

**National Center for American Indian and Alaska Native Mental
Health Research
Data Request Form**

Date: December 11, 2006

Name: _____

Project: AI-SUPERPFP/NCS combined dataset

Wave(s) Needed: not applicable

Data Form (check one):

ASCII file (free form)

SPSS system file

SAS system file

File Name (s): AldousServUtil

Specific Variables (or "All"): Variables for the following DSM III-R diagnoses: major depressive episode, dysthymic disorder, generalized anxiety disorder, panic disorder, alcohol abuse, alcohol dependence, any drug abuse, any drug dependence; number of lifetime and past-year DSM III-R diagnoses; lifetime and past-year specialty mental health and general medical service use (diagnosis-based); demographic variables: gender, age, tribe, formal educational attainment, poverty and marital status.

Purpose of Analyses: Please see attached Proposal for Use of AI-SUPERPFP Data. Briefly, we plan to perform joint analyses of the AI-SUPERPFP data and data from the NCS, divided into rural and nonrural subsets. Comparative analyses of the three resulting groups (AI-SUPERPFP, NCS-rural and NCS-nonrural) will be done across categories of illness (depressive and anxiety disorders, substance-use disorders, and all alcohol, drug, and mental disorders) and service sectors (specialty mental health providers, other medical providers, and all medical providers). Analyses will include comparisons of the samples as a whole and of members of each who meet criteria for one or more DSM III-R diagnoses. We will also develop a logistic regression model, predicting service utilization for a combined AI-SUPERPFP/NCS data set, with a primary goal of determining whether the AI-SUPERPFP participants were less likely to utilize biomedical services for mental health problems, after controlling for key sociodemographic characteristics (gender, age, formal educational attainment, poverty, and marital status) and mental health diagnostic status (number and recency of DSM III-R diagnoses).

Comments: Please see attached Proposal for Use of AI-SUPERPFP Data for detailed literature review and rationale for proposed project. Thank you for your consideration.

Disclaimer:

As a part of being granted access to data obtained from the NCAIANMHR's database, the requester must agree to acknowledge both the appropriate funding source and the National Center specifically. In preparing publications/presentations from this data, the requester must keep in mind issue pertaining to confidentiality. No tribe, site, nor individual involved in the project may be referred to by proper name.

_____ **'s Contact Information:**

Tel: _____ (office)

E-mail: _____

Proposal for Use of AI-SUPERPFP Data

_____, MD
Fellow – Child and Adolescent Psychiatry Training Program

_____, MD
Faculty – Department of Psychiatry

University of Colorado Health Sciences Center

December 11, 2006

Introduction:

A growing body of evidence suggests that American Indian (AI) communities show unique patterns of alcohol, drug and mental health (ADM) service use. Gurley *et al* (2001) studied AI veterans living on two geographically-distinct reservations and found that one group was almost twice as likely as the other to seek care from biomedical providers for ADM problems (20.6% versus 11.0%), while the other was much more likely to seek traditional healing services (18.5% versus 5.0%). Gurley *et al* suggested that these disparities could be explained largely by unequal access to Veterans Administration (VA) facilities - located near one tribe, but not the other. However, in a comparable study in which participation was not restricted to AI veterans (the American Indian Service Utilization and Psychiatric Epidemiology Risk and Protective Factors Project, or AI-SUPERPPF), results suggested significant differences in service utilization across two AI tribes without apparent mismatches in health services availability. One tribe was more than twice as likely to use traditional healing options for both ADM and physical health problems (ADM: 7.8% versus 3.2%; physical: 22.9% versus 7.8%, one-year rates), while the other was almost fifty percent more likely to use biomedical services for physical health problems. Biomedical help-seeking for ADM problems was about 6.5 percent in both tribes (Novins *et al*, 2004). Indeed, low rates of ADM service use relative to need (inferred from mental illness prevalence data) and prominent use of traditional healers are findings common to these and other studies of AI health service use (Beals *et al*, 2005¹; DHHS, 2001; Robin, 1997).

Few studies have compared AI and non-AI mental health service utilization directly. Costello *et al* (1997) conducted one such investigation - of AI and White adolescents living in adjacent communities in North Carolina. Costello *et al* found that the two groups were equally likely to seek help. This was despite the fact that a sizeable minority of white youth had no medical insurance and, consequently, limited access to healthcare, whereas all AI youth had access to care at no cost through the Indian Health Service (IHS). A disparity emerged when AI and white adolescents *with* public insurance (and/or IHS access) were compared. One in four whites, but only one in seven AIs, sought mental-health care under these circumstances. By contrast, joint analyses of AI-SUPERPPF and National Comorbidity Survey (NCS) data did not show a difference in overall ADM service use between rural AI tribes and the US population as a whole. They did, however, reveal more circumscribed disparities: AI males were more likely to seek help for a substance use disorder from specialty mental health providers than were US males; and AI females were less likely to seek nonspecialty care for depressive/anxiety disorders than were US females (Beals *et al*, 2005²).

