PREFACE TO THE SECOND EDITION

It is with pride and excitement that the other members of the Core Faculty and Staff of the Stanford Geriatric Education Center and I present this Second Edition of the review of all the available literature we could obtain on the topic of health and health care for the older members of the populations described as American Indian and Alaska Native in the United States. We are particularly pleased that Dr. Melvina McCabe graciously agreed to author this edition, building on the work of Dr. José Cuellar, who developed the first edition completed in 1990. Dr. McCabe is a geriatrician on the faculty of the Department of Family Medicine in the University of New Mexico School of Medicine in Albuquerque with wide experience in working with American Indian elders. Her own background is Navajo, and, as far as we know, she is the first American Indian to complete a geriatric fellowship. We owe her a debt of gratitude for all the long hours of dedicated work she added to her already exhaustive schedule to review the plethora of new publications that have become available since the first edition, summarize them, and add them to the manuscript in a logical way. We feel that Dr. McCabe’s own experience and medical background complement the extensive insights of Dr. Cuellar, whose background was anthropology.

We are also very grateful for the support of our funding agency, the Bureau of Health Professions of the Health Resources and Services Administration of the United States Department of Health and Human Services, who provided the grant that allowed us to undertake this work. Many hundred copies of the first edition of this review have been ordered and used by individual providers, researchers, teachers, and students throughout the country. We hope that this edition will be similarly useful to those who are concerned about this important population of elders. If readers want more information about other resources in ethnogeriatrics produced by the Stanford Geriatric Education Center, or have suggestions or comments to share, we encourage you to contact us.

Gwen Yeo, PhD, Director
Stanford Geriatric Education Center
Editor, SGEC Ethnogeriatric Reviews

July 17, 1994
AGING AND HEALTH:
AMERICAN INDIAN/ALASKA NATIVE ELDERS
SECOND EDITION

Melvina McCabe, M.D.
José Cuellar, Ph.D.
# TABLE OF CONTENTS:

**Introduction**

**Demographics**
- Geographic Distribution
- Employment, Income, Poverty, and Western Educational Level
- Gender Ratio, Marital Status, and Living Arrangements
- Use of Health Care Services

**Impact of Culture on American Indian/Alaska Native Elders**
- Traditional Beliefs and Healers
- Common Sociological Characteristics Among AI/AN
- Communication
- Special Considerations
- Traditional vs. Western Medicine Practices

**Morbidity/Mortality and Health Care**
- Life Expectancy/Mortality
- Major Health Problems
  - Cardiovascular Disease
  - Cancer
  - Diabetes
  - Alcohol Use
  - Injuries
  - Rheumatologic Disorders
- Geriatric Syndromes
  - Malnutrition
  - Falls
  - Functional Disabilities
- Mental Health
  - Common Diagnoses
  - Suicide
  - Elder Abuse

**Long Term Care**

**Ethical Considerations**

**Research**
- Urban Populations
- Problems and Gaps

**Conclusion and Recommendations**

**References**
AGING AND HEALTH:
AMERICAN INDIAN/ALASKA NATIVE
Second Edition

Melvina L. McCabe, M.D.
José Cuellar, Ph.D.

INTRODUCTION

The American Indian/Alaska Native (AI/AN) term will be used to designate those tribes and groups from the continental United States and those within the Alaskan boundaries (Eskimos, Aleuts, Athabascan, Tingit, and Haida Indians). The aging and health literature reviewed here includes writings on those American Indian/Alaska Natives ethnic-specifically known as Navajo, Cherokee, Sioux, Chippewa, Laguna Pueblo, Lumbee, Choctaw and Houma, Kiowa Apache, Iroquois, Creek, Alabama and Coushattal, Pima, Papago, Yumas, Cheyenne, Zuni, Hopi, Klamath and Inuit. Therefore, all these ethnic-specific terms, and more, are used throughout this paper—although not interchangeably.

Given the American Indian/Alaska Native population's general size and distribution, it should be no surprise that more is known about aging Navajos than about aging among other Indians, Eskimos, and Aleuts, with the exception of diabetes among Pima. Yet until recently, there was still relatively little information about aging and health among the Navajo, although they are by far the largest tribe with the largest reservation. This poses a serious policy problem because program planning and implementation requires the development of strategies based on the nature of the various AI/AN populations. Therefore, the most obvious implication to be drawn from this review is the need for much more information about aging and health among other Indian, Eskimo and Aleut populations, particularly those among the top ten in size (Cherokee, Dakota Sioux, Chippewa, Pueblo, Lumbee, Choctaw and Houma, Apache, Iroquois, Creek, and Alabama).

American Indian/Alaska Native designates not just an ethnicity; it also defines a unique legal status in the United States. AI/AN are thought of as maintaining a "dual" citizenship (Wood, 1976), being both citizens of the United States and members of various tribal nations or subdivisions that have special rights and relationships with the federal government as a result of special treaties. This is an important consideration when developing adequate health care for elders of various Indian, Eskimo and Aleut nations with different historical relationships with the United States. As underscored by the National Indian Council on Aging ([NICOA], 1981, p. 2):

Within the context of this unique trust relationship between the federal government and Indian tribes, the philosophy of Indian self-determination
is critical. Self-determination encompasses the right and ability of Indian tribes, as distinct legal and cultural entities, to determine their own futures within the bounds of U.S. law.

Thus, while the research is intended to be useful to a wide range of academicians, policy makers, and program planners, in the spirit of self-determination we hope above all that the data will be used by the Indian Community to develop and advocate for the kinds of programs, services, and policies that are best suited to the unique needs and cultures of Indian and Alaskan Native elders.

A comprehensive computerized search of available literature on older American Indian/Alaska Natives and their health and human service needs was conducted. The references found were generally categorized as follows: demographic profiles and summaries (e.g., NICOA, 1981; Rogers and Gallion, 1978; B. S. Williams, 1974, 1978; and Office of Minority Health Resource Center, 1988b), ethnographic descriptions (e.g., Amoss, 1981; Guemple, 1983; Schweitzer, 1983; and G. C. Williams, 1980), needs assessment or epidemiological research (e.g., Association of American Indian Physicians, 1979; Poppy, 1979; Murdock and Schwartz, 1978; Red Horse, 1980; and Los Angeles County Area Agency on Aging [Los Angeles Co. AAA], 1989), action or applied research project reports (e.g., Dukepoo, 1980; and John, 1988), policy analyses (e.g., Bell, Kasshau, and Zellman, 1978; Block, 1979; Curley, 1979; Edwards, 1983; Edwards, Edwards, and Daines, 1980; John, 1980, 1986; and White House Conference on Aging, 1971), and critical reassessments (Manson and Pambrun, 1979; and Red Horse, 1982). In general, we found significantly fewer references and more gaps than might be expected, particularly given the more than 20 years that have passed since the first seminal overview of American Indian aging (Levy, 1967), and the 1971 White House Conference on Aging (1971) document on the elderly Indian were first produced.

Some of the references are ethnic-specific research reports; that is, they focus on one AI/AN tribal group or population segment (e.g., Joos and Ewart, 1988; Kunitz and Levy, 1966a, 1966b, 1989; Williams and Boyce, 1989; Coulehan, Lerner, Helzlsouer, Welty, and McLaughlin, 1986; and Rushforth, Bennett, Steinberg, Burch, and Miller, 1971). Some are more generic in scope, including more than one specific Indian group (e.g., May, 1986; Seccombe, 1989; O’Brien, Burch, and Bunim, 1966; Evers, Orchard, and Haddad, 1985; Gohdes, Kaufman, and Valway, 1989; Alberts and Lanier, 1987; F. L. Johnson, Cook, Foxall, Kelleher, Kentopp, and Manllein, 1986; and West, 1974). Other references are primarily concerned with ethnic minorities or elders in more general terms (e.g., Cuellar and Weeks, 1979; West, 1978; Coughlin and Kahn, 1986; Kobata, Lockery, and Moriwaki, 1980; Harper, 1982; Polednak, 1987; Moss and Halamandaris, 1977; and Morrison, 1982, 1983).
As discussed in greater detail below, the rather uneven and recent nature of the literature on AI/AN aging and health makes it difficult to generate general recommendations with much confidence. Nonetheless, the available literature does permit identification of certain gaps and trends, and discussion of some implications for health care providers.

A very important concept must be emphasized early on and kept in mind as one reads this paper; that concept is the great heterogeneity that exists among tribes. The research findings on a particular tribe or group may not be generalizable to all American Indian/Alaska Natives. Intragroup differences may be greater than intergroup differences, making generalizability of research findings even more ambiguous. Factors which may impact on this great variety are the degree of acculturation, urban vs. rural vs. reservation living, educational status, and socioeconomic status.

This paper presents: 1) a discussion on demographics, employment/income, gender ratio, and use of health care services; 2) a discussion on the culturally sensitive approach to the American Indian/Alaska Native elder; 3) a morbidity/mortality section which includes major health concerns, disorders commonly seen in the geriatric population, and mental health; 4) long term care issues; 5) ethical issues; 6) research; and 7) a conclusion statement with implications for AI/AN elders.

Demographics of Older American Indians/Alaska Natives

The term American Indian/Alaska Native reflects a particular political relationship to both federal and state governments, and involves specific political rights and benefits not granted to others who do not officially qualify as AI/AN by virtue of their percent of Indian ancestry, thus the U.S. Government officially recognizes these groups as American Indian or Alaska Native. The American Indian/Alaska Native label has been also sociologically associated with the certain characteristics and conditions discussed below, which are more or less shared by indigenous Amerindians.

For census purposes, American Indian/Alaska Natives are identified on a self-declared basis. In order to access benefits and exercise rights as an AI/AN, one must be officially enrolled on a tribal or reservation roster, live on a reservation or provide genealogical documentation that demonstrates at least one-fourth "Indian blood" (blood quantum) or descent (Primeaux, 1979). All others, despite self-declaration, are denied official recognition and, as a result, denied certain benefits and rights as American Indian/Alaska Natives.

