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**Title**

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**Permalink**

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**Journal**

American Indian Culture and Research Journal , 13(3-4)

**ISSN**

0161-6463

**Author**

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**Publication Date**

1989-06-01

**DOI**

10.17953

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## **Disabled American Indians: A Special Population Requiring Special Considerations**

**FELICIA HODGE**

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It is well known that the health status of American Indians is below national averages and has been for many years. Identified health difficulties include a pattern of social problems, poverty, and disease that is unparalleled among other ethnic and racial minorities in the United States. The disabled American Indian, however, faces additional disadvantages in the form of major barriers to care and rehabilitation services. Further, the incidence of several serious disabling conditions among some tribes is thought to be well above that reported for the United States population as a whole. Fetal alcohol syndrome (FAS), bacterial meningitis, otitis media, diabetes, accidents/trauma, alcohol/drug abuse, and mental and emotional disorders cause disabilities among Indians at significantly higher rates than among non-Indians. Major disabilities include seizure disorder, developmental delay, language and speech delay, mental retardation, pulmonary disorders, vision problems, hearing loss, trauma from accidents, diabetes-related disabilities, and alcoholism. The severity of each problem, however, varies from one Indian group to another.

Fetal alcohol syndrome (FAS) and fetal alcohol effect (FAE), disabling conditions which have been identified and categorized only since 1973, consist of a group of physical and developmental abnormalities present in infants, which are caused by maternal

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alcohol consumption during pregnancy. Characteristics of the disorder include impaired intrauterine and postnatal growth, abnormalities of facial development, and mental retardation. Cleft palate and health defects are often present as well. In the state of Alaska, to give just one example, the incidence of FAS among the native population was found to be 4.2 per 1,000,<sup>1</sup> twice that reported on the Navajo reservation and in the urban Seattle, Washington area.<sup>2</sup>

Among the Apache and Ute tribes, the incidence and prevalence of FAS and FAE also are extremely high. The prevalence of FAS and FAE among children aged 0-14 years was 10.7 per 1,000 and 19.5 per 1,000, respectively.<sup>3</sup> Heavy drinking behavior has been cited by many researchers as the primary cause of death and injury among American Indians. Seventy-five percent of all accidents, the leading cause of Indian deaths, are alcohol-related.<sup>4</sup> May<sup>5</sup> estimates that alcohol is a factor in 50 to 65 percent of motor vehicle accidents among Indians, which is 4.4 times that of the general population. In Montana alone the motor vehicle death rate for Indians was almost seven times the United States rate.<sup>6</sup> Accidents and adverse effects accounted for 158.7 per 100,000 population on the Navajo reservation in 1981-83, and the Alaska rate was 5.3 times that of the United States all races rate in 1980-82.<sup>7</sup>

Bacterial meningitis is another major problem contributing to developmental disability and death among Indian and Alaska Native populations. Persistent neurologic abnormalities, such as intractable seizures, mental retardation, quadriplegia, and language delays are not uncommon among those unfortunate enough to contract the infection. Hospitalization rates for this medical condition reflect the seriousness of the disease. The hospitalization rate for Alaska Natives with bacterial meningitis was 4.2 in 1986, 68 percent higher than the overall Indian Health Service rate, but quite similar to the rates among Indians in Montana (4.7) and on the Navajo reservation (4.3). In 1968-73, bacterial meningitis was found to occur in Navajo children at a rate of 27.7 per 100,000 population, compared to 5.9 in Bernalillo County, New Mexico in 1964-71.<sup>8</sup>

Other medical conditions contributing to disabilities are diabetes, otitis media, and mental and emotional disorders. Non-insulin-dependent diabetes mellitus (NIDDM) has become a

significant and widespread problem among Indians. Since the 1960s, the Indian death rate related to diabetes has been reported to be more than twice that of the United States general population.<sup>9</sup> Diabetes is currently documented to be the second leading cause of adult outpatient visits in the Indian Health Service.<sup>10</sup> The Pima tribe of Arizona is reported to have the highest prevalence of diabetes worldwide: approximately 50 percent of the Pima adult population over the age of 35 years. Others estimate that 50 to 70 percent of all adult Tohono O'odham (formerly known as Papago) tribal members will eventually develop diabetes.<sup>11</sup> Disabilities directly related to diabetes include blindness (retinopathy), kidney disease/failure (nephropathy), amputations and other vascular-related conditions such as strokes and heart attacks. In a cross-sectional study of Navajo diabetics, retinopathy was found in 5 percent of all patients with a duration of known diabetes of five or more years. In Navajo and Hopi patients who had had diabetes ten or more years, 57 percent were diagnosed with retinopathy, 40 percent had nephropathy, 21 percent had peripheral neuropathy, and 28 percent had either amputations or peripheral vascular disease.<sup>12</sup>

