COMPARATIVE STUDY OF PROBLEMATIC GAMBLING BEHAVIORS BETWEEN AMERICAN INDIAN AND NON-INDIAN ADULTS IN A NORTHERN PLAINS RESERVATION

Darryl Zitzow, Ph.D.

Abstract: This study compared the active gambling behaviors of American Indian adults, living on or near a reservation with those of non-Indian adults adjacent to or within the reservation. Results indicated that a variety of factors including economic status, unemployment, increased alcohol use, depression, historical trauma, and lack of social alternatives may predispose American Indian adults to greater problematic and pathological gambling behaviors. Unlike previous research that placed males at significantly greater risk for gambling problems, this study found that adult American Indian males and females appear to possess equal risk of problematic gambling.

According to *Gaming and Wagering Business* (1990, July 15) over 246 billion dollars were handled in gross wagering within the U.S. in 1989. More than 400 million dollars were wagered within American Indian reservations alone. In 1991 gambling was legal in some form in 48 out of the 50 states in the U.S., with an estimated 80% of the adult U.S. population participating in gambling (Lesieur & Rosenthal, 1991). In the 1980s, gambling in Minnesota became a public business with the establishment of horse racing in 1982 and a state lottery in 1988. Between 1985 and 1989, charitable gambling increased from $100 million to $1.2 billion (Smith & Craig, 1992). The state's first reservation-operated casino was established in 1984. Minnesota scratch tabs and the lottery became available in 1990. Tribal pulltabs were introduced in Minnesota in 1985. Video poker machines became available at seven tribal bingo halls in 1989, with four more added in 1991. By 1992 there were 16 separate Indian casinos operating in Minnesota. Within the rural reservation community directly involved in this study, large stakes bingo was common for at least fifteen years. Video poker machines had been available for five years and tribal pulltabs for six years.

Historically, gambling was common among American Indians, embodied in various traditional activities, including shell games, hand

games, and moccasin games. Some historical summaries have documented pow-wows and subsequent games in the 1800s where visitors left "only with the clothing on their backs" after gambling away possessions (Mille Lacs Band Museum, 1992).

In a recent adult survey of Minnesota gambling nearly 1% of respondents were defined as pathological gamblers; .6% were potential pathological gamblers, 7% were identified as problem gamblers; and 37% were non-bettors (Laundergan, Schaefer, Eckhoff, & Pirie, 1990).

Pathological gambling may have an organic component. Ciarrocchi and Hohmann (1989) measured characteristics of male alcoholic gamblers. Male alcoholic gamblers tended to have significantly more conflicts and less independence than others within their family. Rugle and Melamed (1990) linked a childhood history of attention deficit disorder with the development of adult addiction disorders, specifically pathological gambling. Blaszcynski, Winter, & McConaghy (1986) found an increase in endorphin levels during gambling for the pathological gambler, that may explain subjective reports of a "high" that occurs. Jacobs (1989) saw gambling as a response to abnormally low arousal levels, providing a sensation-seeking outlet.

In an unpublished dissertation, Roston (1961) found compulsive gamblers more likely to possess the personality characteristics of hostility, aggressiveness, magical thinking, and social alienation than controls. Custer (1985), a leader in treating gambling addictions, felt compulsive gamblers gambled to reduce or avoid pain due to alienation or to overcome a perceived lack of nurturance. He concluded that family experiences significantly impacted eventual adult gambling behaviors. Within the Custer's (1985) treatment experiences, pathological and problematic gamblers were more likely to have experienced the death of a parent, a chemically dependent parent or a history of sexual abuse than others. Finally, gambling has been perceived as a means to overcome losses, a state of deprivation or alienation in an effort to boost self-esteem (Rambeck, 1991). All these findings are of particular importance to the assessment of gambling within American Indian communities, given their correlation to problematic gambling behaviors.

Purpose of the Study

This descriptive and correlational study attempted to answer multiple questions concerning behaviors of adults currently gambling within and surrounding a selected rural and Northern Plains American Indian reservation community. A paucity of information exists regarding the gambling behaviors, gambling alternatives and gambling compulsions exhibited within rural American Indian communities. The literature has indicated a high degree of correlation between alcoholism and the potential for gambling addiction (Roston, 1961). The high rates of problematic

and dependent use of alcohol among American Indians has been well documented by numerous studies (Midwest Regional Center, 1988). Elia and Jacobs (1993) completed a study of American Indians treated for alcohol dependence in an in-patient setting and found a substantial prevalence of pathological gambling among the patients. Depression, poverty, and unemployment within the reservation community have the potential of increasing gambling problems. Because of these potential predisposing factors, the assumption remains that problematic and compulsive gambling behaviors would occur at a higher rate for American Indians in comparison with neighboring non-Indian populations. However, this assumption had *not* been tested.

