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## American Indian and Alaska Native Mental Health Research

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Like many events in the world around us, the issuance of this journal marks the beginning as well as the end of a series of efforts. In this case, I am referring to efforts to coordinate, disseminate, and thereby maximize the impact of research, training, and program development with respect to the psychological well-being of American Indians and Alaska Natives. This is one of the major purposes of the National Center for American Indian and Alaska Native Mental Health Research; it also was a primary function of its predecessor, the White Cloud Center. Both saw a journal such as this as a catalyst which can hasten the accomplishment of the above goal.

Having been associated with the White Cloud Center, specifically, as Research Director, I often reflect upon the expectations that surrounded it, the activities which were pursued, and subsequent successes as well as failures. Clearly, that program's successes included the *White Cloud Journal*. Since the close of my association with the White Cloud Center in October, 1981, I have fielded hundreds of inquiries from providers, planners, policy makers, and investigators who seek reprints, back issues, and current publication information about the *White Cloud Journal*. It seems difficult to believe that a relatively specialized journal, with a circulation of never more than 700 copies, and which entailed a total of ten issues over three volumes could have made such a major impression on so many different sectors of the mental health field. That it did speaks to the quality of the articles and to the editorial labors of Ann Goddard at the Oregon Health Sciences University and, subsequently, David Tarver at the University of South Dakota.

The continuing interest in the *White Cloud Journal*, nearly three years after the last issue, also reflects the need for a forum specific to the mental health of American Indians and Alaska Natives. People desperately want information about the kinds, frequencies, and causes of the psychiatric and psychological problems that affect Indian/Native people, about the factors that place members of this special population at high risk for such problems, about the reliability and validity of screening and diagnostic techniques, about approaches to treating these problems in culturally appropriate ways, about the factors that influence the use of existing services, about the prevention of alcohol, drug abuse, and mental disorders, and, ultimately, about means of promoting the emotional health and psychological well-being of the communities to which they belong or in which they serve. The present journal, *American Indian and Alaska Native Mental Health Research*, is intended to fill this gap and to begin to address this need.

The National Center hopes that this journal will make available useful, stimulating ideas and data that will encourage additional studies and

reports. We intend to offer an authoritative selection of articles to investigators who know little or nothing about Indians/Natives and to Indian/Native scholars desiring to extend their knowledge and understanding. Moreover, the journal should be useful to providers of mental health, alcoholism, and drug abuse services by describing new, innovative interventions and by sharing insights into program effectiveness. These goals are consistent with the National Center's commitment to research and development in American Indian and Alaska Native mental health.

Mental health is a broad term relating to all of the social, behavioral, and health sciences, including psychology, psychiatry, nursing, sociology, anthropology, social work, and some aspects of education, medicine, history, and law. The stress here is upon the factors that affect the mental and social functioning of American Indians and Alaska Natives. Authors wishing a detailed guide to appropriate topics should refer to the *Publication Manual of the American Psychology Association (3rd Ed.)* and its description of the areas covered by the association's various journals. Any of those topics are acceptable.

Authors should systematically examine the literature to determine the contribution that they can make. They should stress new data, comparison with previous data, and relevance to American Indian and Alaska Native mental health. Theoretical articles must be especially thoroughly referenced in order to focus the discussion on empirical findings and substantive knowledge rather than personal opinion or conjecture. The quality of an article's content should be guided by the *Publication Manual*, pages 19-22.

This issue of the journal contains four articles. The first, "Emerging Tribal Models for the Civil Commitment of American Indians," by Manson, Bloom, Rogers, and Neligh, highlights the procedural difficulties inherent in providing necessary psychiatric treatment to mentally ill American Indians who reside on reservations and who may pose a danger to either themselves or others. The authors describe the civil commitment models developed by five reservation communities and review the socio-legal issues that surround them. The federal, state, and tribal responsibilities in matters of this nature remain an important topic of debate and affect the welfare of many Indian communities. The second article, "Health Beliefs and Regimen Adherence of the American Indian Diabetic," by Miller, Wikoff, Keen and Norton, focuses on factors influencing compliance with biomedical recommendations for controlling diabetes among Indian patients. The authors consider the possible contribution of demographic and medical variables, of personal attitudes, of others' beliefs, and of assorted coping methods to following a prescribed treatment regimen (e.g., diet, medications, physical activity, smoking and stress modification) and consequent health status. The interface of health and behavior among Indian and Native people constitutes a significant, timely area for inquiry, and is gaining momentum from a national initiative that has brought about

new funding priorities within the National Institutes of Health (NIH) and the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA). The third article, "The High Achieving Sioux Indian Child: Some Preliminary Findings from the *Flower of Two Soils Project*," by Sack, Beiser, Clarke, and Redshirt, reports select results of a large scale, longitudinal study of the relationship between the emotional well-being and academic performance of Indian and non-Indian children from a number of communities in the United States and Canada. Prompted by a local request that equal attention be given to the children's strengths and accomplishments, the authors undertook the analysis of tentative differences between a small sample of high and low achieving Oglala students from the Pine Ridge Reservation. This effort and the larger study are of great interest to mental health professionals as well as educators, and return us to questions first raised by Dr. John Bryde twenty years ago. The fourth article, "Suicide and Self-Destruction Among American Indian Youths," by May, reviews and compares suicide mortality data specific to Indian adolescents. Using a variety of data sets, the author considers the nature, extent, and apparent risk factors of suicide, suicide attempts, and single vehicle accidents involving Indian youth. A brief update of the experience at an intermountain reservation underscores the positive outcomes that are possible when communities assume responsibility for such problems and struggle to find their own solutions. Of course, suicide among young Indian people is one of the most frequently discussed topics of the day, having engendered at least six major conferences on the subject over the last nine months.

In addition to publishing a range of works like those included in this issue, the National Center is planning a series of special editions dedicated to specific themes such as suicide and runaway youth. Moreover, we look forward to including regularly a section devoted to brief abstracts of innovative mental health, alcoholism, and drug abuse treatment programs and preventive interventions.

In closing, it is important to acknowledge that a journal depends upon its readers for the quality and focus of its content. You can play a significant role by disseminating information about the journal's availability, by contributing manuscripts for consideration, and by providing the editorial staff with comments--hopefully positive as well as negative ones--that will keep us alert to the needs of our field. Help *American Indian and Alaska Native Mental Health Research* to achieve a level of professionalism and relevance that will enable it to endure over future years.

Spero M. Manson, Ph.D.  
Editor-in-Chief

## EMERGING TRIBAL MODELS FOR THE CIVIL COMMITMENT OF AMERICAN INDIANS

SPERO M. MANSON, Ph. D., JOSEPH D. BLOOM, M.D.,  
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*Abstract: Until recently, American Indian tribes lacked procedures for the commitment of mentally ill reservation residents. The Red Dog decision (White v. Califano) highlighted the difficult issues inherent in this situation. This article reports the experiences of IHS and tribal service providers who struggle with these issues and describes the commitment procedures developed by five different reservation communities. Similarities and differences in these models are discussed, with special emphasis on implementation.*

Until recently, virtually all American Indian tribes lacked procedures for the commitment of mentally ill reservation residents. There were no civil commitment procedures articulated in either tribal codes or in federal statutes, which are the primary written laws applicable on most reservations. Even tribes governed by state law, in accordance with Public Law 80-280, lacked effective commitment mechanisms because they encountered significant obstacles in attempting to utilize state civil commitment procedures. The inability to civilly commit tribal members living on reservations has resulted in personal and social costs including untreated mental illness, perceived and actual danger posed by potentially violent and unpredictable people, and excessive expenditures of time and effort while attempting to develop ad hoc solutions to the problems presented by mentally ill and dangerous individuals.

The difficult issues presented by this situation were first highlighted in the courts in 1977-78 by an 8th circuit federal case, *White v. Califano*<sup>1</sup>, more commonly known as the Red Dog decision. The dispute in this case arose over the narrow question of whether the federal government or the state of South Dakota was responsible for paying for involuntary psychiatric hospitalization of a mentally ill and dangerous resident of the Pine Ridge Indian Reservation. In deciding that the responsibility lay with the federal government, the courts addressed a number of related issues, including tribal sovereignty, the lack of controlling federal law, questions of due process safeguards, and points of interface between tribal and state judicial process and between federal and state health care systems.

Florence Red Dog was an indigent member of the Oglala Sioux Tribe who lived on the Pine Ridge Reservation. In April of 1976 an Indian Health Service psychiatrist determined that Ms. Red Dog was mentally ill and needed immediate treatment to protect herself and others from physical

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harm. The psychiatrist requested that the state's attorney commit Ms. Red Dog to the mental hospital in Fall River County which adjoins the reservation. The state authorities refused to act, saying they had no jurisdiction over an Indian residing on an Indian reservation.

Following the state's refusal of the case, the psychiatrist asked the tribal court to act. A tribal judge held an emergency hearing and ordered Ms. Red Dog committed to a mental hospital, namely, the mental hospital in Fall River County. Once again, the state authorities refused to cooperate, saying that they could not accept Ms. Red Dog's commitment to a state hospital on the basis of a tribal court order.

Behind this legal confrontation was a history of increasing dispute about who pays for the treatment of mentally ill reservation residents in state hospitals, there being no suitable facility on the reservation. South Dakota brought the issue to a head by deciding to decline jurisdiction in the Red Dog case.

Georgia White, the guardian of Florence Red Dog, took the state to federal court, alleging that South Dakota had denied Red Dog equal protection of the law by refusing to commit or hospitalize her as they would a citizen not living on the reservation. The trial judge, whose decision was later affirmed on appeal by the circuit court, noted that plaintiff Red Dog's equal protection argument was compelling and consistent. Nonetheless, he concluded, ironically, that the unique status of Indian reservation residents required him to reject Ms. Red Dog's argument. Because Indian nations are sovereign there are historical and constitutional limitations on the power of a state to intrude into Indian country. Thus, the state was correct when it refused to conduct commitment proceedings, which would have required investigation on the reservation and other intrusions on sovereignty. Furthermore, the court held that South Dakota could not even accept jurisdiction over Ms. Red Dog after she had been ordered to be committed by the tribal court, unless there were a vote by the majority of the Indians on the reservation to allow such transfers.

Having concluded that South Dakota had no authority nor obligation to act, the court then examined the responsibility of the federal government which also had been named as a defendant. Judge Bogue found that federal authorities had an unambiguous obligation to provide health care to Indians, stemming from the unique relationship between Indians and the U.S. government. Because Ms. Red Dog lacked an alternative source of health care, federal policy, as shown by legislative and administrative history, places responsibility for her care upon the United States.

As to the allowable means for providing care, it makes no difference whether federal officials contract with state or private agencies or make commitments to federal facilities. In either case, commitment procedures that conform to the requirements of due process tribal officials have in commitment procedures is

of no concern here. *White v. Califano*, 437 f. supp 543, 536 (S. D., 1977).

After the circuit court affirmed the district court's decision, the federal government decided not to seek review by the U.S Supreme Court. Thus, the decision became law in the 8th federal circuit, encompassing the states of North Dakota, South Dakota, Nebraska, Missouri, Minnesota, Iowa, and Arkansas. Although not binding elsewhere, the decision was influential throughout the country. Federal, state, and tribal officials recognized that other courts might adopt the 8th circuit's reasoning. The decision prompted action, and not a little anxiety, on many reservations by tribal and Indian Health Service personnel to develop formal civil commitment procedures (Gonzalez & Henderson, 1979).

Since the conclusion of *White v. Califano* in 1978, a number of tribes have begun to develop mechanisms for effecting the civil commitment of tribal members. These efforts are the first attempts to arrive at formal solutions to problems that had previously either been ignored or handled on informal bases. An examination of the emerging models is warranted, since they demonstrate some options available to tribes which are just now beginning to study the problem and to seek solutions appropriate for their own reservations. Additionally, the ways in which tribes implement civil commitment systems have implications for interaction between tribal, state and federal jurisdictions in other subject areas.

This paper begins with a summary of the findings of a survey of service providers from several reservations about their experience with patients for whom civil commitment was believed to be the only means of obtaining needed psychiatric care. Having oriented the reader to the problems at hand, the paper next describes the commitment procedures that have been developed by five different reservations, and which represent the emerging models noted above. Lastly, this paper closes by discussing the similarities and differences among these approaches, highlighting the innovative aspects of each, and considering the issues that may arise upon full implementation.

### Methods

In an earlier publication we discussed in detail the problems that face many American Indian tribes when they seek involuntary mental health care for their members (Bloom, Manson, & Neligh, 1980). These problems are multi-dimensional, involving issues of jurisdiction, fiscal responsibility, and availability of appropriate treatment facilities (Henderson, 1982). We described the dilemma that such problems pose for the concerned parties, and examined the historical context which underpins this dilemma. Anecdotal information was presented to illustrate the various tolls of severe untreated mental illness in the communities in question. In an attempt to collect more data we conducted a series of workshops for providers on

several reservations. Workshop participants were asked about cases which might have been suitable for civil commitment, the extent to which these cases are typical, how frequently they occurred, the manner in which such cases came to their attention, and dispositions. Data collection was unsystematic, in that a self-selected group of participants provided information about memorable, and thus perhaps atypical cases. Nonetheless the responses help to illuminate the extent of the problems.

Twenty-two workshop participants responded to a brief self-administered questionnaire. Twenty of the respondents were mental health or social service providers. Most were employed by the Indian Health Service (IHS). Some tribal program staffs were also represented. These were experienced individuals, having served in their present positions an average of 4 1/2 years, with an average of 14 years of professional experience.

The group identified 181 cases within the previous two years that, in their opinion, would have required commitment to obtain appropriate treatment. When asked to describe two cases in detail they noted 44 specific examples. Thirty-five percent of the latter came to their attention through IHS or tribal health care and social service programs, 29% through tribal law enforcement or tribal court, 17% through the individual's family, and 19% were observed in the community at large in a variety of ways that reflected no clear pattern of agency interaction. When asked to categorize these cases in a civil commitment framework, 40% of the cases were designated dangerous to others, 32% were thought to be dangerous to themselves, and 26% were believed to be incapable of caring for themselves.

Turning to dispositions, the respondents reported that no action was taken in 27% of the cases. Twenty-eight percent of the cases cited ended in criminal proceedings resulting in either incarceration or outright release with no treatment plans. Twenty-two percent of the cases were successfully persuaded to seek voluntary treatment or hospitalization. Seventeen percent resulted in civil commitment proceedings, one-third of those occurring in tribal courts which, at that time, had few treatment options for the "committed" person. The respondents described only a moderate likelihood that persons such as those represented by these case examples would obtain treatment. They clearly felt these cases were highly typical of the others that they regularly encounter.

Based on these workshops and on our previous experience, we believe that there are a significant number of mentally ill Indian people who fit typical civil commitment criteria and who do *not* receive appropriate treatment. Many end up in the tribal criminal justice system without treatment; some stay within the communities, untreated, and for the most part avoided by other tribal members.

Workshop discussions suggested a number of factors that have contributed to these circumstances. First, there seldom is a close working relationship between reservation programs and state authorities. Many of

the workshop participants did not even know their state counterparts, and only a few had ever visited any of the state facilities. Second, most reservations lacked appropriate facilities for the care of acutely mentally ill patients. There are virtually no secure beds available in either the tribal or local IHS system. Third, both direct care and contract health monies are scarce, which leads to drastic underfunding of acute mental health services. The lack of money is compounded by the existence of three separate jurisdictions (federal, state, and tribal), each of which has its own funding priorities. Fourth, the IHS has adopted a policy of not participating in detaining or transporting involuntary patients. Thus IHS is not equipped to deal with the needs of acutely mentally ill patients who are non-cooperative. Fifth, there is no federal civil commitment process. Though the ruling in *White v. Califano* placed the responsibility for the commitment and treatment of American Indians squarely on the federal government in the 8th circuit, neither IHS nor any federal agency has a pre-existing mechanism for complying even if given the authority by Congress. Finally, despite elaborate and well-articulated tribal codes in certain civil and criminal matters, few tribes have specific tribal mental health codes and virtually none have previously developed civil commitment provisions.

