge rates are considerably below those of the available national rates (Mail, 1990). And the percentage of clients seen in tribal treatment programs who report using substances in the 30 days prior to intake, while initially low (Mail, 1987) (see Table 5), is now increasing. From 1985 to 1989, Burns (1991) reported an increase of 76.2% in the number of intakes to treatment programs where the abuse of a drug other than alcohol was mentioned as a primary problem.

Table 3 Proportion of Native American Students Reporting Use of Various Substances										
Substances	Cockerham et al. (1976) <sup>2</sup>	Oetting et al. (1978) <sup>3</sup>	Goldstein et al. (1979) <sup>4</sup>	Barnes et al. (1980) <sup>5</sup>	Bowman et al. (1985) <sup>6</sup>	Beauvais et al. (1985) <sup>7</sup>	Mason et al. (1985) <sup>8</sup>	Bachman et al. (1991) <sup>9</sup>	NIDA <sup>10</sup>	NIDA <sup>10</sup>
								Male/Female	Male/Female	Total
Alcohol		78%		40%	82%	82%		82%/81%	89%/81%	85%
[Beer]	95%					79%				
[Wine]			52%				50%			
[Liquor]			78%				56%	37%/44%		
Marijuana	53%	48%		11%	51%	70%	57%	42%/44%	40%/29%	33%
Inhalants										
Stimulants/ Amphetamines <sup>11</sup>										
Depressants/ Barbituates <sup>12</sup>	20%	10%	22%		20%	7%	9%	7%/6%	5%/4%	4%
Psychedelics/ Hallucinogens <sup>13</sup>	40%	13%	21%		10%	6%	8%	10%/9%	10%/6%	8%
[Peyote]										
Cocaine <sup>14</sup>		8%	13%		24%	6%	6%	14%/16%	14%/9%	12%
Heroin	7%	4%	6%		3%	3%	3%	2%/1%	1%/1%	< 1%
Nicotine <sup>15</sup>										
[Cigarettes]					65%				77%/69%	73%
[Smokeless Tobacco]									26%/3%	14%
Total N	120	2904	276		1,588	1,411	1,040	2,564	N/A	N/A

<b>Table 4 Services for Drug Abuse ICD-9-CM Code 304, 305.1, 305.9</b>										
	<b>Outpatient Visits <sup>1</sup></b>		<b>Annual Hospital Discharges <sup>2</sup></b>				<b>Annual Hospital Days <sup>2</sup></b>			
	<b>Number</b>	<b>Rate</b>	<b>Rate</b>	<b>Total</b>	<b>Direct</b>	<b>Contract</b>	<b>Rate</b>	<b>Total</b>	<b>Direct</b>	<b>Contract</b>
<b>U.S.<sup>3</sup></b>	<b>NA</b>		<b>3.7</b>	<b>85,000</b>	<b>NA</b>	<b>NA</b>	<b>50.2</b>	<b>1,165,000</b>	<b>NA</b>	<b>NA</b>
<b>Services provided or funded by the Indian Health Service (IHS)</b>										
<b>All Areas</b>	<b>1,318</b>	<b>16.6</b>	<b>0.9</b>	<b>69</b>	<b>55</b>	<b>14</b>	<b>5.4</b>	<b>436</b>	<b>344</b>	<b>92</b>
<b>Aberdeen</b>	<b>170</b>	<b>24.8</b>	<b>2.4</b>	<b>15</b>	<b>13</b>	<b>2</b>	<b>26.2</b>	<b>171</b>	<b>144</b>	<b>27</b>
<b>Alaska</b>	<b>354</b>	<b>51.0</b>	<b>1.5</b>	<b>9</b>	<b>8</b>	<b>0</b>	<b>9.6</b>	<b>60</b>	<b>58</b>	<b>2</b>
<b>Albuquerque</b>	<b>87</b>	<b>17.4</b>	<b>0.4</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1.2</b>	<b>6</b>	<b>5</b>	<b>1</b>
<b>Bemidji</b>	<b>61</b>	<b>13.3</b>	<b>0.5</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>1.1</b>	<b>5</b>	<b>3</b>	<b>1</b>
<b>Billings</b>	<b>105</b>	<b>27.0</b>	<b>1.9</b>	<b>7</b>	<b>4</b>	<b>3</b>	<b>6.8</b>	<b>29</b>	<b>6</b>	<b>22</b>
<b>Nashville</b>	<b>41</b>	<b>15.7</b>	<b>1.5</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>7.3</b>	<b>19</b>	<b>6</b>	<b>12</b>
<b>Navajo</b>	<b>143</b>	<b>9.1</b>	<b>0.5</b>	<b>8</b>	<b>7</b>	<b>0</b>	<b>4.3</b>	<b>76</b>	<b>75</b>	<b>1</b>
<b>Oklahoma</b>	<b>115</b>	<b>6.2</b>	<b>0.7</b>	<b>13</b>	<b>12</b>	<b>1</b>	<b>2.2</b>	<b>42</b>	<b>33</b>	<b>9</b>
<b>Phoenix</b>	<b>113</b>	<b>14.1</b>	<b>0.8</b>	<b>7</b>	<b>3</b>	<b>3</b>	<b>2.9</b>	<b>25</b>	<b>10</b>	<b>14</b>
<b>Portland</b>	<b>117</b>	<b>21.1</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Tucson</b>	<b>12</b>	<b>8.2</b>	<b>0.6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.6</b>	<b>0</b>	<b>0</b>	<b>0</b>
<p>1. Direct IHS and tribal workload data for primary care provider visits for 1983 (does not include contract outpatient visits). Rates per 10,000.</p> <p>2. IHS workload data on first listed diagnosis for 1982 to 1984. Annual average hospital discharge and day rates per 10,000 population are age-adjusted to the U.S. population used in calculating the 1983 National Hospital Discharge rates.</p> <p>3. National Center for health Statistics, Hospital Discharge Survey, 1983, data on first listed diagnosis.</p> <p>NA = Not available.</p>										

Table 5

Percent of Clients at Treatment Intake Reporting Drug Use by Type of Drug Used 30 Days Prior to Intake for Fiscal Years 1984–1986

Type of Drug	FY 1984	FY 1985	FY 1986
Opiates	1.3	1.8	1.9
Barbituates	1.2	1.2	1.0
Cocaine	0.4	0.5	0.8
Marijuana	11.4	12.5	13.5
Amphetamines	1.0	0.6	1.0
Hallucinogens	0.2	0.4	0.4
Inhalants	0.9	0.6	0.5
Combined drugs, excluding Inhalants	1.6	1.7	2.0
Total N Clients	6818	6809	6933

1. Data derived from the Indian Health Service Alcohol Treatment Guidance System (ATGS) Initial Contact Report, nonduplicated client count for Fiscal Years 1984, 1985, and 1986. Maximum programs reporting were 170. Data courtesy of the IHS Data Center, Albuquerque, New Mexico.

*Inhalants* are frequently abused by Indian youth (Barnes, 1980; Beauvais, Oetting, & Edwards, 1985; Kaufman, 1973; Wingert, 1982). Abuse of inhalants, first reported in the late 1960s and early 1970s for the general population, now seems to be largely a phenomenon of a few Indian communities in the United States and Canada (unless it is severely under-reported so that use is more widespread than the literature would indicate). Early reports of inhalant abuse suggested that pre-teens started sniffing and then “graduated” to the use of alcohol in their middle or late teens (Barnes, 1980; Dyer, 1974). Later reports have focused on the early place of inhalants in the patterns of progression (Okwumabua & Duryea, 1987) and on styles of inhalant use — experimental, recreational, and retreatist (Young, 1987).

*Inhalants* are among the first drugs used by Indian youth (Young, 1987), as they are among the easiest mind-altering substances to obtain. Gasoline, glue, spray paint, polish remover, and lighter fluid have all been inhaled. The average age of first use for inhalants has been reported to be 11.5 years (Young, 1988). In a related study, Beauvais et al. (1985) report a decrease in drug use of all types except inhalants from 1975 through 1983. Although Indian youth seem to try a wide variety of substances, the adult drug of choice continues to be alcohol for the most part.

*Marijuana* is reported to be frequently used by adolescents and young adults (Strimbu, Schoenfeldt, & Sims, 1973). The lifetime prevalence for marijuana use was more than double that of non-Indian youth in one study that surveyed youth from 14 tribes nationally (Beauvais et al., 1985). In another study, almost half of the youth surveyed had tried marijuana compared to a national usage rate of 25% (Oetting, Beauvais, Velarde, & Goldstein, n.d.). The high school senior survey indicated an annual prevalence of 19.6% for Indian males and 44.0% for females and a 30-day prevalence for males of 27.6%, with females reporting 23.9% (Bachman et al., 1991). It should be noted that marijuana use is highly variable. Before undertaking the planning of any interventions, tribal-specific data should be collected and analyzed.

*Heroin* use does not appear to be very prevalent among Indian people. The National Institute for Drug Abuse's treatment reporting system indicated that Indian individuals seeking treatment in off-reservation programs was less than 1% of all clients encountered (Hanson, 1985). Indian Health Service-funded alcoholism program intake reports showed less than 2% of clients reporting use of opiates in the 30 days prior to seeking help from the treatment program (Table 5). This low use rate is also corroborated by data collected in a national sample of high school seniors from 1976 to 1989, which indicated that the percent usage by Indian youth was only 1.5% for males and 1% for females (Bachman et al., 1991). A survey of drug use in Montana in 1987 indicated that 5% of students had used heroin (Drynan, 1988).

*Cocaine* usage was found to be similar for Indians and non-Indians in a national study (Beauvais et al., 1985). Client intake data from all Indian treatment programs reporting for 1984, 1985, and 1986 indicated that less than 1% of admissions indicated use of cocaine, although a national survey reported positive use responses in 13% of an Indian youth sample (Mail, 1987), and the national high school senior survey data from 1976 through 1989 showed that 7.3% of Indian males and 9.2% of Indian females reported having used cocaine within the last 30 days (Bachman et al., 1991). A Montana student survey found that 9% of students reported having used

cocaine (Drynan, 1988). Cocaine use appears to vary considerably by region and may be more of a problem in the future.

*Amphetamine* use in five major school surveys ranged between 13% to 36%, but the treatment intake data again showed that less than 1% of adult clients reported using amphetamines in addition to alcohol (Table 5). The high school senior survey data reported 8.1% of Indian males and 10.3% of Indian females using stimulants within the last 30 days. This was two to three times the rate for any other ethnic/minority group surveyed (Bachman et al., 1991).

Reports on the use of *sedatives* and *tranquilizers* are extremely rare in the literature, although anecdotal reports from tribal paraprofessionals and health care professionals would suggest that abuse of prescription drugs may be higher than surveys suggest. Use of sedatives and tranquilizers among school-aged children demonstrated a drop between 1975 and 1983 (Beauvais et al., 1985), and the treatment program intake records reported about 1% sedative use rate (Table 5). The national high school senior survey indicated that the annual prevalence for sedative use by Indian males was 8.8% and tranquilizers 6.9%. Indian females reported an annual prevalence of 6.4% for sedatives and 8.7% for tranquilizers. The 30-day prevalence rates were less for Indian males (4.8% and 3.1%) and Indian females (2.6% and 2.2%) (Bachman et al., 1991). More worrisome was treatment intake data indicating use of more than one drug in combination with alcohol. Polydrug use among Indians should be explored in greater depth.

The last group of drugs about which there is information is the *hallucinogens*. Historically, the use of mind-altering substances by Indian people was reserved for ceremonial and curative purposes, and current abuse has been postulated as being related to the disruption of traditional practices (Beauvais et al., 1985). In major surveys of adolescent drug use, *peyote* is not considered to be a hallucinogenic drug (Beauvais et al., 1985), and its use outside of ritual and religion is rare (LaBarre, 1969; Mason, 1985). The national high school senior survey, however, reports an annual prevalence rate for hallucinogenic substance use by Indian males of 10.0%, and a 9.0% prevalence rate for Indian females, with LSD being the primary hallucinogen tried (Bachman et al., 1991). There are also anecdotal reports from health professionals and paraprofessionals about Indian adolescents experimenting with *datura*, a common but toxic weed in the Southwest, and various varieties of hallucinogenic mushrooms that were sampled in season by Pacific Northwest youth. Health professionals should make themselves aware of local, natural hallucinogens with which children and youth may experiment, as those who experiment may wind up in the emergency room, requiring treatment.