A factor that may have contributed to the differences noted above is the rurality of many AI communities. Relative to the general population, a greater proportion of the AI population live in rural areas: 23 percent and 42 percent, respectively (DHHS, 2001). Rural AIs share demographic traits with other rural inhabitants. Both groups experience high rates of unemployment and poverty (Dixon, 2001; Booth *et al*, 2000; Fox *et al*, 2001; Parikh *et al*, 1996). Both also face practical barriers to receipt of health services, including geographic isolation, low population density, provider scarcity, and inadequate

insurance (Dixon, 2001; Booth *et al*, 2000; Fox *et al*, 2001; Johnson *et al*, 2001; Lambert *et al*, 1995; Manson, 2001). Furthermore, the two groups share the experience of living in small, relatively intimate communities in which stigma may play a more prominent role in inhibiting help seeking for ADM problems than it does in larger communities (Booth *et al*, 2000; Fox *et al*, 2001; Lambert *et al*, 1995; Manson, 2001).

Like AIs, rural inhabitants appear to demonstrate unique patterns of ADM service use. Analysis of the large national data set compiled for the National Comorbidity Survey Replication (NCS-R) shows lower rural rates of ADM service use overall, in addition to reduced utilization rates of outpatient and specialty mental-health services (Wang *et al*, 2005). Each of these findings has been confirmed in other studies of the US and Canadian rural populations (Booth *et al*, 2000; Hauenstein *et al*, 2006; Lambert *et al*, 1995; Parikh *et al*, 1996). However, the results are not fully uniform. For example, research based on the original NCS suggests that “seriously mentally ill” patients from rural areas have been *more* likely than the national population to seek ADM services (Kessler *et al*, 2001). Other comparisons have failed to show meaningful differences in ADM service use between rural and urban populations. (Kessler *et al*, 1999; Rost *et al*, 1998)

In this study, we propose to examine the extent to which rurality contributes to differences in ADM service use between AIs and the US general population. We propose to divide the population sampled for the baseline NCS into two sub-samples based on residency either in rural or nonrural areas. Then, using a comparable analytic approach to that developed by Beals *et al* (2005²), we will perform joint analyses of the NCS data, now separated into rural and nonrural subsets, and the rural AI population sampled for AI-SUPERPPF. These analyses will focus on comparisons of the three groups represented in the combined dataset (AI-SUPERPPF, NCS-rural and NCS-nonrural), and will be done across categories of illness (depressive and anxiety disorders, substance-use disorders, any ADM disorder) and service sectors (specialty ADM providers, nonspecialty biomedical providers, any biomedical provider). To assess the help-seeking of those most in need of services, comparisons will be conducted, not only for the three populations as whole, but also for those members of each sample that meet criteria for one or more DSM-III-R diagnoses. Finally, logistic regression analyses will be performed to assess the robustness of significant findings after controlling for demographic variables and illness severity.

Based on the previous studies cited above, we hypothesize the following:

- The disparity favoring AI males (compared to US males) in substance-abuse help-seeking within the specialty ADM sector may prove greater in comparison to US rural males alone (due to this group’s relative under-use of specialty ADM services) and lesser in comparison to US nonrural males alone (on account of this group’s preference for specialty vs. non-specialty ADM services as well as its increased use of services overall).
- AI females’ relative under-use of nonspecialty ADM services will be diminished in a comparison with NCS-rural females alone, but exaggerated versus NCS-nonrural females.

- Additional differences, not detected in the analyses of Beals *et al* (2005²), may emerge in comparisons between AIs and NCS-nonrurals, especially in the area of specialty ADM services, which were utilized preferentially by NCS participants.

Methods (Adapted from Beals *et al*, 2005²)

Tribal Samples

The AI-SUPERPFP populations of inference were 15–54-year-old enrolled members of two closely related Northern Plains tribes and a Southwest tribe living on or within 20 miles of their respective reservations at the time of sampling (1997). To protect the confidentiality of the participating communities (Norton *et al*, 1996), we refer to them by these general descriptors rather than specific tribal names.

Tribal rolls formed the sampling universe; these records list all individuals meeting the legal requirements for recognition as tribal members. Stratified random sampling procedures were used with strata defined by cultural group, gender, and age (15–24, 25–34, 35–44, and 45–54 years). Records were selected randomly for inclusion into replicates, which were then released as needed to reach our goal of approximately 1,500 interviews per tribe.