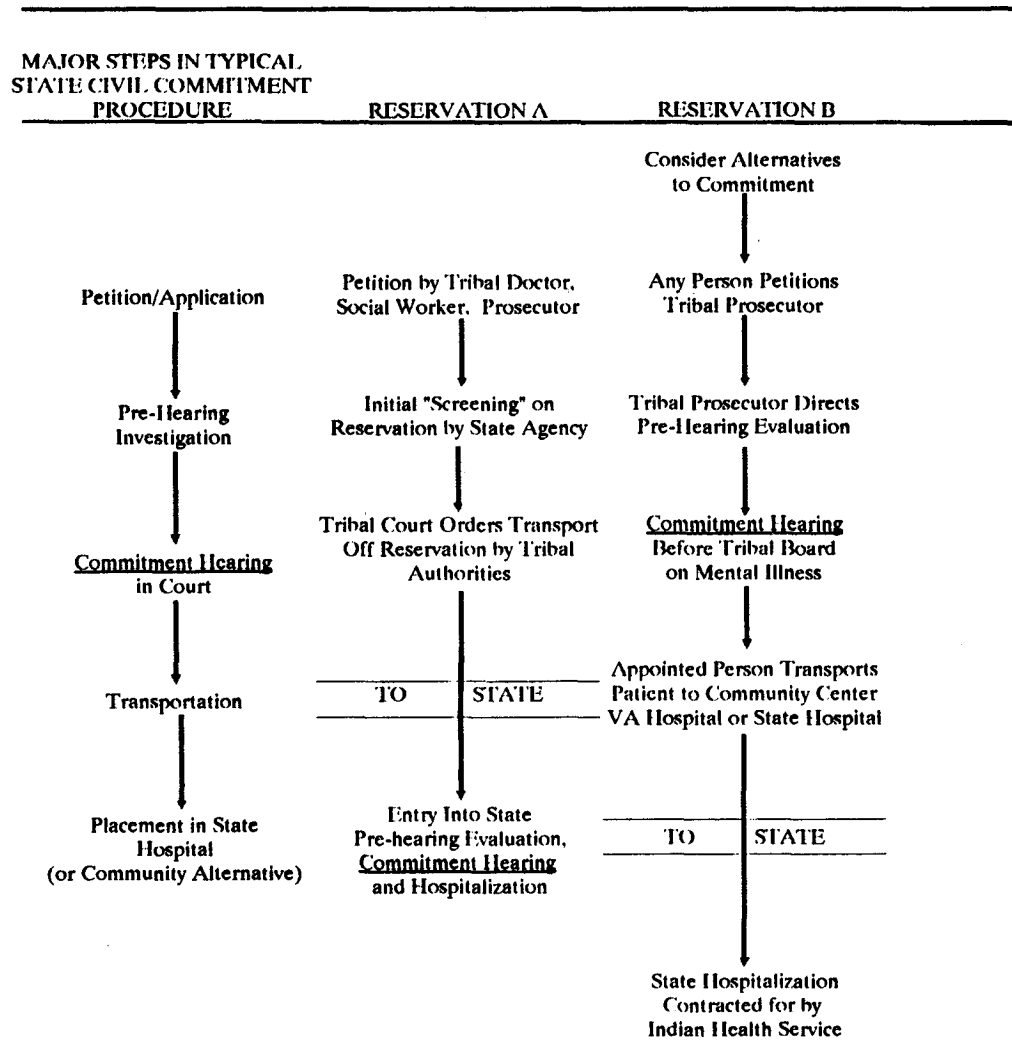
### Results

Subsequent to *White v. Califano*, at least five tribes have developed civil commitment procedures. There are others in various stages of formulation, but are not yet sufficiently complete to present. The salient features of each of the five commitment procedures are outlined below and are summarized in Table I. We have chosen not to name the tribal communities from which these examples are drawn.<sup>2</sup> All five procedures include cooperative agreements among the major parties: the tribe and its court, the IHS, and the state government. In each instance, civil commitment procedures have been incorporated in the tribal codes.

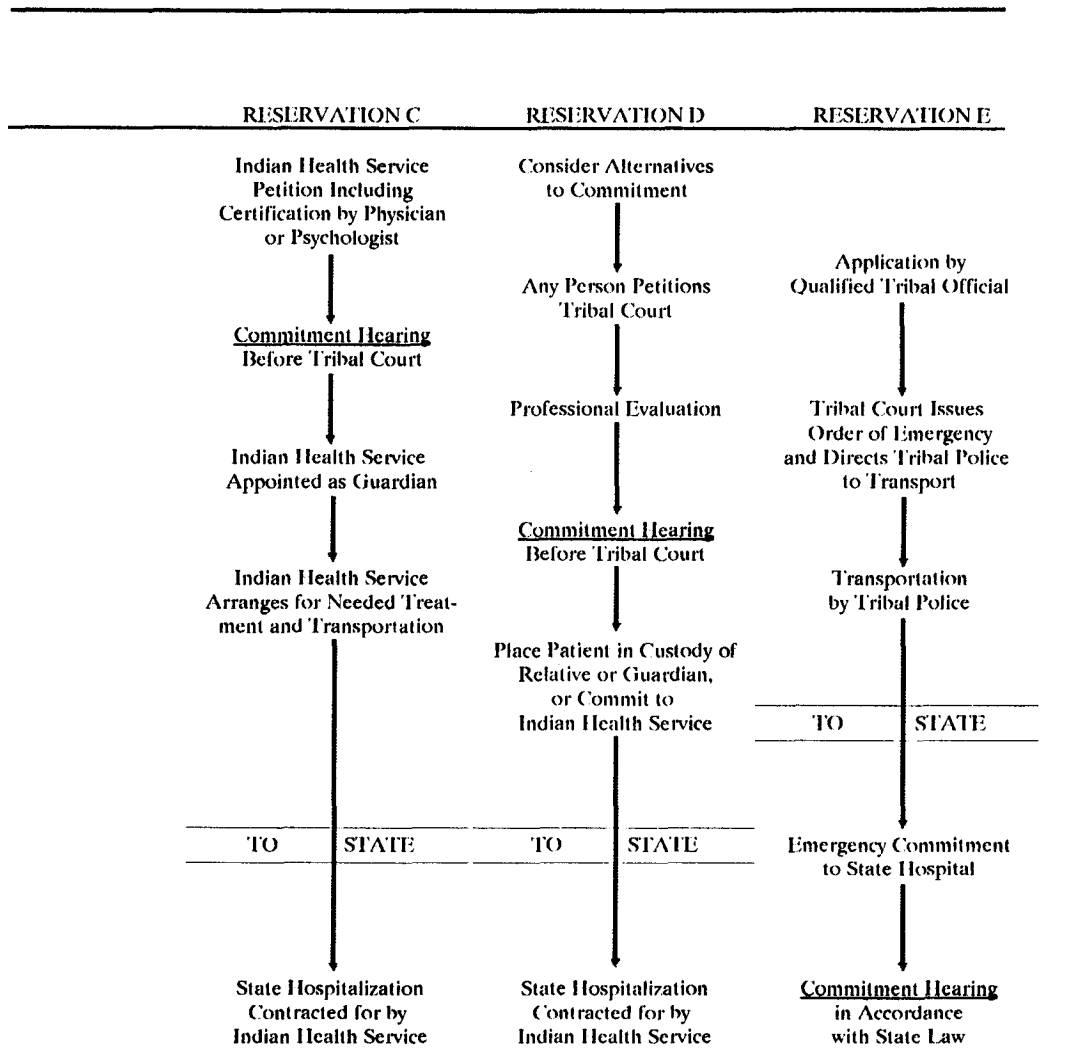
Any tribe that attempts to develop such a system encounters multiple layers of difficult decisions. One is the usual set of choices about what procedures will be effective as well as lawful. These decisions are similar to those faced by any state which revises its civil commitment procedures in light of current medical and legal thought, as well as economic reality.

Indian tribes are faced with additional considerations which make their task more complex and difficult. One group of considerations surrounds cultural values and traditions that may affect the acceptability and effectiveness of a proposed civil commitment system. Civil commitment often is seen as tantamount to expulsion from the tribe, which traditionally constitutes the most serious and unforgiving form of social control. Another area of complexity is the existence of multiple legal frameworks that are often poorly delineated. For instance, on many reservations tribal, state, and federal authorities have certain

TABLE I STEPS IN FIVE EMERGING



## TRIBAL MODELS FOR CIVIL COMMITMENT



responsibilities and jurisdictions which may overlap, or, conversely, may totally disregard important needs. Thus, a major problem in developing civil commitment procedures is to decide which portions of the process should be handled by tribal, state, or federal mechanisms. This presents practical, as well as legal complexities. Finally, once these decisions are made, implementing them presents yet another set of difficulties. Will the actors in the various jurisdictions work cooperatively? Who will pay for the very expensive components of the process such as courts, attorneys, transportation, and hospitalization?

The systems being developed illustrate how some tribal governments have chosen to approach the problems just noted. Five emerging models for civil commitment are outlined in Table 1 and discussed below.

The models share many basic features. Each model incorporates steps designed to satisfy traditional notions of due process; thus, as shown in Table 1, each model has many similarities with conventional state commitment procedures. Each model starts with a tribal process, embodied in additions to tribal code. Each model ultimately relies on state hospitals to provide treatment. Although the judge in *White v. Califano* noted that the federal government could provide facilities for involuntary mental hospitalization on the reservation (as could the tribe itself) none of these models adopt that approach.

The models differ from each other in the number and types of steps taken by tribal authorities and courts. They also display variations in the fundamental issues around transferring the patient to the state. At what point in the process is this done? Is it done by a transfer of jurisdiction (in spite of *White v. Califano*'s disapproval of this procedure) or by contract or by an unspecified process?

To allow the reader to see the complexities of these models and to compare their approaches, we turn now to a detailed description of the procedures utilized.

### Reservation A

Reservation A is located in the Southwest, adjacent to a large metropolitan area, and is inhabited by a single tribe. Its approximately 4,200 residents live in a series of villages. A full range of outpatient health and mental health services are available on reservation. Dental and primary health care are provided by the Indian Health Service; the tribe operates an active mental health program. A large community mental health center and several hospitals are located off-reservation in the nearby city. As might be expected, given its proximity to an urban environment, the tribe living on this reservation has experienced rapid social and cultural change, yet manages to retain much of its heritage.

This community has chosen to have the tribe conduct only the preliminary steps in the commitment process. Following this initial



on-reservation activity, the individual is taken off the reservation and turned over to the state authorities for processing through the usual state civil commitment procedures. This process can be conceptualized in four steps: 1) tribal petition, 2) on-reservation screening by state agency, 3) transportation to state facility, and 4) the state's commitment process. Any physician, social worker, or prosecutor for the Indian community may apply for a court-ordered mental health evaluation of a person they feel to be, as a result of a mental disorder, a danger to self or to others or gravely disabled and who is unwilling to undergo a voluntary evaluation. The operative terms are defined in the tribal ordinance. The tribal court then decides if there is reasonable cause on the face of the petition to believe the allegations. If so, the court "requests" that a named state mental health agency screen the person.

The screening is conducted *on* reservation unless the tribal court finds that it is in the person's best interest to do the screening elsewhere. The person screened is not held in custody unless he or she is found likely to present a danger to self or others as a result of mental disorder, at which time the tribal court may order emergency detention. If detained, the person is told of the reasons for being held, of his or her right to a hearing, and of right to counsel. In any case, the person is not to be detained longer than is necessary to complete the screening and to submit a report to the tribal court. If the screening agency determines that there is reasonable cause *and* the patient refuses voluntary processing by the state or is likely to be a source of danger to self or to others before he or she would receive voluntary evaluation, the tribal court must order transportation to a mental health agency off the reservation, licensed by the state and recognized by the tribe. The tribal court serves as the "temporary guardian" for the purpose of transporting the person off reservation to the state authorities.

In this model subsequent evaluation and commitment procedures occur under state law. If committed, the person will be hospitalized in a state institution. To implement this part of the procedure, tribal and state officials have signed a memo of understanding. In this memo the tribe and its court agree to request initial screening from the state agency and to provide needed transportation. The state agency agrees to provide screening and to petition the state court for commitment of reservation residents to the state hospital when needed. The state hospital agrees to accept patients from the reservation who have been committed according to state law and to involve tribal authority in planning for discharge of patients back to the reservation.

The tribal ordinance adopting this procedure specifies that it is intended to provide mental health services to reservation residents. The ordinance notes that neither the facilities nor the expertise necessary to provide the services are available on the reservation, and that the state does not have the legal authority to provide involuntary mental health treatment to residents on the reservation. Thus the ordinance refers to the "Memo of Understanding" discussed above which, in conjunction with the



tribal procedures adopted in its ordinance, provides for involuntary mental health treatment by the state off reservation.

### Reservation B

Reservation B is located in the northern Midwest, and is among the largest reservations in the country. The community numbers over 10,000 members from one Plains tribe, who are dispersed across the reservation in towns and villages ranging from 75 to 1,500 residents. This reservation supports a full complement of outpatient health and mental health services. The former are provided through the Indian Health Service; the latter are offered through the tribe. Tribal court and tribal law enforcement personnel are in close contact with the mental health program. There is a hospital on-reservation, but no beds are designated for mental health care. The Indian Health Service recently opened an in-patient psychiatric facility in a distant city to which some tribal members have been referred. This reservation community has resisted contemporary acculturative pressures and maintains an active ceremonial life.

By contrast with the above procedure, this tribe's approach relies much less on the state, as the entire commitment process is conducted by tribal authorities on reservation. If committed by the tribe the person may then be hospitalized, by agreement, in a state facility. The costs of hospitalization are paid by the Indian Health Service on behalf of the tribe. Another notable aspect is that the ordinance adopting procedures to commit mentally ill and dangerous tribal members explicitly provides for respecting tribal customs and traditions.

The procedure consists of six steps: 1) determination of available and realistic alternatives to commitment, 2) petition, 3) examination, 4) hearing, 5) transportation, and 6) review. Before involuntary commitment for mental illness is commenced, the immediate family of the individual in question must meet with the chief tribal judge, a qualified mental health professional or physician, and the tribal prosecutor to determine if there is an available and realistic alternative to commitment. This is an attempt to respect traditional methods of dealing with mental illness within familial and tribal support systems. If no alternative is found, any person may provide the tribal prosecutor with information sufficient to prepare a petition for commitment. The tribal prosecutor investigates the grounds for the petition and, within seven days, submits the petition and a written report to the Chairman of the Tribal Health Board on Mental Illness as to whether or not probable cause exists that the person in question is mentally ill. It is expected that the applicant will have made a "reasonable effort" to secure a certificate of examination of the individual in question which is to accompany the petition. If not, the petition must be accompanied by a detailed affidavit that explains the reasons for lack of such a certificate.

Given probable cause that the person is mentally ill, the Chairman of the Tribal Health Board issues an order to the Clerk of the Tribal Court

to convene a decision-making group called the Reservation Board of Mental Illness for a hearing on the petition within seven days. The tribal police personally serve the allegedly mentally ill person with copies of the petition and written notice of the hearing at least five days prior to the hearing date. The notice of the hearing includes the time, date, and place of hearing (usually the tribal courthouse unless the Chairman of the reservation board designates some other facility), notice of the right to counsel, and notice that he or she must be examined by a qualified mental health professional or physician to be designated by the chairman of the reservation board, and notice of the right to obtain an additional examination at the person's own expense. The chairman is authorized to compel the individual's compliance, with respect to the examination as well as attendance at the hearing.

At the hearing, if the board finds clear and convincing evidence that the individual is mentally ill and in need of treatment, the board by written finding may order him or her to undergo either inpatient or outpatient treatment at an appropriate facility, including a community mental health center, a VA hospital, or a state psychiatric institute. Should the person not comply, the board holds another hearing to determine compliance or non-compliance. If it is determined that the individual will not voluntarily accept treatment, the chairman of the reservation board is authorized to appoint someone (other than a relative of the patient) to transport the individual to the hospital wherein he or she is admitted for treatment and regularly reviewed by the board.

There is a separate procedure for persons who are alleged to be mentally ill *and* of danger to self or others. Any person age 16 or older may petition the chairman of the reservation board, attesting to these conditions, specifying the nature of the danger, summarizing the observations upon which the statement of danger is based, and stating the facts which called the person to the applicant's attention. If the chairman of the reservation board of mental illness concludes that the individual in question may be mentally ill *and* dangerous, then he can order the apprehension and transportation of the allegedly mentally ill person to an appropriate facility where he or she may not be held longer than 24 hours unless it is a properly equipped community mental health center or hospital. Immediately upon taking the person into custody, he or she must be notified of the right to a hearing within five days and of right to counsel. Within 24 hours of the apprehension of an individual who required emergency admission, a qualified mental health professional or physician shall examine him or her and immediately report the findings to the chairman of the reservation board of mental illness. The subsequent hearing is conducted as before and, if the individual is ordered to remain in the facility, a review is conducted after 90 days. Tribal police provide all necessary transportation.

As noted above, any hospitalization in a state facility which results from either of the above procedures is paid for by the Indian Health Service.