Many American Indian communities currently possess greater gambling opportunities (e.g., large stakes bingo, video poker, slots, and pulltabs), frequently with higher stakes than available within the non-Indian communities of their same states. Many reservation communities have legacies of 20 or more years of formalized gambling. The relevant literature also suggests that the greater the time of exposure to gambling, the greater the addictive potential for individuals (Livingston, 1974).

A tremendous opportunity emerged to develop a longitudinal study and a cultural impact assessment regarding the introduction of an expanded casino facility within a rural reservation community. A large casino facility was planned for completion within the reservation under study in the immediate future. Gambling opportunities would soon be greatly increased for area residents. Tribal leaders had long demonstrated their concern for maintaining the health, integrity, financial security, and well-being of their fellow residents. Establishing the proposed casino as an economic boost to the community appeared to have been nurtured by those same concerns. Tribal leaders acknowledged the problematic potential of gambling for persons of all races and the possible negative effects of increasing such activities in their community. They supported this study's potential to evaluate the short-term impact of a new casino and to provide important information on which to base future gambling prevention and intervention efforts.

Methodology

Definition of Terms

For the purposes of this study, the following terms were used:

1. *Non-bettors*: persons who never gambled for money.
2. Active *non-problematic gamblers*: someone who gambled, but did not evidence a persistent problem, dependency on or compulsion for gambling.

3. *Problematic gambling characteristics*: based on a list of gambling-related attitudes and behaviors gleaned from the literature and the South Oaks Gambling Screen (SOGS). A problematic gambler is one who meets SOGS criteria for having a gambling problem, but not severe enough to be labeled a pathological gambler (i.e., SOGS scores of 3 or 4 characteristics).

4. *Pathological/compulsive gambling characteristics*: a pathological gambler is a person who meets the criteria for pathological/compulsive gambling defined by either the DSM III-R (at least 4 characteristics) or SOGS (i.e., 5 or above).

Pathological gambling has been defined within the Diagnostic and Statistical Manual III Revised 1987 (DSM III-R) as "a chronic and progressive disorder, characterized by at least four of the following:

1. Frequent preoccupation with gambling or obtaining money to gamble.
2. Often gambling larger amounts of money or over a longer period than intended.
3. Need to increase the size or frequency of bets to achieve the desired excitement.
4. Restlessness or irritability if unable to gamble.
5. Repeatedly loses money gambling and returns another day to win back losses ("chasing").
6. Repeated unsuccessful efforts to cut down or stop gambling.
7. Often gambling when expected to otherwise fulfill social, educational, or occupational obligations.
8. Has given up some important social, occupational, recreational activity in order to gamble.
9. Continues to gamble despite inability to pay mounting debts or has other significant social, occupational, or legal problems that the individual knows to be exacerbated by gambling" (American Psychiatric Association, 1987, p. 325).

Study Populations

The reservation involved in this study partially covered three separate counties. The total population within the three counties was 41,234; 3,687 or 8.9% of whom were of American Indian descent (1990 Census, P.L. 94–171). Within the reservation there are five separate and distinct villages, with primarily American Indian residents (85% to 90%). Six separate communities border the reservation with an average of slightly less than 8% residents of American Indian descent.

Pilot Phone Survey

A pilot phone survey was completed prior to this study to establish an understanding of possible frequency differences between American Indians and non-Indians. Of the 261 respondents, 45.6% were of American Indian heritage. Only 1.1% of the sample indicated they had never gambled for money in their lifetime, while 12.6% indicated never gambling within the previous 12 months. There were no differences between ethnic groups regarding overall gambling frequency. However, American Indians reported higher single wins (average $645) than non-Indians ($279); non-Indians reported greater participation in non-reservation gambling casinos (49%) than American Indians (39%); American Indians reported greater participation in other reservation casinos (48%) than did non-Indians (40%). There were no differences in gambling participation rates between ethnic groups at the local, temporary reservation casinos.