### Other Concerns

One aspect of drug abuse that is rarely discussed is that of prescription drug abuse, especially among older or chronically ill patients. However, that is a topic beyond the scope of this paper. Suffice it to note that there are individuals who are addicted to prescribed drugs in many Indian communities and that this is a problem for the medical-care and mental-health delivery systems to address. With the aging population and increased longevity, education and monitoring of individuals on prescription drugs will be more important for clinical staff and health outreach workers.

A concern expressed by some health professionals about the adolescent data is that they tend to reflect information collected on those students still in schools and do not report on those individuals who have dropped out of school. Because Indian youth have such high dropout rates, there is concern that there may be a greater use of drugs than school-based surveys show (Beauvais et al., 1989). On the positive side, the Beauvais data indicate that Indian use of cocaine is lower than that reported for non-Indian high school seniors (Beauvais et al., 1989), although the survey information reported by Bachman and colleagues would suggest that cocaine use by Indians is higher than for most other ethnic/minority groups surveyed (Bachman et al., 1991). Clearly, additional data from school and nonschool surveys is needed. Nevertheless, the available data point to places at which prevention education and behavior-change strategies should be directed. Because a significant amount of drug use occurs in Indian 7th graders, programs to prevent or moderate use should be initiated in elementary school (Beauvais et al., 1989) — or earlier.

However, all surveys of drug use among Indian people have shown and continue to show that alcohol is the abused drug of choice. It is legal and easy to obtain, and its results are predictable to the user. The overall picture of adolescent use of drugs other than alcohol and inhalants appears to show decreasing rates, and even alcohol use is decreasing.

### History of Indians and Alcohol

Although the American Indian and alcohol have been linked since the first European set foot on this continent, there were, in fact, two tribes in the Southwest that manufactured and used alcoholic beverages before such contact: The Tohono O'Odham<sup>4</sup> made sacred wine (Castetter & Bell, 1937), and the Apachean peoples made a secular cactus beer (Bourke, 1894; Opler, 1941). As the relationship between alcohol and Indian peoples has been viewed and described largely through the eyes of non-Indians, the historic record is incomplete.

It was the European who, to use drug slang, "pushed" alcohol on the Indian. Early historical accounts indicate that the European was very insistent that the Indian drink with him to seal agreements and mark ceremonial occasions. In some accounts, the Indian declined, indicating distaste for liquor. But the European insisted, and the Indian, being polite and tolerant of the strangers who had come to his shores, drank to satisfy his hosts.

The danger, as we all now know, was that alcohol is an addicting substance. Thus, enough polite and ceremonial drinks led to the recognition that the side effects of drinking were pleasurable. Like people everywhere when exposed to substances that leave one feeling good, such as chocolate (which is also mildly addictive), the Indian asked for more.

The Indian had not had any prior experience with sedative effects of alcohol — the euphoria, the giddiness; thus this experience became, in some tribes, highly sought after. For those individuals for whom altered states of consciousness were important, there is anecdotal evidence that rapid consumption of alcohol became an alternative to seeking dreams (Carpenter, 1959). But the effects of liquor also had serious consequences for Indians. The first was that, in not having had prior experience and guidance as to how to act when intoxicated, the drinkers got excited and celebratory and sometimes argumentative. This scared the European providers and was the source of several colonial laws passed prohibiting Indians from drinking (*Laws of the Colonial*, 1832).

The euphoria was recognized as being advantageous to both Indians and Europeans alike, but for different reasons. The European, who quickly recognized that too much imbibing can lead to stupor, saw this as a good time to secure signatures on agreements to which the Indian was not wholly partner. In many respects, liquor was one of the earliest chemical warfare agents used against Indians by Europeans and later fur traders and settlers to disable Native intelligence and begin the feeding frenzy on land that the European saw as his innate destiny to possess — never mind that the land was held to belong to all for the collective good and that it could not be "owned." Indian peoples believed that the land was a common resource for all who needed it. This was a fact that Europeans could neither understand nor accept. The advantage of intoxication to the Indian was that behavior engaged in during the drinking spree was forgiven by the closely knit, sometimes rigid, societies in which Indians lived. Thus, drunken comportment allowed a "time-out" from proscribed behaviors and an outlet for personal and community tension (MacAndrew & Edgerton, 1969).

The history of Indians and alcohol might be classified as Introductory/Experimental, Desperate/Detrimental, and Recreational/Elemental. From alcohol's initial introduction, Indians learned drinking styles from

European trappers and traders who themselves were marginal to refined society (Winkler, 1969). Following the Indians' incarceration on reservations, alcohol was smuggled onto Indian territory for profit and gain and probably, although never overtly stated, as a sedative drug to keep the rebellious folks distracted. Drinking continued out of desperation, boredom, and despair to the detriment of Indian people. Finally, prohibition — which had its beginnings in 1776, was reinforced with the passage of the 18th Amendment to the Constitution in 1919, and was continued specifically for Indian people beyond the amendment's repeal in 1933 — was rescinded in 1953 (Sanchez, 1967). Although prohibition was and is retained by many tribes today in tribal statutes and ordinances, drinking has become such a fact of life that Indian people assume it is an Indian thing to do. Drinking today can be observed in the company of sacred ceremonies and secular activities such as the powwow, the rodeo, and any other public gathering. Only recently has there been growing support for banning alcohol at such events (Marin Institute, 1992).

Drinking today in Indian country is both habit ("we've always done it this way," or "It is Indian to drink") and social acknowledgment ("Come, friend, and drink") (Waddell, 1971). Whether true or not, it is believed that Indians are genetically different and will thus react differently to alcohol (the classic firewater myth addressed earlier in this paper) (Leland, 1976). Drinking is also a result of the addictive properties of alcohol (there are Indian alcoholics, but not every Indian who drinks is alcoholic). And it has become so closely associated with the reservation life-style that it is hard to see alternatives. It has come to be a metaphor of hopelessness, helplessness, defeat, and escape from historic circumstances poorly understood by Indians and whites alike.

What gets little publicity is the incredible cultural survival and the strength of the people who have endured despite all of the battles, reservation incarceration and isolation, and discrimination, which have been so hard to bear. Two hundred years after the beginning of the conquest of the West and the treaty epoch, we still have some reasonably intact cultures and people who are proud of their heritage.

To generalize about Indian drinking would be a great mistake, because American Indians are not a homogeneous group. Just as the subsistence patterns, history, language, and culture of the more than 500 tribes in the United States and Canada vary enormously, so does their experience with substance abuse. Although we cannot generalize about Indian drinking, it is imperative to know the history if a solution is to be found. This is not the same as saying one must posit a cause in order to invoke preventive measures. The history of public health demonstrates that effective programs can be established before actual causes are known. Solutions for

prevention must emerge from people who know and understand the bitter history of alcohol use among Indians since colonial times and from Indian people. Current approaches to treatment must also acknowledge the importance of cultural acceptability and specificity.

The history of the Native peoples of the continent is a fascinating, complex, and profoundly challenging one with which to become acquainted. It teaches a great deal about the very civilized peoples who were here and the ways in which people solve their problems and survive in unique and adverse environments. It also teaches a great deal about prejudice, marginalization, conquest, and dependency. The dependent status of Indian people may explain a great deal about the overt behaviors that we observe and attribute to abusive use of alcohol, neglect of children, and high levels of assault and arrest that are observed in the public record. It is possible that abuse of alcohol and, more recently, other drugs is a response to and a consequence of the defeat and dependency imposed upon native peoples. If this is the case, the implications for intervention may lie outside the medical model of treatment.

#### What are the Solutions?

Since the first introduction of "spirits" into the New World, Indians and non-Indians alike have sought ways to counter the effects and consequences of alcohol use by individuals and within communities. Strategies have ranged from arrest to prohibition to sale of liquor, with the tribe controlling outlets and hours of sale. A hallmark in recent years has been the enormous expansion of treatment availability, prevention activities, and education directed at communities. The Indian Health Service and Bureau of Indian Affairs began a collaborative approach in 1986 with the passage of the Indian Alcohol and Substance Abuse Prevention and Treatment Act of 1986 (and subsequent amendments in 1988). The Alcohol, Drug Abuse, and Mental Health Administration's Office for Substance Abuse Prevention (OSAP), now known as the Center for Substance Abuse Prevention (CSAP), has funded over 200 Indian prevention programs since 1986.

Several Indian communities have initiated their own approaches to prevention and treatment and have developed culturally appropriate materials that have powerful Indian themes and images. The Health and Education Department of the White Mountain Apache produced a series of excellent slide tape messages on alcohol and inhalants. The Indian Health Service initiated a national fetal alcohol syndrome prevention project that ran from 1983 through 1986 (May & Hymbaugh, 1989). Some communities

have maintained this preventive emphasis even after federal support was withdrawn (Masis & May, 1991).

The Alkali Lake Band in British Columbia cooperated with a filmmaker to produce the moving story of a nearly two-decade-long struggle to overcome drunkenness within its community. Indian peoples in Alberta have been working on the Four Worlds program (Bopp, 1987), a holistic health promotion project development that has been tried by some Indian nations in the United States as well. The Four Worlds project's focus is based on a community development approach to health promotion. This includes such elements as (a) involving key community leaders in decision making; (b) encouraging participation by those individuals whose lives are being targeted for change, thereby creating a community vision; (c) constructing a community organization; and (d) taking action. M. Bopp observes that "the healing of individuals and healing of communities go hand-in-hand and are equivalent to the process of human and community development" (1985, p. 46).

M. Bopp and J. Bopp also note that "the philosophy of the Four Worlds Project is essentially a modern rearticulation of universal principles common to all traditional native cultures. These principles deal with the nature of existence, the nature and purpose of human beings, and the means of preserving and enhancing the well-being of individuals as well as of communities" (Bopp & Bopp, 1983, p. 8).

Using a similar concept, the Community Partnership Program (CPP), supported by OSAP, is a grant program aimed at communities that demonstrate high prevalence of alcohol and other drug use, as evidenced by prevalence rates higher than national averages. CPP support is intended to enable communities to develop partnerships for the purpose of creating and implementing comprehensive prevention programs. CPP is designed to demonstrate the effectiveness of providing long-term, multidisciplinary resources to assist communities in developing communitywide prevention systems. The funds are awarded only to coalitions made up of seven or more organizations from a community. Tribes may apply on their own or as a partner with an adjacent non-Indian community. The ultimate aim is to decrease the factors that place youth at risk for substance abuse and to enhance the factors that protect and bolster the resilience of vulnerable youth (OSAP, 1991).

Approximately 20% of OSAP's high-risk-youth demonstration projects have been awarded to American Indian grantees (Augustson, 1990). Virtually all of these grantees have used their funds, in part, for cultural enhancement activities. Tribes believe strongly that such enhancement is a critical component of prevention. A cultural enhancement is intended to increase youth's knowledge of their culture's history, traditions, and values, thus

reinforcing positive cultural identity and pride (DeJong, 1991). Examples include the Cherokee Challenge Early Intervention Project in Cherokee, North Carolina. This program focuses on youth ages 10–18, and the intervention is built around an adaptation of the Outward Bound survival courses. Two other programs seek to establish links between tribal elders and high-risk youth: Youth Survivors in Fort Yukon, Alaska, and Family Circles in Lac du Flambeau, Wisconsin. These programs provide elder role models who can provide nurturance and transmit traditional knowledge to youth. The initiation of such programs appears to have the added positive effect of reinstating elders to positions of respect and honor. However, adaptations have been made, as in the example of making token cash payments to elders rather than the traditional gift of tobacco (DeJong, 1991).

In 1990, the Administration for Native Americans (ANA), in the Department of Health and Human Services, launched its American Indian and Alaska Native YOUTH 2000 campaign. This approach seeks to convert the “problem” areas of youth (e.g., substance abuse, adolescent pregnancy, suicide, unintentional injuries, school dropouts, and low literacy rates) into positive goals for long-term intervention and prevention. The ANA seeks approaches that include tribal, community, and family contexts (Wapato, c. 1990). Several projects have been funded, but project evaluation is not yet available.

Although there has been and continues to be much discussion about alcohol use and abuse, many communities have become so accustomed to the problems that they feel further discussion will not resolve much and will only serve to re-emphasize their frustrations. The danger becomes that Indian communities themselves will not really believe there is a solution. Yet it is the contention and belief of the authors that the ultimate solutions will come from the communities themselves. Therefore, a good epidemiology and real recognition of the problem by the members of the community are essential. This means talking about the problem seriously, setting goals within the community to do something about it, and taking actions to reach the goals.