### Reservation C

Reservation C is located in the northern midwest as well, but west of Reservation B. It is a small reservation that is inhabited by two tribes, one which was originally from the plains and the other from the northern woodlands. The local population numbers about 2,200. Like the others, this community has outpatient health and mental health services on reservation, with a similar division of tribal and Indian Health Service responsibilities. In-patient care is obtained in either of two distant hospitals.

The procedures developed here are similar to those on Reservation B. This ordinance also requires, where possible, a preliminary meeting with the mentally ill person's family to determine if there are culturally acceptable alternatives to commitment. Here, too, the actual commitment hearing is conducted on the reservation by the tribe--although by the tribal court, rather than by a board of mental illness as on the Reservation B.

A significant difference is that commitment is made to the Indian Health Service for treatment, not directly to a state or other facility. To implement its responsibilities to provide treatment to those committed to it, IHS has contracted with providers of appropriate hospital and treatment services. Thus, as on Reservation B, payment for treatment is provided through IHS, but by a somewhat different mechanism.

This tribe chose to adopt procedural and substantive standards for civil commitment which are virtually identical to those of the state in which the reservation is located. It was felt that this would facilitate cooperation by state facilities with IHS and would tend to avoid legal challenges.

The procedure consists of five steps: 1) petition, 2) certification, 3) hearing, 4) appointment of the Indian Health Service as guardian, and 5) transportation to hospitalization. In this case, the IHS is presumed to be the petitioner, identifying the allegedly mentally ill person, and attesting to the fact that he or she "is mentally ill, incompetent, and lacks the capacity to make informed decisions about treatment." The petitioners must attest to the fact that the person named is likely to harm himself or others unless he or she receives treatment, that the IHS is qualified and willing to be his or her guardian, that the IHS does not seek guardianship over his or her estate, and that the IHS can arrange for psychological and medical care which is likely to benefit the individual in question. Documentation must accompany the petition certifying that (a) either a licensed clinical psychologist or licensed physician personally examined the individual within a specified seven day period, (b) that the person is mentally ill at the time of the petition, (c) that in the absence of treatment the examiner believes that this mental illness is likely to cause major distress which will result in serious mental or physical deterioration, (d) that treatment is available which is likely to avoid serious mental or physical deterioration in the individual in question, (e) that this same person lacks the capacity to make informed decisions about treatment, and (f) that he or she is likely to harm himself or others or if he or she does not receive treatment.

On the basis of this petition and certification, the tribal court convenes a hearing. On the basis of evidence from witnesses and the certification warrant, the tribal court may appoint the IHS as guardian of the individual. This action requires findings that the person named is an enrolled member of the tribe, is physically present on the reservation, is mentally ill and lacks the capacity to make informed decisions about treatment, that the IHS can arrange for medical and psychological treatment which is likely to benefit him or her, and that he or she is likely to harm himself or others unless he or she receives treatment. The tribal court appoints the IHS guardian for 90 days to effect the necessary treatment.

#### Reservation D

Reservation D is a small reservation located in the Great Basin area of the rural central West. Inhabited by two small tribes, this community numbers approximately 1,800 members. Health care is limited and is provided by the Indian Health Service. The mental health services consist of a supportive counseling program with part-time psychological consultation. In-patient facilities are located off-reservation in a large metropolitan area at some distance from this community.

This reservation has proposed procedures which also rely heavily on IHS. The tribal court can appoint IHS to arrange individualized treatment and transportation as necessary. The procedure can be described as follows: 1) determination of alternatives to commitment, 2) petition, 3) evaluation, 4) hearing, 5) disposition, and 6) hospitalization. Before involuntary commitment for mental illness is initiated, the immediate family of the individual in question is to meet with the chief tribal judge, a qualified professional person and the tribal prosecutor to determine if an alternative to commitment is available and realistic. If not, the applicant petitions the tribal court, stating that he or she believes that the person is, as a result of mental illness, a danger to self or others, indicating the specific nature of the danger, summarizing the observation upon which this statement of danger is based, and describing the facts that called the person to be committed to the applicant's attention. A professional evaluation is to accompany the petition if at all possible. The tribal court may find that on the basis of the petition an emergency situation exists, and can then order the respondent to be detained in the least restrictive environment necessary to protect others or the individual. Detention may not exceed 72 hours; an evaluation is mandated within this period. If the tribal court finds probable cause, a hearing is set no later than seven days from the date of the petition. The allegedly mentally ill person, the responsible person, counsel for the respondent, and the professional person are notified of the hearing date, the former in writing, the latter three verbally. If the respondent has not recently been evaluated by a professional person, the court requests such evaluation. The court is authorized to apprehend and detain the individual

in question to achieve the evaluation if he or she does not voluntarily submit to it.

A hearing is held to determine whether the evidence proves beyond a reasonable doubt that the person is seriously mentally ill, which is defined to mean that the individual in question suffers from a mental disorder and that this disorder "has resulted in self-inflicted injury or injury to others or the imminent threat thereof or has deprived the person afflicted of the ability to protect his or her life or health." If the respondent is determined to be seriously mentally ill at the conclusion of the hearing, the court may either commit the patient to the IHS for treatment for a period not to exceed 90 days or order the patient to be placed in the custody of his relatives, guardian, or some other appropriate place. In each case the court is obliged to choose the least restrictive alternative necessary to protect the patient and the public. IHS may contract for hospitalization in a state facility.

### Reservation E

Reservation E is located in the Pacific Northwest and encompasses a large tract of land that extends from the foothills of the mountains to the arroyos of a semi-arid central plateau. Tribal membership numbers approximately 3,800 and is comprised of several confederated tribes. The health and mental health facilities on reservation include a wide range of outpatient services. Most of these services are tribally operated, though primary care remains an Indian Health Service responsibility. A tribal court hears criminal and civil matters and works closely with tribal mental health personnel. The nearest hospital, to which the IHS physicians and tribal psychiatrist have admitting privileges, is located off-reservation in a small rural town. The tribes living on Reservation E have been subjected to a long history of acculturative pressures, but much of the traditional ceremonial life has remained intact, and is undergoing active revitalization.

This reservation is enacting procedures that allow transfer of the mentally ill reservation resident to the state for civil commitment, similar to the mechanism of Reservation A. However, unlike Reservation A, state authorities do not come onto the reservation to conduct the screening. Rather, the amended tribal code allows the tribal court to order prompt emergency detention and transportation of patients off the reservation by the tribal police. Pursuant to a memorandum of agreement with the state mental health division, the patient is then admitted to a state hospital under the emergency commitment provisions of state law.

The procedure consists of five steps: 1) application, 2) emergency detention order, 3) transportation, 4) emergency commitment to state hospital and 5) state's commitment process. By sworn affidavit or on the record in tribal court, any qualified tribal official may apply for an order of emergency detention. Qualified tribal officials are reservation physicians, the tribal mental health director, or the tribal health and social service manager. The application must establish that the patient is a mentally ill

person under tribal jurisdiction, and the reasons why short or long term emergency detention is needed. The tribal court then determines if the patient is under its jurisdiction, if there is probable cause to believe the person is mentally ill as defined in the code, and whether the patient poses serious harm or danger to self or others requiring immediate detention. No screening or hearing is required to make this determination; rather it apparently can be made summarily by the court. A mentally ill person is defined identically as in state law as a person who, because of a mental disorder, is either a) dangerous to himself or others or b) unable to provide for his basic needs and is not receiving such care as is necessary for his health or safety.

If the tribal court issues an emergency detention order, the tribal police, who are cross-deputized as county sheriffs, are directed to take the person into custody and transport him off the reservation to a state hospital. In accordance with state statutes the state mental health division has contracted with the tribe to provide services in the same manner as is done with county mental health programs. Thus, the mentally ill person is admitted to the state hospital under state emergency commitment procedures for a maximum of 15 days. If additional hospitalization is needed, full civil commitment proceedings can be initiated by the state hospital staff. The tribe agrees to cooperate with investigation needed prior to a commitment hearing.

### Discussion

As noted, these civil commitment procedures represent the first attempts by tribes to develop systematic approaches to effecting involuntary psychiatric observation and treatment for dangerously mentally ill community members. They are being closely studied by many other tribes for possible application in different settings. Undoubtedly, these procedures will have to be modified to fit local circumstances; moreover, they will surely evolve in response to problems that may arise during implementation.

Legal challenges may constitute a major set of problems. Considering just Reservation A, for example, the adopted procedure is inconsistent with the reasoning of *White v. Califano*, though this particular community does *not* fall within the 8th circuit. In the 8th circuit, entry onto the reservation by state authorities to conduct the screening would represent an unconstitutional invasion of tribal sovereignty. The District Court explicitly stated that even a cooperative agreement between the tribe and the state providing for intrusion into Indian country would be unlawful<sup>3</sup>. However, if this aspect of the procedure was challenged at Reservation A, or other reservations with similar approaches, there might be several ways of overcoming the objection. First, of course, the controlling district and circuit courts might reject the reasoning of the 8th circuit. Second, even following the 8th circuit's reasoning, it might be successfully argued that



when the "qualified agency" or other authorities enter the reservation to conduct the screening, they are *not* acting in their state capacities, but are merely providing a service by contract to the tribe. A "Memo of Understanding" that accompanies the newly developed commitment procedure indicates that the state apparently will pay for such screenings. If so, the claim that they are merely acting as agents of the tribe by contract may be weakened.

A second potential legal problem in Reservation A's procedure is that after the person is referred to a "qualified evaluation agency" (actually a state institution of one form or another), jurisdiction is apparently assumed by the state. The 8th circuit ruled that jurisdiction can be assumed by a state over civil matters arising on the reservation only with the consent of a majority vote of the enrolled Indians within the affected area<sup>4</sup>, not just by tribal council action - as apparently is the case in Reservation A's procedure. A vote of the tribal members is, then, one possible solution.

Third, the procedure provides for transportation of a person (including against his or her will) off reservation by tribal authorities. This aspect might be challenged as beyond the power and jurisdiction of the tribe. Apart from whether or not such a challenge would be successful, the threat of it alone might make tribal police (and others involved in transportation) reluctant to proceed beyond the reservation boundaries. This potential problem is lessened, or at least greatly alleviated, if tribal police are cross-deputized in the adjacent state at least for purposes of transportation.

Another type of legal problem that might arise is illustrated by Reservation E's model. The tribal code, which provides for emergency detention orders, gives the patient no procedural rights such as notice, a hearing, or representation. Although this is consistent on its face with the summary procedures, the state statute allows the use of the summary procedure only when no state judge is available in an emergency. However, under the tribal code, a tribal judge is issuing the order. A challenge could arise to the use of this summary procedure as being in violation of the Indian Civil Rights Act<sup>5</sup>.

Although the new commitment procedures may encounter some legal challenges, postponing action for fear of potential litigation would needlessly hamper obtaining badly needed psychiatric care for severely mentally ill persons who pose a danger to self and to others. If, with the cooperation of all parties, procedures are developed which provide the necessary services, legal challenges will be unlikely. Ultimately the success of these emerging processes will depend on the cooperation of many persons and agencies in overlapping legal jurisdictions. The development of the models discussed has demonstrated the ability of tribes and states to work together in spite of the practical and legal difficulties of solving the complex problems surrounding the commitment of Indians residing on reservations.

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#### Notes

1. *White v. Califano*, 437 F. Supp 543 (Dist. S. Dakota, 1977), Affirmed 581 F-2d-697 (8th Cir. 1978).
2. We do not name the tribes because of the nature of our research agreements with the Indian Health Service. Readers interested in additional detail are invited to contact the authors.
3. *White v. Califano*, supra., 437 F. Supp at pp 549-551.
4. Title 25, United States Code, Section 1301 et. seq.

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## HEALTH BELIEFS AND REGIMEN ADHERENCE OF THE AMERICAN INDIAN DIABETIC

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*Abstract: This study investigated relationships between demographic and medical variables, attitudes, perceived beliefs of others, coping methods and adherence to the regimen (diet, medications, activity, smoking and stress modification) of 30 controlled and 30 uncontrolled American Indian diabetics. At the time of the clinic visit, subjects completed a coping scale, Miller Attitude Scale, regimen adherence scale, and demographic and medical data forms. Mean scores indicated attitudes toward adherence were very favorable and coping methods used helpful for all prescriptions of the diabetic regimen. Subjects were strongly adherent to all regimen prescriptions with the highest adherence at home and the lowest adherence at work for the uncontrolled group and recreation and sports settings for the controlled group. Multiple regression analysis indicated perceived beliefs of others were strong indicators of diabetic regimen adherence. Attitudes added to the prediction of adherence for taking medications, and coping methods also added to the prediction of adherence for stress reduction. Findings indicate diabetic care plans should be individualized, include significant others, focus on specific life situations and include data on health belief variables.*

Diabetes has been noted as a major problem with the American Indian population (Bennett, Burch, & Miller, 1971; West, 1974). Obesity has surfaced as an important risk factor related to diabetes in American Indians with greater prevalence among Indian women than Indian men (Knowler, Pettit, Savage, & Bennett, 1981; Lee, Anderson, Bryan, Bahr, Coniglione, & Cleves, 1985; Young, McIntyre, Dooley, & Rodriguez, 1985; Bonham & Brock, 1985).

The medical regimen routinely prescribed for the diabetic involves following the diet, taking medications, limiting smoking, performing activities, and modifying responses to stressful situations. Long-term control of diabetes may be accurately determined by Hb A<sub>1c</sub> and fasting blood sugars. This may also serve as a validation of adherence to the regimen (Gabby, Hastings, Breslow, Ellison, Bunn, & Gallop, 1977; Fraser, Gray, Borse, Duncan, & Clark, 1982). Long-term regimen adherence is most inconsistent for the prescriptions of diet and medications. However, adherence to the other prescriptions is not without problems, but they have not been investigated to the extent of diet and medication adherence. In addition, setting has been found to present obstacles to adherence, with the greatest adherence occurring in the home setting (Cerkoney & Hart,

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1980; Delbridge, 1975; Stone, 1961; Williams, Anderson, Watkins, & Coyle, 1967a; Christensen, Terry, Wyatt, Pickert, & Lorenz, 1983). Knowledge of diabetes and the prescribed regimen has not been found to be related to regimen adherence (McCulloch, Mitchell, Ambler, & Tattersall, 1983; Williams, Martin, Hogan, Watkins, & Ellis, 1967b).

It is important to note, however, that the belief process by which diabetic patients reach decisions related to regimen adherence has not been examined. Within the sociological realm, Ajzen and Fishbein (1980) provide a model which can be utilized to examine these variables (see Figure 1). According to this model, the individual's basic information or beliefs related to concept formation are found to influence the development of attitudes toward a specific behavior. The person's behavioral intention is viewed as the function of two factors: his attitude toward the behavior and his subjective norm. The attitudinal component refers to the favorableness or unfavorableness toward the behavior in question.

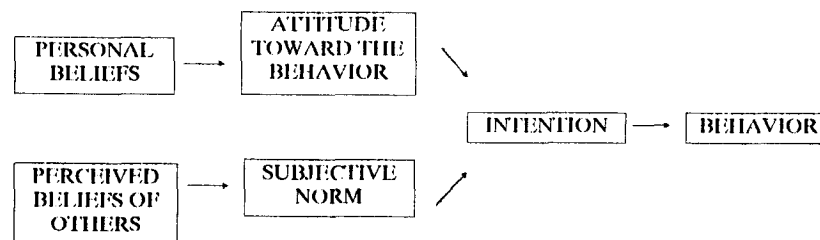


Figure 1

Ajzen, I., Fishbein, M. (1980) *Understanding Attitudes And Predicting Social Behavior* (p. 8) Englewood Cliffs: Prentice-Hall, Inc.

The subjective norm in the Fishbein model refers to individuals' beliefs that persons important to them think they should perform a specific behavior. Finally, intention is viewed as the immediate determinant of the specific behavior (Ajzen & Fishbein, 1980). Although not part of the Fishbein model, coping methods are one additional variable which is believed important to examine as coping methods are utilized by the individual to deal with difficulties related to adherence and may mediate the relationship between intentions and behaviors.

Through a series of studies, the Fishbein model, using mainly college populations, has been reported to be predictive of behavior in the sociological realm (Ajzen & Fishbein, 1974, 1980). Both Linn, Linn, Skyler, and Harris (1980) and Williams et al. (1967a) found that diabetic patients' attitudes towards their health affect both satisfaction with and adherence to the physician visit.

In support of the findings of Ajzen and Fishbein (1980) on the positive relationship of the normative component to attitudes and behavioral

intentions, parental attitudes have been found to affect childrens' adherence to the medical regimen (Hinkle & Wolf, 1952; Khurana & White, 1970). Additionally, Goldstein and Davis (1972) found that beliefs of significant others directly affected social behavior.