Hypothesis

It was expected that American Indian adults (ages 19–76) actively gamble, and would show significantly ($p<.05$): (a) greater participation in various types of gambling activities; (b) more adults diagnosed as possessing pathological or problematic gambling behaviors; and (c) greater amounts of money lost gambling than their non-Indian counterparts.

Development of Protocol

Items for the *Adult Interview Survey* included: (a) questions from the DSM III-R section on pathological gambling, (b) items from the SOGS [excluding the section on borrowing], (c) items from Gambler Anonymous' 20 Questions screens, (d) assessment of participation in various gambling activities, (e) a section on problematic gambling behaviors, and (f) demographic background. All items were reviewed for content validity by mental health professionals experienced with gambling addictions. A pilot study was completed to maximize the clarity of questions and directions. A question was repeated within the protocol as a measure of respondent reliability.

This survey was designed to be administered as a paper/pencil questionnaire at selected sites, to persons actively gambling on and off the reservation, where gambling activities occur. Within the population studied, bingo was available seven nights a week and occurred at three separate sites. Tribal pulltabs were available at 22 separate sites; state lottery and scratch tabs at 53 separate sites. A random schedule of hours from 10:00 a.m. to 9:00 p.m. was established (using a table of random numbers) to select ten respondents (in order of entry) at each of the time slots at eight of the randomly selected sites brokering tribal pulltabs, state

scratch tabs, and state lottery tickets. These sites accounted for approximately 10% of the area's total sales in state scratch tabs and lottery tickets and 48% of the tribal pulltabs. Three separate days/nights at each of the sites were selected randomly identifying respondents who actively gambled at bingo or purchased tribal pulltabs. Time of day was not a factor with bingo players, due to the fact that participants are all present within one-half hour of the start of bingo. The participants were surveyed both at the beginning, middle, and ends of each week and month to eliminate possible bias of availability of funds.

The final sample totaled 221 respondents. One hundred nineteen persons (53.9%) listing American Indian ancestry and 102 persons (46.1%) indicating non-Indian ancestry. The American Indian sample represented about 9% of the eligible adult American Indian population, while the non-Indian sample represented about 3% of the available non-Indian population. All respondents admitted to at least one previous lifetime experience with a gambling activity. A $15 stipend was provided for respondents. In the sampling process, a total of 242 persons were asked to participate. Twenty-one persons declined, yielding a participation rate of 91%.

Results

Table 1 provides descriptive information about the sample. Over half (56%) were female. Respondents ranged in ages from 19 to 76 years.

For purposes of comparison, an attempt was made to equalize the size of the ethnic group samples. Just over half (53.8%) reported American Indian ancestry. The representation of females was slightly greater than males for the American Indian group.

The samples appear largely similar in age distribution and marital status. American Indians, however, reported a higher rate of involvement with both alcohol and marijuana, and had significantly more persons with less than a high school education or general education diploma (GED) than non-Indians. Annual household income was also lower for American Indians. The samples of each ethnic group appeared representative of the current area population parameters.

Chi square analyses were completed for each item with yes/no response choices. All interval and ratio data were analyzed by t-tests and analysis of variance. Multivariate analysis, item analyses (using Pearson *r*'s) and factor analyses also were completed on the data.

Table 2 illustrates response differences between Indian and non-Indian adults, who actively gamble, using t-tests and chi squares. Non-Indians reported an earlier average onset of gambling (20.2 years) than Indians (22.9 years). American Indians reported greater single wins by their parents ($1,167 average) than non-Indians' parents ($153), greater personal single wins ($1,588) than non-Indians ($840), and slightly greater single losses ($166) than non-Indians ($154).