Treatment services need to be available and used. It has been noted, however, that many communities find it difficult to plan prevention programs until basic treatment needs are met. But communitywide therapies are being developed, and these vary widely in their design and approach. These may range from a strong Alcoholics Anonymous aftercare group to religious revitalization, increased use of sweat lodges for purification, and creation of community-service programs for sick and/or elderly, staffed by adolescents with idle time on their hands. In some communities, the restoration of traditional ceremonialism has been an important health-promoting activity (Jilek, 1982), even though some Western-trained health care providers

have trouble accepting ceremonials as therapeutic. In fact, the alcoholism treatment programs have widely disseminated some traditional practices that are being adopted by communities for whom the practice was not a tradition, such as sweats (Hall, 1985) or the Talking Circle (Stone, 1981).

Cultural approaches to prevention are important, especially to Indian programs. Many treatment program staffs believe that what works for treatment will work as prevention if offered early in life. This is the Indian idea of the “connectedness of life” — the Circle of Life. Indian treatment programs have increasingly included cultural components, such as sweat lodges and sweetgrass ceremonies, and believe these elements to be beneficial to addiction treatment for Indian people (USGAO, 1992; OSAP, 1990). Increasingly, Indian prevention approaches incorporate strong spiritual content in hopes of inculcating traditional values and a respect for sobriety before young people begin experimenting with addicting substances. Prevention, then, is the most commonly pursued goal of federal and tribal alcohol programs.

Health professionals often consider prevention as having three levels of application: primary, secondary, and tertiary. Each of these has distinct attributes and implications for programs, which are addressed in the following pages..

*Primary prevention* means doing something before there ever is a problem. This means, in Indian communities, starting as early as possible and certainly targeting programs for preschool, Headstart, and elementary schools. An important attribute involves role modeling on the part of federal employees who work in Indian country and with Indian people, as well as by tribal leaders and elected officials. A survey conducted in 1984–1985 of reservation treatment programs found evidence to suggest that specific training on anger management might be an important component of primary prevention (Mail & Palmer, 1985). Traditional ways of handling anger seem to have been lost, and anger is now dysfunctional and often expressed while intoxicated, causing both intentional injuries (i.e., fights) and unintentional injuries (i.e., crashes, suicide attempts).

Since primary prevention focuses on reducing the incidence of alcohol and drug use by new users, most primary prevention programs are directed toward school-age youth. With the increased political support for Indian self-determination, many Indian communities now have a much stronger voice in the management of their schools (Szasz, 1974). However, secondary prevention programs designed to reduce the prevalence of alcohol and drug use among youth may be better located in the community to catch those students who are at risk of dropping out (Linney & Wandersman, 1992). Alternative programs and peer counselor programs appear to be effective in helping adolescents by encouraging behavior change (Tobler,

1986). Therefore, primary prevention programs need to span the gamut from school to community, with appropriate family outreach as indicated.

Primary prevention might involve screening for risk, although some health professionals have raised the question of "Why bother?" and acknowledge that any techniques beyond paper-and-pencil instruments (e.g., genetic screening) could be very controversial. Another very controversial issue is whether or not to rescind prohibition within tribal by-laws and constitutions in those tribes that continue to try to observe and enforce these laws. Eliminating standing laws in tribes where liquor is now sold or used so flagrantly as to render the laws useless might provide an atmosphere that "normalizes" alcohol, acknowledging that liquor is used in the community. And "normalization" would permit new learning without the constraints of "illegality," which prohibition imposes.

*Secondary prevention* is directed at keeping things that already exist from getting worse. Once Indian youth begin using alcohol, it is too late to prevent its use. Interventions now need to consider providing programs for teen parents in conjunction with schools to help keep kids in school or within the community and working with parents to establish alternative teen activities. In some cases, promoting village self-help programs, such as the one described recently in Alaska (Streissguth, 1990) or the example of the Alkali Lake Band in British Columbia. Clinics and hospitals can institute regular and routine screening of maternal drinking behaviors in order to provide earlier intervention and assistance. One successful program that has been tried to change peer behavior is the Natural Helpers approach, a formal peer-counselor training program developed by the Comprehensive Health Education Foundation of Seattle, Washington.

Implementation of employee assistance programs that involve real referrals and not just punitive terminations is important. This could be helped by revising tribal bylaws so that policies and programs are consistent rather than in conflict. Too many tribal by-laws state that drinking is grounds for termination of employment, rather than that drinking is an illness and should be treated. Mail notes that during her participation from 1983 to 1985 in the Indian Health Service alcoholism program evaluations, she observed many tribes that had by-laws or constitutional statutes on their books prohibiting use of alcohol on the job yet managed major treatment programs. The issue here is that there is one standard promulgated in the statutes and another standard in general community practice. This may contribute to a disrespect for the law. It raises the question as to what the community really believes. What goals and objectives are really desired by the community? Punishment or treatment or both?

These mixed messages can also be observed at Indian cultural events and large pow wows that have received alcohol-industry sponsorship. In 1991 Wilma Mankiller, Principal Chief of the Cherokee Nation, canceled the Coors Brewing Company's \$5,000 sponsorship of the Cherokee Nation's annual Labor Day Pow Wow. Supporters of the National Finals Indian Rodeo also canceled industry sponsorship. There is increasing concern in Indian country about corporate sponsorship as marketing by the very industry that makes products that contribute to the unacceptably high death toll of Indian people. Yet the money is hard to turn down. The *Lakota Times*, an Indian newspaper, accepts \$14,000 from Miller for full-page ads to promote struggling Indian organizations (Marin Institute, 1992).

*Tertiary prevention* is prevention at the curative and restorative level. It is designed to prevent an existing and acknowledged problem from getting worse. In addition to providing individual treatment for recovery, there could be developed a community plan for holistic approaches: prevention, early intervention, and adequate treatment, with a strong aftercare component and focus on relapse prevention. OSAP's Community Partnership projects try to include treatment centers in prevention-planning approaches. The Robert Wood Johnson Foundation also encourages strong community involvement in prevention and treatment implementation. The integration of Indian cultural traditions and practices with alcohol treatment approaches has been occurring successfully for over 20 years. The majority of Indian treatment centers hold to a philosophy similar to that espoused by Poundmaker's Lodge in Alberta: "We . . . believe that the disease of alcoholism and other drug addiction is of epidemic proportions in the Indian community and that the Native client will respond most positively to a specialized treatment approach that embodies Indian cultural awareness and the philosophy of Alcoholics Anonymous" (Shirt, Shirt, & Johnson, 1990). Important to changing behavior within the communities would be actions to stop accepting and sanctioning bad behaviors. The community may need to learn confrontational techniques and to overcome generations of the deeply rooted value of nonintervention when intervention would be an appropriate response.

However, it is necessary, we believe, to be discriminating in planning and implementing of community-based programs. Moralistic judgments will not solve the problem. Rational social, medical, and therapeutic approaches will begin to make inroads; consistency in approach is the key. Many communities have a sober nucleus already and are expanding it through a variety of prevention approaches. Researchers Gene Oetting and Fred Beauvais (1989) believe that cultural identification is not a simple matter of acculturation versus nonacculturation or increased acculturational stress but instead includes several different and linked dimensions. Identification

with the Indian culture and identification with white culture are not at opposite ends of a continuum. They are, however, relatively independent of each other, and an Indian adolescent with a high stake in both cultures (e.g., the bicultural youth) may be in the best position to avoid heavy alcohol and/or drug involvement. Several prevention programs for youth are testing this bicultural theory/approach (Oetting & Beauvais, 1989; Schinke, Botvin, Trimble, Orlandi, Gilchrist, & Locklear, 1988).

Programs to intervene must be comprehensive and may not look like white-urban programs because of the breadth of approach, which may include counseling, food banks, educational assistance, family recreation, arts, crafts, oral histories, and other means of preserving the culture. A common element here is the emphasis on the positive. Too many educational approaches focus on the negative consequences, rather than promoting the positive attributes of individual and community accomplishments. Changing attitudes will be a requisite behavior on the part of not only community residents but health care providers and employers of Indian people.

These two conflicting concepts — a treatable illness versus an unacceptable behavior — lie at the heart of the confusion, misunderstanding, and difficulty of approaching alcohol use versus abuse from a rational, reasonable, and medical perspective. If abusive and inappropriate use of alcohol is a problem, then appropriate use needs to replace inappropriate behavior. If too much use leads to addiction, hence alcoholism, then treatment needs to be instituted for the condition. The challenge for communities is to decide ultimately what the issues are and what outcomes are desired by the community. Changing behaviors? Preventing abuse? Treating illness? In order to know what works and what does not, it is essential to incorporate ongoing evaluation as an integral part of any planned intervention. There are several excellent resources available for consultation, such as Dever (1984), Green and Kreuter (1991), or Green and Lewis (1986).

To reach those individuals who are not in school, there needs to be a marked increase of programs directed at the workplace. Despite high unemployment rates, many Indian individuals are employed, either full-time or seasonally. A recent conference (1991) sponsored by the Native American Research and Training Center, University of Arizona, looked at the development of employee assistance programs and drug-free workplace policies for Indian firefighters. Workplace policies will help communities identify what goals they want for their members. Until these matters are clearly addressed once and for all, and there is a consensus reached by those affected and a consistency established in policy, regulation, and treatment protocols, alcohol abuse will continue to plague Indian commu-

nities. It is an antidote to hopelessness. It exacerbates helplessness. But it need not always be thus. There are several hopeful indicators that community self-determination is reaching out to address the complex issues of drug and alcohol use.

The Indian firefighters' conference was among the first to take a clear look at the Indian workplace as an appropriate point at which to address the problem of drug use and consider appropriate interventions. Until now, interventions have been discussed in the context of schools, community, and medical-care delivery. We have largely avoided consideration of the implications for work-site prevention. Tribal leaders have not infrequently commented that it would be easier to address this issue if those agencies serving and working with Indian people would provide more positive role models. Or, as one tribal chairman observed, "If the [federal Indian programs] would sober up their own people, then maybe we would believe it was possible to help our people."

It is relatively well recognized that when one expects a certain behavior, one often elicits that behavior. Overreaction to stereotypes is inappropriate and punitive and may, in fact, reinforce the very behavior that one would like to ameliorate or change. Interventions need to be in concert with the communities. Achievement of change must be the responsibility of all, not just a few. Progress has been made in the past decade. The challenge before us is to continue the successes while addressing the problems and finding collective solutions.

Those who study history have an opportunity not to repeat it. Although alcohol abuse has been a problem for Indian people for the last 200 years, it does not have to continue to be a problem of such magnitude in the next century. Perhaps a reasonable goal is to reduce it to a problem of no greater magnitude than it is for the rest of the nation during the 1990s and, beginning with the year 2000, to reduce rates below that of all other peoples. Goals have been set, including specific objectives for American Indians and Alaska Natives (USDHHS, 1991). A companion guideline that has recommendations that could be adapted to reservation communities is *Healthy Communities 2000: Model Standards* (American Public Health Association, 1991). It may be unreasonable to expect that alcohol and other substance misuse will disappear entirely. There will always be abusers, and there are safe users. But within Indian cultures, there are remarkable strengths and strategies that can be brought to bear to resolve the problem of Indian drinking.

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**Notes**

1. The terms American Indian, Indian, and Native American are used interchangeably in this paper. These terms refer to descendants of peoples native to North America at the time of the first European contact. Today, Indians in the United States and Canada are members of over 500 distinct tribes, bands, and/or villages. For convenience, the term "Indian" will be used, except when the data also reference Alaska Natives.
2. Poundmaker's Lodge, Edmonton, Alberta, Canada, treats over 800 Native people each year for alcohol and drug addiction. The executive director, Patrick Shirt, reports that multiple drug use and the use of drugs other than alcohol increased significantly since Poundmaker's was established in 1973.
3. It should be noted that no studies yet report nicotine as the addictive component of tobacco and smoking or chewing as the method of ingestion. All studies report cigarettes and/or smokeless tobacco by their use rather than by the drug these products contain. To "level the playing field," one hopes in the future to see discussions of drug use reflect not only the illicit drugs and the legal drug alcohol but also the addition of nicotine as a frequently used and often abused drug.
4. Tohono O'Odham is the native name for that nation of Indian people who used to be identified as the Papago Indians. In the early 1980s, the tribe members passed a resolution establishing that their official name was their own name for themselves: Tohono O'Odham, or "The People of O'Odham." The tribe has its headquarters in Sells, Arizona.