Otitis media, an infection of the middle ear, appears in greater magnitude among American Indians. The Navajo appear to be more seriously affected than most other Southwest tribes. Approximately 4 percent of Navajo children were found to have otitis media. Further, 4 percent of Navajo children sampled in a mass screening had eardrum perforations, 2.3 percent middle ear infusions, 1.9 percent eardrum atelectasis, and 0.4 percent sensorineural hearing loss.<sup>13</sup> In Alaska, as many as 60 percent of adult males and 8 percent of adult females suffer from high-frequency hearing loss.<sup>14</sup> These findings have serious implications for the psychological and social development of these children and adults, as well as for language acquisition and school performance.<sup>15</sup>

Problems associated with mental and emotional conditions cannot be overlooked. For example, the Indian Health Service<sup>16</sup> reports that in 1980-82 the age-adjusted death rates among American Indians for accidents, homicide, and suicide were three to ten times the rates found in the United States population as a whole. The recent epidemic of suicides among young people on the Wind River Reservation in Wyoming brought nationwide

attention to the critical state of mental health problems on Indian reservations. Clearly, the high suicide and homicide death rates are indications of serious psychological disorders.

The above review of disabling conditions among the American Indian population indicates clearly that the need exists not only for intervention and prevention efforts to ameliorate these conditions, but for habilitation and rehabilitation services for those in need. Recent attention directed at such intervention programs has brought to light the overwhelming dearth of information on this special population group—information that is necessary for program planning and intervention. What data is available is piecemeal and centers around specific conditions of interest to researchers or health care providers. Little is known about the service needs, barriers to care, and perceptions and attitudes of the disabled and their communities. This information is of utmost importance now because of tribes' increasing awareness regarding the needs of the disabled Indian, coupled with recent legislation enabling tribes to plan and develop habilitation and rehabilitation services in their communities.

With the passage of Public Law 94-142, the All Handicapped Children Act of 1975, the involvement of federal and state agencies in the provision of special services to disabled Indians became a reality. This involvement, however, was fragmented and unfocused. In its *Report on Reauthorization of the Rehabilitation Act*,<sup>17</sup> the 99th Congress pointed to the unmet needs of handicapped Indians, stating "that too few tribes and too few reservations benefit from (rehabilitation services)." The Rehabilitation Act Amendments of 1986 (P.L. 99-506) marked the first substantial emphasis on the American Indian handicapped provisions on which the government set its course. This act provides for the funding of American Indian vocational rehabilitation services; for state consultation with tribes and tribal organizations and native Hawaiian organizations in the development of the state plan; and for a study on "the special problems and needs of Indians with handicaps both on and off the reservation" (section 212[a]).

It was precisely this recognized need for empirical data, coupled with tribal requests for Indian-specific research designed and conducted within the cultural realm of the Indian residing on the reservation, that this research was initiated. The findings of this study will, it is hoped, provide a base from which tribes

and tribal organizations can plan for services; the findings also will serve as a source from which to better understand the problems, barriers, and limitations facing the disabled Indian.

## METHODS

### **Background**

This study was a part of a collaborative needs assessment initiated and conducted by the Native American Research and Training Center at the University of Arizona, Tucson, and three tribal-operated and managed vocational rehabilitation (VR) programs (the Navajo in Arizona; Chippewa-Cree at Rocky Boy, Montana; and Shoshone-Bannock at Fort Hall, Idaho). At the time of the study, these three programs were the only federally funded vocational rehabilitation programs operating on Indian reservations. Ten additional tribal-operated and managed VR programs have since received federal funding.

The research methods chosen and the design of the data collection instrument received valuable input from the respective Indian VR program leaders. Designing the research methods and the survey tool to be culturally sensitive was felt to be of great importance to ensure respondent understanding and participation, and to capture those aspects which may be missed by researchers unfamiliar with the culture.

### **Population/Subject Selection**

During the months of May, June, and July of 1987, all disabled American Indian adult clients of tribal VR programs located on the Navajo, Chippewa-Cree, and Shoshone-Bannock reservations who visited the VR programs for new or regularly scheduled appointments were approached and requested to participate in the study. Subjects selected for the study had to be adult Indians over the age of 18 years, residents of the respective reservation area, and clients of the local tribal VR program.