Obviously, this denial has significant consequences. For example, one published report examined the results of a health survey among Oregon’s Klamath Indian elders conducted 39 years after they lost federal recognition of tribal status in 1954 (Joos & Ewart, 1988). When compared to national survey data on older Indians
and non-Indians, Joos and Ewart found that although the Klamath were chronologically younger than the comparison groups, their health status was worse than that of the non-Indian population and no better than that of other Indians. Moreover, Klamath elders had higher unmet needs for medical care and lower health insurance coverage. This case helps illustrate this first important policy point: there are growing numbers of "undocumented" Indians who are experiencing some or all of the liabilities of being AI/AN, but none of the benefits specifically set aside for them (Kramer, 1991; Los Angeles Co. AAA, 1989).

There are significant demographic gaps. Most of the demographic studies are based either on 1970 or 1980 census data, with all the inherent limitations found in those data bases, or the various national, regional and local needs assessment survey data conducted more recently. Unfortunately, most of these studies also share the critical limitation, the significant underdocumentation of older Indians living in cities. Nonetheless most provide some dated but important facts, if not comprehensive contemporary findings, regarding the economic, housing, family and social conditions, and physical and mental health status of older American Indians/Alaska Natives. These lead to the following general conclusion: Most AI/AN elders are living in worse conditions than the majority of older persons in the United States, and might be considered "elderly" at a younger chronological age than other U.S. populations because of the onset of problems associated with old age at an earlier point in life. We do know from every local, state and national data set on Indians that they share very poor economic conditions, especially those who live alone. Therefore, we can infer that a significant number share high levels of need for health care. To date, still no studies have produced any evidence to the contrary.

There are approximately 300 federally-recognized reservations, 500 federally recognized American Indian/Alaska Native tribes and villages with over 150 AI/AN languages (Kramer, 1992). According to the 1990 census, there were 1.9 million AI/AN in the United States (U.S. Bureau of the Census, 1992). This makes AI/AN numerically the smallest of the total U.S. ethnic categories. The AI/AN elders age 65 and over also remain the smallest of the major ethnic categories of this age group, with 108,000 individuals (20,000 aged 80 and over), although there was a 69% increase in their numbers since 1980; there are expected to be 276,000 65 and over by 2020 and 467,000 by 2030 (Heath, Ornelas, & Marquart, 1993; U.S. Bureau of the Census & National Institute on Aging [NIA], 1993).

Unfortunately, because of the various bureaucratic barriers established by Congress and administered by the Bureau of Indian Affairs, more and more older American Indian/Alaska Natives officially remain undercounted and undocumented, making them invisible and ineligible for needed benefits and services. As a result, the available statistics on older AI/AN are still very unreliable, and remain problematic as a basis for policy or program planning (Poppy, 1979). Therefore, the implications drawn below are tentative, and primarily intended to stimulate more discussion of the issues.
Geographic Distribution

Although American Indian/Alaska Natives live in every state, the largest numbers live in the cities and reservations of California, Oklahoma, Arizona, and New Mexico (Reddy, 1993). They make up 4% to 8% of the state populations of New Mexico, South Dakota, Oklahoma, Arizona and Montana (U.S. Census, 1980) and 16% of the Alaskan population. Slightly more than 50% of the population is concentrated in the Western part of the United States.

At the national level, the 1980 data revealed 54% of American Indian/Alaska Natives were living in predominantly urban areas, and less than 24% of the AI/AN population lived on reservations (Taylor, 1988). The majority of older American Indian/Alaska Natives (52%) however, still live in rural areas. At another level, according to the research reported by Hill (1988), California has the largest Indian population of any state, and 90% of this population lives in urban places. Based on the 1980 California census, approximately 10,700 of the state’s 2,401,000 over-65 population were older American Indian/Alaska Native. Unfortunately, the available statewide demographics of older Indians provide no data on their local area distribution or life conditions.

Employment, Income, Poverty, and Western Educational Level

Employment. An assessment of employment comes from the Survey of American Indians and Alaska Natives (SAIAN) (Beauregard, Cunningham, & Cornelius, 1991). This survey conducted in 1987 was sponsored by the Agency for Health Care Policy and Research and addressed issues of health status, use of health care services, and access to care. The total AI/AN population of 885,000 surveyed was living on or near reservations and was eligible for health care benefits from the Indian Health Service (IHS). In the SAIAN general population, approximately 50% of American Indian/Alaska Natives were employed full or part time compared to the U.S. population of 66%. In his review of economic status, John (1991) found that 23% of American Indian/Alaska Natives living in reservation or rural areas were currently employed. Of AI/AN age ≥55, 24% reported that they had never worked, and 79% of those who had never worked were female.

Income. In the SAIAN general population, 38% of those who were employed earned $5/hour or less and 18% earned $10/hour or more; compared to the U.S. population where 26% earned $5/hour or less, and 34% earned $10/hour or more (Beauregard et al., 1991). In 1980 the median income ($4,257) for American Indian/Alaska Native males aged 65 or over was a little higher than that of older African Americans ($4,113), a little less than that of older Hispanic Americans ($4,592), and little more than half (57%) that of older Anglo American males. The median income ($3,033) of older American Indian/Alaska Native females, on the other hand, was slightly higher than that of both their Hispanic ($2,873) and African American
($2,825) counterparts, and little more than three-fourths that of their Anglo American counterparts (See Table 1).

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaska Native</td>
<td>$4,257</td>
<td>$3,033</td>
</tr>
<tr>
<td>African American</td>
<td>$4,113</td>
<td>$2,825</td>
</tr>
<tr>
<td>Hispanic</td>
<td>$4,592</td>
<td>$2,873</td>
</tr>
</tbody>
</table>

*Source: U.S. Bureau of the Census, 1980

In California, the median income of both older male and female American Indian/Alaska Natives was somewhat higher than the national average. The median income for elderly American Indian/Alaska Native males ($5,391) was also slightly higher than that of Hispanic American males ($5,233) and African American males ($5,052), but significantly lower than that of Anglo American males ($8,709) in California. The median income for older American Indian/Alaska Native females ($4,050) in California was significantly lower than that of their counterparts, but higher than that of their Hispanic counterparts ($3,884) in the state (AARP, 1987b). In 1989, the Los Angeles Urban American Indian Elders Outreach Project needs assessment found that 37.2% of those older American Indians surveyed reported that their monthly incomes were not sufficient to cover their living expenses (Los Angeles Co. AAA, 1989).

Poverty. In 1980, almost one of three (32%) older American Indian/Alaska Natives in the United States was living below the poverty level. The proportion of poor older American Indian/Alaska Natives was lower in urban areas (25%) and higher in rural areas (39%) (American Association of Retired Persons [AARP], 1987a). In part this may be due to the fact that some of the reservation-dwelling elders have moved back there from cities, even though their children stay in the urban areas (Block, 1979). In California, the official poverty rates of older American Indian/Alaska Natives (12%) paralleled those of older Hispanic Americans (13%) and Asian/Pacific Americans (11%) and were somewhat lower than those of older African Americans (16%) but significantly higher than those of Anglo Americans (8%). According to the Select Committee on Aging, 1989, the percentage of Al/AN elders living in substandard housing was 26.3 with a significant percentage of homes lacking telephones, indoor sanitary facilities, and electricity.

Sources for Health Care. In the SAIAN study, less than 1/3 of the general American Indian/Alaska Native population had private insurance compared to 3/4 of
the total U.S. population. The American Indian/Alaska Native geriatric population (age 65 and older) had the highest percentage of the different age groups of source of care other than the IHS. Other source of care refers to any facility not identified as IHS or Alaska Native facility. Rates of public health care coverage (Medicare, Medicaid, public assistance, CHAMPUS) were highest for the American Indian/Alaska Native geriatric population. Approximately 85% of the American Indian/Alaska Native geriatric population was covered by Medicare which is still quite a bit below the percentage of the U.S. geriatric population in which almost all receive Medicare benefits (Beauregard et al., 1991). This may reflect either lack of enrollment opportunities or lower rates of employment history.

In 1982, a study by the National Indian Council on Aging to determine participation rates by 1400 American Indian/Alaska Native elders in Social Security programs revealed the following data: 9% participation rate in disability benefits, 37% in retirement benefits, 2% in 72+ benefits, 12% in survivors benefits, and 45% in supplemental security income (NICOA, 1993). These low participation rates may possibly reflect the lack of knowledge of such services, lack of physical or language access to these services, and possible racial discrimination or lack of cultural sensitivity when individuals do apply for services.

Educational Level. Twelve percent of American Indian/Alaska Native elderly had no formal education compared to 2% of white elderly (AARP, 19987a). The percentage of American Indian/Alaska Native elders living on reservations or rural areas who did not complete high school was 78%. The mean educational level for AI/AN elders is 8 years (John, 1991). In the SAIAN general population, 43% of American Indian/Alaska Natives did not complete the 12 years of high school; compared to 25% of the total U.S. population (Beauregard et al., 1991) (See Table 2).

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Age</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaska Native</td>
<td>All</td>
<td>43</td>
</tr>
<tr>
<td>American Indian/Alaska Native**</td>
<td>Elder</td>
<td>78</td>
</tr>
<tr>
<td>Total U.S. Population</td>
<td>All</td>
<td>25</td>
</tr>
</tbody>
</table>

*Source: John, 1991; Beauregard, Cunningham, & Cornelius, 1991.*
**Mean educational level 8 years
Gender Ratio, Marital Status, and Living Arrangements

The gender ratio of older American Indian/Alaska Natives, while statistically comparable to that of other older United States populations, most closely parallels that of older Hispanic Americans, and is least like that of older Anglo Americans. The older American Indian/Alaska Native sex ratio is 77 men per 100 women at age 65-74 and declines to 59 per 100 over age 85. Thus, older American Indian/Alaska Native women outnumber the men and tend to live much longer (Young, 1989).

At the national level, the marital status of older American Indian/Alaska Natives is statistically similar to that of other older populations. The majority (60%) of the men are married, and the majority (55%) of the women are widowed, with approximately 14 percent of the men and 10% of the women divorced or separated (AARP, 1987a).