# ALCOHOL AND SUICIDE IN ALASKA NATIVES

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and  
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*Abstract: A retrospective review of hospital records from the Alaska Native Medical Center, controlled for age, sex, and race, is presented for 33 Alaska Native suicide completers who died between 1980 and 1984. Suicide rates for Alaska Natives were twice the national average during the study period. The only significant differences between the suicide and control groups was the history of a prior suicide attempt (p 0.003). Alcohol abuse was diagnosed more often than any other psychiatric disorder in the suicide group and appears to be the most important antecedent of suicide in this study.*

Suicide has long been recognized as a pressing mental health problem for many of America's Native peoples. For decades, the suicide rate among Alaska Natives was nearly identical to the national rate. For example, for the years 1961–1965, the suicide rate for Alaska Natives was 13 per 100,000. However, in 1966, suicide rates began to rise, and during the 5-year period between 1966 and 1970, rates doubled to 25/100,000 (Kraus, 1974). Suicide rates continued to rise throughout the 1970s, and during the mid-1970s, suicide rates were approximately 43/100,000 for the growing Alaska Native population (Alaska Native Health Board, 1985). Toward the end of the 1970s and 1980s, official suicide rates dropped to 23/100,000 (Kettl & Bixler, 1991), but the decrease in rates was probably reflective of the inexact nature of collecting death data in the Alaska bush. Death certificates, notoriously inaccurate in giving exact suicide data, were probably more suspect in the bush when completed in very small communities

by those who knew the suicide victims and their families. An effort to more completely estimate the nature of the suicide problem among Alaska Natives was undertaken, and rates returned to 43/100,000 (Hlady & Middaugh, 1988) for 1983–1984. The rates continue to climb. In 1985, suicide rates for Alaska Natives were 62.4/100,000 (Division of Public Health, state of Alaska, 1988) and were 67.6/100,000 in 1986 (Anderegger, Zangri, & Vigue, 1990).

This growth in suicide among Alaska Natives is associated with a number of social developments in the Alaska Native life-style, especially the economic boom in Alaska. Alaska Natives no longer live by subsistence hunting in relative isolation from much of the world. With the discovery of oil on the north slope of Alaska, an avalanche of economic growth flooded the Native culture. Money became available for the latest in telecommunications, and television quickly became available in virtually every village. This sudden introduction of money and Western culture via television was postulated to have contributed to the growing suicide rates for Alaska Natives (Kettl and Bixler, 1991; Hlady and Middaugh, 1988; Kraus & Buffler, 1979). This hypothesis is congruent with Durkheim's (1951) hypothesis that whatever weakens the link between the individual and the social group to which he belongs will tend to increase the suicide rate for the group as a whole.

However, the evolving acculturation of the Alaska Native people affected not only economic development but probably alcohol use as well. Kelso and DuBay (1989) eloquently describe the history of alcohol use and abuse among the Alaska Native peoples throughout the centuries since the beginning of white exploration of Alaska. Decades of alcohol abuse and binge drinking led to prohibition of alcohol use for Alaska Natives until 1953. A decade after this prohibition ended, suicide rates among Alaska Natives began to rise steadily.

Accordingly, alcohol abuse has been repeatedly implicated as a contributing factor to the growth of Alaska Native suicide. Before the rise of suicide rates in the mid-1960s, Kraus (1974) believed that "suicidal behavior occurs in the context of chronic marital difficulties complicated by alcohol." At the onset of the rise in suicide rates, Blackwood (1978) estimated that 50% of the suicides between 1971 and 1977 among Alaska Natives were alcohol related. Travis (1983) estimated that 86% of Alaska Native suicides in northwest Alaska were alcohol related. Hlady and Middaugh (1988) more carefully examined the effect alcohol may have played in suicides by examining the blood alcohol level of suicide victims postmortem. For 1983 and 1984, 79% of Alaska Native suicide victims had detectable levels of alcohol, while 48% of white suicides in Alaska had comparable levels. Moreover, 54% of Native suicide victims had blood alcohol concentrations

in the impaired range (greater than 100 mg/dl), compared to only 20% of white Alaska suicide victims. Furthermore, those with blood alcohol concentration in the impaired range more likely died by gunshot wound.

Studies of Alaska Native suicide attempts showed much the same data. Parkin (1974) examined suicide attempts in the Fairbanks area from 1960 to 1971 and found that 40% of all Eskimo female attempts and 48% of the Indian female suicide attempts were alcohol related. Only 13% of the Caucasian female suicide attempts in the same period were judged to be alcohol related. Male suicide attempts did not occur with sufficient frequency in the study group to give a fair estimate of the same data. Kraus and Buffler (1979) provided yearly data for Alaska Native suicide attempts in the early 1970s and showed the level of alcohol-related attempts varied annually from a low of 36.8% in 1972 to a high of 59.7% in 1976. Kost-Grant (1983) retrospectively examined Alaska Natives who had survived a self-inflicted gunshot wound and found that 59% had been using alcohol at the time of the shooting.

Alcohol has also been implicated frequently in suicides in other Native groups (McIntosh & Santos, 1981; McIntosh, 1983). Concerned that alcohol consumption had tripled in Greenland over a 15-year period, Grove and Lyngé (1979) studied suicide in Greenland involving Eskimo and mixed-race Greenlanders and Dane peoples. They found that among those who attempted or completed suicide, 56% were under the influence of alcohol. Sixty-eight percent of those who attempted or completed suicide suffered from alcoholism, compared to only 5% of their control group, and this difference was highly statistically significant.

Studies of Indians in the Pacific Northwest also showed frequent association of alcohol abuse with suicide. Shore (1975) found that over a 3-year period, alcohol was involved in 11 of 20 suicides there. In the U.S. Pacific Northwest, during a 6-month period, all of the Indian adult males who attempted suicide were alcoholic (Kinzie, Shore, & Patterson, 1972). Among British Columbia Indians, Hislop, Threlfall, Gallagher, and Bard (1987) pointed to alcohol as a contributing factor but provided no exact data to substantiate the association.

In the desert Southwest, alcohol was often associated with suicide among Native peoples. Conrad and Kahn (1974) showed that among the Papago Indians over a 3-year period, alcohol was involved in 8 of 10 suicides and discovered that 14 of the 34 suicide attempters were "heavy drinkers." Among the Hopi, Levy and Kunitz (1987) felt alcohol contributed to suicide but did not offer exact data to substantiate their observation.

The growth in Native suicide, where it occurs, is fueled primarily by an increase in youth suicide. It should be noted that alcohol and drug abuse not only is a factor of suicide among America's Native peoples but is a

frequent problem in youth suicide throughout the country. In a retrospective study of suicide in Seattle of people of all races, Dorpat and Ripley (1960) found that 31% of the suicide victims were alcoholics. In a recent review of 133 suicide victims younger than age 30 in San Diego, Fowler, Rich, and Young (1986) found that 53% could be given a principal diagnosis of substance abuse. Mixed abuse with marijuana, alcohol, and cocaine was the norm. Suicide, then, especially among young people, is frequently associated with substance abuse in both Native and non-Native groups.

Ample evidence is available to suggest that the rise of suicide in Alaska Natives and other Native peoples is associated with alcohol abuse. While there is broad agreement that many Native suicides are alcohol related, most studies of the topic have been limited in that they are suicide surveys and do not include a control group for comparison. This control group, of course, is essential to quantify those differences between those who commit suicide and other members of the same cultural group.

To help identify etiologic factors involved in the dramatic rise in Alaska Native suicide, we examined the medical histories of our patients at the Alaska Native Medical Center. A retrospective study of hospital records of suicide victims was compared to a control group of Alaska Natives from the clinical histories maintained by the Indian Health Service. Specifically, we were interested to see if there were indeed differences in the incidence of alcohol abuse and other psychiatric disorders in suicide victims compared to a control group drawn from the same population matched for age and sex.

#### Method

Death certificates for every Alaska Native who died between 1980 and 1984 were hand-reviewed at the Centers for Disease Control offices in Anchorage, Alaska. This review revealed 74 patients who committed suicide during that period, almost certainly an underestimate of the true suicide rate. Death certificate data often underestimate the true incidence of suicide, and in Alaska, this is particularly true in the bush, where death certificates are often completed by those who are close to the victims and their families.

The list of suicide completers was then cross-matched against a list of patients who had received care at the Alaska Native Medical Center in Anchorage, a tertiary-care facility that serves as the referral center for the 60,000 Alaska Natives served by the Alaska Area Indian Health Service. It also serves as the community hospital for the 12,000 Alaska Natives who reside in the Anchorage area. Through this cross-matching, a total of 39

charts were found representing every individual who had committed suicide between 1980 and 1984 and who had received care at the center.

The charts of these suicide victims were then reviewed to see if they contained sufficient clinical information to formulate a medical and psychiatric history. In 1979 the Alaska Area Indian Health Service instituted the patient confidential information statement (PCIS), a computerized list of patient problems and patient contacts with all medical caregivers in the Alaska area. Therefore, any contact a patient may have had with medical caregivers in the Alaska Area Indian Health Service would be listed on this statement. Because care through the Indian Health Service is provided at no cost as part of benefits to Alaska Natives and because in many parts of Alaska no other care is available, the review represents a fairly complete, if not absolute, review of medical-care delivery to the individual.

Cases were included in the study group if they contained a comprehensive history with a review of systems including psychiatric history or, alternatively, if the chart represented documentation of ongoing medical care for the individual. A history of ongoing medical care was operationally defined as an individual receiving documented care through the Indian Health Service for at least two visits at least 1 year apart. Six charts did not meet these criteria.

A total of 33 charts were obtained through this method, representing the most complete description available of health problems for each individual. The charts were reviewed to obtain the psychiatric, medical, and alcohol-use history for each individual. An individual was determined to have suffered from alcohol abuse if the chart documented physical or mental health problems or problems in interpersonal relationships stemming from alcohol use. Diagnoses were made by all types of health care professionals. Physicians in all specialties, especially family practitioners, made most diagnoses, but some were added by physician's assistants or nurse practitioners. All diagnoses were considered to be equal regardless of the background of the caregiver.

A control group was then gathered by selecting the next chart alphabetically in the hospital records of an individual having the same age and sex as the suicide victim. Charts were not used if they were judged to be inadequate according to the criteria previously described. This method provided an age-, sex-, and race-matched control group. The control charts were similarly reviewed for medical history, psychiatric diagnoses, and alcohol-use history.

All individuals in the study, in both the suicide and the control group, were Alaska Natives eligible to receive care through the Indian Health Service. All patients were at least part Eskimo, Aleut, or Indian and were residing in Alaska during the period from 1980 through 1984.

The Alaska Natives are a culturally diverse group of peoples scattered across a vast landmass. However, we will examine the records of Alaska Natives as one, albeit heterogeneous, group. The relatively small number of suicides surveyed in this paper prohibits the data from being broken down into smaller cultural units for analysis.

Data were summed for each group and comparisons between the suicide group and the control group were made using chi-square statistics. The critical statistical confidence level selected for all analyses was  $p < 0.05$ .

### Results

The 33 suicide completers and matched control groups each consisted of 25 men and 8 women with an average age of 30.8 years. This compares to an average age of 26.4 years for all Alaska Native suicide completers during the same period.

The lifetime prevalence of alcohol abuse did clearly separate the suicide group from its age- and sex-matched controls. Approximately half of the suicides had a documented history of alcohol abuse in their medical records, significantly more than the control group ( $p = 0.003$ , see Table 1).

	Suicide Victims	Control Group
<b>PSYCHIATRIC HISTORY</b>		
Psychiatric Diagnosis	9 (27%)	8 (24%)
Psychiatric Admission	5 (15%)	1 (3%)
Prior Suicide Attempt	7 (21%)	0 (0%)
<b>ALCOHOL HISTORY</b>		
Abuse **	18 (54.5%)	10 (30.3%)
<b>MEDICAL HISTORY</b>		
Seizure Disorder	4 (12%)	1 (3%)
Congenital Problems	3 (9%)	2 (6%)
Fracture	6 (18%)	6 (18%)
TB	3 (9%)	3 (9%)
* $P < 0.05$		
** $P < 0.003$		

Table 2

Suicide Victims		Control Group	
"Depression"	50%	"Depression"	30%
Major Depression	20%	Major Depression	10%
Dysthymia	10%	Adjustment Disorder with depressed mood	10%
? Type	20%	? Type	10%
Conversion Disorder	10%	Generalized Anxiety Disorder	20%
Personality Disorder	10%	Marital Problem	20%
?	30%	Schizophrenia, paranoid type	10%
		Bulimia	10%
		Mental Retardation	10%

Interestingly, the incidence of psychiatric diagnoses (other than alcohol abuse) did not separate the suicide and control groups. Half of all psychiatric diagnoses made in the suicide group were for a form of depression, compared to 30% in the control group. This difference did not reach statistical significance, however. The control group showed a broad range of diagnoses, while depressive disorders clearly predominated the psychiatric diagnoses in the suicide group (see Table 2).