Table 1
Descriptive Characteristics (N = 221)

	Non-Indian (N = 102)		American Indian (N = 109)	
Sex				
Male	47.0%		42.0%	
Female	53.0%		58.0%	
Age				
19–20	6.8%		5.8%	
21–30	18.6%		21.8%	
31–40	23.5%		23.5%	
41–50	27.4%		23.5%	
51–60	11.7%		10.9%	
over 62	10.7%		14.2%	
Mean age	39.5 years		41.1 years	
Marital Status				
Married	52.9%		42.0%	
Divorced	10.7%		13.4%	
Single	22.5%		26.8%	
Widow(er)	5.8%		8.4%	
Living with someone	7.8%		9.2%	
History of Substance Use	Alcohol	Marijuana	Alcohol	Marijuana
Never used it	5.9%	68.6%	6.0%	52.9%
Couple times in life	14.7%	23.5%	13.4%	32.8%
Once a month	37.2%	0.0%	23.9%	1.7%
Once a week	16.6%	2.0%	11.1%	1.7%
More than once a week	16.6%	1.0%	11.4%	3.4%
Used it too much, no longer use it	8.8%	4.9%	34.2%	7.6%
Total Annual Household Income				
0-$10,000	24.5%		33.6%	
$10,001–20,000	28.4%		32.7%	
$20,001–30,000	16.6%		15.1%	
$30,001–40,000	9.8%		8.4%	
over $40,000	20.5%		10.1%	
Mean Income	$20,822		$16,970	

Table 2
Comparisons Between American Indian and Non-Indian Gambling Adults (N=221)

	Non-Indian	Indian	t-test χ^2 p
Problematic Gambling Behaviors			
I try to hide my gambling from my family or friends.	1%	8%	<.02
I sometimes don't complete things because of my gambling.	1%	11%	<.02
I've borrowed money from others so that I could gamble	22%	45%	<.01
I have pawned, sold or traded something of my own to pay for gambling.	0%	19%	<.01
I have sometimes used money I wasn't supposed to, to pay for gambling.	14%	37%	<.01
I believe gambling is a fast and easy way to earn money	15%	41%	<.01
I go back to gambling and try to win back money I lost earlier when gambling.	21%	36%	<.03
My family has criticized my involvement with gambling.	3%	14%	<.01
I feel bored much of the time.	11%	21%	<.05
I owe people money for gambling debts I haven't paid yet.	0%	8%	<.02
Sometimes, I keep gambling even though I don't have the money to pay for it.	9%	16%	<.04
I feel I have a problem with gambling.	4%	17%	<.01
I feel getting lucky with gambling is the only way I'll ever get ahead.	7%	18%	<.03
It's hard for me to relax.	17%	40%	<.01
Gambling Activities			
Slot machines/video poker	86%	76%	<.01
Casino Craps	12%	6%	<.05
Bingo	85%	97%	<.01
DSM III–3 Characteristics			
I have failed, at times, to pay my bills because of money I lost when gambling.	5%	25%	<.01
My relationship with my spouse/or family has suffered because of my gambling.	3%	10%	<.04
Sometimes, I don't know where all the money went, that I spent gambling.	14%	26%	<.05
I have lost time at work or missed responsibilities because of my gambling activities.	1%	7%	<.04

More American Indians ($p<.05$) than non-Indians reported the following problematic gambling behaviors: often spending free time gambling; hiding gambling from their family; failure to complete things because of gambling; borrowing money from others to gamble; pawning, selling, or trading for gambling money; gambling without enough money to pay for it; belief that gambling was a fast and easy way to earn money; chasing losses; family criticism about gambling; unpaid gambling debts; belief that getting lucky was the only way they would get ahead; and feeling they had a personal problem with gambling.

Preferences for different types of gambling activities appeared to follow differential availability across ethnic groups. Craps and slot machines, until just recently, were available only to those who could afford travel to non-Indian casinos (i.e., Las Vegas). More non-Indians ($p<.05$) reported playing slot machines and craps than American Indians. However, more American Indians reported participating in bingo. Bingo had been available on the reservation for at least 15 years prior to this study.

American Indians were more likely than non-Indians to report the following DSM III-R characteristics: failure to pay bills because of money lost gambling, relationship difficulties with spouse/family due to gambling, not knowing where gambling money went, and losing time at work because of gambling.

Table 3 compares grouped data on gambling behaviors by American Indians and non-Indians. No differences were evident between ethnic groups with reference to frequency of gambling behaviors in the aggregate. A greater percentage of American Indian respondents ($p<.01$) qualified for problematic and pathological gambling status than non-Indians by a ratio of nearly 2 to 1 for both problem and pathological gambling.