Nationally, the older and more rural Indians are more likely to be living in a family context (i.e., with close relatives) than are their younger and urban counterparts (Manson & Callaway, 1988). But in California, widowed, divorced, or single older American Indian/Alaska Natives, like their white or black counterparts, were less likely than the other two categories of ethnic minority elders to live in an extended household situation. (AARP, 1987b) This seemed particularly true in Los Angeles, where indeed 12.5% of those older American Indians surveyed were in fact homeless (Los Angeles Co. AAA, 1989). Only 11% of unmarried California older American Indian/Alaska Natives lived in an adult child’s household, compared with 20% of older Hispanic Americans, and 38% of older Asian/Pacific Americans.

Use of Health Care Services

The results of past needs assessments and evaluations of existing services generally point to gaps in the existing service system for Indian/Alaska/Aleut natives, and conclude that it fails to satisfy existing needs (Kramer, 1991). There are more needy American Indian/Alaska Native elders than services, particularly regarding physical and mental health.

The proposition that a majority of American Indian/Alaska Native elderly see physicians less often than other elders, primarily because older Indians most needing medical assistance often live in isolated areas and lack income and transportation, was challenged by a report comparing the use of services by elderly urban Indians with the National Health Interview Survey findings. It concluded that physician contacts at the office site were quite similar. A survey of medical records found that, in general, while urban Indians make less use of primary health care services than Indian Health Service patients and the general U.S. population, older urban Indians tend to use these services as much as other American elders and more than younger urban Indians (Taylor, 1988). The specific explanations for this discrepancy between different Indian age groups remain unclear.
Some reasons suggested for delay or failure of older Indians to seek Western medical assistance include their reliance on traditional native healing techniques and their different cultural understandings of illnesses and diseases--factors not often understood by contemporary health care professionals and planners (Book, Dixon, & Kirchner, 1983).

Murdock and Schwartz (1978) provide empirical information on the levels of perceived social needs and perceived service availability, and on the use of service by elderly American Indian/Alaska Natives, with a focus on the relationship between these factors and family structure. Data from interviews with 160 elderly American Indian/Alaska Natives living on a Sioux reservation in North and South Dakota indicate that levels of objective need are uniformly high, especially for elderly persons living alone. Moreover, levels of perceived service needs, awareness of service agencies, and use of agency services, are higher for those living in extended family settings than for those living alone. Thus, family structure appears to be an important factor associated with increased awareness and accessibility of services for elderly American Indian/Alaska Natives, although precisely what roles various family members play in assisting their elderly Indian relatives obtain information concerning services need further research. It is also important to find out why a less effective mechanism exists for delivering services to those elderly American Indian/Alaska Natives who live alone, with their feelings of isolation and severe needs, lack of awareness of services to meet those needs, and lack of contacts with others who can help them with their problems.

According to the IHS data, American Indian/Alaska Natives have lower hospital discharge rates than the general U.S. population. IHS (1989) and U.S. Hospital (1988) discharge rates for age 65 and over were 208.7/100,000 and 334.1/100,000, respectively (See Table 3).

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaska Native</td>
<td>208.7</td>
</tr>
<tr>
<td>General U.S. population</td>
<td>334.1</td>
</tr>
</tbody>
</table>

*Source: IHS, Trends in Indian Health, 1991
Are these lower discharge rates for American Indian/Alaska Natives reflective of the factors noted in the previous paragraphs? It is of interest to note that the IHS’s Medicare collection for 1991 totaled more than $35 million (Heath et al., 1993). The same data set noted that American Indian/Alaska Natives age 64 and over comprise 5.6% of the population but have 9.1% of the outpatient visits, 12.3 of the inpatient discharges, and 18.7% of the inpatient days. Compare this to the American Indian/Alaska Native age range 5-14 which makes up 21.8% of the total American Indian/Alaska Native population and had 12.2% outpatient visits, 5.2% inpatient discharges, and 3.9% inpatient days (See Table 4).

<table>
<thead>
<tr>
<th>Type of Care</th>
<th>Number for ages over 65 (5.6% of AI/AN population)</th>
<th>Number for ages 5-14 (21.8% of AI/AN population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatient visits</td>
<td>9.1</td>
<td>12.2</td>
</tr>
<tr>
<td>Inpatient visits</td>
<td>12.3</td>
<td>5.2</td>
</tr>
<tr>
<td>Inpatient days</td>
<td>18.7</td>
<td>3.9</td>
</tr>
</tbody>
</table>


**IMPACT OF CULTURE ON AMERICAN INDIAN/ALASKA NATIVE ELDERS**

There are significant gaps in our ethnographic understanding of American Indian/Alaska Native aging and health issues and especially in descriptive observations on the continuities and discontinuities in the cultural experiences and expressions of older Indians, Eskimos and Aleuts in cities. It is obvious that many older Indians have kept some of their traditional health beliefs and practices over the years, despite the pressing influence of Western ideas and approaches to health care, and the decline in qualified indigenous health care practitioners. More research is needed on how these are being modified in response to environmental and cultural changes over time. An example of how among the Mescalero Apache the religious aspect of healing appears to be diminishing because of the increased breaking down of customs, and less and less use of the medicine man, except for yearly celebrations is provided by Joe, Gallerito, & Pino (1976). By comparison, it appears that the Laguna Pueblo Indians adhere more to their traditional beliefs than the Mescaleros. It is important to note that American Indian/Alaska Native systems of healing vary from population to population. Among the Navajo, for example, health traditions consist of
a complex system including healing specialists, herbalists, and diagnosticians; patients elect one type of healer or go through complex healing ceremonies which bring into play a number of specialists (Joe et al., 1976). The little information available, however, does suggest that a major factor that needs to be studied is the effects of Anglicization, assimilation, and acculturation among younger generations of American Indian/Alaska Natives on the aging of their elders. The importance of these effects impacts the understanding of the Western beliefs of the disease process, compliance with suggested management, interaction of the patient with the health professional, and treatment outcomes.

Traditional Beliefs and Healers

When they are present, traditional beliefs and practices are found in three general areas: 1) preventive measures usually taken to ward off evil spirits or the effects of witchcraft, and to reestablish harmony; 2) treatment regimens such as specific healing ceremonies and ritual activities; and 3) health maintenance, such as the Navajo Blessingway ceremony used to heal persons who have anxiety-based insomnia (Wilson, 1983). According to Bean (1976), there are at least six different types of Indian healers or medicine persons: 1) the positive medicine person who can only heal; 2) the positive/negative medicine person who can also cause sickness and harm by evil spells and witchcraft; 3) the diviner-diagnostician who can discover the causes of illness and sometimes identify cures, but does not always have power to heal others; 4) the specialist medicine persons such as herbalists, and bone setters; 5) the sacred medicine persons who primarily are concerned with healing the soul; and 6) the "singers" who can cure by laying on of hands and removing objects from the patient's body (Wilson, 1983).

Common Sociocultural Characteristics Among AI/AN

Contemporary American Indian/Alaska Natives differ significantly in the maintenance of their indigenous health care cultural traditions, due mainly to the differential degree of adoption of Anglo American health care practices. It is therefore virtually impossible to outline a set of American Indian/Alaska Native health care cultural traditions that apply to all groups. Nonetheless, the interaction with American Indian/Alaska Native elders in the clinical or research setting calls for the acute awareness of the factors that might impact on the effectiveness of the medical intervention or the researcher/participant interface. Henderson and Primeaux (1981) were able to generate a series of sociocultural characteristics that are widely shared, and may be summarized as follows:

1) Present oriented--tendency to focus on present rather than future. Discussion of disease prevention practices from a Western perspective for health promotion may need to be presented in a different manner to be accepted.
2) Time consciousness--task-motivated rather than time-motivated.

3) Giving and helping--generosity and helping valued more than taking and competing.

4) Harmony with nature--a basic tenet base that includes taking only what is needed from the environment. According to Wilson (1983), traditional American Indian/Alaska Native beliefs maintain that health consists of a person's state of harmony with nature and the universe, therefore healing involves the restoration of harmony, particularly with the supernatural. Moreover, the treatment additionally depends on whether the illness or disease originated internally (e.g., taboo violation) or externally (e.g., bone fracture). Thus, it is important to underscore that unlike Anglo American medicine, American Indian/Alaska Native medicine does not separate the spiritual from the physical, with ritual and regimen often integrated in belief and practice. Therefore it is important to recognize that when aging Indians living in cities away from reservations and traditional healers go to a clinic or hospital, they may have made a conscious decision to do so, but often with reservations about the treatment they will receive.

5) Respect for age--the older are afforded more respect.

6) Extended family--all members of household (and from both sides of the wider family) directly influence each other, with the older members providing leadership. This concept is very important when issues concerning confidentiality and ethics arise. The traditional American Indian/Alaska Native patient may expect that such issues be discussed with the family members; such issues may not be the sole decision of the patient.

Wilson provides a brief but excellent example of how these characteristics can hypothetically affect interaction with the health care system: "A Navajo woman may plan to keep a clinic appointment, but if a member of her extended family stops in to visit and asks for help, she may give priority to a family member's need and consider her appointment a self-need that must be set aside for now." (Wilson, 1983, p. 277).

Communication

The importance of oral and nonverbal cultural communication when American Indian/Alaska Natives interact with health care providers is underscored by Wilson (1983) with several useful examples. For example, among a number of tribes, nonverbal communication such as the rapid blinking of eyes are used to signal one
another. While frequent eye contact is acceptable, continuous, unwavering eye contact may be considered insulting and disrespectful by some Indians. The use of interpreters is paramount to gaining a comprehensive health or illness picture for both the patient and the health professional. One must keep in mind the issues that may arise with the use of interpreters: 1) the interpreters’ understanding of the disease process and the medical terms used; 2) the conflict that may arise if the interpreter is a family member and is forbidden by the culture to speak about certain issues, and 3) the interpreter’s possible lack of language fluency for use in interpretation.

Special Considerations

Health professionals need to be aware of days of the year that carry special meaning for the different tribes; feast days for the pueblos, healing ceremonies and duration, celebration days, and social days. These days would be similar to the holidays or religious days that are observed by the major society. When the traditional healing beliefs and practices are utilized, certain expectations such as fasting, food restrictions, sweat lodges, and herbal use may impact on the prescriptions given by the Western health professional. An example is the American Indian/Alaska Native diabetic elder on insulin or an oral hypoglycemic who should be able to adjust his/her own medications because the Western health professional is aware of the expectations associated with the ceremonial days and has taken the time to explain the mechanism of action of the medicines and their effects with changes in diet. There may be certain objects or skin marks on American Indian/Alaska Native elders who have participated in the healing ceremonies that may be interpreted by the non-Indian health professional as “unusual.” The health provider is obligated by respect for their patients to gain permission before the marks or objects are removed.