History of prior suicide attempts also statistically significantly separated the two groups. Twenty-one percent of the patients who eventually committed suicide had previously attempted suicide, while none of the control group had made a documented suicide attempt ( $p < 0.05$ , see Table 1). It is important to note that every suicide victim who had a prior suicide attempt had a history of both alcohol abuse and psychiatric disorders.

Suicide completers and their controls did not differ significantly in their medical histories. Although four times as many members of the suicide group had a seizure disorder (12% vs. 3% in the control group), this difference did not reach statistical significance. Common medical problems for Alaska Natives included tuberculosis and trauma, but they appeared equally in the charts of both groups (see Table 1). A variety of other common medical problems were found equally in both groups.

### Discussion

The medical histories of Alaska Native suicide completers, then, differed from an age-, sex-, and race-matched control group only in the history of alcohol abuse and the history of a prior suicide attempt. Prior psychiatric history and a variety of medical problems did not separate the two groups.

The results of our controlled study again underscore the importance of alcohol abuse as a contributor to Alaska Native suicide. While it is clear that alcohol abuse by itself is not a sufficient cause of suicide, it seems clear that alcohol abuse is an important contributing factor in many, if not half, of Alaska Native suicides. Suicide is often an impulsive act; therefore, it makes clinical sense that those who have impaired impulse control from alcohol intoxication would be at greater risk for suicide when despondent. Those who are intoxicated would be less likely to control their hostile impulses — against others and against themselves. Beginning with the work of Kraus (Kraus & Buffler, 1979; Kraus, 1974), as outlined in the introduction, most theorists have pointed to alcohol abuse as an important factor in the growth of Alaska Native suicide, and these data further substantiate and support those conclusions. While cultural change seems to have contributed to higher suicide rates among Alaska Natives, the most important cultural change may in fact be the greater presence of alcohol abuse in the society, which may ignite the personal pathology already present in the victim.

The proportion of our group who had diagnosed substance abuse disorders (54.5%) is remarkably similar to Fowler, Rich, and Young's (1986) survey in which 53% of their suicide victims from all races had a substance abuse diagnosis. In their study sample, no victim was older than 30. Our average age, 30.8 years, is only slightly higher than their study group. Because Alaska Native suicide is predominantly a problem of the young (Kettl & Bixler, 1991; Hlady & Middaugh, 1988) and because suicide from 1979 to 1984 was nonexistent in those over age 55 (Kettl & Bixler, 1991), alcohol abuse may be predominantly contributing to suicide among Alaska Native youth, not the entire population. Because the Alaska Native youth make up such a large proportion of the general population and an even larger part of the population of suicide victims, any factor that affects this cohort would necessarily have a large impact on the suicide rates for the whole society. Therefore, suicide prevention efforts focusing on education about alcohol abuse should then be directed primarily at Alaska Native youth.

Among the 27% of the suicide group who had a diagnosed psychiatric disorder, half were for a depressive disorder. The number of suicide victims with diagnosed depressive disorders (13.5%) is relatively low compared to

other studies of suicide in peoples of all races. In these studies, 44% (Roy, 1982; Robins, Murphey, Wilkonson, Gassner, & Kayes, 1959) to 64% (Barraclough, 1974) suffered from depression. The low rate of diagnosed psychiatric disorders suggest the "extra" suicides among Alaska Natives may be fueled by alcoholism rather than depression or other psychiatric problems.

Some limitations of our study require review. The major limitation in interpreting our data is the diverse number of clinical raters and the varying levels of their training. Because of the geographic problems in delivering health care to Alaska Natives, much of it is given by general practitioners in small general hospitals that service large geographic areas. Psychiatric and alcohol diagnoses represented the medical aregivers' clinical impressions based on their interaction with the patient and were not necessarily based on DSM-III-R or other standardized criteria. The sample size, 33 patients, is relatively small.

Despite these limitations, the review represents a rather complete history of medical and psychiatric care provided for individuals in both suicide victim and control groups using the same medical records system as the data source. Because care for Alaska Natives is free through the Indian Health Service and is frequently the only care available in outlying areas, if an Alaska Native received care, it would likely be recorded through this system.

Thus, the presence of an exact control group — carefully matched for age and sex and having the same diagnostic and record-keeping system — is essential to interpret the data. Any diagnostic bias would be present in both the study and the control group to the same degree. So while absolute incidence of any health problem cannot be determined from the data, comparative information describing how suicide victims differ from controls can be obtained.

While it is widely acknowledged that it is impossible to predict suicide with certainty in any individual (Murphy, 1983; Pokorney, 1983), clinicians are expected to make this judgment in every psychiatric evaluation and every emergency room visit. Our data suggest that those Alaska Natives with a history of alcohol abuse, especially if linked with a prior psychiatric disorder or a prior suicide attempt, are at high risk for suicide and should be evaluated very carefully. After the initial disposition, much effort should be addressed to their follow-up and ongoing mental health needs. This casefinding and follow-up may well be helpful in making sure care is accessed by those most at risk for suicide.

Finally, it is evident that the most common health problem in both the charts of the suicide group and the control group is the presence of alcohol abuse. Therefore, alcoholism treatment for Alaska Natives should be a

priority in public-health planning. The future of too many young Alaskans is drowning in alcohol. Our data add further weight to the idea that alcohol abuse among Alaska Natives is contributing to the rising toll of death from suicide.

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# ATTRIBUTIONAL ANTECEDENTS OF ALCOHOL USE IN AMERICAN INDIAN AND EUROAMERICAN ADOLESCENTS

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*Abstract: American Indian and Euroamerican adolescents were compared in regard to the events that they saw as responsible for their alcohol use. American Indian males believed that heredity played a more important role in their use of alcohol than Euroamerican males. American Indian males also believed that fate was a more important influence on their use of alcohol than American Indian females and Euroamerican females and that environmental events (e.g., problems at home) were a less important influence than the three other groups. Euroamerican females saw distressing events as more responsible for their alcohol use than the American Indian females and Euroamerican males. Euroamerican females also saw themselves as more responsible for their alcohol use than the American Indian females and males and Euroamerican males. The treatment implications of these attributional differences in reasons for alcohol use are discussed, especially in regard to American Indian adolescent males.*

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This article is based on a dissertation by Grace Powless Sage, which was supervised by G. Leonard Burns and submitted to the University of Montana in partial fulfillment of the requirements for the doctoral degree.

### American Indian and Euroamerican Adolescents

Alcoholism and alcohol-related problems are major concerns for American Indians<sup>1</sup> (Hughes & Dodder, 1984; Lex, 1987; Welte & Barnes, 1987; Young, 1988; May, 1989). For example, the death rate from cirrhosis of the liver is the fourth leading cause of death among American Indians, while alcohol-related motor vehicle accidents are the leading cause of American

This article is based on a dissertation by Grace Powless Sage, which was supervised by G. Leonard Burns and submitted to the University of Montana in partial fulfillment of the requirements for the doctoral degree. American Indian deaths (Indian Health Service, 1982). As Young (1988, p. 127) thus noted, "The destructive use of alcohol and other drugs is generally considered the most serious health problem facing American Indians."

The magnitude of alcohol use among American Indian adolescents is particularly problematic (e.g., Cockerham, 1977; Oetting, Edwards, Goldstein, & Garcia-Mason, 1980; Welte & Barnes, 1987). In general, American Indian adolescents ranked highest in per capita alcohol consumption, percentage of heavy drinkers, number of times drunk, and number of alcohol-related problems when compared to other adolescent minority and nonminority groups (Welte & Barnes, 1987). This study also found that American Indian youth averaged about two drinks a day, with 19% classified as heavy drinkers (Welte & Barnes, 1987). Furthermore, for those American Indian adolescents who drink, there was an average of 8.5 incidents of intoxication per month and four other alcohol-related problems per month (Welte & Barnes, 1987). Additionally, American Indian adolescents, specifically those living on reservations, are shown to have higher rates of alcohol and drug use than their non-Indian counterparts (Beauvais, Oetting, Wolf, & Edwards, 1989). Alcohol abuse and alcohol-related problems are clearly major concerns for a significant percentage of American Indian adolescents (Young, 1988, pp. 128–129).

While such research has been conducted on alcoholism and alcohol-related problems in American Indians (e.g., Graves, 1967; Jessor, Graves, Hanson, & Jessor, 1969; Levy & Kunitz, 1974; Lex, 1987; Young, 1988), few studies have been conducted on the causal attributions of alcohol use in American Indians (Jones-Saumty, Dru, & Zeiner, 1984; Jones-Saumty, Thurman, Miles, Parsons, & Zeiner, 1985). Earlier research (Beckman, 1979, 1980; Vuchinith, Tucker, Bordini, & Sullwold, 1981) on attributions for alcohol use in Euroamericans found that alcoholic and nonalcoholic males attributed their alcohol use to external factors, while alcoholic and nonalcoholic females attributed alcohol use to the person doing the drinking. In the first study on attributions for alcohol use in American Indians, Jones-Saumty

et al. (1984) found that American Indian social drinkers viewed alcoholism as an illness significantly more often than Euroamerican social drinkers. Jones-Saumty et al. (1984) also found that both American Indian and Euroamerican social drinkers attributed primary responsibility for problem drinking to the individual, although both groups viewed external factors as concomitant influences on problem drinking. Locus-of-control studies have aided in the effort to advocate for prevention efforts and treatment plans to attend to this potent concept — internal versus external control of alcohol use (Thurman, Jones-Saumty, & Parsons, 1990). The evidence for this construct may begin early in adolescence and be reinforced on multiple dimensions (i.e., age, sex, income, education, culture, etc.). Locus of control can no longer be overlooked as an important construct in the complex and interrelated self-perceptions of reasons to drink (Mariano, Donovan, Walker, Mariano, & Walker, 1989).

The purpose of this study was to extend the research on attributions for alcohol use in Euroamerican and American Indian adults to Euroamerican and American Indian adolescents. The reasons that American Indian and Euroamerican adolescents give for their use of alcohol might provide helpful information for the development of alcoholism prevention, early intervention, and treatment programs for adolescents. This study, thus, sought to compare American Indian and Euroamerican adolescents in terms of their reasons for alcohol use.

#### Method

Beckman's (1979, 1980; Jones-Saumty et al., 1984) rating scale for antecedents of alcohol use was administered to 106 high school freshmen, 53 of whom were American Indian (25 females and 28 males) and 53 Euroamerican (25 females and 28 males), and to 106 high school juniors, 53 of whom were American Indian (19 females and 34 males) and 53 Euroamerican (28 females and 25 males). The administration of the rating scale occurred in three high schools located on the Salish/Kootenai Indian Reservation in northwestern Montana.

Sampling procedures followed similar methods and procedures as other researchers have noted when working in American Indian communities (Trimble, 1977). Since one of the purposes of sampling is to ensure that there is an accurate representation of the population group, it does not make sense to use random sampling techniques when working with small populations. When working on American Indian reservations, the population group is typically small, and the size of the group who become participants in the study represents the group as a whole. Typically, the range of values,

beliefs, behaviors, and socioeconomic status will be small in American Indian communities. Thus, all American Indian and Euroamerican students who attended the public schools on the reservation participated in the study.

The rating scale asks the students to indicate the degree to which each of seven types of events are responsible for their alcohol use. These factors are the following:

1. The *Person* (the person, herself or himself, is the one who is responsible for the drinking problem)
2. The *Environment* (a person's environment — home life, school, the crazy world we live in — is responsible for the drinking problem)
3. *Distressing Events* (some distressing event — death in the family, divorce, loss of a job — is responsible for a person's drinking problem)
4. *Other People* (other people — mother or father, brother or sister, aunt or uncle, friends — cause a person to have a drinking problem);
5. *Heredity* (i.e., a person has a drinking problem because they inherited the problem — it's in their blood);
6. *Disease* (i.e., a person has a drinking problem because of an illness); and
7. *Fate* (i.e., I don't know what causes a person to drink. It must be fate).

The subjects indicated the importance of each of these seven events in their use of alcohol on a 4-point scale (1 = not important, 4 = very important). The subjects also reported on a 6-point scale their current alcohol use (1 = never, 2 = one to four drinks in life, 3 = three to four drinks per year, 4 = one to two drinks per month, 5 = one to two drinks per week, 6 = daily use).