Few studies have examined coping methods used by patients in adjusting to diabetes and regimen adherence. Slawson, Flynn, and Kollar (1963) indicated that denial is utilized as one coping method with diabetes. Hinkle and Wolf (1952) and Tietz and Vidmar (1972) indicated that fluctuations in diabetes blood sugar do recur as a result of stress. In a different population, Miller, Garrett, McMahon, Johnson, and Wikoff (1985), using myocardial infarction patients, identified specific coping methods utilized by subjects post-infarction and further reported that the majority of coping methods used were energy-generating activities.

If the relationship of the variables identified in the Fishbein model translate to the diabetic regimen prescriptions, the following sequence should occur. First, certain information (beliefs) will be known about the diabetic condition and the medical regimen. From this basic information, values (attitudes) will be developed about both the diabetes and the diabetic regimen. These attitudes, and the patients' perceptions of others' beliefs of diabetes regimen prescriptions that they should perform (normative component), will lead to development of intentions to perform the prescribed diabetic regimen (behavior). Intentions to follow the medical regimen will then lead to performance of specific regimen prescriptions. In addition, the coping methods, although not part of the Fishbein model, may be utilized by individuals to assist them in overcoming difficulties related to diabetic regimen adherence.

Research on regimen adherence for the diabetic patient has concentrated on the risk factors concerning prevalence, incidence, and pathogenesis of diabetes among American Indians. No studies examine psychosocial factors which relate to diabetic regimen adherence of American Indian diabetics. The purpose of the present study, therefore, was to examine the relationship among attitudes, perceived beliefs of others, coping methods, demographic variables and adherence to the prescribed regimen of controlled and uncontrolled American Indian diabetic patients. Specifically, the following research hypotheses were investigated:

1. Controlled diabetics are more adherent to the prescribed regimen, have more favorable attitudes and find coping methods more helpful than uncontrolled diabetics.
2. Attitudes, perceived beliefs of others, and coping methods are indicators of regimen adherence for diabetic patients.

3. Certain demographic variables (sex, age, education, occupation, blood pressure, weight and amount smoked) are indicators of diabetic regimen adherence.

## Methods

### Subjects

Sixty subjects (30 controlled and 30 uncontrolled diabetics) were selected from a midwestern health care facility which services a specific tribal group. A multidisciplinary team (physician's assistant, nurse educator and nutritionist) instructed patients on dietary restrictions, medications, cessation of smoking, activity progression, and reduction of stress.

Subjects met the following criteria: diagnosed diabetes; literate; non-pregnant; 25 to 70 years of age; and no infections or cerebral, renal, pulmonary, or peripheral vascular disease. Patients were formed into controlled and uncontrolled diabetic subgroups. The National Diabetes Data Group Classification (1979) was used to divide subjects into the controlled and uncontrolled groups (fasting blood sugar of 70-140 mg/ml). In the controlled group, 10 subjects were insulin dependent (type I), and 20 subjects were non-insulin dependent (type II). For the uncontrolled group, 18 subjects were insulin dependent (type I) and 12 subjects were non-insulin dependent (type II). Treatment regimens for type I and type II diabetics were consistent for each group, controlled and uncontrolled. Diabinese was the main drug used for type II diabetics. In addition to the classification, subjects were to have experienced no more than 2-3 mild reactions per week for three consecutive clinic visits. All consenting subjects who met the above criteria were entered into the study sequentially as they came for their clinic appointments. One investigator was a member of the tribe, and was able to answer all questions about the project. Five subjects approached did not consent to participate because of lack of desire or not being able to meet one of the criteria.

Table 1 depicts characteristics of the study sample. There were no significant differences between controlled and uncontrolled groups on these characteristics. A profile of the study subject emerged from the demographic data. The typical subject was female, 45-57 years old, married, smoked 1/2 pack cigarettes per day, had a normal blood pressure, and was overweight. The subject had 11 years education and was employed as a skilled worker. Onset of diabetes was between 37 and 41 years of age.

### Instruments

After tribal approval and informed consent were obtained, subjects completed the following four instruments at the time of the clinic visit: Miller

Attitude Scale (MAS), Health Behavior Scale (HBS), Coping Scale and demographic and medical data form.

Table 1  
Selected Demographic and Medical Characteristics  
of 60 American Indian Diabetic Patients

Characteristic	Controlled Range N(30)	X	Uncontrolled Range N(30)	X
Age (yrs)	(26-69)	47.00	(25-69)	45.70
Sex				
Male	10		12	
Female	20		18	
Education (yrs)	( 3-16)	11.28	( 7-16)	11.90
Occupation				
Unemployed	5		9	
Retired	4		0	
Laborer	1		0	
Skilled worker	20		21	
Professional	0		0	
Marital Status				
Married	21		19	
Divorced	4		8	
Single	5		3	
Weight (Quetlet Index)*	(3.27-7.31)	4.70	(3.02-7.00)	4.50
Systolic B/P	(96-162)	125.90	(88-156)	122.53
Age of Onset of Diabetes (yrs)	(22-66)	41.37	(19-58)	37.87
Smoking packs/day		.616		.383

\* Quetlet Index =  $Wt - Ht \times 100$  (Normal 2.7 - 3.3, Metropolitan Life Foundation, 1983)

### The Miller Attitude Scale

The MAS is a twelve item, seven point semantic differential scale. Twelve sets of bipolar adjectives are used for each of five prescriptions of the medical regimen (medication, stress, activity, smoking, and diet). The reliability, content, and beginning construct validity of the MAS have been established (Miller, 1982b). Alpha reliabilities of the five subscales for this sample were: medications, .85; activity, .81; stress, .85; smoking, .73; and diet, .79.

### The Health Behavior Scale

The Health Behavior Scale is a five point Likert scale ranging from 1 = unlikely to 5 = likely. There are two parts to the Health Behavior Scale. Part A identifies the subject's reported adherence to the diabetic regimen, e.g., "When at home, I follow the prescribed diet." Part B indicates the subject's beliefs about what actions others most important to him think he should perform, e.g., "Most people who are important to me think I should follow the prescribed diet at home." Both Part A and Part B elicit responses related to diabetic regimen prescriptions for diet, limiting smoking, performing activities, taking medications and modifying responses to stressful situations in settings of home, work, sports/recreation and social. Scale development is described in detail by Miller et al. (1982a). Alpha reliabilities for Parts A and B of the five subscales administered during the clinic visit for this study sample ranged from .82 to .91 for all five subscales.

### Coping Scale

The Coping Scale is a twelve item, five point Likert scale ranging from 1 = "never" to 5 = "always" developed to assess which methods patients use to deal with exciting or upsetting situations. Part A identifies how frequently the method is used and Part B how helpful the methods have been for the patient. Scale development has been reported by Miller et al. (1985). Alpha reliabilities for the helpfulness scale range from .77 to .83. Because of cultural differences, examples of American Indian culture were developed for each item to maximize subject understanding. For example, the item "engaging in social activities" listed sub-items of hand games, gourd games, pow-wows, bingo, and club meetings.

### Demographic and Medical Data Form

Selected patient characteristics were recorded and included sex, age, weight, height, vital signs, smoking history, diabetic history, fasting blood sugar, numbers of reactions per week, and current diabetic regimen.

## Results

### Analysis of Data

Mean scores identified the level of adherence and favorableness of patient's attitudes and use of coping methods. Pearson correlation coefficients were calculated to identify relationships among the variables. Multiple regression analysis was used to determine if attitudes, perceived beliefs of significant others, or demographic variables added significantly to the prediction of the patient's adherence to the diabetic regimen.

### Attitudes, Perceived Beliefs of Others, Coping Methods and Regimen Adherence

Attitudes were favorable for both groups in the descending order of activities, diet, and medications for the controlled group, and medications, activities, and diet for the uncontrolled group. Attitudes were least favorable for both groups toward stopping smoking (Figure 2).

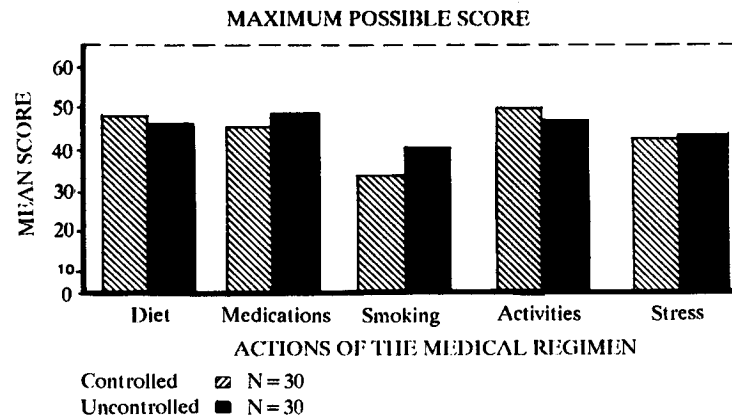


Figure 2  
Mean Scores of Attitudes Toward Actions of the Medical Regimen of 60 American Indian Diabetic Patients

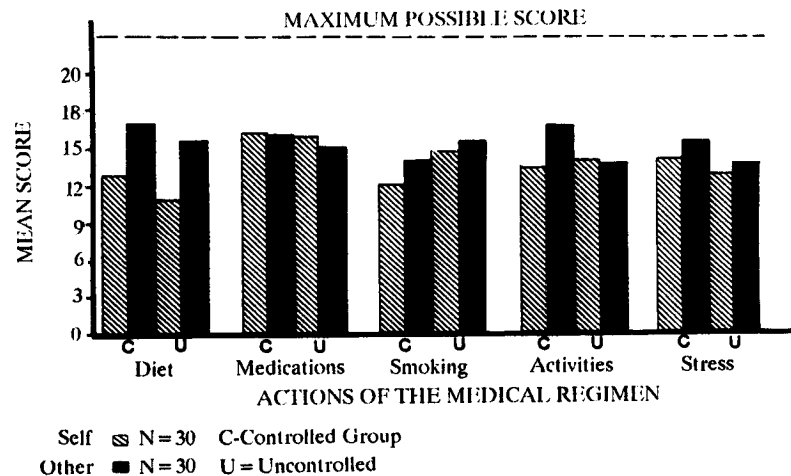


Figure 3  
Mean Scores of Subject Adherence and Perceived Beliefs of Significant Other to Perform Actions of the Medical Regimen of 60 American Indian Diabetic Patients



Regimen adherence was strong for both groups, with medications the highest for both groups. Following the diet was lowest for the uncontrolled group and smoking cessation was lowest for the controlled group (Figure 3). Perceived beliefs of others (normative component) was stronger than subject adherence for all prescriptions of the diabetic regimen, except medications for the controlled group and medications and activities for the uncontrolled group. Coping methods were viewed as helpful by both groups (scale 1-5): controlled groups  $X = 3.94$  and uncontrolled groups  $X = 3.92$ .

Most frequently used coping methods by both groups were expressing feelings and exercise. Most helpful coping methods (means above 4.0) by both groups were expressing feelings, exercise, hobbies, praying, social activities, and medication.

Adherence was high for all settings: home (controlled,  $X = 18.34$ ; uncontrolled,  $X = 18.31$ ); work (controlled,  $X = 17.48$ , uncontrolled,  $X = 16.81$ ); sports and recreation (controlled  $X = 17.04$ ; uncontrolled,  $X = 17.92$ ); social (controlled,  $X = 17.07$ ; uncontrolled,  $X = 16.85$ ). Although regimen adherence was high, it varied in different settings with highest adherence for both groups in the home setting. Lowest adherence for the controlled group was sports and recreation settings, and the work setting was lowest for the uncontrolled group.

Table 2  
Correlations of Attitudes Perceived Beliefs of Others and Coping Helpfulness  
with Regimen Adherence of 60 Diabetic American Indians

Adherence to Regimen Prescriptions	Attitudes	Beliefs of Others	Coping Helpfulness
Diet - u*	.29**	.43***	.19
Diet - c*	.04	.20	.21
Meds - u	.37**	.34**	-0.24
Meds - c	.18	.91****	-0.02
Smoking - u	.47***	.46***	-0.07
Smoking - c	-0.14	.36**	.01
Activity - u	.32**	.53****	.12
Activity - c	.26	.38**	.25
Stress - u	.25	.39**	.46***
Stress - c	-0.06	.38**	.33**

\*u = Uncontrolled diabetic group N=30

\*c = Controlled diabetic group N=30

\*\*p .05

\*\*\*p .01

\*\*\*\*p .001

The first hypothesis, that controlled diabetics are more adherent to the prescribed regimen, have more favorable attitudes and find coping



methods more helpful than uncontrolled diabetics, was first examined by determining Pearson correlation coefficients between key variables (Table 2). Attitudes were significantly related to regimen adherence in the uncontrolled group for prescriptions of diet, medications, smoking and activity. No significant relationships were found between attitude and adherence for the controlled group. Perceived beliefs of others were significantly related to regimen adherence in both groups for all prescriptions of the diabetic regimen except diet for the controlled group (Table 2). Coping helpfulness was significantly related to regimen adherence only for the prescription of stress reduction (Table 2). T-tests were used to determine differences in mean scores between uncontrolled and controlled groups for all variables. From the 16 variable comparisons between adherence and attitudes, perceived beliefs of others and coping helpfulness, there were only 2 significant differences between the groups: attitudes toward smoking  $t = 2.02$ ,  $p .04$ ,  $df = 50$  and beliefs of others about activity adherence  $t = -2.05$ ,  $p .04$ ,  $df = 58$ . Since these differences were minimal, it was determined that the data for the two groups could be combined in further analysis.

According to the second hypothesis, attitudes, perceived beliefs of others, and coping methods are indicators of regimen adherence. Regression analyses were calculated for each of the prescriptions using adherence as the dependent variable and perceived belief of others, coping helpfulness and attitudes as independent variables. Results of these regression analyses are shown in Table 3. A separate equation was calculated for each area in which prescriptions were given to the patients (diet, smoking, activities, medications and control of stress). All five areas were statistically significant. The perception of significant others' beliefs contributed most to the regression equation for each of the prescriptions. Attitudes contributed significantly in the case of medication, and coping methods also contributed significantly to the control of stress.

Table 3  
Regression Equations for Adherence to the Diabetic Regimen with Attitudes, Perceived Beliefs of Others and Coping Helpfulness (N = 60)

Prescription	a	Beta			R	R <sup>2</sup>	F
		Coping Helpfulness	Attitudes	Perceived Beliefs of Others			
Diet	6.47			.37	.37	.14	9.28
Smoking	6.09			.41	.41	.17	9.71
Activity	7.63			.41	.40	.16	11.44
Stress	-3.17	-.30		.45	.57	.32	13.37
Meds	4.69		.22	.55	.61	.37	16.68

Note:  $p .003$  for all prescriptions

Hypothesis three proposed that diabetic regimen adherence is related to certain demographic variables. The variables of sex, age, systolic and diastolic blood pressure, and weight were added in stepwise fashion to the regression equations of hypothesis two. No bivariate correlation coefficients were found to be significant, nor were significant relationships found by adding these variables to the regression equation.

### Discussion

This study examined the relationships between demographic and medical variables, attitudes, perceived beliefs of others, coping methods and self reported adherence to the diabetic regimen of two groups of diabetic patients.

Attitudes were favorable toward diabetic regimen adherence for both controlled and uncontrolled diabetics with the most favorable toward performing activities for the controlled group and taking medications for the uncontrolled group. For both groups, the least favorable attitude was toward stopping smoking (Figure 2). In part, this may be attributed to the tradition of smoking which has been part of the American Indian culture for centuries. A limitation rather than cessation approach may be more realistic for teaching programs. Item response indicated subjects found stopping smoking as worthless, bad, and difficult. These findings parallel those of Miller et al. (1982b) with cardiac patients. Adherence was strong for both groups, with mean scores indicating greatest adherence to taking medications and least adherence to stopping smoking for the controlled group and following diet for the uncontrolled group. This was also the area of second lowest adherence for the controlled group (Figure 3). It is of special note that obesity, which has been cited as a problem for diabetics and a special problem with American Indians, was also found in this study in addition to poor diet adherence (Christensen et al., 1983; Stone, 1961; Williams et al., 1967a). Innovative strategies should be used by the health team to tailor instructions to meet dietary life-styles, traditions, and cultures of the American Indian. Attitudes in this study were found favorable for all regimen prescriptions and were significantly related to adherence for prescriptions of diet, medication, smoking, and activity for the uncontrolled groups (Figure 2). In addition, attitudes were predictive of regimen adherence for taking medications (Table 3). The favorable attitudes of the American Indian found toward regimen adherence could be used to promote acceptance of the individualized instructions.