One hundred seventy clients were interviewed; five declined to participate. Forty-seven percent of this sample resided on the Chippewa-Cree reservation ( $n=80$ ), 26.5 percent resided on the

Shoshone-Bannock reservation ( $n=45$ ), and the remaining 26.5 percent were from the Navajo reservation ( $n=45$ ). Tests of statistical significance (chi-square) indicate no difference between the three regional groups with regard to age, gender, or income.

Approximately 62 percent of the sample were male; the median age was 33 years, with a range of 18 to 68 years. The average monthly income was \$313. Only 12.9 percent of the sample reported income derived from wages; other sources of income included General Assistance (25.3 percent), training stipends (21 percent), social security income (14.7 percent), and livestock, leased lands, and per capita income (21.2 percent). Less than 19 percent reported being currently employed. Average education was 12.7 years; 11.2 percent received an eighth grade education or less; 51.2 percent attended some high school; and 21.2 percent had some college experience. Eight percent were veterans.

A large number (44.1 percent) were single. Thirty-two percent were married, 9.4 percent divorced, 5.3 percent separated, and 5.3 percent widowed. Forty-seven percent reported no dependents; 31.8 percent had one or two dependents; and 21.2 percent supported between three and seven dependents.

### **Instruments/Measures**

The survey instrument was a pilot-tested interview schedule designed to assess the sociocultural factors, service needs, barriers to care, and situational aspects of American Indian disabilities. The questionnaire was semi-structured; both open-ended and closed-ended questions were employed. Respondents were interviewed by trained employees of the respective VR program in the center's office. The interviews were confidential; no identifiers were evident on the questionnaire other than the regional and chronological schedule code.

The following measures were assessed during the study:

**Descriptive Data:** Demographic questions included age, gender, tribal membership, education, occupation, income, number of dependents, and employment status.

**Disability:** Questions were asked regarding the type, onset, duration, and extent or severity of the disabling condition. Additional questions regarding the respondent's health status, medication, and history of hospitalization were included.

**Service Need:** Need was assessed for such services as counseling, job training, placement, and education, as well as the type of services used previously and barriers to care.

**Attitudes:** Several questions were asked about the perceived attitudes of the respondent's community, tribe, and employer regarding his/her disability. Additionally, the respondents were asked how they felt regarding their own disability in various situational contexts.

**Acculturation:** The following factors were employed in ascertaining the degree of respondent assimilation into the larger United States culture: religion, language, health care utilization, and self-assessment.

## RESULTS

### Disabilities

Table 1 shows disabilities divided into four major groups: physical, sensory, mental, and alcohol/drug dependency. Overall, 37.7 percent of the sample reported a physical disability, 17.6 percent reported a sensory impairment (or loss of hearing/sight), 7.6

**TABLE 1**  
**Frequency and Percent of Disabilities**  
**among American Indians by Category**  
**by Regional Area (N=170)**

Disability	Navajo		Shoshone-Bannock		Chippewa-Cree		Total	
	n	(%)	n	(%)	n	(%)	n	(%)
Physical	19	(42.2)	8	(17.8)	37	(46.3)	64	(37.7)
Sensory	7	(15.6)	2	(4.4)	21	(26.3)	30	(17.6)
Mental	9	(20.0)	3	(6.7)	1	(1.3)	13	(7.6)
Alcohol/Drug	10	(22.2)	32	(71.1)	20	(25.0)	62	(36.5)
No response					1	(1.3)	1	(0.6)
Totals	45	(100.0)	45	(100.0)	80	(100.0)	170	(100.0)

percent stated that they had a mental (or emotional) disability, and 36.5 percent were disabled due to alcohol/drug abuse. One individual did not disclose his/her disability.

Regional differences are clearly evident with regard to disability type. The Chippewa-Cree VR clients report the highest percentage of physical (46.3 percent) disabilities as compared to the Navajo (42.2 percent) and the Shoshone-Bannock (17.8 percent). Reported physical disabilities consisted of a mixture of injuries and illnesses. Auto accidents (14.1 percent) resulted in such physical problems as back injuries, leg amputations, internal injuries, paraplegia, and seizures. Injuries due to fighting, falls, and service-related accidents (14.1 percent) caused brain concussion, torn ligaments, dislocated shoulder, hemiparesis, and spinal cord injury. Health problems contributing to disabling conditions accounted for 40 percent of physical disabilities and included Parkinson's disease, high blood pressure, diabetes, polio, heart disease, headaches, and asthma. Birth defects (4.7 percent) were identified as dropped foot, seizures, epilepsy, cerebral palsy, and various deformities.