Traditional vs. Western Medicine Practices

It is important to note that American Indian/Alaska Natives may sometimes go first to an Amerindian healer before, after or at the same time they are going to Western health care providers. Several studies document the existence and utilization of both health systems by the Pima Indians in Arizona and urban American Indian/Alaska Natives in San Francisco (Joe et al., 1976). Thus, it is important to attempt to provide holistic healing of the mind, body, and spirit for those who still believe and practice their indigenous American traditions.
Life Expectancy/Mortality

In the mid-1970s male life expectancy was estimated at 59 years while females were expected to live to age 72 (Carr & Lee, 1978). According to Indian Health Service calculations for 1980, the average life expectancy at birth for Indians in reservation states was 71.1 years, only 3.3 years less than that of white Americans (Rhoades, Hammond, Welty, Handler, & Amler, 1987). This represents a 20 year increase in life expectancy since 1940 when the projected life expectancy of American Indian/Alaska Natives was 51 years. Thus, by 1982, a substantially greater number of Indians was living to age 65 years, with a corresponding decrease in those dying at an early age (Rhoades, D'Angelo, & Hurlburt, 1987). Major causes of death have changed in those decades from infectious diseases such as tuberculosis and gastroenteritis to injuries and chronic illnesses, such as cardiovascular illness, diabetes, and alcohol-related diseases (Rhoades, Hammond, Welty, Handler, & Amler, 1987). Although elimination of automobile-related deaths might increase male life expectancy among American Indian/Alaska Natives by five years, poor nutrition, low quality of health care, few health facilities, and tendency to obesity and diabetes can be expected to continue taking a major toll on Indian health (Markides & Mindel, 1987).

According to the IHS data, the leading causes of death for American Indian/Alaska Natives age 65 and over are: 1) diseases of the heart, 2) malignant neoplasms, 3) cerebrovascular disease, 4) pneumonia and influenza, 5) diabetes mellitus, 6) accidents, 7) COPD, 8) nephritis, nephrotic syndrome, and nephrosis, 9) chronic liver disease and cirrhosis, and 10) septicemia (See Table 5). Of all American Indian/Alaska Natives who died in the service population of the IHS between 1986 and 1988, 45% were age 65 and over compared to the U.S. All Races, 1987, where 70% of all deaths occurred in those 65 years and older. It is interesting to compare the top five leading causes of death for all age groups in the IHS population: 1) diseases of the heart, 2) accidents and adverse effects, 3) malignant neoplasms, 4) cerebrovascular disease, and 5) chronic liver disease and cirrhosis (IHS, 1991).
Table 5*

LEADING CAUSES OF DEATH IN AI/AN ELDERS OVER AGE 65

1. Diseases of the heart
2. Malignant neoplasms
3. Cerebrovascular disease
4. Pneumonia and influenza
5. Diabetes mellitus
6. Accidents
7. COPD
8. Nephritis, nephrotic syndrome, and nephrosis
9. Chronic liver disease and cirrhosis
10. Septicemia

*Source: IHS, Trends in Indian Health. 1991

An investigation of the mortality experience of American Indian/Alaska Natives in New York State, exclusive of New York City, between 1980 and 1986 produced the following insightful findings (Mahoney, Elliott, & Michalek, 1989). Compared to the general population, death among American Indian/Alaska Natives occurred an average of nine years earlier. Among males, elevated risk of death was noted for tuberculosis, diabetes mellitus, pneumonia and cirrhosis; females demonstrated an excess of deaths due to diabetes mellitus and cirrhosis. Fewer than expected malignant neoplasm deaths occurred among both males and females. A deficit of death was observed for colon and lung cancer deaths among males and for colon and breast cancer deaths among females. While these results are generally in agreement with previous reports, this study did not identify an excess of deaths due to accident-related mortality.

A seminal review article on Navajo mortality published by Kunitz and Levy (1989) makes two important points. First, it shows that Navajos, like other American Indians, have higher mortality than non-Indians at ages below 65, but they have lower mortality at ages above 65, particularly among women. And second, they distinguished two forms of morbidity: 1) discrete nosological entities of greater or lesser severity that may or may not be reflected in measures of physical dysfunction; and 2) nonspecific functional problems that seem to be the consequences of aging itself. The more severe nosological entities (e.g., respiratory and renal failure) appeared most commonly in those Navajos below age 75 who were likely to die before age 80. These findings suggest that aging Navajos first experience these more severe nosological entities in their sixties and seventies, thus possibly reducing the proportion of Navajos in their eighties with these life-threatening diseases.
Major Health Problems

The results of the few epidemiological studies available suggest that among Amerindians certain degenerative diseases and chronic illnesses are more common than others, and are therefore related to certain consequential needs. The major health problems of elderly American Indian/Alaska Natives include non-insulin-dependent diabetes mellitus, high blood pressure, tuberculosis, heart disease, cancer, and liver and kidney disease (Hoy, Megill, & Hughson, 1987; Pasinski & Pasinski, 1987; Gohdes, 1986; Kunitz & Levy, 1986; Welty et al., 1986; Lanier & Knutson, 1986; Manson & Callaway, 1988; NICOA, 1981). American Indian/Alaska Natives have a 459% higher death rate from alcoholism, 233% higher death rate from tuberculosis, 155% higher rate from accidents, 107% higher rate from diabetes, and 66% higher rate from pneumonia, than the U.S. general population (U.S. House of Representatives Select Committee on Aging, 1989). Overall, in 1987, 40% of the SAIAN population reported having at least one of the following chronic conditions: cardiovascular disease, cancer, emphysema, gallbladder disease, hypertension, rheumatism, arthritis, and diabetes; compared to 42.2% of the total U.S. population. Specifically, 28.7% of the American Indian/Alaska Native geriatric population (age ≥65) reported having cardiovascular disease compared to 35% of the U.S. geriatric population; 8.2% with cancer compared to 13.6% of the U.S. geriatric population; 16.7% with gallbladder disease compared to 14.3% of the U.S. geriatric population; 36.7% with hypertension compared to 49.3% of the U.S. geriatric population; 48.6% with arthritis compared to 55.1% of the U.S. geriatric population and 27.4% with diabetes compared to 14.2% of the U.S. geriatric population (See Table 6). When conditions were compared individually between the two populations, American Indian/Alaska Natives had a lower prevalence of cancer than the general population, and had a higher prevalence of diabetes and gallbladder disease (Johnson & Taylor, 1991). Unfortunately, as discussed below, with the exception of diabetes, there is very little information on their distribution among the various American Indian/Alaska Native populations.

In 1985, a study of over 9,000 Alaskan elders compared Native Alaskans and white Alaskan elders in differences in specific health problems. Alaska Natives had a higher level of impairment in specific health problems: hearing, eyesight, back, legs, heart, and arthritis. There were no differences by ethnicity in bladder/bowel control, diabetes, memory loss, or Alzheimer’s disease. The results suggested that once income, education, gender, age, and geographic location were controlled, the differences were no longer noted. This study suggested that ethnicity alone did not contribute to the differences. The authors concluded that although these findings are significant, they cannot be generalized to all Indian groups (Seccombe, 1989).
Cardiovascular Disease. In general, the age-specific rates of cardiovascular disease in the population served by the IHS resembles those in the general U.S. population, so that diseases of the heart are now the leading cause of death for Indians (Rhoades, Hammond, Welty, Handler, & Amler, 1987). Among AI/AN age ≥65, 35.2% of all deaths were due to diseases of the heart (John, 1991). In the national survey of older Indians and Alaska Natives using Older American Resources and Services (OARS) interviews with 712 respondents aged 45 and over, the percent reporting heart trouble was similar to that reported by the Cleveland study of older adults using the same instrument, both at 16% (NICOA, 1981). This similarity (15%) was also found among 375 urban Indian elders aged 45 and over surveyed in Los Angeles County (Kramer, 1991; Los Angeles Co. AAA, 1989).

Urban Indian elders reported higher prevalence of hypertension (31%) than either the national sample of older Indians and Alaska Natives (19%) or the Cleveland elders (17%) (Kramer, 1991; Los Angeles Co. AAA, 1989). An analysis of the prevalence of hypertension among elderly Navajos found that although it was unclear whether the prevalence had increased over the past generations, measures of acculturation were related to hypertension among older Navajo women but not among the men (Kunitz & Levy, 1986a). These differences were interpreted as most probably related to differences in the situation of men and women within both Navajo and Anglo American society. One of the most important conclusions of this research is that, because there appears to be a dramatic increase in hypertension among the current generation of younger Navajos, the next generation of Navajos 65 and above may very likely show a true increase in its prevalence. In the SAIAN population, screening for hypertension in the American Indian/Alaska Native population was more likely to occur in women, those in fair to poor health, and those age ≥40. The percent of the geriatric

### Table 6*

<table>
<thead>
<tr>
<th>Type of Condition</th>
<th>% American Indian/Alaska Natives</th>
<th>% U.S. General Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular disease</td>
<td>28.7</td>
<td>35.0</td>
</tr>
<tr>
<td>Cancer</td>
<td>8.2</td>
<td>13.6</td>
</tr>
<tr>
<td>Gallbladder disease</td>
<td>16.7</td>
<td>14.3</td>
</tr>
<tr>
<td>Hypertension</td>
<td>36.7</td>
<td>49.3</td>
</tr>
<tr>
<td>Arthritis</td>
<td>48.6</td>
<td>55.1</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>27.4</td>
<td>14.2</td>
</tr>
</tbody>
</table>

American Indian/Alaska Native population (age ≥65) who had a blood pressure reading within the past 12 months was 81.0% compared to the total U.S. population of 84.4% (Lefkowitz & Underwood, 1991).

A crossover pattern similar to hypertension appears for cerebrovascular disease and arteriosclerosis mortality, except that the crossover among older Indians does not occur until age 65 for these conditions (Kumanyika & Savage, 1986).