## Results

A total of 4 American Indian adolescents (3 freshmen and 1 junior) and 10 Euroamerican adolescents (8 freshmen and 2 juniors) reported no alcohol use. These 14 students, thus, did not provide information on the importance of the seven events in their alcohol use. A four-way (2 by 2 by 2 by 7) ANOVA was used to analyze the responses of the remaining 198 students in regard to the importance of the seven types of events in their current use of alcohol. The between factors were Ethnicity (American Indian and Caucasian), Grade (9 and 11), and Sex (male and female), with the within measure being Type of Attributional Event (Person, Environment,

Other People, Distressing Events, Heredity, Disease, and Fate). The three-way interaction between Ethnicity, Sex, and Type of Attributional Event was significant,  $F(6, 1140) = 2.48, p = .02$  (Greenhouse Geisser  $p = .03$ ). Ethnicity by Type of Attributional Event and Sex by Type of Attributional Event as well as the main effect for Type of Attributional Event were also significant,  $F(6, 1140) = 2.19, p = .04, F(6, 1140) = 3.80, p = .001$ , and  $F(6, 1140) = 67.89, p = .001$ , respectively.

Table 1 shows the means and standard deviations for the three-way interaction between Ethnicity, Sex, and Type of Attributional Event. A Newman-Keuls test ( $p .05$ ) was used to determine the significance of the difference between the Ethnicity-Sex means within each Type of Attributional Event.

Factors	American Indians				Caucasians			
	Male <sup>a</sup>		Female <sup>b</sup>		Male <sup>a</sup>		Female <sup>b</sup>	
	X	SD	X	SD	X	SD	X	SD
Person	2.88 <sup>a</sup>	1.11	2.95	1.10	2.96 <sup>a</sup>	1.12	3.35 <sup>b</sup>	0.99
Environment	2.30 <sup>a</sup>	1.05	3.10 <sup>b</sup>	0.85	2.74 <sup>b</sup>	0.94	2.96 <sup>b</sup>	1.07
Other People	2.37 <sup>a</sup>	1.07	2.64 <sup>a</sup>	1.10	2.56 <sup>a</sup>	1.13	2.59 <sup>a</sup>	1.11
Distressing Event	2.28 <sup>a</sup>	1.08	2.74 <sup>b</sup>	1.06	2.36 <sup>a</sup>	1.27	2.28 <sup>a</sup>	1.05
Heredity	2.15 <sup>a</sup>	1.13	1.98 <sup>ab</sup>	1.07	1.70 <sup>b</sup>	1.09	1.89 <sup>ab</sup>	1.08
Disease	1.82 <sup>a</sup>	1.02	1.79 <sup>a</sup>	1.00	1.62	0.92	1.67 <sup>a</sup>	0.94
Fate	1.97 <sup>a</sup>	1.15	1.52 <sup>b</sup>	0.83	1.68 <sup>ab</sup>	1.08	1.48 <sup>b</sup>	0.91

Means for each factor sharing the same subject do not differ significantly at  $p < .05$  on the Newman-Keuls test. Higher scores indicate that the factor was considered more important (1 = not important, 4 = very important)  
<sup>a</sup>n = 60. <sup>b</sup>n = 42. <sup>a</sup>n = 50. <sup>b</sup>n = 46.

The most consistent pattern of results occurred for American Indian males. The American Indian males saw the Environmental factor as significantly less important in their alcohol use than the three other groups of adolescents, who did not differ significantly on this factor. In contrast, the American Indian males saw Heredity as being significantly more important in their use of alcohol than Euroamerican males and also saw Fate as significantly more important in their alcohol use than American Indian females and Euroamerican females. Thus, American Indian males perceived the Environment as less responsible for their alcohol use than the other groups and perceived Heredity (e.g., "it's in their blood.") and factors beyond their control (fate) or knowledge as more important causes of their use of alcohol than the other groups.

American Indian females perceived Distressing Events as more important in their use of alcohol than the three other groups of adolescents, who did not differ from each other on this factor, while Euroamerican females saw the Person factor as more important in their use of alcohol than the three other groups of adolescents, who were more similar on this factor. The four groups did not differ on the Other People and Disease factors.

A three-way (Grade by Ethnicity by Sex) ANOVA was employed to analyze the adolescents' self-report of alcohol use. The main effect for Grade and the Grade by Ethnicity interaction were significant,  $F(1, 202) = 13.36, p = .0003$ , and  $F(1, 202) = 5.24, p = .02$ , respectively. A Newman-Keuls test ( $p .05$ ) was used to analyze the differences between the Grade by Ethnicity means. Whereas American Indian and Euroamerican 9th graders and Euroamerican 11th graders did not differ in their self-report of alcohol use, American Indian 11th graders, reported significantly more use of alcohol than the other three groups. Thus, while Euroamericans did not show a significant increase in alcohol use between the 9th and 11th grades, American Indians reported a significant increase. Table 2 shows the Ethnicity by Sex means for self-report of alcohol use.

In terms of percentages, a total of 43% of the American Indian juniors reported weekly use of alcohol and 10% reported daily use. This contrasts to a total of 30% of the Euroamerican juniors reporting weekly use of alcohol and 0% reporting daily use. For American Indian freshmen, 17% reported weekly use and 0% daily use, while for Euroamerican freshmen, the figures were 25% and 10%, respectively.

**Table 2****Means and Standard Deviations for Self-Report of Alcohol Use**

Grade	American Indians		Caucasians	
	X	SD	X	SD
9	1.60	3.27 <sup>a</sup>	1.22	3.44 <sup>a</sup>
11	1.22	4.42 <sup>b</sup>	1.01	3.66 <sup>a</sup>

Means with the same subscript do not differ significantly at  $p < .05$  on the Newman-Keuls test. Higher scores indicate increased self-report of alcohol use (1 = never, 6 = daily use)

### Discussion

Significant differences were found between American Indian and Euroamerican adolescents in terms of their reasons for alcohol use. The results were most consistent for the American Indian adolescent males. American Indian adolescent males felt that heredity and fate played a greater role in their use of alcohol than the other groups of adolescents. American Indian males also rated environmental events as less important causes than the other groups. While differences were found within the factors for alcohol use, there was nonetheless a good deal of similarity in the rank ordering of the importance of the factors within each ethnic group-sex (see Table 1).

The other major finding from the study was the amount of alcohol use reported by the American Indian 11th graders. These adolescents reported significantly more alcohol use than the three other groups (American Indian 9th graders and Euroamerican 9th and 11th graders), with the three other groups not differing in their self-report of alcohol use. A total of 53% of the American Indian 11th graders reported weekly or daily use of alcohol. This figure was 30% for the Euroamerican 11th graders, 17% for the American Indian 9th graders, and 35% for Euroamerican 9th graders.

These findings have possible implications for alcohol prevention and early intervention programs for American Indians on the Salish/Kootenai Indian Reservation, especially the American Indian adolescent males. While causality cannot be inferred from our data, prevention and early intervention programs that include a component that attempts to modify

attributions regarding alcohol use to factors within the adolescent's control may increase the likelihood of positive outcomes in those programs. For example, often the individual is left feeling hopeless if the conclusion is that they are alone to fight the problem of alcohol misuse. Exploring the problem of alcohol misuse and abuse could be defined in the group context. In the identification of the harm that is created by alcohol misuse and abuse that plagues many tribal members, the individual then has an opportunity to explore both the group consequences and individual coping strategies. The force of such an intervention would assist in the adaptation of one's own reality to a less apparent group focus and, perhaps, a more potent reason for individual change. The data also suggest that such prevention and intervention strategies should begin at an earlier age given the amount of alcohol use we found among 9th graders on the Salish/Kootenai Indian Reservation.

Additional causal attribution research for alcohol use by American Indian adolescents on similar reservation sites would be an important contribution to this underinvestigated area. An increase in understanding can impact and expand the current prevention, early intervention, and treatment programs. Further, it expands our list of factors that may reinforce current and generational alcohol use, misuse, and abuse. If multiple attributions can be determined, it strengthens our conceptual models, especially our ability to generalize across American Indian reservation sites and urban-Indian settings and also widens the opportunity for the application of a variety of prevention and treatment efforts. Given the urgency of the problem of alcohol abuse and alcohol-related difficulties for American Indian adolescents (Welte & Barnes, 1987; Young, 1988; Beauvais et al., 1989), we must aggressively and positively address the issues from a variety of levels, such as individual, family, community, schools, and traditional and contemporary perspectives, as well as research investigations. In good conscience, one must tirelessly pursue a complete understanding and approach to these complex issues before we count another generation of American Indian casualties.

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### Note

1. Throughout this article, the population groups discussed are described in broad ethnic terms. It was suggested, for publication, that a specific tribal designation be employed since the research took place “on/with a single reservation population” — the Confederated Salish/Kootenai Reservation, Montana. Even so, in an attempt to specify tribal affiliation — Salish Tribe or Kootenai Tribe — some individuals and tribal groups would be lost (i.e., Nez Perce, Yakima, Sioux, Blackfeet, to name a few). Thus, for this article, since the population group was multitribal, the term “American Indian” will be used to designate that population group. Also, the term “Euroamerican” will be used to describe the non-Native or non-Indian population. Using these terms continues to illustrate the difficulty inherent in “ethnic glosses,” especially as we attempt to specify and validate research efforts across cultures (Trimble,

1991). Further, it forces researchers to be clear and responsible to the questions and dialogue concerning homogeneity and heterogeneity and the language used in describing populations. Future research efforts, statistical analyses, and methodological issues will be impacted by the review process we undertake in our individual and collective attempts to tackle this difficult but basic issue.

# **DIFFERENTIAL DEVIANCE AND SOCIAL CONTROL MECHANISMS AMONG TWO GROUPS OF YUP'IK ESKIMO**

**NELLA LEE, Ph.D**

*Abstract: This article explores the question of whether different social control mechanisms contribute to social disorganization and consequent deviance. Two groups of Yup'ik Eskimo were compared on reported felonies and misdemeanors. One group belongs to a sovereignty movement called the "Yup'it Nation." Some member villages in this group have abolished their own tribal courts. The other group has maintained relationships with the state of Alaska and relies on Western law enforcement to maintain social order. There are statistically significant differences in amounts of reported felonies and misdemeanors. This may be due to differential deviance, differential reporting, or a combination of both. Because of the political position of the sovereignty villages, however, it seems clear that they are using more traditional methods of dealing with disruptive behavior. Use of traditional social control may contribute to social cohesiveness, thereby reducing deviance. Differential Deviance and Social Control Mechanisms*

This article is concerned with exploratory research conducted on the effects of assimilationist policies on the Yup'ik Eskimo of southwestern Alaska. The research questions of interest focused on whether assimilation is related to social disorganization and social control mechanisms. If superimposed cultural values and systems create disorder among indigenous groups, an argument can be made for tribal sovereignty. This is an important theoretical issue for Alaska Natives, since Alaska is a Public Law 280 state, meaning that Natives are subject to state law unless a federal

offense is committed. Additionally, Alaska Natives reside in remote villages belonging to geographic areas designated as "regional corporations," rather than on federally created reservations, where federal law would prevail. It is also an important issue due to an increasingly strong sovereignty movement known as the "Yup'it Nation," a self-governance movement that originated among the Yup'ik Eskimo and has spread to other indigenous groups in Alaska.

Conducting research on the links between "culture conflict" and social disorganization is problematic for reasons that will be discussed in a separate section, but the purpose of this research was not to prove or disprove theories about social dislocation or dependency. Rather, it was an attempt to increase our understanding of whether cultural "differences" result in conflict surrounding norms and values and whether this is related to increased deviance among subordinated groups.

This article will first address some of the social consequences for Natives of assimilationist policies. Differences in social control mechanisms between Western and Native cultures will be the subject of the next section. The research itself will make up the last section.

### Social Consequences of Assimilation

Over the last century indigenous culture in Alaska has been subordinated to the Western system established by early explorers, traders, missionaries, and territorial and state governments. The Eskimo cooperated extensively with outsiders during early contact and were the recipients of concerted efforts by missionaries and educators determined to elevate Eskimo culture from a "primitive" state to one more modern. Cultural erosion has occurred as a consequence, but Eskimo values tied to traditional life-styles are still very strong (Fienup-Riordan, 1982a). This has led to substantial conflict with Westerners over issues of subsistence, wildlife management and land use (Berger, 1985), public safety and "bush" justice (Angell, 1981), alcohol control (Conn, 1982b; Lonner & Duffy, 1983), and corresponding issues of social control. The relationship between the state and its agents of control and rural Alaska and its Native residents remains strikingly colonial (Angell, 1981; Conn, 1982a), and Native groups have experienced social inequity and deprivation often associated with colonialism.