Disabilities of a sensory nature consist of visual disorders (73.3 percent) and hearing impairment (26.7 percent). Loss of vision was due to gunshot accidents, auto accidents, sports, and fighting. Illnesses contributing to vision loss were retinitis pigmentosa, glaucoma, rheumatic fever, and heredity or unknown etiology. The majority (62.5 percent) of the hearing impaired reported hearing loss due to illness such as otitis media. The remainder were due to loud noises or unknown etiology. Proportionately, the Chippewa-Cree and the Navajo reported higher sensory disabilities (26.3 percent and 15.6 percent, respectively) than the Shoshone-Bannock (4.4 percent).

Those disabilities categorized as mental were the learning disabilities (85 percent) and depression, emotional instability, nervousness, and anxiety (15 percent). There were no reported cases of mental retardation.

One of the most significant findings in this study was a high percentage of disability due to alcoholism or alcohol/drug abuse (36.5 percent). Of the three groups, the Shoshone-Bannock reported the greatest percentage of alcohol-related disabilities (71.1 percent). This was the only group reporting inhalant abuse (glue, paint, gasoline, etc.) in conjunction with alcohol. And although the Shoshone-Bannock and Chippewa-Cree groups reported

some marijuana use, the Navajo cohort reported no substance abuse other than alcohol. Alcohol abuse is considered by many researchers and providers to be the number one health and social problem among the Indian population.<sup>18, 19, 20</sup> Among disabled Indians, alcohol abuse is no less evident a problem.

The alcohol-disabled tended to be male (73 percent), have an eight-year average alcohol-related disability, and report serious consequences of their drinking such as legal intervention, auto accidents, suicide attempts (gunshot to the head resulting in paralysis), and family disputes. A closer look at the extent of alcoholism among the disabled sample reveals that 66 percent of the total sample had been previously hospitalized for alcohol abuse, 10 percent for a combination of alcohol/drug/emotional problems, and 4 percent for emotional problems alone.

On the average, Indians surveyed in this study had been disabled for ten years. The onset of reported handicapping conditions ranged from less than one year prior to the interview to a maximum of forty-seven years. And although the three groups reflected a difference in duration (see Table 2) and severity of disability, this variation was due primarily to disability type. The sensory disabled reported the longest duration (13.4 years); followed by the physically disabled (10.8 years); the mentally impaired (8.7 years); and the disabled due to alcohol/drug abuse (8.2 years). Disabilities occurring at or near birth or during childhood, such as physical and sensory disabilities, as opposed to

**TABLE 2**  
Average Duration (Years) of Disability  
among American Indians by Region (N = 165)\*

Disability	Navajo	Shoshone- Bannock	Chippewa- Cree	Total
Physical	11.2 (n = 19)	12.0 (n = 8)	10.4 (n = 37)	10.8 (n = 64)
Sensory	11.1 (n = 7)	10.0 (n = 2)	14.9 (n = 20)	13.4 (n = 29)
Mental	14.0 (n = 7)	4.3 (n = 3)	1.0 (n = 1)	8.7 (n = 11)
Alcohol/Drug	6.5 (n = 9)	10.6 (n = 31)	5.4 (n = 20)	8.2 (n = 60)
Total	10.4 (n = 42)	10.4 (n = 44)	10.0 (n = 78)	10.3 (n = 164)

\* 5 non-responses

mental disabilities and alcoholism, will clearly be of longer duration. It can be assumed that the onset of alcoholism and some mental disabilities occurs in early adulthood.

The severity of the disabilities seen differed by the type of condition. Eighty-four percent of those categorized as physically disabled and 80 percent of sensory disabled felt their disability was permanent, as compared to 51 percent and 50 percent for the alcohol and mentally disabled group, respectively.

When asked what they felt the long-term consequences of their disability would be, 75 percent of those individuals having a sensory disability worried about further loss of ability. Those suffering from a physical condition felt there would be no cure, worried about other health conditions, and were concerned about further or eventual total disability. The inability to cope with their disability was the major concern of the mentally disabled. And for those victims of alcohol abuse, death was cited by 31.3 percent to be the major consequence of their disability. Further, many among the alcohol-disabled group (25 percent) stated that there were no cures and that additional health problems and total disability were long-term consequences of their condition. Over 12 percent also stated they always crave alcohol, and 9.4 percent feared loss of job and family.