As described in greater detail elsewhere (Beals *et al*, 2003), an elaborate location procedure was developed that involved searches of public records and queries of family members and knowledgeable community “key informants”; supervisors rather than interviewers made the final location determination. In the Southwest and Northern Plains, respectively, 46.6% and 39.2% of those listed in the tribal rolls were found to be living on or near the reservations. Of those located and found eligible, 73.7% in the Southwest (N=1,446) and 76.8% in the Northern Plains (N=1,638) agreed to participate, with lower response rates for male tribal members and younger tribal members. In all analyses presented here, sample weights were used to account for differential selection probabilities across all strata and for patterns of nonresponse.

Combination of the tribal samples

The data from the Northern Plains and Southwestern tribes were gathered primarily for the purpose of drawing comparisons between two culturally and linguistically distinct AI communities, but they have also previously been aggregated into a single data set as we intend to do for our analysis. (Examples include: Beals *et al*, 2006; Duran *et al*, 2005; Oetzel *et al*, 2006). Previous published results from the AI-SUPERPFP reveal that the two tribes do not differ in their respective patterns of use of biomedical services, which are the focus of the proposed study (Beals¹ *et al*, 2005; Beals² *et al*, 2005). Nonetheless, we will carefully examine these data in the early stages of our analyses to confirm that the combining of these two populations is appropriate.

Data Collection

Tribal approvals were obtained before project initiation. Informed consent was obtained from all adult respondents; for minors, parental/guardian consent was obtained before requesting the adolescent’s assent. Ci3 Version 2 (1995) was used to develop a computer-assisted personal interview that greatly facilitated administration of the complex

diagnostic protocol. Tribal members who had received intensive training in research and interviewing methods read questions to the participants from a laptop computer screen and entered interviewees' responses. For two sections of the interview - assessment of past criminal behaviors and HIV knowledge and behaviors (in the Northern Plains group only) - participants entered their responses directly into the computer.

NCS Sample

Our comparison to the general U.S. population used the baseline NCS, described in detail elsewhere (Kessler *et al*, 1994). The NCS was conducted in a stratified, multistage area probability sample of 8,098 U.S. residents age 15–54 years in 1990–1992. As noted earlier, the help-seeking measures were located within the diagnostic modules. The NCS diagnoses reported here are restricted to those assessed in AI-SUPERPFP.

Measures

The AI-SUPERPFP interview not only assessed mental disorders and help-seeking but also included measures of physical health, health-related quality of life, stress, and important psychosocial constructs (such as social support and coping). Both the protocol and the training manual are available on our web site ([http:// www.uchsc.edu/ai/ncaianmhr/research/superpfp.htm](http://www.uchsc.edu/ai/ncaianmhr/research/superpfp.htm)).

Diagnoses

Lifetime and 12-month ADM disorders were assessed, in English, by using the NCS's University of Michigan Composite International Diagnostic Interview (CIDI) adapted for use in American Indian communities in the context of a previous study (Beals *et al*, 2002). That adaptation included several modifications that were based on the results of focus group reviews by community members and service providers. For example, psychoses and mania were excluded because of concerns that the CIDI would prove incapable of distinguishing pathological behaviors and experiences from those derived from culturally prescribed practices, such as the seeking of visions. Simple and social phobias and agoraphobia were deleted from consideration because of concerns about respondent burden. As a result, nine disorders were assessed in AI-SUPERPFP: major depressive episode, dysthymic disorder, generalized anxiety disorder, panic disorder, PTSD, alcohol abuse, alcohol dependence, drug abuse, and drug dependence.

Generally, the NCS diagnostic algorithms were used for the AI-SUPERPFP data. An exception was made for the diagnosis of major depressive episode. As reported in Beals *et al*³, 2005, initial analyses of data for depressive disorders demonstrated that the requirement for major depressive episode symptoms to co-occur within an episode and not to be due to a physical illness, medications, or substance use decreased the validity of the AI-SUPERPFP CIDI major depressive episode diagnosis, while dramatically decreasing prevalence. Thus, the major depressive episode diagnoses to be reported here do not include the co-occurrence or physiological/medical rule-out stipulations for the AI-SUPERPFP samples but do for the NCS sample; as such, the AI-SUPERPFP rates are higher than might otherwise be the case.

For the proposed analyses, we will utilize the following aggregations: any depressive/anxiety disorder (major depressive episode or dysthymic disorder, generalized anxiety disorder, or panic disorder; PTSD will be excluded as it was not assessed in Part I of the baseline NCS interview), any alcohol or drug use disorder (alcohol or drug abuse or dependence), any ADM disorder, and number of ADM disorders.