Table 3
Active Adult Gambling Ethnic Comparisons of
Combined Gambling Behaviors

Item	Non-Indian (N = 102)	American Indian (N = 119)	t-test χ^2
Combined Gambling Behaviors mean	16.61	16.46	No Difference
Problematic Gamblers (SOGS)	4.6%	9.1%	$p<.01$
Pathological/Compulsive Gamblers (DSM III-R)	1.6%	2.8%	$p<.01$

Table 4 reflects additional findings revealed through multivariate analysis. Divorced and single adults tended to participate more in gambling activities and possessed more overall problematic gambling behaviors than persons from other marital statuses. Alcohol and marijuana use correlated more highly with overall gambling activities and problem gambling behaviors than non-use. Marijuana use was a slightly stronger predictor than alcohol use.

Table 4
Other Significant Findings (N=221)

Item	Pearson *r*	*p*
Divorced and single adults participated in more gambling activities.	.36	.01
Divorced and single adults tended to more overall problematic gambling behaviors.	.36	.01
Marijuana users correlated more highly than alcohol users with gambling activities and problem gambling behaviors:		
Marijuana — range:	.21 to .24	.01
Alcohol — range:	.17 to .23	.01
Persons with lower incomes $0 to $10,000 were more likely to:		
Borrow money to gamble	.25	.03
Pawn, sell or trade something	.22	.04
Have more pathological gambling behaviors	.28	.02
Highest money won correlated with highest money lost	.64	.01
Those indicating "used too much alcohol, but quit" reported more:		
overall gambling activities	.17	.01
problem gambling behaviors	.22	.01

Persons at the lowest level of income ($0 to $10,000) were more likely to borrow money, pawn, sell or trade something, and had more pathological gambling behaviors than individuals from other income groups. Highest amount of money won correlated at .64 with highest amount of money lost. Big winners tend to be big losers. Abstaining alcohol users correlated the highest with overall gambling activities and problem gambling behaviors.

Discussion

This study suggests that American Indians had initiated gambling later in life, but were quicker to display pathological and problematic gambling characteristics than their non-Indian peers. These conclusions are guarded because the numbers are small. Once gambling became available to the reservation community, adult Indian participation in gambling appears to have surpassed that of the non-Indian populations.

The survey results appear to support partially the hypothesis that, among adults who actively gamble, more American Indians ($p<.01$) display both problematic and pathological gambling behaviors. Indian gamblers also reported greater wins by their parents and greater personal single wins than non-Indians. Losses between the ethnic groups were *not* significantly different. There were *no* significant differences recorded in

the overall gambling frequencies between American Indians and non-Indians. (In fact, non-Indians reported slightly greater over-all frequency of gambling.) Gambling preferences appeared to follow ethnic lines. No gender differences were apparent in problematic or pathological gambling behaviors. This is contrary to previous research that found males at significantly higher risk for gambling addiction (Laundergan et al., 1990). This may be influenced by the fact that this study involved a substantial subsample of bingo participants; bingo remains one of the activities typically and frequently preferred by females. Reservation populations can be encouraged by these results: over 88% of American Indian adults who actively gamble do not appear to have a problem with gambling.

Conditions that may place American Indian reservation adults at greater risk for problematic or compulsive gambling behaviors include:

1. *Lower socio-economic status*. This study found, however, when income was equalized statistically between ethnic groups, American Indians still remained at greater risk for displaying problem/pathological gambling behaviors. This study also found that, in reference to ethnicity, individuals at the lowest level of income ($0 to $10,000) were at significantly *greater risk* than all other socio-economic groups for developing problematic gambling characteristics.

2. American Indians within the reservation studied had a *longer, more intense and recent legacy of exposure to modern gambling* (up to 15 years) both directly through exposure to gambling activities or vicariously through other adults within the family.

3. American Indians, by virtue of their *minority status*, may be more prone to feel alienated, powerless, and *lack a sense of control over their destiny* (Jencks, 1972). As a result, the social recognition or immediate "power" associated with winning at gambling may be even more seductive: "winners" do *not* appear to be "victims". Also, persons with minority status may be more willing to accept the notion, suggested by Bergler (1958), that compulsive gamblers are involved in a more adversarial relationship with the world.

4. Greater *unemployment* and the *lack of financial resources* may push American Indians, because of frustration, into "quick fix" solutions through seeking "big wins".

5. *Evidence of increased depression*, noted by mental health personnel, may provide a substantial pre-condition for gambling addiction among rural, reservation communities. Gambling may be seen as a means to avoid or prevent depression (Blaszczynski et al., 1986).