Table 3 shows health problems among the disabled. When a comparison was made between the three groups and the types of health problem(s) seen, similarities and differences emerged. Alcohol abuse/dependency was the number one health problem cited by the respondents as a whole (39.4 percent), in addition to their disabling conditions. Furthermore, 66 percent of the total sample stated that they had been hospitalized or in a treatment center for alcohol abuse. Ten percent of the total sample and 30 percent of the disabled categorized as mentally and/or alcohol disabled said they take medication for maintenance. Additionally, 35.3 percent of the total sample take prescribed medication as a part of the treatment regimen for their disability. This medicine was reported to be insulin and oral medication for diabetes; heart medication; anti-inflammatory medication and antibiotics; hypertensive medication; and pain relievers.

The second most frequent health problem was high blood pressure (31.8 percent). While alcohol abuse was cited most frequently among the Shoshone-Bannock (64.4 percent) as a health

**TABLE 3**  
**Frequency and Percent of Health**  
**Problems among Disabled Indians**  
**(Navajo/Shoshone-Bannock/Chippewa-Cree)**  
**(N = 170)**

Health Problem*	Frequency	Percent
1. Alcohol abuse/Dependency	67	39.4
2. High blood pressure	54	31.8
3. Arthritis	41	24.1
4. Coughs	39	22.9
5. Drug abuse	37	21.8
6. Heart	23	13.5
7. Ulcer	21	12.4
8. Diabetes	20	11.8
9. Asthma	19	11.2
10. Epilepsy	18	10.6
11. Tuberculosis	18	10.6
12. Hernia/Rupture	18	10.6
13. Gallbladder	16	9.4
14. Liver	14	8.2
15. Stroke	12	7.1
16. Cancer	10	5.9
17. Other	30	17.6

\* Conditions are not mutually exclusive; more than one condition may be cited by a respondent.

problem along with the handicapping condition, high blood pressure was cited most frequently by the Navajo (42.2 percent) and the Chippewa-Cree (28.8 percent). Arthritis was also a health problem among 24.1 percent of the overall group, as were coughs (22.9 percent), drug abuse (21.8 percent), and heart disease (13.5 percent).

Several conditions were seen more frequently in one regional area than in the others. For example, cancer was seen only among the Navajo; 22 percent of Navajos reported having cancer, which accounts for approximately 6 percent of the total health

problems for all groups. Asthma was also a greater problem among the Navajo (33.3 percent) than among the Shoshone-Bannock (4.4 percent) or the Chippewa-Cree (3.8 percent). Further, epilepsy affected 33.3 percent of the Navajo disabled, and only 3.8 percent of the Chippewa-Cree and 2.2 percent of the Shoshone-Bannock disabled. Overall, the Navajo disabled reported higher frequency of a variety of health conditions than did the other two groups.

### **Service Needs**

The study sample were asked a series of questions about their needs and the barriers to specific vocational rehabilitation care services. Most reported coming to the tribal vocational rehabilitation program by self-referral (35.3 percent). Agency referrals (15 percent) were from the health center, alcoholism program, and other agency counselors. Physician referrals were made in only two cases. Family, friends, and other individuals represented the third source of referral. Approximately 53 percent of the disabled had a regular counselor whom they frequently saw.

Service needs were multiple. Over 48 percent of the total group felt that they needed such services as education, training, and vocational rehabilitation services. Few requests were made for personal care services (0.6 percent) or for transportation (2.4 percent). Vocational rehabilitation services (22.9 percent) and counseling (9.4 percent) were most often used.

Thirty-one percent used some sort of equipment because of their disability. The most frequently cited aid was eyeglasses (21.8 percent), followed by hearing aid, special shoes, cane, wheelchair, and crutches.

The majority of the disabled did not live alone (84.1 percent). Most lived with a spouse (27.6 percent), a parent (27.1 percent), friends (19.4 percent) or other relatives (10 percent). These relatives were relied upon heavily for transportation, personal care, and support (financial and emotional). Among those individuals suffering an alcohol-related disability, however, 25.8 percent reported living alone and 46.7 percent received no family assistance.

That their disability affects their employment was a statement made by 36.5 percent of the respondents. This was further explained as "physical limitations" (18 percent) affecting their em-

ployment and causing loss of job (3.5 percent). Also, several described their disability as "limiting job choice" (4 percent) or causing them to be "not as dependable" (3 percent). Seventy-five percent reported being unemployed, as compared to an estimated high of 50 percent for the able-bodied residents. Those few (18.8 percent) who were employed were hired by local sources or by tribal departments. Employment averaged 28 hours a week, primarily during peak seasonal periods. Reasons given for unemployment were "no jobs" (26.4 percent), currently a student (11.8 percent), "physical limitations" (5.3 percent), lack of or "no skills" (2.9 percent), and currently in treatment for a disability (2.4 percent).