As part of a study on the Navajo (Dine’), a comparison on patients discharged with a diagnosis of acute myocardial infarction was made between 1976-1979 and 1980-1983. For those male patients age 65+, the hospitalization rates were 2.4/1000 people/year (1976-1979) and 2.2/1000 people/year (1980-1983); for female patients age 65+, the rates were 0.6/1000 people/year (1976-1979) and 1.8/1000 people/year (1980-1983). There was an increase in rate among the females, but American Indian/Alaska Natives in general have lower rates of cardiovascular disease than the general population (Coulehan et al., 1986). Becker also reviewed the ischemic heart disease mortality in American Indian/Alaska Natives in New Mexico between 1958 and 1982. He found that mortality rates continue to decrease and continue to be lower for whites nationwide. The Albuquerque Areas IHS rates for American Indian/Alaska Natives were 1/3 less than the national rate; and Navajos rates were 1/5 less. It was also pointed out that not all American Indian/Alaska Natives experience these low rates; tribes in the Northwestern, Midwestern and Eastern areas of the nation have rates that exceed national rates. Morbidity from ischemic heart disease also appears to be lower in Southwestern American Indian/Alaska Native tribes (Becker, Wiggins, Key, & Samet, 1988).

Cancer. Although IHS data indicate that the age-adjusted cancer death rates among Indians is only 70% of the general U.S. rate, cancer has become a significant health concern among American Indian/Alaska Natives (Black & Wiggins, 1985; Rhoades, Hammond, Welty, Handler, & Amler, 1987). Between 1985-1987, the percentage of all deaths among AI/AN elders that was due to cancer was 17.5% (John, 1991). The cancer studies on the various American Indian/Alaska Native tribes will be presented. The heterogeneity of cancer types in American Indian/Alaska Natives will be noted.

One study examining data on cancer incidence in Alaska Natives for the 15 year period between 1969 and 1983 concluded that the rates of all cancers combined, and specifically lung cancer, increased, although the rates of specific cancers at specific sites differed (Lanier & Knutson, 1986). A study looking at esophageal cancer among Alaska Natives between 1955 and 1981 confirmed the reported high rates of cancer among Alaska Natives (Lanier, Kilkenny, & Wilson, 1985). Three fourths of the patients were age 60 or older at the time of diagnosis. Forty-two patients had confirmed esophageal cancer by histologic study. The five-year survival rate for patients undergoing surgery was 17% for patients with tumor resection and 12% for all
patients. Risk for esophageal cancer was shown to increase with age, except for females after age 75. An interesting finding in this study was the regional clustering that was noted.

In general, the American Indian/Alaska Native population in the SAIAN study, had a higher rate of current smokers (32.8%) than the total U.S. population (27.1%). In the population age ≥41, the American Indian/Alaska Native rate of current smokers was 30.7% compared to the total U.S. population rate of 24.4%. The former smokers rate in this age group of American Indian/Alaska Natives was 20.8% compared to the U.S. population rate of 29.6%. American Indian/Alaska Native males were more likely to smoke than U.S. population males; and female rates were similar. In the SAIAN population, there was no association between education and current smoking situation compared to the U.S. total population where there was an association between education and lower rates of smoking (Lefkowitz & Underwood, 1991). Oklahoma Indians, who tend to smoke more, die from lung cancer at a rate double that of Southwest Indians. They also have high mortality rates for colon cancer (Black & Wiggins, 1985). The incidence of lung cancer in American Indian/Alaska Natives in New Mexico is 1/4 that of Whites in New Mexico, and among Zunis, it is 1/3 that of the American Indian/Alaska Natives in New Mexico. (Sorem, 1985)

Southwestern Indians have much higher death rates from gallbladder cancer than Oklahoma Indians, and the rate in both groups is higher than in nonminorities. In a study by Lowenfels and colleagues the gallbladder cancer age-standardized incidence rates for American Indian females with a mean age of 64.4 was found to be 46.4/100,000/year; for American Indian/Alaska Native males with a mean age of 66.6 it was 16.2/100,000/year. This was compared to the Swedish females, mean age 73.9, and Swedish males, mean age 75.8, rates of 11.5/100,000/year and 4.5/100,000/year, respectively. African American rates were also determined in this study. The presence of gallstones was strongly associated with gallbladder cancer, for both the Indian and non-Indian subjects. The relative risk for the Swedish group was 5.0 (2.4-10.5) and for the American Indian/Alaska Native group, 20.9 (8.1-54.0) (Lowenfels, Lindstrom, Conway, & Hastings, 1985). This study may have implications for early intervention of silent gallstones in American Indian/Alaska Native, whose risk for gallbladder cancer may be higher. The incidence of gallbladder cancer was also found to be significantly elevated in the Ojibwa in Ontario, the Alaska Natives, and the Indians in British Columbia. (Sorem, 1985)

Although one study found that stomach cancer among New Mexico’s Hispanic and non-Hispanic whites declined over a 25-year period, the stomach cancer mortality rates did not drop among American Indians during the same period, and more than doubled among American Indian females (Wiggins, Becker, Key, & Samet, 1989). The high incidence rates of stomach cancer was noted specifically in the American Indian/Alaska Natives in New Mexico, and the Pima/Papago of Arizona. (Sorem, 1985)
Other cancers for which American Indian/Alaska Natives are at special risk include cervical cancer among American Indian/Alaska Native women; liver cancer in Alaska Natives; and bronchogenic carcinoma in Navajos who work in uranium mines. American Indian and Hispanic women had the highest incidence rates of invasive cervical cancer in New Mexico during 1970-1987 and among the rates for American Indians, the age group 70-75 had the highest rates (Becker, Wheeler, Key, & Samet, 1992). The incidence rates for cervical carcinoma in situ were highest in American Indian/Alaska Native females age 65 or more when compared to Hispanic and non-Hispanic females. Likewise, the survival rates from cervical cancer were the poorest for the American Indian/Alaska Native female.

In the SAIAN geriatric population of women age ≥60, 66.1% reported having had breast exams compared to the total U.S. population of 85.8% women in that age. The prevalence of mammograms among older American Indian/Alaska Native women was 17.4% compared to 38.0% among total U.S. older women. A statistically significant decline in breast examinations occurred after the age of 60 in the SAIAN population. Pap smear screening rates were high until age 50 and older when rates dropped off. Marriage and higher levels of education were associated with screening for breast and cervical cancer (Lefkowitz & Underwood, 1991).

Diabetes. In recent years, diabetes has become a particularly significant health problem among American Indians. Diabetes was rare among American Indian/Alaska Natives just fifty years ago. Type I diabetes remains relatively rare among American Indian/Alaska Natives. Now a 19.9 age-adjusted diabetes death rate per 100,000 for American Indian/Alaska Natives compares with 9.6 for all races in the United States (Gohdes, 1986). Diabetes mellitus comprised 4.5% of all deaths among AI/AN elders (John, 1991).

Fortunately, diabetes is one health problem for which there are significant data for American Indian/Alaska Natives. The available data suggests that 20% of American Indian/Alaska Natives suffer from diabetes and American Indian/Alaska Natives are ten times more likely to develop diabetes than Anglo Americans (Office of Minority Health Resource Center, 1988a). Table 7 shows the variations in prevalence rates for tribes that have more than 20% of adults with diabetes, with the Pima having the highest risk at one half of their tribal members.

The age- and sex-adjusted prevalence of non-insulin-dependent diabetes mellitus of Navajo adults living in a reservation community was 10.2%, approximately 60% greater than the estimated prevalence (6.4%) in the general U.S. population (Sugarman & Percy, 1989). In two Algonquin communities in Quebec, the same measure was found to be 19% in Lac Simon and 9% in River Desert. Almost half the women over age 35 in Lac Simon were diagnosed as diabetic, and the women were also found to be much more likely to be obese than the men (Delisle & Ekoe, 1993).
<table>
<thead>
<tr>
<th>Tribe</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pima</td>
<td>49.5</td>
</tr>
<tr>
<td>Papago</td>
<td>42.2</td>
</tr>
<tr>
<td>Seminole</td>
<td>37.8</td>
</tr>
<tr>
<td>Upland Yuma</td>
<td>37.6</td>
</tr>
<tr>
<td>Seneca</td>
<td>30.9</td>
</tr>
<tr>
<td>Maricopa</td>
<td>29.8</td>
</tr>
<tr>
<td>North Carolina Cherokee</td>
<td>29.0</td>
</tr>
<tr>
<td>Paiute</td>
<td>25.9</td>
</tr>
<tr>
<td>San Carlos Apache</td>
<td>24.9</td>
</tr>
<tr>
<td>Zuni</td>
<td>24.7</td>
</tr>
<tr>
<td>Pawnee</td>
<td>24.6</td>
</tr>
<tr>
<td>Cocopah</td>
<td>24.4</td>
</tr>
<tr>
<td>Alabama-Coushatta</td>
<td>22.6</td>
</tr>
<tr>
<td>Oklahoma Cherokee</td>
<td>20.2</td>
</tr>
</tbody>
</table>

*Source: Office of Minority Health Resources Center, 1988a.

For older adults, the SAIAN study found that 27.6% of those age \( \geq 65 \) reported having diabetes (Johnson & Taylor, 1991). In the Los Angeles study diabetes occurred with a 22.6% frequency among older American Indians in Los Angeles, about five times the expected rate of occurrence (Los Angeles Co. AAA, 1989).

Incidence data on diabetes in American Indian/Alaska Natives is not available, except for the Pima Indians. The Pima male \( \geq 65 \), had an incidence rate between 1975 and 1985 of 50/1000 person-years at risk, and the female had a rate during the same period of 40/1000 person-years at risk (Knowler et al., 1990). In a study on the Pima and Papago Indians, the degree of Indian blood was identified as a risk factor in the development of diabetes. The admixture of blood was determined by the presence of the GM haplotype, which is high in Caucasians and low in the Pima and Papago Indians. It was found that the prevalence of diabetes increased as the degree of Indian blood increased and as the GM marker decreased (Knowler, Williams, Pettitt, & Steinberg, 1988).