Fifty percent of Natives in Alaska reside in villages where state services are irregular or nonexistent; 40% receive public assistance; only 3% percent are employed by state government, the largest employer in Alaska (Conn, 1986).

Rates of death by accident, suicide, and homicide are substantially higher for Natives than non-Natives (Krauss, 1977). Alcohol has had an enormous effect on village life in terms of alcohol abuse, especially linked to suicide. According to a series of investigatory articles published in the *Anchorage Daily News*, the rates of alcohol related deaths for the 17- to 29-year-old age group in rural villages are the equivalent of 1,450 deaths per 100,000 (Toomey, 1988). Alcohol is a common factor in violent and not so violent crimes, and rates of incarceration of Natives in Alaska state prisons are disproportionate. Of 2,618 inmates incarcerated in 1990, 32% were Eskimo, who make up only 8% of the total state population (Department of Corrections, 1990).

Angell (1981) found the violent crime rate in rural villages to be two to three times higher than the state average. In preliminary data collected on eight Eskimo villages for the years 1985 and 1986, the violent crime rate was 1.63 times higher than the state (Lee, 1988). Moreover, a study of domestic violence shows an increasing incidence of spouse abuse in the Yukon River region among Yup'ik villagers (Shinkwin & Pete, 1983). Yet the most common explanation for social disorganization (expressed as crime) is that of "demon rum," with the implication that if only Natives (and Indians) could learn to tolerate alcohol or abstain completely, their problems would be solved. A history of 100 years of varying alcohol-control laws aimed exclusively at Natives in Alaska attests to this view, but liquor continues to flow.

In terms of cultural erosion, the core technology of subsistence hunting has been Westernized; Christianity altered mystical beliefs; Western education altered traditional values and language; Western health systems altered the birth and death rates; traditional sod housing has been replaced with frame houses, often without running water or central heating; marriage, divorce, and the nuclear family have been institutionalized. Western social control tied to a legal system and government regulatory agencies has been brought to rural Alaska with varying degrees of success and failure (Angell, 1981; Conn, 1982a, 1982c, 1985).

In spite of this, the Yup'ik Eskimo have managed to retain their subsistence culture more than any other group in Alaska (Fienup-Riordan, 1982a). In many Yup'ik villages, tradition is strong, Yuk is the primary language, and Westerners are not encouraged to visit; in some locations, whites are actively kept out. In other Yup'ik villages, tradition seems not as strong, and social disorganization is seen in the form of high suicide and accidental death rates, as well as high rates of low-level misdemeanors such as public drunkenness and protective custody incidents. In both traditional villages and those experiencing some degree of social instability, however, kinship ties and adoptions are still quite strong. Informal arrange-

ments for children who cannot be supported by their parents are practiced and traditional child-rearing techniques are still the norm. These practices also lead to confrontations with social welfare agencies that are concerned about child neglect and child abuse. Under the doctrine of *parens patriae*, the state has a legitimate interest in child welfare, but this is now complicated by the 1978 Indian Child Welfare Act.

Probably the greatest conflict occurring now between Natives and whites has to do with land use and concepts of ownership. Eskimo valued the land, sea, and animals because their lives were and still are in many cases directly linked to these resources. But they did not think they "owned" the land, and it is the imposition of Western concepts of property ownership that has created feelings of distrust and resentment. Natives understand that whites are interested in "assimilating" them and that the threat of losing *all* culture comes through the manipulation of land. While legal and educational systems may be viewed as institutions that create confusion over cultural values, they are not viewed as having the same force of cultural annihilation as land use and fish and game policies (Berger, 1985). Yup'ik culture is a subsistence culture; social maintenance of order and relationships are based on the ability to hunt and share food. Changes in the patterns of food resources affect social relationships, and no enduring social ties exist without the giving and receiving of food (Fienup-Riordan, 1982b; Wolfe, 1981, p. 207).

The conflict over subsistence is reflected in the movement toward self-governance, which can be seen as an attempt to maintain the social fabric and order of a culture being threatened by external forces, particularly those intent on developing land (Fienup-Riordan, 1982a). Yet, interestingly, not all Yup'ik Eskimo agree with the Yup'ik Nation, seeing it as a radical political group that could undermine the few gains the Eskimo have achieved. There is an ideological split, with some Yup'ik villages belonging to the Nation and some preferring not to join, wishing, rather, to maintain a relationship with the state.

If we are interested in understanding the current social woes of the bush or the advent of the sovereignty movement and what it means in cultural terms, we must look to the history of domination, for surely it cannot be the case that Natives are inherently alcoholic and deviant or that some Natives have suddenly become political radicals.

#### Differences in Social Control

Although official Western representatives of social control had been present in the form of judges, magistrates, district courts, and marshals,

these authorities rarely visited bush villages. When Alaska became a state, the Department of Public Safety was created and the hazards of village life became a focus of official concern. Linked to the worries about alcohol, fire and water safety, and accidental deaths was a desire to replace traditional social control mechanisms with U.S. law enforcement (Angell, 1978, p. 14). A misunderstanding of Yup'ik values related to nonaggression and the importance of kinship has had an adverse effect of official efforts to force Western control mechanisms onto the Native population.

Traditional forms of Yup'ik social control were informal, with a range of oblique methods applied that included ignoring the action, presenting the transgression in a dramatized dance form in the men's house (*kashgi*), banishment from the village, and, finally, killing of the offender. At times, in more serious matters such as unjustified killing, the leaders and men of the *kashgi* would gather and make suggestions to people involved in the dispute as to how the situation could be resolved. Overt aggression was viewed as detrimental to the maintenance of ongoing relationships so necessary for survival, and most disputes were resolved through undercurrents of village consensus regarding the appropriate response to an offender (Hippler & Conn, 1973; Oswalt, 1963). Avoidance of aggression as a norm allows for reconstructing aggressive behavior that does occur into nonthreatening meanings as well as simply ignoring the behavior.

It is significant that Eskimo children display ignoring behavior in response to parental suggestions that they perform tasks or behave in a certain way (Oswalt, 1963; Zagoskin, 1935). There are descriptions in anthropological literature regarding the importance of ignoring behavior on the part of both children and adults, and it appears that the control of aggression and emotions is linked to ignoring behavior (Oswalt, 1963). This is especially important in terms of kinship structures and the way kinship works to maintain social order. Traditional village justice was aimed at retaining the offender in the community as a productive member of the social unit and maintaining a delicate balance in social relationships. Among the Yup'ik, a formal bureaucratized structure for social control never existed (Zagoskin, 1935).

Western legalism and social control are counterproductive to these cultural aims, because they tend to be reactive, taking members of the village away from the community and destroying relationships in the adversarial process. Legalism was and still is for the "average" villager inexplicable in both structure and function (Conn, 1985).

Of the many problems of state law enforcement in the bush cited by those incumbent to enforce law (the village public safety officers, VPSOs), the most frequently cited is that the village social structure does *not* support a village member assuming a formal, external, authoritarian role. Having to

interfere with personal relationships or even arrest one's own friends and relatives simply is not compatible with village life (Angell, 1978, p. 38). On the other hand, using informal methods to resolve problems means abandoning the formal role of the VPSO (Marenin & Copus, 1988, p. 19).

The attempt to export Western law and social control to bush villages has not been successful. In spite of institutionalized efforts to radically change cultural values, subsistence-based cultures must rely on nonaggressive, group-oriented behavior that is essentially at odds with a social control system that emphasizes adversarial procedures. Because VPSOs are village residents, and in view of role conflict and kinship systems, it is not unusual for them to ignore behavior (Marenin & Copus, 1988), which for Yup'iks has always been an informal mechanism of social control.

### The Research

One of the basic assumptions made in this study is that the history of assimilationist policies has had consequences for the Yup'ik. It seems impossible that a group of people could have experienced what the Yup'ik did and remain relatively untouched by it, either culturally or psychologically.

There are four major research questions associated with this assumption:

1. Is social disorganization one of the consequences of assimilation?
2. Are levels of social disorganization different for groups of Yup'iks depending on the degree to which they have retained cultural values?
3. Are social control mechanisms related to the amount of social disorganization?
4. Is alcohol associated with social disorganization, and do local-option laws result in fewer alcohol-related incidents?

If some groups can be identified as more "traditional" than others, they may exhibit less socially disruptive behavior. On the other hand, it may be the case that "assimilated" villages, relying on Western social control, exhibit less disruptive behavior and report fewer incidents. From a Western viewpoint, this should be the expected outcome, since law, presumably, acts as a deterrent. Deterrence also addresses the question of local option, that is, whether the presence of alcohol laws decreases or controls drinking.

The link between assimilation and social disorganization has not been researched in Alaska, probably for two reasons. First, good statistical data

is almost nonexistent in the state. Second, statistical methodologies assume a linear relationship, but the relationship between assimilation and crime is not linear in the sense that the effects of history are not directly measurable. In this case, conceptualizations that can be indirectly measured are required.

For purposes of answering the research questions, "social disorganization" is taken to mean a range of behaviors that disrupt village life. "Assimilation" is taken to mean the degree to which cultural values have been retained. Measuring assimilation constitutes a sampling problem in that what is needed are two groups of Yup'iks for comparative purposes, some traditional and some less traditional.

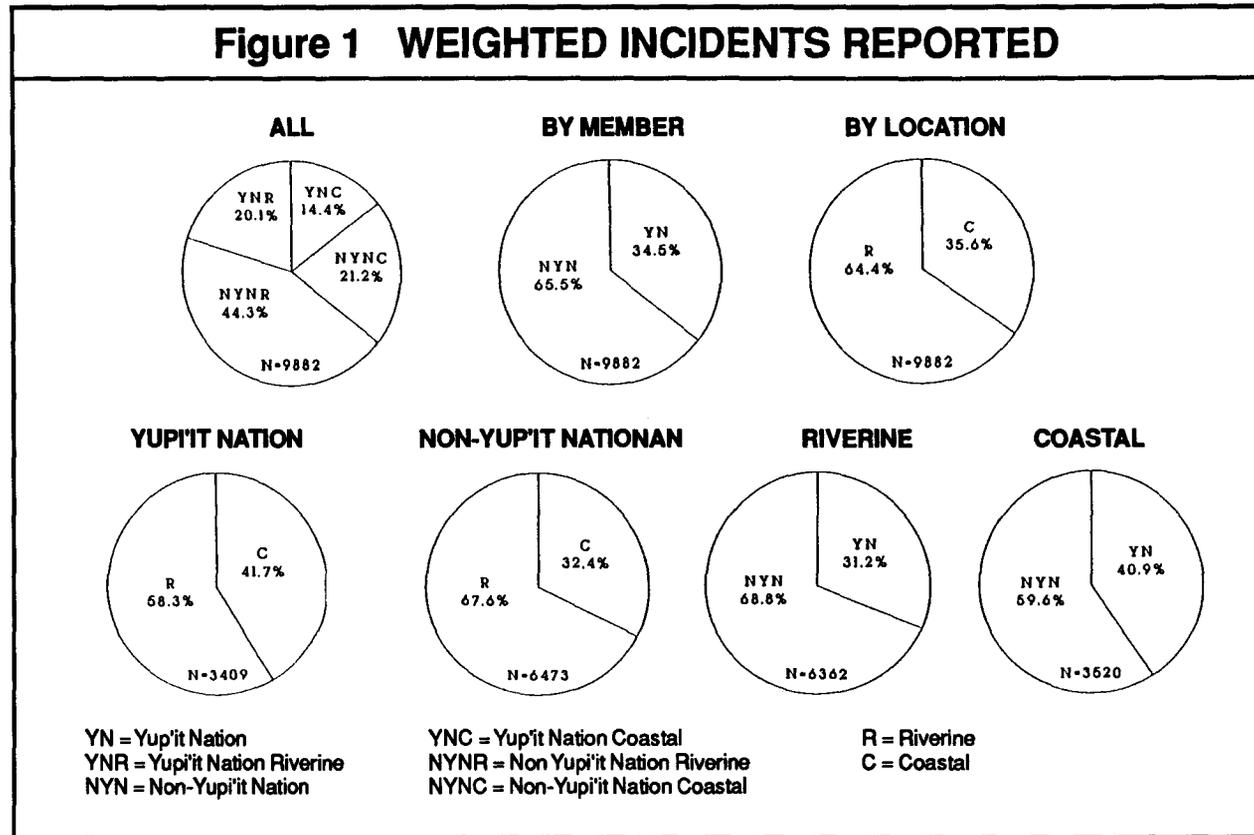
For purposes of this study, villages belonging to the sovereignty movement were designated as having retained cultural values to a greater degree than those that have not joined the movement.