When asked if they were willing to leave the reservation/area for work or training, 76.5 percent responded affirmatively; 6.5 percent stated they would be unwilling to leave the area and 15.3 percent were undecided. Although 75.3 percent of the respondents had lived off the reservation/area for some period of time, the average length of time living away from their homeland was seven years (or a median of four years).

When asked, "What kinds of things keep you from receiving help for your disability?" the most frequently cited barriers were lack of transportation and financial problems (13.2 percent). Most reservations are isolated, lack public transportation, have shockingly high unemployment rates (up to 50 percent in some areas) and have very few employment opportunities. The disabled population in this survey reside mainly in rural, isolated areas in houses (69.4 percent), trailers (10 percent), or apartments (10.6 percent). A small percentage (less than 6 percent) reside in temporary residences, hotels, or dorms. A little less than one-half of the respondents (47.6 percent) report homes with electricity, water and telephones; less than 2 percent have none, and the remainder have at least one of these conveniences. Over one-half (51 percent) of the respondents have access to an automobile and 87.1 percent report the ability to drive. Many (21.8 percent), however, find they have to rely on a friend/neighbor for transportation or simply walk to their destination (11.2 percent).

### **Attitudes**

Attitudes and perceptions of disability, held by the disabled as well as by the community and employer, form an important

aspect of the rehabilitation process. Attitudinal questions asked were aimed at identifying the degree of comfort/discomfort the respondents had with their condition and the specific feelings held by the community.

When asked to agree or disagree with a series of questions regarding how they would feel in different situations, the respondents generally answered favorably. On a scale of 0 to 1 (with 1 being the most positive attitude), the average score was 0.7, indicating high positive feelings about the disability. Looking individually at each of the scale items helps create a clearer picture. When asked to agree or disagree with the statement, "I feel very uncomfortable if a person I don't know asks me about my disability," 37.4 percent agreed, 40.6 percent disagreed, and 22.4 percent were undecided. When asked their reactions to the statement, "I don't tell other people about having a disability until I am very close to them," 61 percent agreed. However, 60.6 percent did not feel other people are "uncomfortable around me because of my disability." Further, 66.5 percent agreed that "I can do almost everything that people who do not have a handicap/disability can do," and 70 percent felt they had "many good things to look forward to in life," reflecting a positive outlook.

Table 4 indicates that the reservation community and its professional members are sympathetic towards the disabled. This table was constructed from the responses to the question, "How would you rate your town's attitude toward the disabled?"

**TABLE 4**  
**Respondents' Reflection on Their**  
**Town's Attitude toward the Disabled**  
**N=170\***

Group	Understanding		Prejudice		Fear	
	n	(%)	n	(%)	n	(%)
Community	95	(55.9)	35	(20.6)	33	(19.4)
Health worker	125	(73.5)	17	(10.0)	15	( 8.8)
Employer	89	(52.4)	35	(20.6)	32	(18.8)
Tribal	82	(48.2)	47	(27.6)	26	(15.3)

\* Discrepant sample sizes are due to non-responses.

Health workers as a group received the highest rating (73.5 percent) for being understanding. The group selected as having the most prejudice toward the disabled was the tribe (48.2 percent), and the overall community (19.4 percent) was cited as expressing the most fear of the disabled.

### **Acculturation**

The degree of acculturation and its impact upon attitudes and types of health problems among cultural groups is a topic of concern among several researchers.<sup>21, 22, 23</sup> To investigate this area, we asked the sample a series of questions regarding language and use of native language in the home, religious affiliation, utilization of a native healer, and self-assessment of their degree of traditionalism. The findings indicate that the disabled Indians sampled maintained their cultural affiliation. Although acculturation was evident, they were not totally assimilated into mainstream society. Most (65 percent) felt they were both traditional and modern, and only 27 percent indicated that they assessed themselves as "modern." Less than 10 percent stated that they would label themselves as truly "traditional." A closer analysis of the items measuring acculturation is presented below.

Over 78 percent of the respondents spoke their native language. A little over 50 percent spoke their native tongue "sometimes," and 28 percent spoke it "always." Twenty-two percent did not speak their native language. Of those who spoke the native language, 47 percent indicated that it was the language most often spoken in their homes.

Christianity was the predominant faith in 45.3 percent of homes; native or Indian religion was cited in 38.2 percent of homes; both Christian and Indian religions were practiced in 6.5 percent of homes; and neither religion was practiced in 4.2 percent of homes.