Diabetes is also a significant risk factor in the incidence of other health problems. Newman, Marfin, Eggers, & Helgerson, between 1983 and 1986, determined that for American Indian/Alaska Natives, age 65-74, the annual incidence of end-stage renal disease was 1042/million compared to the white rate of 340/million. This determination was made from the information generated from the Medical
Evidence Report form that is completed for all individuals receiving dialysis or transplantation. The American Indian rate was 3.1 times the rate for whites. The annual incidence for American Indians age 75+ was 657/million compared to the white rate of 274/million or 2.4 times the white rate (Newman, Marfin, Eggers, & Helgerson, 1990). An examination of diabetes as a risk factor in the incidence of cataract extraction in Pima Indians found that the age-specific annual rates of cataract surgery were significantly higher for Pima females (50.5) and males (33.6) over 65 than for the general older U.S. population (11.01) (Schwab, Dawson, Hoshiwara, Szuter, & Knowler, 1985). The study further found that, although diabetes was a strong risk factor for first cataract surgery in all younger age and sex groups, it conferred no excess risk in subjects of both sexes aged 65 to 74 years and in men aged 75 to 84. Since diabetes is known to increase the risk of heart and kidney disease, perhaps severe diabetes or other medical conditions were contraindications for cataract surgery, especially in the oldest persons, possibly explaining the lower rate in the 75 to 84-year-old diabetic men.

Diabetes is also noted as a risk factor, along with malnutrition, fatigue, and crowded living conditions, in the incidence and mortality of tuberculosis, which is much higher in Indians than for others. Rising rates of diabetes may also be involved in the increased incidence of heart disease as a cause of death among American Indians, although at age 44 there appears to be a "crossover," which marks a less steep increase in heart disease deaths among older American Indian/Alaska Natives (Pasick, 1987).

The number of clinical visits for diabetes care in those age 65+ was 39,218 for the year 1982-1983; this represented 25% of all clinic visits for diabetes. Complications from diabetes are noted as follows in the American Indian/Alaska Native: 76% of all amputations were related to diabetes compared to 45% from other states in the union; 37% of all causes of renal failure were due to diabetes; and 29% of ischemic heart disease was related to diabetes (Gohdes, 1986.)

Alcohol Use. Alcohol use is acknowledged as a significant health risk among American Indian/Alaska Natives. The literature on prevalence of alcohol abuse indicates both tremendous variation from tribe to tribe and a lower prevalence in older age groups. It nonetheless appears to be a potential risk factor for both morbidity and mortality related to a variety of diseases and deaths, including accidents, cirrhosis and chronic liver disease (May, 1986). Cirrhosis and liver disease is the 9th leading cause of death in those age 65 and over (IHS, 1991).

No national prevalence rates on alcohol abuse exist for the American Indian/Alaska Native; the existing prevalence rates are tribal-specific or age-specific, mainly the American Indian/Alaska Native youth (American Indian Health Care Association, 1992). Yet, there continues to be the general impression that all American Indian/Alaska Natives have a problem with alcohol. From this same report, the total
prevalence rates of alcohol abuse for American Indian/Alaska Natives have been estimated for individuals age 60-64. The prevalence rates range for American Indian/Alaska Native females is .023 to .123, and for the American Indian/Alaska Native male the range is .186 to .286. In comparison the estimated prevalence rates range for American Indian/Alaska Natives males age 35-39 is .289 to .389 and for females is .051 to .151. The mortality rates for alcoholism for American Indian/Alaska Natives for the following older age groups are: age 65-74 = 47.3/100,000; 75-84 = 36/100,000; and 85+ = 10.6/100,000. The corresponding rates for US All Races are: age 65-74 = 16, 75-84 = 8.9; and 85+ = 3.2. (IHS, 1991), (See Table 8).

<table>
<thead>
<tr>
<th>Table 8*</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORTALITY RATES FROM ALCOHOLISM PER 100,000 POPULATION BY ETHNICITY</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Age 65-74</td>
</tr>
<tr>
<td>Age 75-84</td>
</tr>
<tr>
<td>Age 85 and over</td>
</tr>
</tbody>
</table>


Unfortunately, there is no report of research that specifically examines the consequences and correlates of alcohol abuse among American Indian/Alaska Native elders, but an examination of tribal differences in alcohol-related mortality among 11 Indian tribes living in Oklahoma showed significant differences (Christian, Dufour, & Bertolucci, 1989). Of the total deaths in Oklahoma during the 10 year study period, 9.3% of Indian deaths were alcohol-related, while only 3.2% of those among blacks and 2.4% of those among whites were classified as such. Cheyenne-Arapaho, Comanche and Kiowa areas (located in the western part of the state) have higher alcohol-related death than Cherokee, Choctaw, Creek, Seminole and Pawnee areas (located in Eastern Oklahoma). Indian residents of the Seminole area have the lowest percentage of deaths identified as alcohol-related. According to the researchers, the emergent patterns may be due to different cultural and historical factors among the Indian tribes.

Injuries. The unintentional injury rate for Indians appears to increase dramatically at age 70 and rises even steeper at age 80 (US DHHS, 1986). However, the causes of this rise are not known. Nonetheless, it is important to note that American Indians die from injuries almost twice as often as non-minorities. The percentage of all deaths from accidents among AI/AN elders that was due to motor vehicle accidents was 29%.
male was higher than U.S. All Races male rate except for ages over 85, where it equalled and was slightly lower than All Races male. The death rate at age 75-85 equalled that of the age group at 15-24 (97-99.1/100,000). For comparison, the lowest death rate was 11/100,000 for ages 5-14. The rates were also higher for AI/AN females of all ages compared to U.S. All Races. The peak death rate for females was noted at ages 75-85 at 56.1/100,000 (IHS, 1991).

**Rheumatologic Disorders.** The results of a longitudinal epidemiologic study to estimate the incidence and prevalence of rheumatoid arthritis in the Pima and Papago Indians of Arizona found that the prevalence of classical and definite rheumatoid arthritis in 1984 was 5.3% (3.23% in males and 6.95% in females), a rate appreciably higher than that reported in studies in Rochester, Minnesota, and in Hiroshima and Nagasaki, Japan (Del Puente, Knowler, Pettitt, & Bennett, 1989). The age-adjusted incidence rate was 10.3 times as high as in Rochester and 5.7 times as high as in Japan, with the rates generally increasing with age. This suggests some important conclusions: 1) rheumatoid arthritis does not have uniform occurrence in different populations; and 2) certain Indian populations may be at higher risk regarding rheumatoid arthritis.

**Geriatric Syndromes**

Among American Indian/Alaska Native elders very little is known about the issues that commonly affect and are identified with the geriatric population: dementia, delirium, falls, incontinence, dermal ulcers, malnutrition, osteoporosis, fractures, hearing/visual disturbances, and functional disabilities. Validated instruments to aid in the evaluation of these disorders specifically for American Indian/Alaska Native patients need to be developed.

**Malnutrition.** There is little information on the nutritional status of American Indian/Alaska Native elders. Jackson and Godfrey (1990), in their review of the literature, found only one study that compiled a 3-day diet record among 20 urban American Indian/Alaska Native elders and did a comparison intake to the general population. An examination of Navajo elderly inpatients and outpatients found high rates of protein undernutrition despite normal caloric stores (Williams & Boyce, 1989). The protein malnutrition was present in each of several measures used, covering structural as well as visceral protein. It was more common in males, inpatients, and the aged elderly, but excess rates of undernutrition were found in all groups examined. These rates were higher than those in any comparable group reported to date. With multiple regression analysis, length of stay in the hospital is shown to be related to this undernutrition among inpatients studied. These findings are important because of the demonstrated linkage of undernutrition to increased morbidity, and the recent reductions in nutrition programs for needy elderly.
Amendments to the Older Americans Act (OAA) of 1965 resulted in the creation of Title III-Part C and Title VI Nutrition programs for American Indian Elder. There do not appear to be any scientific studies that evaluate the improvement or effectiveness on the nutritional status of the American Indian/Alaska Native elder based on this intervention, although Kramer (1991) documents the lack of access of most American Indian elders to either program.

Falls. Falls among American Indian/Alaska Natives are the leading cause of hospitalizations, secondary to injuries. Falls are second to motor vehicle accidents in the causes of injury death in American Indian/Alaska Native elders (Wallace & Smith, 1992).

Functional Disabilities. More than half (59%) of all American Indian/Alaska Natives 65 and older reported activity limitation, the highest rate for any older ethnic group (US DHHS, 1985). The needs assessment in Los Angeles (1989) found that 61.5% of older American Indians 45 and over surveyed reported having health problems, 24% have impairments in at least one activity of daily life. The highest impairment was in mobility, in which 28% of those over age 60 reported limitation. (Kramer, 1991; Los Angeles Co. AAA, 1989).

Kunitz and Levy assessed level of function related to health status in a group of 271 Navajo elders age 65 and older (Kunitz & Levy, 1989). The Sickness Impact Profile (SIP), Depression Scale, self-reported level of functioning, hospital use and medical records were used between 1/80 to 6/83 to determine the results. A high score on the SIP and the depression scales indicate worse levels of functioning. Navajo women less than age 75 had the lowest scores in ambulation, mobility, body care and movement, alertness behavior, and social interaction, but had the highest scores on the Depression Scale. Men and women age ≥75 had higher scores in each area of the SIP scale than men and women age ≤75. Women age ≤75 had fewer hospitalizations than men and women age ≥75 and men age ≤75. When dressing and transfer abilities were assessed and compared to a non-Indian group living in Massachusetts, no significant differences between these two groups of the same age were found.

Mental Health

The concept of mental illness with its subsequent categorizations is the characterizations of Western medicine. American Indian/Alaska Native people may have an entirely different view of this concept. Do traditional American Indian/Alaska Natives believe that the disorders of the mind are entirely separate and have no connection or influence on the disorders of the physical body? Do American Indian/Alaska Natives believe that seizures, chest pain, abdominal pain are purely physical manifestations, or are the physical, mental, psychological, and emotional
aspects interconnected? According to the American Indian/Alaska Native, what is the cause of alcoholism, of violence, of incest? Are there equivalent disorders to the Anglo diagnosis of schizophrenia? It is imperative that the Western health professional learn about, acknowledge, and respect what these differing causal beliefs may be.