Service Utilization

Questions about help-seeking were included in each diagnostic module and asked of all individuals who endorsed at least some symptoms of the disorder. These questions were patterned after the NCS questions but were adapted to reflect the service ecologies of American Indian reservation communities. Questions about traditional healers (including medicine men and spiritual and religious leaders) were included, in addition to questions about a wide range of specialty care providers (both mental health and substance abuse treatment providers) and other medical professionals. The proposed analyses will focus on lifetime help seeking for any depressive/anxiety disorder, any alcohol or drug use disorder, and any ADM disorder.

NCS did not include help-seeking questions in its PTSD module; thus, for purposes of these comparisons, our results for help-seeking do not include data on help-seeking for PTSD for either the AI-SUPERPFP samples or the NCS sample.

Rurality

Rurality was determined at the county level using categories from the rural-urban continuum codes of the US Department of Agriculture and 1990 Census data. (USGAO, 1993) For the present study, non-rural counties were identified by combining the “major metropolitan” and “other urban” categories from previous NCS analyses, while the rural county definition was adopted without change (Kessler *et al*, 1994). All of the AI participants sampled for the present study resided on or near reservations that met rural criteria by these definitions at the time of data gathering for the AI-SUPERPFP.

Other Independent Variables

Other independent variables to be used in the analyses include: gender, age, race, formal educational attainment, poverty and marital status, and number of lifetime and past-year DSM diagnoses.

Analyses

Variable construction will be completed using SPSS (2002); all inferential analyses will be conducted with Stata’s “svy” procedures (Stata Reference Manual, 2003) utilizing sample and nonresponse weights (Cochran, 1977). Blank, draft tables are included to illustrate the likely presentation of the results of these analyses. The following descriptions assume that we find it appropriate to combine the AI-SUPERPFP Northern Plains and Southwest samples, as noted above.

First, we will describe the AI-SUPERPFP, NCS Rural, and NCS Non-Rural samples by key sociodemographic characteristics (gender, age, race/ethnicity, formal educational attainment, poverty, and marital status) and diagnostic status. See Draft Table 1. Next,

we will estimate lifetime service-use and 99% confidence intervals for all participants and those with one or more DSM diagnoses - for male and female members from AI-SUPERPFP, NCS rural, and NCS non-rural (six distinct groups). Differences between specific groups will be identified by means of nonoverlapping confidence intervals. See Draft Tables 2 and 3. Finally, we will develop a logistic regression model, predicting service utilization utilizing a combined AI-SUPERPFP/NCS dataset. This model will be developed following the guidelines of Hosmer and Lemeshow (1989) for variable selection and testing of interactions. Our primary goal will be to determine whether the AI-SUPERPFP participants were less likely to utilize biomedical services for ADM problems after controlling for key sociodemographic characteristics (gender, age, formal educational attainment, poverty, and marital status) and ADM diagnostic status. See Draft Table 4.

Significance of the Proposed Analyses

The analyses proposed above will contribute to the body of knowledge on AI ADM service utilization by determining whether the patterns of service use among reservation-based AIs is comparable to that of rural non-AIs. As previously stated, a number of authors have noted the relatively high fraction of AIs living in rural conditions and speculated that rurality may be one obstacle, among many, that impedes acquisition of treatment for medical and psychiatric illnesses (DHHS, 2001; Dixon, 2001; Johnson *et al*, 2001). However, to our knowledge, no recent study has attempted to compare patterns of service utilization between reservation-based AIs and rural non-AIs. If the proposed study establishes that the patterns of service use are indeed comparable for these two groups, it could prove valuable by encouraging academicians and policy makers to reconsider the applicability of model programs which have been shown to improve provision of mental health services among non-AI rural populations to the needs of AIs.

Tables 1 through 4

| Table 1: Characteristics of AI-SUPERPFP, NCS-rural, and NCS-nonrural Participants | | | |
|--|--------------------------|------------------------|---------------------------|
| Characteristic | AI-SUPERPFP % | NCS-rural % | NCS-nonrural % |
| Age | | | |
| 15-24 | | | |
| 25-34 | | | |
| 35-44 | | | |
| 45 plus | | | |
| Gender | | | |
| Male | | | |
| Female | | | |
| Race | | | |
| White | | | |
| African American | | | |
| Hispanic | | | |
| Asian | | | |
| American Indian | | | |
| Other | | | |
| Education | | | |
| < 12 years | | | |
| Completed High School | | | |
| Some College | | | |
| Household Income | | | |
| < Poverty Line | | | |
| > Poverty Line | | | |
| Marital Status | | | |
| Separated, Widowed, Divorced | | | |
| Never Married | | | |
| Married or Cohabiting | | | |
| Number of Diagnoses | | | |
| None lifetime | | | |
| Lifetime but not past year | | | |
| 1 Past year | | | |
| 2 or more past year | | | |