6. Unique cultural values for some American Indians may lead them closer to *mystical* or *magical thinking* that may more readily become generalized into acceptance of "fate" or "luck". This might

enhance the lure of the gambling process. Also, traditional values that minimize material wealth or possessions may allow one to more easily "cast one's fate to the wind" because the possession of money may not be that important anyway.

7. The economically *impoverished existence* for many reservation American Indians *dependent* on welfare systems may encourage them to look *more* to the opportunity for *immediate need gratification* associated with *winning* and less to the *consequences* of *losing*.

8. The *higher prevalence of major historical trauma events* among American Indians who grow up within their communities, renders them more inclined to develop pathological gambling characteristics, related to trauma (Taber, McCormick, & Ramirez, 1987; Jacobs, 1989).

9. The *dependency cycle* of "feast or famine" appears well established for many reservation families. Other addictions — whether junk food, alcohol use, or sexual fulfillment — often observed in a familiar monthly cycle, appear to parallel the availability of finances. As a result, living "with" and later "without" may become an accepted norm. Gambling addiction fits readily into this experiential pattern.

10. *Low self-esteem* may be temporarily, but immediately boosted by the "high" one experiences from "winning".

11. *Limited social/recreational options* within rural reservation communities makes getting out of the house and being with other adults (i.e., to the casino or bingo hall) that much more inviting. There is *no* doubt that gambling (especially bingo) provides substantial secondary social benefits.

12. The stimulation reduction (Brown, 1987) or sensation-seeking benefits (Jacobs, 1989, 1991) of gambling may be particularly important to American Indians within the reservation community. For example, a young mother may be going to bingo not only to win money, but to do something fun that is *away* from the *boredom* of parenting (enhancement) or escape from family dysfunction (stimulus reduction). Some may be using gambling to "dissociate from" (Jacobs, 1991) while others "filter out" (Brown, 1987) dysfunctional family relationships or alcoholic family behaviors, albeit, only for a little while.

13. A general theory of addiction supports the notion that maladaptive or addictive behaviors that can exist in the family environment (Jacobs, 1989), (e.g., alcoholism, food addiction, sexual addiction)

may be generalized to the maladaptive and addictive behaviors associated with gambling.

This study found that bingo was directly available to the study population as a form of reservational gambling for the longest time period of all gambling activities. Bingo appears to be the great "equalizer" among the gambling sexes, by providing greater availability of gambling to females. Increased length of exposure to gambling for American Indian females appears to equalize gambling opportunities with American Indian males, therefore increasing risk for females and greater addiction potential than previously suggested. Livingston (1974) discussed availability and exposure as key components in the establishment of gambling addiction potential. The importance and impact of availability appears to figure importantly in this study of problem gambling.

Limitations

The demographic characteristics of American Indians within this study suggest that they possessed lower education, lower household income, and more frequent histories of alcohol and marijuana use than their non-Indian counterparts. The literature has described these demographic factors as significant predisposers to gambling addiction. The combination of these factors may bias the results that suggest American Indian adults are more prone to problem gambling. The sample sizes, though representative, are relatively small, thus not substantial enough for solid conclusions regarding subgroups within the ethnic samples. These data were obtained from active gamblers. As a result, they may not reflect the differences that could occur within ethnic groups, in terms of different levels of gambling frequency.

Generalizing these results to other reservations may not be appropriate, in view of the great variation in reservation exposure to gaming. However, results regarding ethnic differences become even more significant in light of the explosive growth of gambling opportunities in Indian country. American Indian leaders within the participating community remain vigilant and concerned about the continued potential for gambling addiction among Indian people and continue with earnest, to develop better education and referral alternatives for those who exhibit problematic gambling behaviors. There also were no significant differences between American Indians and non-Indians regarding overall pathological gambling characteristics (Zitzow, 1992).

Bingo clearly was preferred more significantly by American Indian respondents. Sub-population samples were not large enough to examine possible differences between selected problem gambling behaviors. Trends were noticed, within the data for bingo players, especially females, to be at higher risk for pathological gambling. Clearly, there is a bias in

this study because bingo has remained available the longest of all gambling alternatives and availability appears to be the key in most studies of gambling pathology.

Darryl Zitzow, Ph.D.
DHHS, PHS Indian Health Center
P.O. Box 358
White Earth, MN 56591

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Author Note

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