"Social control mechanisms" are taken to mean the presence or absence of formal Western law enforcement, that is, VPSOs. In the most traditional villages, it is reasonable to speculate that some form of social control operates other than formal law, particularly since some of the sovereignty villages have abolished their VPSO positions, while the non-member villages have consistently employed VPSOs.

If villages with alcohol-control laws report fewer alcohol-related incidents than villages without alcohol-control laws, one assumption that could be made is that these laws operate to control drinking behavior. The existence of alcohol-control laws (local option) would therefore have beneficial effects by controlling alcohol-related behavior, which is much more likely to occur in communities suffering marked social disorganization. Alternatively, if villages with alcohol-control laws report more alcohol-related incidents than villages without alcohol-control laws, then one could assume that the existence of such laws would not serve as a deterrent to drinking.

### The Sample and Data

Eight Yupi'it Nation villages were selected from 57 villages in the Bethel region. This was not a random sample but was a stratified sample based on Nation membership and location (riverine or coastal). Village population, ethnicity, and location were used as matching criteria with eight non-Yupi'it Nation villages for comparative purposes. Sovereignty membership, location, ethnicity, and population were controlled so that villages would be equally represented demographically, the only difference being Nation/non-Nation membership.



The data consist of all incidents reported to the Department of Public Safety (DPS) for the sampled villages. The actual years when data could be extrapolated from DPS records were from 1983 to 1987. All incidents reported were included because frequencies of felonies compared to misdemeanors are low and because socially disruptive behavior need not be felonious.

Frequency distributions were inspected for each individual village in the sample over the 5-year period. Rates based on the population were developed for the most frequently reported incidents; comparisons were then made between Nation and non-Nation villages.

There were a total of 9,882 incidents reported. Nation villages reported 34.5% of the total; non-Nation villages reported 65.5% of the total (Figure 1).

The rates for felonies and misdemeanors are lower in Nation villages, with the exception of liquor violations and drunk-in-public and protective custody incidents (Tables 1 and 2). For example, in non-Nation villages, incidence of rape is 3 times higher, strongarm rape is 6.9 times higher, aggravated assault is 1.5 times higher, nonaggravated assault is 3.8 times higher, burglary is 2.9 times higher, child sex assault is 1.2 times higher, sex assault is 5 times higher, and incest is 3 times higher (Table 1).

	Yup'it Nation			Non-Yup'it Nation		
	TOTAL N = 2795 Rate	Per 10,000	Per Year	N = 3281 Rate	Per 10,000	Per Year
Rape	6.0	22	4	19.0	58	12
Strongarm Rape	10.0	35	7	78.0	240	48
Aggravated Assault	83.0	300	60	149.0	450	90
Nonaggravated Assault	49.0	175	35	215.1	660	132
Burglary	54.0	190	38	182.1	550	110
Child Sex Assault	38.0	140	28	57.0	170	34
Criminal Family Offense	20.0	70	14	65.0	200	40
Sex Assault	3.0	10	2	16.0	50	10
Incest	2.0	7	1	5.0	15	3
Homicide	0	n/a	n/a	5.0	15	3

**Table 2**  
**Misdemeanors: Aggregated Data 1983–1987**

	Yup'it Nation			Non-Yup'it Nation		
	TOTAL N = 2795 Rate	Per 10,000	Per Year	N = 3281 Rate	Per 10,000	Per Year
Malicious Mischief	46.0	160	32	82.0	250	50
Alcohol Transportation	49.0	180	36	102.0	310	62
Liquor	13.0	50	10	11.0	33	6.6
Drunk in Public	109.0	380	76	72.0	220	44
Protective Custody	416.2	1500	300	159.0	480	96
Alcohol Sale	4.0	14	2.8	14.0	40	8
Minor Possession	93.0	30	6	34.0	100	20
Minor in Need of Supervision	56.0	200	40	393.1	1200	240
Disorderly Conduct	32.0	120	24	124.0	380	76
Harassing Community	10.0	35	7	32.0	100	20
Criminal Trespass	20.0	70	14	67.0	200	40
Attempted Suicide	6.0	20	4	28.0	90	18
Suicide	3.0	10	2	14.0	40	8
DWI	14.0	50	10	135.0	410	82

It should be noted that serious crimes (felonies) occur far more frequently in non-Nation villages and yet they report fewer drunk-in-public and protective custody incidents. They also consistently have VPSOs present in the village. If serious crime is linked to alcohol, this result seems quite contradictory until social control mechanisms are taken into consideration, as discussed in the next section.

The differences in reporting are striking not only for the Nation/non-Nation variable but also for location of villages, that is, whether they are

coastal or riverine. Historically, coastal villages experienced more frequent and sustained contact with whites, and an assumption could be made that they might be more assimilated, thus reporting more disruptive social behavior. A two-way analysis of variance was conducted to test this assumption. The result shows a significant  $F$  for the between column variance (Nation membership), while the between row variance (location) is not significant at the .05 level (Table 3). This variance in reporting is explained by Nation membership.

	<b>*Yup'it Nation</b>	<b>Non-Yup'it Nation</b>	<b>Total</b>	
<b>*Riverine</b>	621	1457		
	1094	592		
	271	2327		
	<b><math>\bar{X} = 662</math></b>	<b><math>\bar{X} = 1458.2</math></b>	<b><math>\bar{X} = 1060.3</math></b>	
<b>Coastal</b>	381	355		
	144	505		
	207	207		
	629	553		
	62	477		
	<b><math>\bar{X} = 284.6</math></b>	<b><math>\bar{X} = 419.4</math></b>	<b><math>\bar{X} = 352</math></b>	
<b>Total</b>	<b><math>\bar{X} = 426.2</math></b>	<b><math>\bar{X} = 609.2</math></b>	<b><math>\bar{X} = 617.2</math></b>	
	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>
<b>Total</b>	<b>5,006,257.7</b>	<b>15</b>		
<b>Subclass</b>	<b>2,878,954.6</b>	<b>3</b>		
<b>Columns</b>	<b>1,881,510.4</b>	<b>1</b>	<b>1,881,510.4</b>	<b>9.64 <math>p &lt; 0.01</math></b>
<b>Rows</b>	<b>586,755.9</b>	<b>1</b>	<b>586,755.9</b>	<b>3.00 <math>p &lt; 0.05</math></b>
<b>Interaction</b>	<b>410,688.3</b>	<b>1</b>	<b>410,688.3</b>	<b>2.32 <math>p &lt; 0.05</math></b>
<b>Error</b>	<b>2,127,303.1</b>	<b>12</b>	<b>177,275.3</b>	

Speculation about Nation villages being the most traditional and, therefore, experiencing less social disorganization regardless of location is supported by these findings, but a relationship between coastal location and assimilation to increased social disorganization is not. What appear to be most important are the cultural characteristics of those villages that have joined the sovereignty movement and the types of social control used.

The number of VPSOs in the Nation villages fluctuates considerably: Three had no VPSO after 1986. For example, one village that abolished its VPSO position reported half as many incidents in 1987 as it had in 1986. But in 1986 it had a VPSO, and in 1987 it did not. The absence of VPSOs in Nation villages seems to decrease reports; it is debatable whether crime, in fact, decreases as well. Rather, what this implies is that some other form of social control is used and reports are not filed, even with the state troopers, unless the incident is so serious it is seen as beyond the scope of the village. Nation villages report only one third as many incidents as non-Nation villages, and it appears that official Western social control is not used to deal with social disorganization.

The non-Nation villages consistently have VPSOs in the villages, and this probably increases reporting. Just in terms of reporting, they rely far more on Western social control.

The question is, What accounts for the differences in crime rates? There are several possible explanations:

1. Non-Nation villages are more deviant.
2. Nation and non-Nation villages are equally deviant, but reporting, linked to VPSOs and troopers, is different. Non-Nation villages, therefore, appear to be more deviant.
3. Nation villages rely on traditional social control mechanisms and prefer to deal with criminal behavior unofficially, which results in lower reporting.
4. Western social control and legalistic approaches to crime are the mechanisms used in non-Nation villages, which contributes to rather than prevents social disorganization.

The data seem to be consistent with two different interpretations. One is that the Nation villages are less deviant and perhaps always have been. Since no data are available prior to 1983, we cannot answer this question. The other interpretation is that Nation villages report selectively. Reasons for this might be linked to abolishing VPSO positions, avoiding contact with state troopers, relying on their own social control mechanisms, or choosing to ignore certain behaviors. They are no less deviant than non-Nation

villages, and there are two possible suggestions to account for the differences in crime rates.

One is that the more traditional villages chose to join the sovereignty movement for political and cultural reasons. They are more culturally cohesive and have retained Yup'ik values to a greater extent. Because of this, they have limited contact with state troopers and have resorted to traditional social control mechanisms. In this case, some (or most) criminal behavior will be dealt with informally unless it is so serious something else must be done. Then it moves beyond the scope of village control and becomes a matter of formal Western social control.

The second suggestion is that the Nation villages simply do not accept the Western system. Whether for political or cultural reasons, the result is that they ignore the system and therefore do not report as many incidents. In that event, they still use other forms of social control.

One interesting result of the data is that Nation villages report more protective custody and drunk-in-public incidents than non-Nation villages, yet serious reported crime (felonies) is lower. One possible explanation of this involves the role of Western law and enforcement. That is, among the Nation villages where group consensus and informal social control operate to inhibit behavior, being drunk and requiring protective custody may have less social significance than being involved in a serious crime. The implication of being reported for drinking is, therefore, different and not as severe as being reported for a serious incident. It may be the case that if one is drunk and assaultive, the report will be for drunk-in-public or protective custody. Additionally, only one village in the Nation sample was without local-option laws, and the existence of available law seems to drive up reporting.

Among the non-Nation villages, the number of serious incidents reported is twice as high as in the Nation villages, but alcohol offenses are lower. In these villages, Western social control is very much in place and possibly works in exactly the opposite direction as social control in Nation villages. Here it may be the case that if one is drunk and assaultive, the report will be for assault, not for drunk-in-public or protective custody. These villages have not separated themselves from state controls, and VPSOs are consistently present. More reports are filed as a consequence, but the focus is on felonies. In a sense, Western law and legal tradition create high crime rates in specific areas; three of the villages in this sample were without local option, again implying that the existence of law affects reporting.

It may also create crime itself. It is not easy to treat behaviors informally and through group consensus when "The Law" is there to arrest you, take you into custody, or file a report, even if the victim and other parties might prefer some other procedure. This adversarial process and Western

insistence that "something be done to somebody who did something wrong" is absolutely contrary to Yup'ik group cohesiveness. The result of this tears the community apart and causes further trouble between people, thereby generating more reports, leading to a vicious repetitive cycle. From this perspective, formal law produces the problems it seeks to control, the very problems that were used to justify bringing law and order to the villages in the first place.

One is led to the conclusion that the two groups may report differentially as a result of social control mechanisms. For Nation villages, informal social control is tied to cultural cohesiveness. For non-Nation villages, social control is Western, formal, and legalistic. The effect of this is continued cultural erosion, disintegrating village relationships, and social disorganization.

### Conclusion

This study is exploratory and cannot offer concrete, tested hypotheses. The data are inconclusive regarding the differential deviance/differential reporting issue. But the two groups likely report differentially as a result of social control mechanisms. Long-term ethnographic studies of these indigenous groups are needed to clarify this matter.

An important implication concerns the role that Western law plays in village life. If the most likely case is correct, Western legalism contributes to the process of assimilation, with increased social disorganization as a consequence. If so, thoughtful consideration should be given to the issue of moral responsibility for policy outcomes. It may be the case that Western law and social control are not suitable for the Yup'ik and not in their best interest. Social order does not necessarily require Western institutions. Indeed, for some Yup'iks, Western institutions seem to increase deviance.

If the Yup'ik were to follow their own path in matters of law and social control, it is not the case that they would annihilate themselves in a sea of alcohol or assault and murder each other at unimaginable levels. The data on Nation villages support this, although the relationship of sovereignty to criminal behavior is far from direct. The value of Nationhood is political; it provides autonomy and self-determination in addition to enhancing cultural cohesiveness and reinforcing cultural values. Strong cultural identity may well serve to mitigate some of the consequences of assimilation, particularly in the area of social control and deviance.

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