Twenty-six percent of the respondents had visited a native healer at least once. Thirty percent within this group saw a healer frequently (daily, weekly, monthly, or frequently). Most (60 percent) saw a healer for health reasons. Others visited the healer for spiritual growth (10.5 percent); to "dry out" from their heavy drinking (7 percent); and for a variety of other reasons which were classified under "cleansing," "observance," "to pray for good," and for a death in the family. The majority (78 percent)

of those responding indicated that they felt the healer and the healing ceremony were helpful.

In addition to seeing their native healer, 60 percent of the disabled saw a physician for their disability. Forty-one percent saw an Indian Health Service physician at their local clinic. Fifty percent saw a physician on a regular basis (weekly or monthly).

Viewed as a scale, Table 5 illustrates the degree of acculturation held by the disabled respondents, indicating that the vast majority were undergoing a process of acculturation. Based on a summative score of language, religion, and utilization of a healer, 55 percent of all disabled Indians surveyed were rated as both traditional and modern. Only 34 percent were highly acculturated and 11.3 percent could be considered traditional.

When we looked at the type of disabling condition identified by respondents' degree of acculturation, we found no significant differences. The only point of notice is that the heavy drinkers in the survey reflected greater membership in the "traditional" and "both traditional and modern" categories. None of the respondents with drinking problems were found in the highly acculturated, or "modern," category.

Acculturation, then, seems to influence behaviorally related problems, and can be assumed to influence escapist behavior as

**TABLE 5**  
**Degree of Acculturation Found among the**  
**Navajo, Shoshone-Bannock, and Chippewa-Cree**  
**(N = 169)**

	Traditional		Both Traditional and Modern		Modern		Total	
	n	(%)	n	(%)	n	(%)	n	(%)
Navajo	7	(15.9)	26	(59.1)	11	(25.0)	44	(100.0)
Shoshone-Bannock	4	( 8.9)	23	(51.1)	18	(40.0)	45	(100.0)
Chippewa-Cree	8	(10.0)	44	(55.0)	28	(35.0)	80	(100.0)
Total	19	(11.3)	93	(55.0)	57	(33.7)	169	(100.0)

postulated by Bryde<sup>24</sup> and May.<sup>25</sup> The encroachment of Western civilization has been cited in many studies as a factor in social disorganization, cultural and social change, cultural conflict, and stress resulting in such deviant behavior as suicide, homicide, crime, and other such behaviors. This study suggests that alcoholism may be among the behaviors influenced by acculturation.

## DISCUSSION

This study of tribal vocational rehabilitation program clients revealed that the adult disabled Indian was relatively young (average age 33 years) and unemployed, resided in a state of poverty, and required a multitude of services incorporating medical care, rehabilitation, training, and financial assistance. Chronic health problems were evident; such problems as high blood pressure, arthritis, coughs, heart problems, and diabetes were noted. Multiple disabilities and health problems were also reported. Most disabilities were due to accidents and/or illness and disease. Accident-related disabilities included spinal cord injury, back and head injury, and paralysis. Several of the disease-related disabilities resulted in physical limitations and/or loss of bodily function. The diseases included diabetes, heart conditions, polio, and high blood pressure. Alcohol, certainly a contributing factor in accidents, injury, and death among American Indians, has been documented in this study as a contributor to accidents and injury leading to disabilities.

Finally, depression and stress, leading to those few disabilities categorized as mental, are a major contributor to loss of function in those individuals cited in the report. Clearly, the major causes of adult Indian disabilities are accident and chronic health problems leading to physical impairment, loss of sight and hearing, and loss of bodily function. And lastly, disability due to alcohol/drug/inhalant abuse constitutes a major area of concern. The role alcohol abuse plays in causing injuries (auto accidents, suicide attempts, and mental/emotional dysfunctions) is significant enough to require attention.

The implications arising from this study impact three significant policy areas: service delivery, cultural sensitivity, and prevention. Given this study's documentation of the kinds of disabilities that

exist among Indian reservation populations; the serious barriers facing the disabled Indian, such as isolation, economic deprivation, transportation and mobility problems; and the lack of adequate services for health care and rehabilitation services, it appears that any effort to meet the needs of this population requires a multifarious intervention strategy. Such a strategy would entail the cooperation and joint planning of several agencies such as Indian Health Service, the Bureau of Indian Affairs, the Department of Special Education, and the respective vocational rehabilitation programs.