Home was the setting of the strongest adherence with sports and recreation the areas of weakest adherence for the controlled group and the work setting for the uncontrolled group. These findings parallel those of McMahon, Miller, Wikoff, Garrett, & Ringel (1986). With family support and assistance, home would be the expected setting of strongest adherence. The factors that inhibit adherence in work, recreation, and sports settings

need to be examined so realistic adjustments can be made to promote adherence.

A subject's beliefs about regimen prescriptions that others important to him think he should perform, were as strong or stronger than the subject's actual adherence, and were predictive of adherence for all prescriptions of the diabetic regimen (Table 3). These findings parallel those of Khurana et al. (1970), Delbridge (1975), and Miller et al. (1982a). These findings emphasize the importance of including a significant other in all aspects of the diabetic program for optimal long term subject adherence. Investigation on methods for inclusion of significant others in diabetic treatment programs is warranted.

Several coping methods were found helpful by these American Indian subjects. The coping methods found most helpful by both groups in descending order were expressing feelings, exercise, praying, and engaging in social activities and hobbies. These findings are similar to Miller et al. (1985). Coping methods identified specific to American Indian culture were: hobbies--bead work, carpentry; praying--peyote meetings, sweat lodge, church, social activities--hand games, gourd dance, pow-wows, bingo, etc. These coping methods, which subjects viewed as most helpful, also were significantly related to stress reduction and were predictive of adherence to stress reduction. This suggests that identification by the health team of frequently used helpful coping methods would allow individualizing stress modifications and promote adherence to this prescription of the diabetic regimen.

As predicted by the Fishbein model (Ajzen & Fishbein, 1980) perceived beliefs of others were predictive of diabetic regimen adherence. However, attitudes were only predictive of taking medication. Coping helpfulness also added to the prediction of adherence for stress reduction (Table 3).

In summary, findings of the study indicate that an individualized plan for the American Indian diabetic needs to be developed which includes significant others and focuses on specific life situations. In addition, the database for such plans should include attitudes, perceived beliefs of others, coping methods, and actual adherence behavior of the patient.

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# THE HIGH ACHIEVING SIOUX INDIAN CHILD: SOME PRELIMINARY FINDINGS FROM THE FLOWER OF TWO SOILS PROJECT

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*Abstract: This paper focuses on thirty Oglala Sioux children from the 2nd and 4th grades and attempts to identify a variety of emotional, cognitive, and cultural factors that differentiate high academic achievement from low academic achievement. The small sample was taken from within a large, ongoing prospective study, The Flower of Two Soils, of approximately one thousand children at four reservation sites in the United States and Canada. High achieving children score better than their low achieving classmates on the Wechsler Intelligence Scale for Children-Revised (WISC-R), but not on the Draw-A-Person test. They tend to come from intact, two parent families with a solid employment history, a strong social network, frequent contact with the school, and acculturation tendencies toward the majority culture. The children show an identification with overall educational aims. These tentative findings await confirmation from the full project.*

This paper reports preliminary analyses of year one data collected at the South Dakota Oglala Sioux Reservation on 30 second and fourth grade children as part of a large National Institute of Mental Health (NIMH)-funded epidemiologic survey of Indian children entitled *The Flower of Two Soils*.<sup>1</sup> The study came about as a result of previous work with American Indian youth.

Beiser and Attneave (1982) surveyed national data from the Indian Health Service in 1974 and compared that data to 1969 National Center for Health Statistics (NCHS) data. At all ages except five to nine, Indian children were at a higher risk for entering mental health treatment than were non-Indian children (see Figure 1), with a strikingly high treated prevalence for Indian female adolescents. While this data has a number of methodological uncertainties, it strongly suggests what clinicians experience: a high rate of emotional difficulties in Indian children. Coupled with results from earlier research conducted by John Bryde on the Sioux reservation in the 1960's, additional concerns become apparent.

Bryde (1968) administered the Minnesota Multiphasic Personality Inventory (MMPI) to 105 8th grade students on a Sioux reservation and found significant differences between Indian and non-Indian children on 26 of 28 key variables. Feelings of depression, alienation, withdrawal, meaninglessness, and self-estrangement were particularly high in this group of students.

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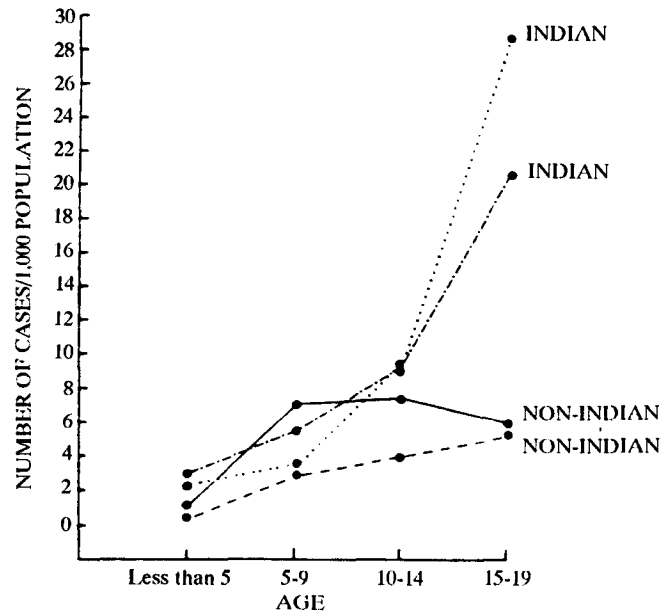


Figure 1  
Prevalence Rates for Outpatient Psychiatric Treatment of Indian  
and Non-Indian Children

Bryde (1966) also studied academic achievement in grade school students and introduced the concept of academic "crossover". The data which he used to make this interpretation of crossover is summarized in Table 1. While younger Indian students begin the 4th grade slightly ahead of the overall norm, by the 8th grade they have fallen about a half year behind. A series of questions then arise as to whether deteriorating academic performance is due to emotional problems. If so, what is the sequence? Do emotional problems result in academic decline, or is academic decline responsible for an increasing incidence of emotional problems? Finally, is academic crossover still a valid concept twenty years later? These are some of the questions that led to the undertaking of the present study.



Table 1  
California Test Scores of 38 Federal Indian Schools  
in North and South Dakota

Means: Grade	Overall Norm	Indian Average	Number
4	4.1	4.3	636
5	5.1	5.2	627
6	6.1	5.8	667
7	7.1	6.9	618
8	8.1	7.7	624

There is no lack of concern about the education of American Indian children. In 1928, the Brookings Institute performed an extensive analysis of the education of Indian children, commonly called the Meriam Report.<sup>2</sup> A later report, produced by a Senate special sub-committee on Indian education, known as the Kennedy report, i.e. "Indian Education - A National Tragedy - A National Challenge" (1969)<sup>3</sup>, arrived at many of the same grim conclusions as the Meriam Report. Currently, at the Pine Ridge Oglala Community School, 50% of students between the 9th and 10th grade drop out. Only 25% of the freshman class will graduate. The overall student dropout rate and the overall adult unemployment rate are both about 85% in Pine Ridge.

This study seeks to understand the complex psychosocial interrelationships with academic performance in Indian children. Armed with more information, we may better be able to suggest preventive interventions in this high-risk population. However, these preliminary analyses emphasize not psychopathology, nor academic failure, but academic success. This focus grew out of a comment by one of our Indian colleagues at a planning conference last year who said: "Everyone knows the Indian child has problems, but we'd like to know what makes for success in school, as well as what causes failure". This comment caused us to identify and examine a small group of successful Sioux students.

Our discussion begins by briefly describing the overall study, then turns to the preliminary analyses conducted with the emphasis noted above. We next consider the differences in functioning and implications for clinicians as well as educators.

## Methods

### Research Design

Two-hundred children at four different schools in the Pine Ridge Reservation are being followed over a three-year period. A group of 100



similar aged students in adjacent towns (Martin and Kadoka, South Dakota) bordering this reservation are also being followed. Two hundred children on the Navajo reservation another 200 children on the Island Lakes Reserve in Northern Manitoba, and a smaller contingent on the Queen Charlotte Islands, British Columbia are being studied in the same fashion; hence the title of the study, "Flower of Two Soils."

In addition to receiving standardized achievement tests, each child receives an annual WISC-R and Draw-A-Person test, as measures of cognitive ability. Tests of emotional functioning include student self-report measures, as well as parent and teacher ratings. To validate these screening measurements, each child in the first year of the study was interviewed with the Diagnostic Interview Schedule for Children (DISC-interview), a structured psychiatric epidemiological protocol designed to render DMS-III diagnoses (Costello, Edlebroock, Kalas, Kessler, & Klaric, 1982) Each child's parent received the DISC-P, the same interview protocol adapted particularly for parents.

Assessments of biological, developmental, and social family background factors were obtained through a comprehensive two hour interview of the child's parent or guardian. Topics such as pre-natal, birth history, physical illness, family mobility, employment, and education were covered. Finally, assessments of ethnic identity were elicited through a recently constructed traditionality scale, administered to the parent or guardian, and a *Picture Identification Test*, completed by the child.

This general design employs the convergence technique described by Bell (1953) which makes it possible to construct a five year developmental trajectory utilizing repeated observations over 3 years in 2 separate cohorts. Thus we have been following a group of 100 2nd graders and 100 4th graders in each of the sites, totaling 600 Indian and 300 non-Indian children.

### Preliminary Analyses

This paper reports the results of data from only 30 of the 200 children at the Sioux site during the first year, that is when they were 2nd and 4th graders. Originally, 18 children in each group were to be studied, but missing data resulted in looking at 17 high achieving 2nd and 4th graders, and 13 low achieving students in the same grades, based on the Stanford Achievement test score results. The students were selected by one of the authors (W.H.S.) from the school's computer printout sheets. These students were in essence the highest of the high achievers and the lowest of the low achievers from a large sample. The purpose was to define a small group of high functioning students and to compare them to low functioning students on a variety of dependent measures in order to throw into relief some of the possible factors which contribute to these different levels of functioning. These two groups contain roughly equal numbers of males and females. Such preliminary analyses allow us to begin

sharpening our analytic procedures for the eventual major study of the entire sample over time and across sites. The statistical analyses were undertaken with the  $X^2$  test for categorical variables and the unpaired test for continuous variables. For categorical variables when cell sizes were 15 or less, we used the Fisher's exact t test.

## Results

### Achievement Test Scores

The percentile ratings of the high and low achievement groups are summarized in Table 2. The students comprising these two groups were picked by one of the authors (W.H.S.) from the lists of results of the school-conducted achievement test ratings. They represent the highest and lowest students at each of the two grade levels. One can see that the high achievement group compares impressively well when contrasted with normative data from the majority culture. The drop in percentile scores from the 2nd to the 4th grade is hard to interpret, since they represent two different cohorts of students. The low achieving cohort remains relatively stable in the two grades. There do not appear to be any differences in gender between the high and low achieving groups.

Table 2  
Cognitive Findings

	High Achieving Students		Low Achieving Students		
	2nd Grade	4th Grade	2nd Grade	4th Grade	
SRA Percentile Scores in Achievement					
Reading	83p.	66p.	06p.	04p.	
Math	86p.	58p.	15p.	12p.	
Language Arts	73p.	67p.	08p.	09p.	
WISC-R (both grades)					
Verbal I.Q.	98		76		t 5.26
Performance I.Q.	107		99		p .000
Total I.Q.	102		101		2.02 .029
					5.19 .000
Draw-A-Person	104		101		.35 N.S.

Table 2 (Continued)  
Cognitive Findings

	High Achieving Students		Low Achieving Students		
	2nd Grade	4th Grade	2nd Grade	4th Grade	
Right/Left Cerebral Dominance (Number of children)					
Left (right-handed)		16		6	
Right (left-handed)		0		2	$\chi^2 = 8.84$
Mixed		1		5	$df = 2, p. = <.02$

Cognitive Measures

Table 2 depicts WISC-R scores and Draw-A-Person IQ scores. As is usually true with Indian children in general, the performance scores are higher than the verbal scores. Notice that in the high achieving group the difference is close to a 10 point spread, whereas in the lower achieving group, it is over 20 points. Higher achieving students score higher on the WISC-R test to a significant degree; but the interesting finding is that there is no difference on Draw-A-Person IQ scores between the high and low functioning groups. We were impressed with many of these children's drawing skills. Figure 2 is an impressive Draw-A-Person sketch from one of the students in the low functioning group; offered as a representative example of the skill that these children possess.



age 9 yrs, 9 mos.  
WISC-R verbal: 82  
performance: 105

Draw-A-Person: 121

Figure 2

cerebral dominance in developmental neurology. We decided to collect this data when one of the Pine Ridge school teachers told us during our pilot testing in 1983 that she was impressed by such high numbers of left-handed Indian children. This finding in our small sample of more right or mixed cerebral dominance in the low-achieving group is intriguing. It will need validation in our larger sample, and if validated will be difficult to interpret in regards to educational success. Nevertheless, it may suggest a cognitive basis for reading difficulties in some Indian children.

#### Family Background Factors

The study collected a variety of family variables in a number of areas important to child growth and development.

#### Family Education

Table 3 shows that the high achieving group mothers had roughly two years more formal education than the low achieving group. For the fathers, our incomplete data shows roughly one year of educational difference, a finding that was not quite significant, but suggestive. Note that mothers in the high achieving group average a bit more education than their spouses.

#### Family Employment

Visual inspection of Table 3 alone underscores the striking importance of family employment. In the high achieving group all but one of the families have a parent holding down a job, but in 70% of the families both parents were working. One should recall that this is a community in which there is approximately 85% unemployment. In contrast, both parents were working in the family of only one low achieving student. Six of the 13 families were on welfare. We did not conduct a formal analyses of SES on this data, but it is clear that these two groups come from different socioeconomic strata within the community.

#### Family Structure

High achieving students more often belong to two-parent families, while low achieving students often belong to single parent families, usually single mothers (see Table 3). This does not mean that step-parents were excluded in the two parent families. Two of the six single parent families in the low achieving group were headed by grandparents.

Several other family variables were examined. Family size (mean = 5), number of siblings in family, and number of rooms in the home do not differ in the two group. Table 3 indicates that parents of the high achieving groups list more extra family members as important to their child than the

low functioning group. This may be an artifact of the interview, if better rapport was established with the high functioning child's parent. If this finding is later confirmed in the larger study, it suggests a greater social network for the high achieving child, and relatively greater social isolation for the low achieving child.

Table 3  
Psychosocial, Emotional, and Cultural Findings

	High Achieving Students	Low Achieving Students		
Education of Mother (years of formal education)	13.12	11.58	t	1 tail p.
Education of Father (years of formal education)	12.4	11.3	1.92	.033
Employment of Parents				
Employed	70%	8%		
Families on Welfare	8%	45%		
Family Structure (number of families)				
Both Parents Living at Home with Child	12	3	$\chi^2 = 5.43$	
Not at Home	5	10	df = 1, p. < .02	
Mother Raising Child				
Alone	2	6	$\chi^2 = 4.46$	
Not Alone	15	7	df = 1, p. = .045	
Extra Family Members Mentioned as Important to Child	4.0	1.54	t = 2.65 1 tail. p = .007	
Teacher Global Ratings (4 point scale; mean score)				
Overall Intelligence	3.18	1.38	6.19	.000
English Skills	2.94	1.54	5.44	.006
Social Skills	2.76	1.62	3.50	.000
Overall Behavior	.59	1.62	2.67	.006
Emotional Problems	.53	1.92	4.40	.000
Language spoken at home (number of children)				
Mostly English	14	5	$\chi^2 = 6.68$	
English and Sioux	3	6	df = 2, p .05	
Berry Statements				
Traditional	2.35	5.3	3.098	.003
Assimilation	6.15	7.18	2.255	.018
Acculturation	3.3	5.44	3.544	.004

Table 3 (Continued)  
 Psychosocial, Emotional, and Cultural Findings

	High Achieving Students	Low Achieving Students		
Traditionality Checklist Scores	47.6	66.6	2.498	.011
Measures of Emotional Adjustment (DISC symptom scores: mean number)				
Separation Anxiety	13.5	18.5	1.32	.09(N.S.)
Phobias	17.2	32.8	2.16	.022

### Family and School

We examined only several of the many variables regarding parents' activities with and attitudes toward the school. Parents of high achieving students, on the average, tend to visit school more often (Chi square = 1.49,  $p = .074$ , one tail test). However, more important is the fact that the parents of 5 of the 13 low achieving students had made no visits in the previous school year, while none of the parents in the high achieving group failed to visit school at least twice. A uniform feeling among parents of both groups is the wish for a greater emphasis on traditional Indian history, customs, and activities in the current school curriculum.