Obviously, much more information is needed on the health conditions and needs of specific tribal and ethnic groups of older American Indian/Alaska Natives. The more ethnic-specific information that is available, the better we can understand and plan for meeting their past and emergent health needs, both as individuals and as members of specific populations.

Common Diagnoses. There are few reports that address the issues of American Indian/Alaska Native mental health. One study of utilization patterns of ambulatory care facilities was conducted to assess the impact of mental health problems among elderly American Indians (Rhoades et al., 1980). Data on mental health disorders were obtained for all of IHS. The most common diagnoses for the age 65+ group were: schizophrenia and other psychoses, neuroses, personality disorders, and organic brain syndrome. The elder group, age 65+, accounted for 4.3% of all ambulatory care visits for schizophrenia, 6.4% for neurosis, 3.0% for personality disorders, and 32.1% for organic brain syndrome. Of all the mental health ambulatory care visits made by those age 65+ 8.6% were for schizophrenia, 62.3% for neuroses, 1.6% for personality disorders, and 9.0% for organic brain syndrome. The authors made it clear that these figures gave "profiles" of these disorders, not rates. There was a decline in the rate of visits for all categories of mental health in the group age 65+, except organic brain syndrome.

In another part of the analysis of the IHS data for mental health visits, a comparison was made of the leading causes for referral to the Mental Health-Social Service Branch in the Portland and Albuquerque Areas for the age group 65 and over (Rhoades et al., 1980). The top four leading reasons for referral in the Portland Area were: 1) chronic physical illness, 2) nursing home life, 3) adult-child relationships, and 4) anxiety; in the Albuquerque Area the reasons were: 1) chronic physical illness, 2) nursing home, 3) financial needs and assistance, and 4) health-homemaker needs. Depression ranked fifth in the Albuquerque area and tenth in the Portland area for causes of visits. The study revealed a significantly lower rate of visits by the 65+ age group compared with younger persons. Unfortunately, the study concluded that while there is "... indeed a problem concerning the 'mental health' of the elderly Indian, the extent and impact of this problem, and the factors relating to it, cannot yet be accurately defined" (Rhoades et al., 1980, p. 38).

Manson, Shore, and Bloom (1985) reported that depression is the most frequently diagnosed problem among American Indians (of all ages) presenting for treatment at mental health facilities, accounting for as much as 40% of the daily patient case loads. Based on studies reported in the 1970s, the authors estimate that the
prevalence of depression in certain Indian communities may be four to six times higher than that observed in the U.S. population at large. Using a sample of 54 Hopi subjects aged 17 to 54, Manson and his colleagues explored the characteristics of indigenously defined illnesses and the kind and degree of correspondence between those illness and depressive symptoms, based on the Schedule for Affective Disorders and Schizophrenia–Lifetime Version (SADS-L). Based on the explanatory models of illness elicited from their clinically depressed index subjects and the matched community sample, five indigenous Hopi illnesses were identified that had at least some symptoms in common with depression, but none with all or even most of the SADS symptoms. A notable finding was the fact that all of the seven males with major depression were found to have developed their depressive symptoms secondary to alcoholism (Manson et al., 1985). A major contribution of this research was the development of the Indian Depression Schedule (IDS), a diagnostic instrument which also enables investigators to examine instrument validity from the points of view of the local cultural context, the Western psychiatric perspective, and their intersection (Barón, Manson, Ackerson, & Brenneman, 1990).

Building on their work with depression among Hopis, Manson and colleagues investigated depressive symptomatology and diagnostic techniques with older American Indians in three Northwestern Indian communities--Confederated Tribes of Warm Springs, the Yakima Indian Nation, and the Lummi Nation and Nooksack Tribe (Barón, et al., 1990). Using a sample of 314 chronically ill IHS patients aged 45 and over, the authors found that the Center for Epidemiological Studies--Depression Scale (CES-D) was very sensitive as a screening tool in that the rate of false negatives was zero, although the rate of false positives was relatively high, with a specificity of 71% when the traditional cut-off score of 16 is used (Barón et al., 1990).

A study of the relationship of life satisfaction (LS) to selected external and internal environmental factors among 58 elderly American Indians living on two Midwestern reservations found that self-perception of life satisfaction and mental health were more highly correlated than objective ratings on these two variables (Johnson et al., 1986). High LS scores were noted for American Indian/Alaska Native elders. This was based on the fact that 64% of these elders scored above the midpoint score of 13 on the Life Satisfaction Index Z (LSI-Z) scale, which measures congruence, mood, zest, and fortitude. This study suggested that among elderly American Indians living on reservations subjective measures of life satisfaction may be more predictive of mental health than objective measures. Since the data collectors' rating of the subjects' mental health was not associated with the measure of life satisfaction as developed in the predominant culture's LSI-Z rating scale, the question was raised: "...are tools developed by persons of one culture appropriate for studying the mental health among older persons of another culture?" (Johnson et al., 1986, p. 272). American Indian/Alaska Native elders did not equate material things with satisfaction of life, but did equate life satisfaction with good hearing/vision, access to people and no feelings of loneliness.
Suicide. There is some data on suicide rates on the American Indian/Alaska Native elder. Suicidal behavior, in general, for American Indian/Alaska Native tribes is very heterogeneous. Patterns of suicide among six American Indian/Alaska Native tribes were compared and found to be very different when degrees of acculturation, year studied, suicide rates, and attempted vs. completed suicide were analyzed. Common factors in all six studies were the young age of those attempting or completing suicide and male sex. In the review of the six studies on suicide in American Indian/Alaska Native tribes, no mention was made of American Indian/Alaska Native elders (Webb & Willard, 1975). The important point to be made is the great heterogeneity noted among American Indian/Alaska Native people.

The suicide mortality rates for 1986-1988 for American Indian/Alaska Natives age 65-74 were 9/100,000 compared to a rate for U.S. All Races of 19.4/100,000 (IHS Trends). Another study identified suicide rates for the young old, the old, and the old old (Group for the Advancement of Psychiatry, Committee on Cultural Psychiatry, 1989). Between the ages of 65-74, the American Indian/Alaska Native rate was 3.5 compared to the All Races rate of 17.5; for ages 75-84, the American Indian/Alaska Native rate was 16.9 compared to 22.4; and at 85+ years, the rate was greater for American Indian/Alaska Natives at 25.8 and 19.7 for All Races. According to this report there is considerable variation from tribe to tribe and this variation appears to be a function of the degree of acculturation, high unemployment and alcoholism rates, a loss of the traditional family structure, and high rates of accidents.

A review of death certificates and autopsy reports was conducted in 1983-1984 on suicides in Alaska Natives. The report revealed that the overall suicide rates for rural Alaska Natives was almost twice as high as for urban Alaska Natives and the rates for females and males age 55 or greater was zero, except for males age 60-64 which was 60/100,000 person-years (Hlady & Maddah, 1988).

Elder Abuse. Another area where very little knowledge is available is on American Indian/Alaska Native elder abuse. A study conducted on a small Navajo community revealed that neglect was the most common form of abuse. Three factors appeared to increase the likelihood of abuse: rapid onset of dependency, mental health problems, and lack of income. The sample size in this study was 39. The authors also gave intervention recommendations to curtail abuse (Navajo Office on Aging, 1986). The necessity of developing tribal court elder abuse codes is important. Methodologically sound research to determine the extent and scope of the problem is needed.
LONG TERM CARE

Both nationally and in California, older American Indian/Alaska Natives were less likely than whites to be living in homes for the aged. Only 3% were institutionalized, compared with 5% of the white elderly, 4% of African Americans, 3% of Hispanic Americans, and 2% of Asian/Pacific Americans (AARP, 1987a; 1987b).

Currently, very little information is known about the long term care needs of American Indian/Alaska Native elders. Several reports have identified problem areas and recommendations for long term care concerns among American Indian/Alaska Native elders. A consensus statement on the Long Term Care for Indian Elders was generated in 1990 by the IHS and the Office of Planning Evaluation, and Legislation (Ornelas, 1990). Overall recommendations made by the committee, of which the first author of this paper was a member included those listed below.

1) A determination of financial responsibility for the development of long term care services is necessary. Currently, the IHS, BIA and tribes all contribute variably to the current available services, but none accept full responsibility for the comprehensive development of long term care services.

2) A definition of long term care that is specific to Indian elders is important before recommendations for needed services can be made. Examples of the issues that must be included in this redefinition are: The definition of the Indian geriatric population. Should the age of geriatric life begin at 55 or 60 rather than the currently accepted age of 65? Should the American Indian/Alaska Native geriatric population be defined only by a chronologic measure or should this population be defined based on several parameters including age, chronic illnesses, disabilities, decrease in functional assessment measures? American Indian communities speak of "the elder" and "the elderly", "the elder" term denoting the healthier individual and the "elderly" term implying some sort of disability. An assessment of the need for long term institutionalization (nursing homes) vs. an emphasis on the development of home health care services has to be made. Who should be institutionalized? Are nursing homes the best setting for the frail American Indian/Alaska Native elder? What is the prevalence of dementia in American Indian/Alaska Native elders? Hospice services are needed, but to what extent? How is home health care defined specifically for American Indian/Alaska Native people? What role do shelter care homes play in the long term care picture? What respite services are available?

3) The assessment of need for long term care services has not yet been fully made and must be addressed.
4) a comprehensive budget plan to implement the recommended long term care services needs to be made.

As noted by Manson and Callaway (1988), despite the abundance of models, there remain the following problems with the general long term care system, which characterize the present level of development of older American Indian long term care: 1) underdeveloped continuum of care, with an overemphasis on institutionalization; 2) expensive and sometimes inappropriate care; and 3) families heavily burdened with fiscal and psychological demands. Although the array of services, e.g., acute care general hospital, skilled and intermediate nursing care facilities, personal care and boarding homes, congregate care homes, retirement villages, and in-home and community-based services, are found throughout American Indian communities, all of them are not found in any one community (Manson & Callaway, 1988). Unfortunately, there are no quantitative or qualitative data that permit the analytic comparisons of Indian long term care with that of other ethnic elders.