### **Implications for Service Delivery**

First, since most disabling conditions require some medical intervention, access to appropriate care is necessary. Although the Indian Health Service is the primary provider of health care services to Indians residing on or near reservations, medical care specific to the disabled Indian is not always available. Physical therapy, prosthesis, and extensive rehabilitation is not necessarily provided by the IHS. Those in need of these specialty services must obtain them elsewhere, generally at distant urban sites. The financial resources for such services are also usually lacking, thus making the cost for such services almost prohibitive. Transportation limitations often compound the problem, creating insurmountable barriers to receiving the available medical or rehabilitation services.

Additionally, disabled individuals must have access to rehabilitative services for training and other assistance in order to fulfill their employment goals. Isolated reservations, poor road conditions, transportation barriers (lack of vehicles/drivers or distance factors) are major barriers to rehabilitation services.

Limited employment opportunities, a problem facing most reservations, are of great concern to the disabled Indian population. As stated previously, reservations are isolated and employment opportunities are few. Indeed, the able-bodied residents of these communities are often hard-pressed to obtain employment.

Because of the nature of certain kinds of disability, efforts at intervention require early identification, lengthy counseling, and perhaps an ongoing program of maintenance. For example, disability due to alcoholism, or injury caused by heavy drinking

behavior, has been shown to be significant. Counseling, rehabilitation, and medical care are essential aspects of intervention. Prevention is also a key issue that demands attention; prevention, combined with existing programs such as alcoholism treatment facilities or mental health programs, would extend the care provided. The three Indian VR programs surveyed in this study did indeed work closely with these programs; however, the problem still remains of significant concern. In order to provide effective help for alcohol abuse, identification of those at risk, coupled with a plan providing treatment, intervention, and maintenance, is necessary. Intervention must be aimed at the young, before use or during the experimentation stage, to educate them about the dangers of substance abuse. Also, programs to reduce alcohol-related self-injury and accidents (effective emergency medical care, improved road conditions, legislation and enforcement, and public education) are needed to reduce permanent physical damage from heavy drinking behavior.

Other types of disabilities require different intervention strategies. Those suffering from a physical injury resulting in limited mobility require transportation services, personal care, and in-home rehabilitative services. Those suffering from loss of sensory abilities (sight or hearing) require special equipment and initial rehabilitative care. Without a doubt, all those having an impairment of some sort eventually require rehabilitative services, medical care, health education, and/or counseling. These services, in addition to greater availability of employment opportunities and training/schooling, are greatly needed.

### **Implications for Cultural Sensitivity**

The second major policy implication arising from this study involves cultural sensitivity. Vocational rehabilitative services and training programs must be geared to the Indian client. Not only must these programs take particular disabilities into consideration, but sensitivity to the particular culture of the Indian receiving the service(s) must be incorporated into the delivery system. Utilization of a native healer, as shown in this study, is an important aspect of the healing process. Maintenance of native languages, particularly in the home, and the use of native religious practices must be recognized as an important aspect of the culture.

This study found that the extent of acculturation and its influence on attitudes and service need are important factors for the disabled. A great majority of the disabled Indians interviewed were undergoing acculturation processes. Many studies have linked depression, alcoholism, suicide, and other escapist behaviors to the influence of acculturation.<sup>26, 27</sup> Thus, a measure of acculturation may be of significance for identifying those in greater need of counseling services.

### **Implications for Prevention**

The third major policy implication is prevention. Preventive measures, an area frequently overlooked by service providers, must take high priority in an effort to ameliorate disabling conditions among American Indians. Many of the disabling conditions identified in this study have a medical etiology and can be effectively prevented and/or controlled. These conditions include bacterial meningitis and otitis media, which contribute to hearing impairments, seizure disorder, and learning disabilities; high blood pressure and diabetes, which are highly treatable; and various emotional and behavioral problems. Some behavioral problems continue to frustrate providers. Many share a common etiology: alcoholism. Heavy drinking behavior is the cause of fetal alcohol syndrome (FAS) and fetal alcohol effect (FAE), major disabling conditions in infants. Alcohol abuse also contributes significantly to accident-related injuries and disabilities, and is a major factor in suicide, homicide, and behaviorally related disorders. Of course, one cannot negate the influence of the low socioeconomic status of Indians. Poverty, poor sanitation and water supplies, isolation, and the inability to receive needed services are major contributors to the problem of Indian disabilities.

### **CONCLUSION**

This study provides a clear picture of disabled Indians and points out the difficulties and barriers to care faced by this population. Further, this study investigates the client's point of view and his/her feelings, and community attitudes, regarding the disability. The disabled are given the opportunity to voice their needs and to explain the difficulties they face. Policy implications arising

from this study are identified and discussed. Service delivery, cultural sensitivity, and prevention should become a part of all plans developed to mitigate the problems and issues that face the disabled American Indian.

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