### Teacher Ratings

Only teacher global ratings on this small sample are currently available. Each teacher completed a 110 item questionnaire on each study subject in his/her class. Items pertaining to anxiety, attentional problems, conduct problems, cooperativeness, and sociability were all involved. At the end of this item checklist, teachers were asked to make global ratings in several areas which are summarized in Table 3. There are significant differences in all of the teacher's global ratings. Not only are the high achievers seen as more intelligent, but as displaying higher language and social skills as well. The lower achievers are seen as exhibiting significant behavior and emotional problems. Just what those problems are will be revealed in the analyses of the item checklists. Teachers clearly had no trouble distinguishing between these two groups of students.

### Traditionality Measures

We now come to the difficult area of assessing traditionality. We adopted a number of methods, not all of which will be presented here. The language issue is first considered. Table 3 shows which language that

family members speak to each other at home. Families of high achieving students almost always speak English, while the families of low achieving students frequently speak more Sioux. This difference suggests a potentially differential exposure to English in these two groups.

Let us next consider parent reactions to five cultural statements taken from Berry's (1978) work and illustrated in Figure 3. The questions are "forced choice." Respondents pick the one with which they most and/or least agree. The statements are arranged so that the first one is traditional, the second represents an intermediate position, called assimilation, and the third is a majority cultural alignment, acculturation.

Figure 3  
"Berry Statements"

A.	Old people know the best remedies	0 1 2
B.	Old peoples' remedies and doctors' remedies are both useful.	0 1 2
C.	If you are sick, only nurses and doctors can help you.	0 1 2
	most _____	
	least _____	
A.	Children should quit school as soon as they can, so they can help in the family.	0 1 2
B.	Children should stay in school long enough to learn to speak English but no longer.	0 1 2
C.	Children should stay in school as long as they can to get good jobs.	0 1 2
	most _____	
	least _____	
A.	White people should keep away from Indian communities.	0 1 2
B.	It is good to have some whites in Indian communities, but there are enough now.	0 1 2
C.	It is best to let anyone who wants to live in Indian communities.	0 1 2
	most _____	
	least _____	
A.	Indian parents should teach their children to keep strictly to the old values of their grandparents.	0 1 2
B.	Indian parents should teach their children to both keep the old values and be able to live in the white community as well.	0 1 2
C.	Indian parents should teach their children to be just like other Americans/Canadians.	0 1 2
	most _____	
	least _____	



Figure 3 (Continued)  
"Berry Statements"

A.	It is better for Indians to stay on their reservation/reserves, than to come to the city.	0	1	2
B.	Indians should be able to live happily either on a reservation/reserve or in a city.	0	1	2
C.	Indians should move off the reservation/reserve to the city to get ahead in this world.	0	1	2
	most _____			
	least _____			

Table 3 depicts the results of these questions for the two student groups. Parents of low functioning students scored significantly higher on the tradition statements; while the high achieving students' parents scored higher on the accommodation and acculturation statements.

Another measure of interest involves a traditionality questionnaire which comprises 85 items developed by a Pine Ridge community panel. These items ask about traditional Sioux practices and beliefs, the first page of which is shown in Figure 4 to illustrate its content. Scoring is accomplished by assigning 2 = a lot like me, 1 = somewhat-like-me, and 0 = unlike-me to each item.

Figure 4  
Sample Page From Traditionality Questionnaire  
Traditionalism: Sioux

#### TRADITIONAL PRACTICES

Would you answer the following as being mainly "A lot like me," "Somewhat like me," or "Unlike me."

	Unlike me (0)	Somewhat like me (1)	A lot like me (2)
1.			
2.			
3.			
4.			

Figure 4 (Continued)  
 Sample Page From Traditionality Questionnaire  
 Traditionalism: Sioux

**TRADITIONAL PRACTICES**

Would you answer the following as being mainly "A lot like me," "Somewhat like me," or "Unlike me."

	Unlike me (0)	Somewhat like me (1)	A lot like me (2)
5. I use a hair tie with an eagle feather to honor people.			
6. I often prepare game which the men in my family have hunted to dry meat.			
7. When I haven't had taniga for a while, I miss it.			
8. I use tobacco to give thanks.			
9. I prefer tripe to dog soup.			
10. I pick wild berries.			
11. I have no use for the way old people do things.			
12. I prefer dried foods to boiled foods.			
13. I pick plants and herbs to use such as timsila and peppermint tea.			

Table 3 shows that the low achieving students' parents scored significantly higher (more traditional) than did the high achieving students' parents on this questionnaire. These results must be interpreted cautiously. There is, however, internal consistency among the three measures of traditionality: language use, the Berry statements, and our own traditionality questionnaire. Children from the more traditional families appear to enter school somewhat more hampered in their use of English language. Consequently, we hope to uncover some of the variables that mediate traditionality and academic achievement.

Notice that the mean score on the traditionality questionnaire for the high achieving students is 47. This implies considerable identification with beliefs and practices of the Sioux Indian traditions among the families of this group as well. One should not conclude that traditional beliefs are antithetical to academic success.

Emotional Symptoms as Obtained from the Diagnostic Interview  
 Schedule for Children (DISC)

As mentioned previously, the DISC was administered to all students during the first year of data collection. The results of the DISC diagnoses are not yet available. We examine here two areas from the

DISC, specifically the subsections on separation anxiety and phobias. We choose these because these students expressed a good number of fears and anxiety during the interview process. We do not yet know whether these concerns merit a formal diagnosis, but in lieu of that, the total symptom scores in these two subsections were compiled. Table 3 shows that the high achievement group had significantly fewer phobic symptoms than the lower achievement group. Symptoms of separation anxiety, while somewhat higher in the latter group, were not significantly more frequent than in the former group. While it would have been interesting to examine depressive symptoms and caseness, this is a more complicated subsection to disentangle within the DISC format. We did review an open-ended question in the DISC protocol: i.e., "What is it that you worry about the most?" Students from both groups mentioned car wrecks, or fear of a grandparent dying as the more prevalent worries. There do not seem to be great differences here. Only students from the low achieving group spontaneously mentioned alcohol. One student said, "Dad might get drunk and die." Another student, when asked what he worries about said, "When mom drinks and parties." Our data on alcohol problems has not been analyzed yet. The feeling with respect to low achieving students is that their family life was generally more disrupted and unpredictable.

When asked about what they would do when they grew up, the students responded as shown in Table 4. High achieving students were more specific in their responses than the low achieving students. Several of the high achieving students already had identified with the aims of education by responding that they would be teachers.

Table 4  
"What Will You Do When You Grow Up?"

High Achieving Students	Low Achieving Students
Get a good education	Don't drink
Go to college	Get a good education
Be a teacher	Get a good education
Be a teacher	Get an education
Be a teacher	Get a good job
Be a lawyer	Go to college
Be a doctor	Be a doctor
Be a nurse	Don't know
Get a good job	Don't know
Be happy	Don't know
Get married	Don't know
Be a pro football player	Don't know

## Discussion

Many variables distinguish the high achieving students from the low achieving group in this small sample. A composite profile of the high achieving and low achieving Sioux Indian student was constructed from this data. Obviously, many factors contribute to success and failure. How much weight to give each of these factors is still unknown. Thus, at this point a descriptive profile rather than a ranking of factors is in order.

### The High Functioning Sioux Student

This Indian child is male or female scoring somewhere between the 60th and 80th percentile on majority-based achievement tests. His/her WISC-R and Draw-A-Person IQ is in the range of 100 to 105, with a 10 point difference between verbal and performance items on the WISC-R. He/she usually exhibits left cerebral dominance (right handed).

His/her parents are both working. His/her mother has about one year of college level training beyond high school. He/she comes from an intact two parent family with an average size of five members. He/she enjoys frequent contact with four additional family relatives or friends. His/her parents visit the school an average of eight times during the school year. The family speaks English, and is oriented to accommodating Indian values in a white culture. Yet, they also subscribe to many traditional values.

This child expresses some anxiety and fearfulness. He/she strongly identifies with the aims of education and is rather specific about a future occupation. This child's teacher rates him/her as doing not only well academically, but socially and verbally. He/she is seen by the teacher as being relatively free of behavioral or emotional problems.

### The Low Functioning Sioux Student

This Indian child is male or female scoring on or below the 15th percentile in standard majority-based achievement tests. His/her WISC-R IQ falls in the mid 80s, with a 20 point spread between verbal and performance subscales. However, his/her Draw-A-Person IQ averages in the 100-105 range. This child has a 50% chance of showing right or mixed cerebral dominance.

His/her parents most likely have not completed 12 years of school. This child typically lives in a single parent household, and there is a 50% chance the family is on welfare. The family averages five members. The child has frequent contact with one or two additional family relatives or friends. The parent makes about five visits to the school in an average year, but there is a 30% chance that no school visits will be made. Often, both English and Sioux are spoken at home. This child's parents often identify

with a more traditional cultural stance, and are less comfortable with accommodation or acculturation to the majority culture.

Yet, the parent also expresses the importance of education. This child experiences a number of anxieties and particularly fears. His/her ideas of future occupation tend to be vague and/or lacking in detail. This child's teacher views him/her as not only being less academically capable, but socially less adept as well. He/she is seen by the teacher as prone to behavioral and/or emotional problems as well as academic difficulties.

### Conclusion

Cognitive, social, emotional, and perhaps cultural factors all play a role in mediating academic success or failure in the Sioux student. What factors will prove to be most important over time is still to be answered. One can be certain that socio-economic stability will play a major role, as it always has (Douglas, 1964). Children function well when the adults around them function well.

Based on these findings, are there any preliminary words for the school? While not being teachers ourselves, we feel that these results suggest that teachers might first play to the Indian student's strengths, which lay in visual motor tasks such as art, and specifically, drawing. From that strength students might then be encouraged in verbal skills by describing what they have drawn or created. Such a suggestion probably has already occurred to many others. These students' skills in representational drawing should not be neglected and might prove a link in helping them master language skills.

It seems that the Sioux have always been a visual people. Black Elk's famous comment about his nation illustrates this with his vivid description of the circle:

Everything an Indian does is in a circle...In the old days when we were a strong and happy people, all our power came to us through the sacred hoop of the nation, and so long as the hoop was unbroken the people flourished. (Nerhardt, 1961, p. 276).

Unfortunately, the circle of educational success and its relationship to emotional health remains broken for many of these children. How to make one relevant to the other for a meaningful future is still an enormous and unsolved question.

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### Notes

1. See Beiser, M., & Manson, S.M. Prevention of emotional disorders in North American Native children, *Journal of Preventive Psychiatry* (in press).
2. Taken from the Brookings Institution, Institute for Government Research, Lewis Meriam, Technical Director, "The Problem of Indian Administration" Washington, D.C., (1928) New York: Johnson Reprint Corporation, 1971.
3. Ibid, pg. 41
4. Wilson, J., October, 1985. Personal Communication. Pine Ridge, SD.

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# SUICIDE AND SELF-DESTRUCTION AMONG AMERICAN INDIAN YOUTHS<sup>1</sup>

PHILIP A. MAY, Ph.D.

*Abstract: Suicide mortality among most tribes of American Indians has predominantly been a problem of the young. With the recent concern about teenage and youthful suicide in the general U.S. population, it is important to re-examine youthful suicide among Indians and to compare the Indian experience with that of the U.S. Using a variety of data sets, sources, and studies, this paper presents a brief overview of the nature of our knowledge of youth suicide, suicide attempts, and single vehicle crashes among various tribes. Included in the presentation is a brief history of the professional and governmental concern about suicide among Indians and a twenty year follow-up of suicide death at an Intermountain Indian reservation. The variety of prevention and intervention efforts undertaken at this particular reservation are described as positive examples which other communities and/or tribes might follow. Mental health professionals must continue to learn from the experience of tribes and communities who have suffered in the past from epidemics of self-destruction so that the future is more positive.*

Of great concern to all U.S. professionals in mental health and education fields is the fact that youth suicide rates have risen dramatically over the past three decades. During this era, the suicide rate among those aged 15-24 years tripled, going from 4.5 per 100,000 in 1958 to 12.1 in 1982 (U.S. Vital Statistics, 1967; National Institute of Mental Health, 1985). The numerical increase in this period was from 1000 to over 5000 deaths each year. A substantial increase has also been registered in suicide among youth aged 10-14 years, but rates in this age group might be more subject to changing definitions of the classification of suicide mortality than to an actual change in behavior.

The increase in youth suicide is greatest among males, particularly white males, who in 1982 had a rate twice as high as black males in the ages 15 to 24 years (See Table 1). White females aged 15-24 have rates of suicidal death which are only one-fourth that of white males, and black females have a rate which is one-fifth that of black males and one tenth that of white males (NIMH, 1985). Therefore, from readily available data published by vital statistics on the two major color/ethnic groups in the U.S., the problem is greatest among whites, particularly males.

The focus of this paper is a brief review of selected studies and data on suicide and self-destruction among American Indians of various tribes. While the above data summarize the trends among the largest

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categories of U.S. youth, this paper will define the nature and trends of suicide among this nation's original ethnic groups, particular tribes of American Indians, all of whom are now a vastly outnumbered minority.

Table 1  
Suicide Rates\* in the United States by Color and Gender  
for Ages 15-24, 1982

Group	Rate
White Males	21.2
Black Males	11.0
White Females	4.5
Black Females	2.2

\*Rates per 100,000

### General Characteristics of the Indian Population

Currently in the United States there are over 300 different tribes recognized by the federal government. The Indian and Alaska Native population numbered 1.4 million in the 1980 census. Indians therefore are 0.6% of the U.S. population. Of this population, more Indians now live off reservations and away from Native communities (63%) than live on one of the 278 reservations and 209 Alaska Native villages (See Figure 1). Thus the Indian population is no longer predominantly in rural, reservation areas; but most still reside in the Western U.S. in areas and/or states close to their reservation. Since World War II Indians have become more urban and involved in mainstream American society (U.S. Bureau of Census, 1984a; 1984b). Nevertheless the average income for Indian families in the U.S. was considerably lower (\$13,678) than the national average (\$19,917) and twice as many Indians (27.5%) were below the poverty level. The unemployment rate for Indians continues to be higher than national averages (two times) and on some reservations unemployment is over 60% (U.S. Bureau of Census, 1984a, 1984b). The median age of Indians is much younger (22.9 years) than the general U.S. population (30.0 years) due mainly to higher fertility rates in past decades. Finally, the educational attainment of Indians is below national averages especially when measured by college experience (Brod & McQuiston, 1983). While 16% of those 25 years and older in the U.S. population have completed four years of college, only 8% of American Indians have done so (U.S. Bureau of Census, 1984b).