Table 2: Lifetime Service Use for DSM-III-R Symptomatology Among AI-SUPERPFP, NCS-rural and NCS-nonrural Participants

| Lifetime Help-Seeking by Group and Gender: | All Participants | | | Females Only | | | Males Only | | |
|--|---|-----------------------|-----------------------|---|-----------------------|-----------------------|---|-----------------------|-----------------------|
| | 1. AI-SUPERPFP (n=) 2. NCS-rural (n=) 3. NCS-nonrural (n=) | | | 1. AI-SUPERPFP (n=) 2. NCS-rural (n=) 3. NCS-nonrural (n=) | | | 1. AI-SUPERPFP (n=) 2. NCS-rural (n=) 3. NCS-nonrural (n=) | | |
| Service Sector Symptom Type: | 1. Percent (CI) | 2. Percent (CI) | 3. Percent (CI) | 1. Percent (CI) | 2. Percent (CI) | 3. Percent (CI) | 1. Percent (CI) | 2. Percent (CI) | 3. Percent (CI) |
| Specialty Mental Health Services | | | | | | | | | |
| Depressive/anxiety symptoms | | | | | | | | | |
| Substance use symptoms | | | | | | | | | |
| Any ADM symptoms | | | | | | | | | |
| Other Medical Services | | | | | | | | | |
| Depressive/anxiety symptoms | | | | | | | | | |
| Substance use symptoms | | | | | | | | | |
| Any ADM symptoms | | | | | | | | | |
| Any Biomedical Services | | | | | | | | | |
| Depressive/anxiety symptoms | | | | | | | | | |
| Substance use symptoms | | | | | | | | | |
| Any ADM symptoms | | | | | | | | | |

Table 3: Lifetime Service Use for DSM-III-R Symptomatology Among AI-SUPERPFP, NCS-rural and NCS-nonrural Participants with One or More DSM-III-R Diagnoses

| Lifetime Help-Seeking by Group and Gender: | All Participants | | | Females Only | | | Males Only | | |
|--|---|-----------------------|-----------------------|---|-----------------------|-----------------------|---|-----------------------|-----------------------|
| | 1. AI-SUPERPFP (n=) 2. NCS-rural (n=) 3. NCS-nonrural (n=) | | | 1. AI-SUPERPFP (n=) 2. NCS-rural (n=) 3. NCS-nonrural (n=) | | | 1. AI-SUPERPFP (n=) 2. NCS-rural (n=) 3. NCS-nonrural (n=) | | |
| Service Sector Symptom Type: | 1. Percent (CI) | 2. Percent (CI) | 3. Percent (CI) | 1. Percent (CI) | 2. Percent (CI) | 3. Percent (CI) | 1. Percent (CI) | 2. Percent (CI) | 3. Percent (CI) |
| Specialty Mental Health Services | | | | | | | | | |
| Depressive/anxiety symptoms | | | | | | | | | |
| Substance use symptoms | | | | | | | | | |
| Any ADM symptoms | | | | | | | | | |
| Other Medical Services | | | | | | | | | |
| Depressive/anxiety symptoms | | | | | | | | | |
| Substance use symptoms | | | | | | | | | |
| Any ADM symptoms | | | | | | | | | |
| Any Biomedical Services | | | | | | | | | |
| Depressive/anxiety symptoms | | | | | | | | | |
| Substance use symptoms | | | | | | | | | |
| Any ADM symptoms | | | | | | | | | |

Table 4: Final Regression Model* - Comparative Use of Biomedical Services for ADM Disorders : AI-SUPERPFP, NCS-rural, and NCS-nonrural

| | AI-SUPERPFP vs. NCS-rural | | AI-SUPERPFP vs. NCS-nonrural | | NCS-rural vs. NCS-nonrural | |
|-------------------------------|------------------------------|----------|---------------------------------|----------|-------------------------------|----------|
| | OR | (95% CI) | OR | (95% CI) | OR | (95% CI) |
| Total Sample: | | | | | | |
| # Diagnoses: | | | | | | |
| None lifetime | | | | | | |
| Lifetime but not past year | | | | | | |
| 1 Past year | | | | | | |
| 2 or more past year | | | | | | |

*Adjusted odds ratios controlling for gender, age, tribe/race, education, poverty status, and marital status. Assumes no interactions.

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