The above statistics are only general averages for a very diverse population. Realistically there is tremendous variation in social, economic, and educational factors from one tribe to the next, one reservation to the next and from community to community. In other words the Apache of New Mexico have very different lifeways from the Quinault of Washington; the

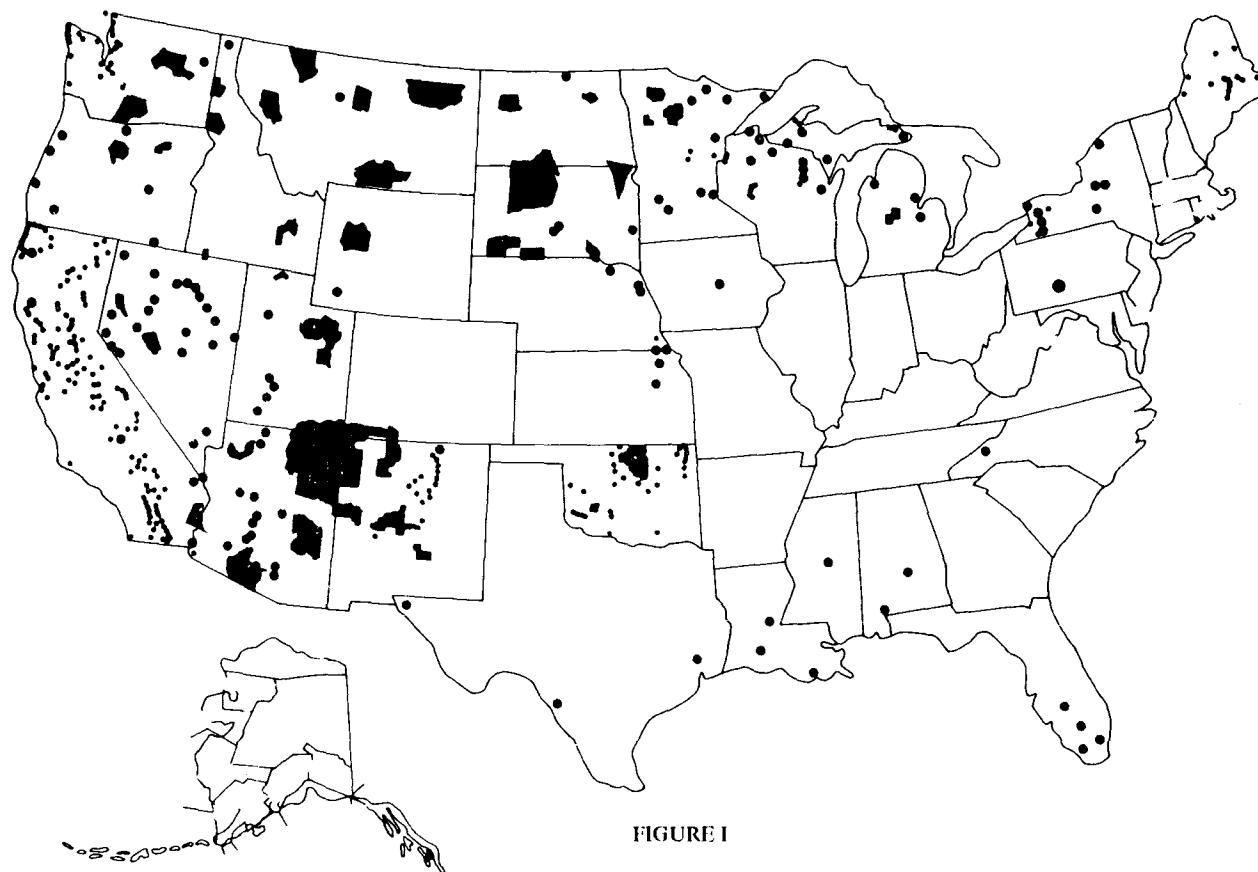


FIGURE 1

FEDERALLY RECOGNIZED INDIAN RESERVATIONS AND ALASKA NATIVE  
REGIONAL CORPORATIONS, 1985

Source: Native American Science Education Association, 1986

experience on the Zuni Pueblo reservation is very different from that of Taos Pueblo in another part of New Mexico; and the social indicators and experiences of the Indians in Albuquerque, New Mexico are very different from those in Seattle, Washington or Rapid City, South Dakota. The cultural and socio-economic conditions vary tremendously as do the behaviors which result from these conditions. Some tribes and Indian communities are much better off than others, and one must be cautious in generalizing too broadly.

### Background on Indian Suicide

Such is the case with Indian suicide. When the first broad, national and governmental attention was focused on Indian suicide, it was 1968. Robert F. Kennedy was head of the Senate Subcommittee on Indian Education and also seeking the Democratic Presidential nomination. On a campaign/fact finding visit to the Intermountain west, he attended a community meeting on a local Indian reservation. On that particular winter day, local concern was acutely focused on the recent suicide of an Indian youth in a local jail. Therefore, in Senator Kennedy's visit of the area, the suicidal death of this youth and the frequency of Indian youth suicide in general became major topics of discussion and concern. With this visit and subsequent events, major press coverage ensued and a number of national news stories were printed throughout the next few years on the "Indian suicide problem." Also following Senator Kennedy's visit, a great deal of the attention of the Senate subcommittee became focused on self-destruction. Federal agency action was prompted by this attention and several agencies began to look into suicidal behavior at this Intermountain reservation.<sup>2</sup> The National Institute of Mental Health (NIMH) along with the Indian Health Service (IHS) and Volunteers in Service to America (VISTA) initiated pilot studies and efforts on the reservation. By the middle of 1968 preliminary research revealed a rate of suicide at the Intermountain reservation, 98.0 per 100,000 population, for 1960-1967 that was over nine times the national average (Dizmang, 1968). This rate received very wide distribution in the national press and it was often presented as the "Indian suicide rate" and not what it really was: the rate of this particular reservation for a limited period of time. Thus, this series of events spawned a new generalization about Indians, "The Suicidal Indian" stereotype. This stereotype was perpetuated for many years in spite of the fact that some tribes, reservations, and Indian communities had, and continue to have, low and/or moderate rates of suicide. Time has also shown, as we will see in this article, that the high rate at the Intermountain reservation became even higher for awhile, but has declined considerably in recent years. Thus, Indian suicide, like other behaviors, varies tremendously from one location to the next and also over time.

## General Characteristics Of Indian Suicide Today

The average suicide rate for U.S. Indians and Alaska Natives for the period 1980-82 was 19.4 per 100,000 which is 1.7 times the rate for the nation as a whole but lower than it was in the earlier 1970's. Looking at youths, the suicide rates for Indians and Alaska Natives aged 10-14, 15-19, and 20-24 were considerably higher. As seen in Table 2, the rate for each of these categories is from 2.8 to 2.3 times as high as general U.S. rates. Therefore, the fact that Indian suicide is predominantly among the young is a first general truth. Conversely, Indians in the older age groups have lower rates than the general population.

Table 2  
Age Specific Suicide Rates\* of U.S. Indians and Alaska Natives (1980-82)  
and the U.S. General Population (1981)

Ages	Indians and Alaska Natives	General U.S. Population	Ratio
10-14	1.4	0.5	2.8
15-19	20.8	8.7	2.4
20-24	36.4	15.6	2.3
All Ages**	19.4	11.5	1.7

Source: Indian Health Service, Office of Planning Evaluation  
and Legislation data.

\*Rates per 100,000 population.

\*\*Age Adjusted Rates to the Standard

Of the approximately forty studies published on suicide among various Indian groups, several other general characteristics emerge. A second truth is that Indian suicide in most tribes is predominantly male. Third, Indian women have particularly low rates of suicide in most tribes. Fourth, Indians generally use highly lethal or violent methods to commit suicide (guns and hanging), more so than other groups in the U.S. Fifth, tribes with loose social integration which emphasizes a high degree of individuality, generally have higher suicide rates than those with tight integration (which emphasizes conformity). Sixth, tribes who are undergoing rapid change in their social and economic conditions have higher rates than those who are not (Levy, 1965; May & Dizmang, 1974; Shore, 1975; Webb & Willard, 1975; Willard, 1979).

We now need to turn to several more specific studies to illustrate and expand upon the above generalities, particularly as they relate to the young people of various tribes.

### Characteristics Of Youth Suicide Among Indians Of New Mexico

In New Mexico from 1957-1979, the suicide rate among Indians of all ages increased from 15.1 to 25.7 per 100,000, a 70% increase. In the United States during this period, the increase was 29%, from 9.8 to 12.6. Thus the New Mexico Indian rate increased more rapidly than the U.S., but actually no more rapidly than the overall New Mexico rate. As seen in Figure 2, the New Mexico rate, although lower than the New Mexico Indian rate, increased 92% from 10.2 to 19.6. This pattern of vital events is common among Indian tribes. That is, the tribal patterns will in many cases mirror the patterns of the states in which they live, but the magnitude of the rates is different.

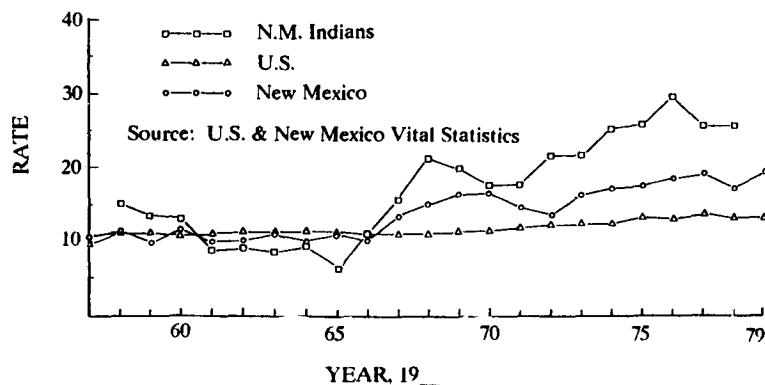


Figure 2  
1957-79 Suicide Rates for New Mexico Indians and the U.S.  
(Rates per 100,000)

More important than the overall rate is the variation in the rates of different cultural groups in New Mexico. As seen in Figure 3, the Apache, the Navajo and the Pueblo cultures<sup>3</sup> had very different rates from one another and rates which varied throughout the 23 year period. In general the more loosely organized tribes, the Apache, had the highest rates, while the Navajo and Pueblo, which are more tightly integrated, had lower rates. This variation is explained in detail by sociological and anthropological theories of social integration which have been applied to the study of Indian suicide by Levy (1965). The reader should note that the Navajo rate was considerably less than 10 per 100,000 throughout the sixties and early 1970's, which is a lower rate than the national average of the same period. This low rate may reflect the strong traditional organization of the Navajo during that time period. In all cases, however, the rates of all three cultural groups increased over the study period. The rate increases among all the tribes (the Apache and Pueblo in the late 60's and the Navajo in the early

and middle 70's) corresponded to increased social contact with mainstream U.S. society. This contact was specifically in the form of wage work, improved transportation and communication and other social development (Van Winkle & May, 1986). As will be elaborated later, this rapid social change is believed by many to have created increased levels of acculturation, stress, anxiety and disruption among particular families and individuals which then resulted in higher rates of suicide (Van Winkle & May, 1986).

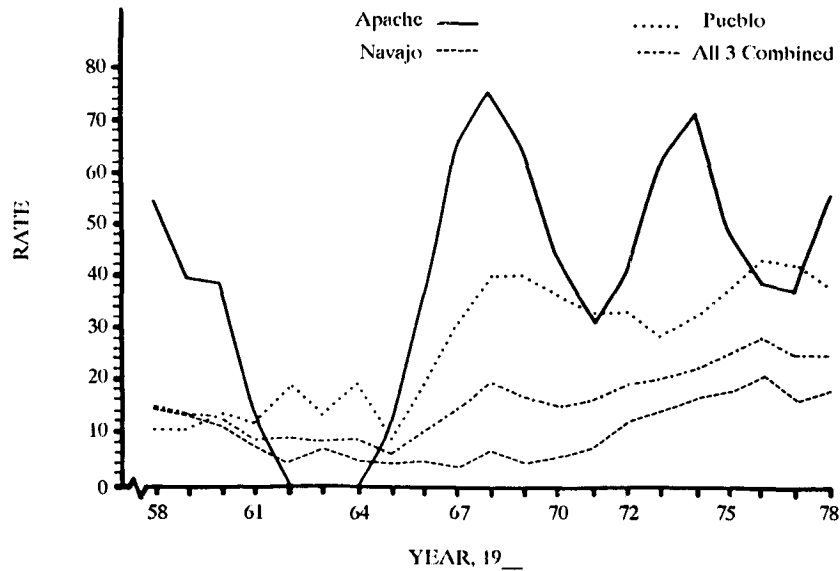


Figure 3  
1958-78 Three Year Average Suicide Rates by American Indian Cultural Groups in New Mexico

Focusing more particularly on the youths of these tribes, Figure 4 shows the rate of suicide for those aged 15-24 years. The ratio of New Mexico Indian rates to U.S. rates was 3.7 in 1957-65 and increased to 4.6 by 1973-79. Therefore the New Mexico Indian youth suicide rate was not only greater than the U.S. rate 20 years ago, but it has increased more rapidly than the comparable U.S. rate which has so alarmed health professionals.

An examination of tribal rates shows which tribes in New Mexico have suffered the worst from this increase. In Table 3 the data show the highest rates among the Apaches, the lowest among the Navajo and an intermediate rate among the Pueblo tribes. Unfortunately the young of all three tribes have experienced increases in suicide throughout the period.

Table 3  
Age Specific Suicide Rates (per 100,000) for Apache, Navajo, and Pueblo Indian  
Youths in New Mexico 1957-68 and 1969-70 and U.S. Rates 1963 and 1974

Ages	1957-1968			Mortality Ratio			
	Apache	Navajo	Pueblo	U.S. 1963	Apache to U.S.	Navajo to U.S.	Pueblo to U.S.
5-14	0.0	0.0	0.0	0.3	0.0	0.0	0.0
15-24	101.3	15.2	28.6	6.0	16.9	2.5	4.8

Ages	1969-1979			Mortality Ratio			
	Apache	Navajo	Pueblo	U.S. 1974	Apache to U.S.	Navajo to U.S.	Pueblo to U.S.
5-14	9.5	0.6	3.4	0.5	19.0	1.2	6.8
15-24	166.8	15.2	29.9	91.7	10.9	2.7	8.4

Sources: U.S. data from U.S. Vital Statistics Annual Reports 1963, 1974, Vol. 1, Part A, Mortality. New Mexico data calculated from New Mexico Vital Statistics.

To further the description of youthful Indian suicide in New Mexico, a summary of the demographic and structural variables is in order. Indian suicides under age 25 constitute a much greater percentage of all Indian suicides than youth suicide among others in the U.S. Among the U.S. general population in 1982, 18.5% of all suicides occurred before the age of 25 (NIMH, 1985), while among New Mexico Indians in the 1970's it was 45% (Van Winkle & May, 1986). Among the Apache the percentage was even higher, 60%. Indian youth suicides of all tribes in New Mexico are predominately male, 90% as opposed to 76% in the general U.S. population. Violent methods are more commonly used by New Mexico Indians than others in the U.S.: firearms 71%, hanging 22%, and overdose 2%. Most New Mexico Indian suicides occur in and around the home (67%) but rural areas and jails are also frequent locations. Virtually all who commit suicide were born locally (98% in New Mexico and Arizona), and the vast majority of all New Mexico Indian suicides lived (over 85%) in reservation communities. A similar percentage, 75%, of the suicides were committed on reservation. Most youthful suicide victims in New Mexico were single, students, or unemployed individuals, most of whom have not served in the military. Finally, May was the most common month of suicide (12%), although there were a minimum of 6% in every month. At least 50% of all suicides occur on the three weekend days, Friday, Saturday, and Sunday (Van Winkle & May, 1986).



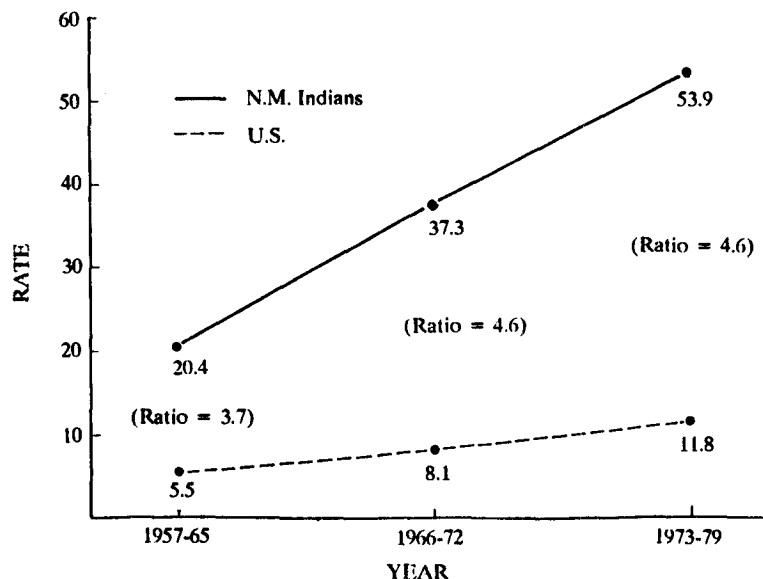


Figure 4  
1957-79 Average Suicide Rates for Youth Ages 15-24 for  
New Mexico Indians and U.S.  
(Rates per 100,000)

In the New Mexico study the Indian communities which had the highest rates of rapid change and acculturation stress generally had the highest rates of suicide, particularly among the youth. When the eight largest Pueblo tribes are classified by their degree of traditionalism (maintaining the old ways) versus their degree of acculturation, the acculturated tribes have the highest rates, the traditional have the lowest and the transitional (not highly traditional or modern) have intermediate rates (Van Winkle & May, 1986). Since youth is a time of great uncertainty with difficult choices to make, Indian youth seem to be the most severely affected by acculturation stress.

Within individual tribes and communities, however, the degree of social integration and acculturation stress affects a limited number of families and individuals so severely that they eventually become self-destructive. When tribal communities are examined, the suicidal behavior is found to be limited to a small number of families. These families, unfortunately, are racked by a variety of problems such as high rates of divorce, desertion, arrest, and abuse of alcohol and other substances (Dizman et al., 1974; Shore, 1975).

Further, when youthful suicides do occur in most Indian communities (most of which are very small) they generally tend to "cluster" together in time and space. That is since suicide, particularly youthful suicide, is a "suggestible behavior" (Phillips, 1974; 1979); one suicide might

trigger one or more additional ones among friends, relatives or others in the same locale who are in similarly unfortunate or hopeless circumstances. Recently (1985) one of these clusters of 9 suicides on a small reservation in Wyoming received considerable attention in national media. These types of "epidemics" in non-Indian communities in Texas, Colorado, Washington, and elsewhere have also been publicized, but the total magnitude (certainly in terms of rate and also in terms of the perspective of the small, minority community) of impact is greater in Indian communities.

### Suicide Attempts

Another form of self-destructive behavior of grave concern for Indian youth is suicide attempts. Unfortunately there are only a few studies on suicide attempts among any tribe (Shore, 1975; Conrad & Kahn, 1972). Table 4 presents a summary of the key findings of two comprehensive studies from several reservations. A vast majority of all Indian suicide attempts, 66% in one study, are under age 25 and almost 50% are under 20 years old. Briefly, among the Indian tribes studied those who attempt suicide appear to be qualitatively and quantitatively different than those who complete suicide. Specifically there are far more people who attempt suicide (about 13 to each suicide) than who actually kill themselves. Most Indians who kill themselves are male while those who attempt are female. The method of attempt is most commonly an overdose of medication while few deaths are by this means. In fact, in the Plains reservation attempt study, the amount of overdose was classified by pharmacists as serious in only 23% of the cases, mild to moderate in 39%, and non-toxic in 38% (May, et al., 1973). Indian attemptors are very young on the average, 20.8 years, while suicides are in their upper 20's (May, et al., 1973; Van Winkle & May, 1986). Finally the Plains suicide attempt data indicate that the intent of many who attempt suicide was something other than death, and their actions were usually directed at altering an important interpersonal relationship (43%). Therefore, as in other non-Indian studies which compare suicides with those who attempt, Indian attemptors also appear to be less lethal and/or lower risk in motive and method than those who complete.

Table 4  
A Summary of Data on American Indian Suicide Attempts

	Plains Reservation*	Intermountain Tribe**	Northwest Tribes**
Suicides under 25 years old (%)	66		
Ratio of Completes to Attempts	1/13	1/9	1/17
Gender (% Female)	86	50	74
Alcohol/Substance related (%)	55	75	31

Table 4 (Continued)  
A Summary of Data on American Indian Suicide Attempts

	Plains Reservation*	Intermountain Tribe**	Northwest Tribes**
Location (%) - jail	2	26	0.5
- home	60	--	--
Method (% overdose)	84	50	50
Hospitalized (%)	42	44	44
No previous attempts (%)	60		
Cry for help made (%)	64		
Age of attemptors (median)	20.8		
Stated reason for attempt (%)			
argument with significant other	43		
to die	18		
Therapist's evaluation of reason (%)			
to change an interpersonal			
relationship	45		
to escape or flee a situation	27		

Source: \*May, et al., 1973

\*\*Shore, 1975

An important factor for therapists to remember when working with Indians who have attempted suicide, is the extenuating nature of the minority status and the unique and sometimes less advantageous social conditions generally faced by the patient. An Indian and his/her family may have been subjected to greater levels of social stress and disruption which may have left fewer resources to draw upon in therapy. Therefore, key therapy goals such as dealing with depression, re-establishing strong bonds with significant others, adopting new coping skills, and gathering new resources for change might be more difficult to achieve in a tribal or familial setting where acculturation stress has already compromised the social, psychological, and economic resources. Unfortunately, it is common for most Indian attempts to have come from this type of family situation. However, if the therapist is creative and able to completely explore opportunities of both Western society and traditional Indian culture, the range of therapeutic intervention is great and challenging.

#### Motor Vehicle Accidents

In order to complete the discussion of self-destruction of American Indian youths, one must briefly mention motor vehicle accidents. Accidental death from motor vehicle crashes is higher among most tribes than the general population of the U.S. The general Indian age-adjusted rate of

death from accidents in 1981 was 136.3 per 100,000 which is 3.4 times the U.S. rate of 39.8. Over half of these accidental deaths are from motor vehicle crashes (Office of Technology Assessment, 1986).

The situation of the Navajo is fairly illustrative of many reservations. Among the Navajo, accidents have been the leading cause of death since the 1950's, causing 4 to 5 times as much death as among the general U.S. population. In 1975-77 the age-adjusted rate of motor vehicle accidents was 152.5 per 100,000 which was 7.1 times the U.S. rates (Broudy & May, 1983). Males are more likely to be killed in accidents than females. The question is, how many accidents are self-destruction?

The existing social science literature which defines this topic has estimated that between 2 and 20% of all single vehicle crashes are of serious suicidal intent (Schmidt et al., 1972, 1977; Tabachnick, 1973). But most of this literature states that the majority of single vehicle crashes are moderately self destructive in that the individual takes great risks in a "game playing" fashion and has an "insufficient concern for his own self-preservation" (Markush, et al., 1968).

There are very few studies on single vehicle crashes among Indians (Wills, 1969; May & Katz, 1981). On and around the Navajo reservation, fatal single vehicle crashes involving Indians were found to be a higher risk group for self-destruction than either Indian fatal multiple vehicle crashes or non-Indian fatal crashes. For example significant differences were found between Navajo single and multiple vehicle crashes in that single vehicle crashes will more likely have: drinking drivers, drivers with an invalid license, drivers with a younger mean age, and crashes not affected by the weather or time of day (May & Katz, 1981). When Navajo fatal, single vehicle crashes were compared with non-Indian fatal, single vehicle crashes, they were again found to be more likely to have: a higher percent of alcohol involvement, drivers with an invalid license, and younger drivers.

A study among the Sioux in South Dakota reported three psychological autopsies of male drivers in fatal crashes (Wills, 1969). In all three cases the drivers were undergoing major life changes and stress and had problems with impulse control, alcohol, interpersonal relations and work which were similar to those described as common in single vehicle crashes among other populations (Schmidt et al., 1972; Shaffer et al., 1974). Self destructive desires and communication of serious suicidal intent varied in the Sioux cases.

In sum, single vehicle crashes among Indian youths may hide some forms of self-destruction and/or suicide as they do other populations. Some scholars refer to this level of suicidal behavior as "para-suicide" in that the behavior might result in death, but the intent is more "fate tempting" than an overt suicide.

### The Interrelationship of Self-Destructive Behavior

All of the above behaviors are forces of self-destruction which affect Indian youth. Their interrelationship, while not definitively detailed by research among Indians or other populations, can be depicted in a "set theory" diagram. In Figure 5 the interrelationships of these behaviors is drawn.

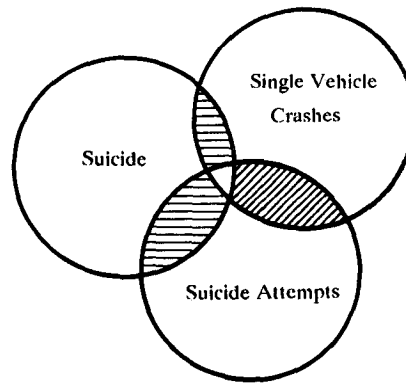


Figure 5  
Hypothetical Relationship of Major Self-Destructive Behavior

Suicide attempts and single vehicle crashes, while representing somewhat independent populations from suicide, overlap to a certain degree. That is, 20 to 40% of Indian suicide attemptors may be very similar in intent and motive to those who actually kill themselves. Similarly, those drivers in single vehicle crashes are also a relatively independent population of risk takers of which 2 to 20% may be highly suicidal and some additional percentage is also similar to suicide attemptors in lethality.

The unfortunate problem with these three behaviors, suicide, attempts, and motor vehicle accidents, is that many Indian communities have high rates of one or more, and some have high rates of all three. Therefore the challenge of prevention and intervention is great for many Indian groups. Far too many Indian youths are lost to accidents, suicide, and other traumatic death before they can assume a fulfilling adult role.

### Problems, Prospects, and Solutions

This paper began with a discussion of youth suicide in general. If the relatively minor social and economic changes in U.S. society over the last 30 years have produced a tripling of youth suicide rates in mainstream

society, then it may be no surprise that many Indian groups have also experienced increases. When most U.S. youths are faced with problems of adjustment, life meaning, and success in a fast-paced society with an economy of recession, Indian youths are faced with even greater challenges. Minority status, fewer economic and educational advantages, and cultural differences add to the difficulties of transition to adulthood (Berlin, 1986). Indian adolescents must choose from at least two, not totally clear paths, Indian and non-Indian. Those Indians who are the least likely to wind up as statistics in any major category of deviance are well grounded or well situated in both cultures (Ferguson, 1976; May, 1982). The question, then, becomes how to encourage and enhance such development in both the traditional Indian and the modern mainstream societies (Berlin, 1985).

Since the days when the first national attention was focused on suicide at the previously mentioned Intermountain reservation, tremendous strides have been taken by the tribe who resides there. While their success was not immediate, the current suicide rates are enormously improved. Table 5 presents the most recent suicide rates for the Intermountain reservation. Although the "epidemic" or high rates continued into the early 1970's, the more recent years were characterized by substantially lower rates. What was done at this reservation?

The Intermountain people whom I know are proud to discuss the progress they have accomplished. Briefly, they describe the situation of past, present, and future in these terms. When suicide was a problem in the 1960's and early 1970's, people felt as though a "black cloud" hung over the reservation and the two immediately adjoining boarder towns. Tribal identity and the self-esteem of many individuals were low. Social change and modernization were bringing new forces such as television, improved transportation, and new pressure to all tribal members to conform to new values and lifestyles, higher levels of formal education, and new expectations in wage work. The rapid change in values and expectations placed tremendous stress on families and individuals. Faced with such pressures many Intermountain families and individuals were able to cope, adjust, and succeed along fulfilling life paths. But some who were challenged by these forces had weak family ties and inadequate social support systems (Dizmang et al., 1974). With little support and faced with the specific consequences of prejudice and discrimination, a fractionalized (non-Indian) school system, and a world of unclear and seemingly hostile values, some were not able to cope. They then turned to various forms of retreatist behavior including self-destruction.

Table 5  
Average Suicide Death Rate (per 100,000) at an Intermountain  
Indian Reservation 1972-84

Year	Rate
1972-76	173.14
1977-80	21.47
1981-84	45.43

Source: Data from Indian Health Service, Office of Program  
Statistics, Washington, D.C., 1987

As the suicide problem affected the outlook and welfare of the entire community, the tribe "claimed ownership" of the problem and set out to alleviate the problem through intervention and prevention at a number of levels. Through positive community action the tribal council endeavored to gain new resources, marshal existing resources (human, social, and cultural) and to apply them to overall community improvement. In fact, for a first intervention upon the specific suicide problem, a "holding facility" was established and staffed by tribal volunteers who would sit with, counsel and support youths considered "at risk" and in "crisis" for self-destruction. Since many of these crises were first brought to the attention of police, health, and community officials on and off the reservation, all were urged to cooperate. Later, grant and contract money was sought by the tribal council and the interventions were expanded to include a broader range of mental health and social services (Shore, et al., 1973). These services expanded the capability of the community to effect secondary and tertiary interventions on self-destruction by combining the strengths of both mental health professionals and the traditional healing practices which existed within tribal culture. Working in coordination with one another, a more competent mental health system has emerged which facilitates access to both medical services and traditional healing approaches. Second, the tribal council worked to develop new resources for all, particularly the youth, in the community. New housing funds were obtained for a number of new dwellings throughout the reservation. New recreational facilities such as a new gym, baseball fields, and festivals and rodeo grounds<sup>4</sup> were constructed. New relationships were negotiated with local school systems so that more Intermountain youth are now educated for a longer period of time on the reservation where they might benefit from a more positive cultural experience. Many new tribal businesses were created in the late seventies: a large, modern supermarket; a high inventory western store and traditional craft (beadwork, moccasins and other handmade items) sales outlet, tribal gas station, and restaurant. These enterprises have attracted the business of local non-Indians and also that of tourists on the major interstate highway which runs through part of the reservation. Third, tribal services (courts, social services, police, etc.) have continued to



expand and improve over the years through both efficiency of organization and from being staffed by well educated tribal members. The tribal council and its departments are actively involved in a number of health and cultural promotion programs in the schools and other community institutions. Fourth, tribal advocacy and self-determination, which seemed quite rare in the 1960's, have improved. Advocacy in social, governmental, and legal matters has helped the tribe foster its best interests within areas such as protecting its land base, hunting rights, and other concerns. Just as the tribe's Bison herd, established in the late 1960's, has grown from less than a dozen animals to over 400 today, the Intermountain community development efforts have produced positive results.

Things are not perfect at Intermountain today, but no community in the U.S. can claim to be. Problems remain, but as evidenced by the lower suicide rate and other social indicators mentioned above, they certainly are not as manifest as before. As I have been told, the atmosphere at the Intermountain reservation is now more positive and the tribal self-image is good. The importance of tribal customs, community, and family are more generally recognized, acknowledged, and supported. There are now more positive examples, leaders, and role models for the youths to observe and emulate. As with any community today, the Intermountain reservation must continue to evaluate its needs, claim ownership, and advocate for solutions. As the past indicates, they may have done so with the devastating problem of youth suicide, and it appears to have paid more general dividends. Many communities, Indian and non-Indian, can learn from this example.

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#### Notes

1. The author would like to thank Larry H. Dizmang, M.D., for giving me a start on this subject over seventeen years ago and Nancy Van Winkle for reviving my interest. Also I am appreciative of Carolyn Reese for asking me to prepare this paper and Diane Fuhrman for her efforts in manuscript preparation. The author is especially grateful for the major contributions of Kesley Edmo, Jr. and Maxine and Blaine Edmo. Finally, the author wishes to thank Rosella Moseley, Spero Manson, and the anonymous reviewers for their guidance and comments.
2. Throughout the paper this particular reservation is referred to as the "Intermountain reservation" and the tribe as the "Intermountain tribe" for anonymity.
3. Apache, Navajo, and Pueblo denote cultural types which are held in common by a number of tribes. For example, in New Mexico there are two separate Apache reservations where two distinct Apache tribes, the Jicarilla and Mescalero live. Similarly the Pueblo culture is represented by 19 different tribes in New Mexico (the Taos, Zuni, Acoma, Laguna, etc.) each having their own reservation.

4. The Intermountain tribal celebration is held in August of each year at the grounds and is now not only a premier event for Indians of many tribes, but it is also a source of true tribal pride.

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## Special Commentary

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### From the Indian Health Service

*The Office of Mental Health Programs within the Indian Health Service is, in addition to tribal programs, one of the major fronts for advancing the quality of mental health care provided to American Indians and Alaska Natives. The National Center for American Indian and Alaska Native Mental Health Research looks forward to working closely with the Indian Health Service in this regard, bringing to bear state-of-the-art research techniques on questions of immediate relevance to the latter's service mission. In a similar vein, we think that it is important to support their efforts and initiatives. Toward this end, Dr. Scott Nelson, Chief, Office of Mental Health Programs, Indian Health Service has been invited to contribute a column about his organization's activities. Dr. Nelson is relatively new to the IHS, having assumed his leadership position approximately six months ago. He is a psychiatrist with extensive public health service and has occupied a number of important state administrative positions, including most recently mental health commissioner for Pennsylvania.--The Editor*

As Chief of Mental health Programs for the Indian Health Service (IHS), I am pleased to be asked to write an occasional column for the *Journal of the National Center*.

About 400 Indian Tribes have been recognized in the United States as sovereign nations. The Indian Health Service operates and/or contracts for health and mental health services for many of the Tribes, while Tribes themselves are increasingly administering their own services pursuant to the provisions of Public Law 93-638. The Indian Self-Determination Act of 1975.

The mental health programs at the local service unit level vary considerably in scope and focus. Most programs consist of mental health professional staff working together with indigenous Indian mental health technicians to provide counseling services, liaison with other related service programs and prevention/education programs for the Tribal community. The staff is supported by limited psychiatric consultation.

The Indian Health Service has recently promulgated program standards in an effort to encourage quality programs, continuity of care, and collaboration with related service providers. In addition, a team of professionals has been assembled in the office of mental health to provide consultation to Tribes on ways of reducing suicide and violent behavior.

Critical to improved understanding and treatment of mental illness in American Indian and Alaska Native populations is culturally-sensitive mental health research. It is highly encouraging that the National Center

has been revitalized to train Indian professional research investigators and in the process to assist Indian tribes and the Indian Health Service in their mission of providing and improving mental health and substance abuse services and education for Indian people. The high incidence in many tribes of depression, suicide (especially in young Indian males), and various forms of violence, all usually associated with alcohol use, make the work of the Center all the more urgently needed.

Scott Nelson, M.D.

Comments and/or inquiries can be directed to Dr. Scott Nelson, Chief, Office of Mental Health Programs, Indian Health Service, Room 6A-55, Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857.