Manson raises the following questions to guide the planning process for long term care services in American Indian communities: To what extent can family be trained and expected to provide certain homemaker and health care services? Which family members are most appropriate, in terms of time and disposition, as well as role and cultural expectations, to perform these functions? Who should conduct the functional assessments of older Indians to determine in-home providers? Who can best coordinate this care? How are older Indians in need to be identified? How are tools such as the Older American Resources Survey (OARS) to be revised in light of the cultural differences between the original validation populations and elderly American Indians? How cost-effective are in-home services? What constitutes the break point at which congregate care becomes less expensive, more efficient, and psychologically desirable? The more difficult planning dilemmas regarding Indian long term care that must be faced include: Under what auspices should long term care services be provided, how and by whom? Should the long-term services be provided by the tribes? Or should long term services be provided by the IHS? Manson concludes that the changing demographics of the American Indian population and its associated epidemiological implications will force tribes, the IHS, and concerned others to plan more systematically for the provision of long term care services for older Indians (Manson, 1989a).

A statement made by the National Indian Council on Aging also recommended primarily home and community-based long term care with nursing homes as an option, improved Medicaid reimbursement to tribal nursing homes, improved access to service via increased numbers of community health representatives, and the identification of "swing beds" for skilled nursing care (Baldridge, 1993).

A seminal review by Manson (1989a) focuses on the lag in planning and research related to long term care for the American Indian elderly population, and
finds that although the IHS, the major health care provider for this special population, has actively resisted developing services specific to older tribal members, many innovative efforts have emerged at the local level. These include community-based nutrition and focal point programs, and, in some communities, homemaker and home health programs and/or nursing homes. Although the issues of the need for nursing homes in communities where Indian elders live and providing culturally relevant services have "occupied a central place in the discussion of elderly Indian needs" since the early 1970s, only 10 nursing homes were constructed between 1969 and 1989 (Manson, 1989a, p. 40). They range in size from 20 to 96 beds, with a combined capacity of 485. In contrast to most nursing homes, male residents represent 40% or more of the total and in two homes outnumber females. There is considerable variation in the number and kind of services offered, but "IHS physicians seldom provide even minimal care within the homes" (p. 40); most are close to acute care facilities (Manson, 1989a). Patient admission criteria vary from exclusively Indian with tribal preference to unrestricted admission; in six facilities 80% to 100% of the staff are Indian. In American Indian/Alaska Native nursing homes, cognitive impairment seems to be less of a problem than in non-Indian settings.

Shomaker (1981) describes two nursing homes on the Navajo reservations owned and operated by the Navajo Health Authority. Staffed only by Navajos "except for nursing personnel" (p. 532), both medicine men and Public Health Service physicians visit the patients. Both nursing homes emphasize Navajo food and traditional activities such as weaving, jewelry and pottery making, and squaw dances. Families are encouraged to take elders home over the weekend and during summer, and clients are taken to Navajo reservation "sings," fairs, and dances. The facility in Chinle is built in the hexagonal shape of a traditional hogan with windows opening to the vast panorama of the countryside. A hogan is available at both nursing homes for ceremonial. Shomaker concludes that caring for elders in the nursing home is seen as an extension of the family care traditional in the Navajo culture and not abandonment, since families continue to be closely involved with the residents and since care is given by young Navajos who can speak the elders' language.

An attempt to estimate the numbers of American Indian/Alaska Natives needing nursing homes is useless, because this population has not yet been defined nor identified. Should only those who have chronic or debilitating diseases be included in this estimate? Should those elders that are functional but have a difficult time during the winter months be included? What of the non-elder population with major disabilities? An important aspect that should be included in the decision to construct and house American Indian/Alaska Native elders in nursing homes is the beliefs and attitudes of the individual tribes towards nursing homes. Nursing homes may be viewed as a place to die. This very foreign environment may be detrimental to the overall health of the elderly. Navajo elders who are in nursing homes that are out of the area encompassed by the four sacred mountains may experience an adverse outcome because of this effect.
A description of a model program in Phoenix, Arizona that supports the American Indian elders in the Phoenix nursing homes was presented in 1979. These elders were from reservations up to 200 miles away from Phoenix. The families of the American Indian elders are bussed in monthly to spend several days with their relative in activities that have a traditional and cultural emphasis. The elders and their families are brought together to a central location for these activities (Cooley, Ostendorf, & Bickerton, 1979). Innovative programs such as these should be encouraged for those American Indian/Alaska Native elders currently in nursing homes off the reservation, until a more definitive agenda has been developed for long term care for American Indian/Alaska Natives.

An innovative project in home health care on the Navajo reservation combined research and clinical skills with cultural insight contributed by Navajo members of the health care team to improve the services to home care clients, many of whom were elders living in remote areas of the reservation (Boyle, Szymanski, & Szymanski, 1992). The findings indicated that it was very important that the team members understand and respect the "traditional life themes" of the Navajo elders in order to provide appropriate services. These included: 1) the use of providers who spoke the Navajo language with monolingual non-English speaking clients; 2) the understanding of traditional kinship values such as the respect for older persons and importance of female kinship relationships; and 3) accommodation to the high value placed on individuality in situations such as the reluctance of grown children to make care or placement decisions for older parents. Also important were understanding and respect for "Traditional Health-Illness Values and Beliefs" such as the belief that "health is symptomatic of a correct relationship between man and his environment, the world around him, and his fellow men" (Boyle et al., 1992, p. 11). Use of ceremonies by a diviner who could determine the cause of illness, such as violation of taboos or evil spirits, or a singer who could perform healing ceremonies (or "sings") could be explained by the Navajo staff members so that other team members might increase their acceptance of the clients' concurrent use of both traditional and "modern" health care systems (Boyle et al., 1992).

Another area of concern is the status of American Indian caregiver of patients with chronic debilitating illnesses. The literature is particularly sparse in this area. Only a few studies have addressed this issue. The little research available suggests that, as in the case of other minority ethnic groups, American Indian family members play an important role in the provision of health care to their elderly. We know almost nothing of how this varies from one tribal tradition to another, much less how to overcome the problems of those who have no family to help them.

One study explored the view of their caretaking situations by families who care for elderly relatives (Strong, 1984). In semi-structured interviews with 10 Indian and 10 white caregivers of ill elderly in the rural Northwest, 11 dimensions were used to define caretaking, with a focus on control. The differences found between white and Indian
caretakers, e.g., expressions of more control, anger, and guilt by whites, greater loss and passive forbearance by Indians, imply that cultural background influences the meaning of caretaking. Research on provider assumptions about long term care in American Indian communities found that providers generally assumed that doctors and nurses have the greatest involvement (but less responsibility) in providing long term care services; families were assumed to have important but significantly less involvement than health care professionals. A "most distressing" finding was the near-unanimous belief that preventive services fall at the outer edge of long term care (Manson, 1989b). More research is needed concerning the issues relevant to caregivers, such as depression, guilt, financial ability, effect on family, and stress. There is a prevailing concept that because American Indian/Alaska Natives live in extended families, the elder individual has adequate support for all his/her needs. This concept must not be generalized to all groups, and perhaps should be questioned as to its validity. In fact, with the urbanization of American Indian/Alaska Natives and with the necessity of the younger American Indian/Alaska Natives to leave the reservation or the family camp to find work, the American Indian/Alaska Native elder may be left to fend for him/herself. Discussion of long term care is not complete without the components of hospice, respite and day care. Very few Indian communities have available to them the services of hospice.

ETHICAL CONSIDERATIONS

A discussion about health care necessitates discussion on ethical and biomedical issues. From the Western medical point of view, these issues include but are not limited to discussions on resuscitation, intubation, feeding tubes, and hospitalizations with the principles of autonomy, beneficence, confidentiality, and social justice incorporated into each area of concern. What do American Indian/Alaska Native elders understand of such concepts? How well are these concepts explained? How well are these concepts accepted? Do these Western values and principles coincide with the American Indian/Alaska Native elders own values? Should these principles be imposed upon cultures whose concept of life and death may be very different from Western society? Many, many more questions can and should be generated and defined to protect the values and ethics of the American Indian/Alaska Native cultures.

Tribes and villages/groups may have varying beliefs concerning death, dying, social justice, autonomy, beneficence, and confidentiality. From one perspective, the traditional Navajo point of view concerning death and dying is seen as part of the circle of life. Although death is a natural occurrence not to be interfered with, hope of continued life must never be omitted. The Navajo have defined the principles of autonomy, beneficence, confidentiality, and social justice according to their culture. These principles have not been used to justify the activities associated with biomedical ethics as the Western culture has seen fit to do.
An acceptable compromise should be established incorporating the needs and values of both the American Indian/Alaska Native and Western cultures when biomedical ethics issues are necessary in the discussion of health.

RESEARCH

The research literature on American Indian/Alaska Native elders is limited and there exists a lack of methodologically sound studies. An American Society of Aging search found only 125 research articles on American Indian elders out of the 12,000 articles on American Indian/Alaska Natives in general (American Society on Aging, 1992). It is also evident that most of the empirical research reported is fairly recent, limited in scope, and almost always examines only one specific problem or issue among relatively small samples of older American Indian/Alaska Natives in selected areas, usually in rural and reservation contexts. The critical reassessments of existing research on aging American Indian/Alaska Natives generally agree that it is limited in size with heavy emphasis on stereotypic descriptions, and dependent on non-representative data bases. The error that consequently can be made is the generalization of these findings to the American Indian/Alaska Native elder population. Intratribal variability may be greater than intertribal variability.

Urban Populations

The majority of the studies are concentrated on rural or reservation Indians, yet, an important fact exists on the distribution of American Indian/Alaska Natives in urban settings. Over 50% of American Indian/Alaska Natives reside in urban areas with California having the greatest concentration; the percentage of American Indian elders living in urban areas has not been determined. Studies on this particular population are lacking in scope and number. The few that are available are reviewed here.

According to a report by Kramer (1991; 1992), urban clinics serving the American Indian/Alaska Native population reported high rates of diabetes, hypertension, obesity, and tobacco use. In this same report, poverty was shown to affect one third of American Indian/Alaska Native elders and about half of these elders live with family. Studies quoted in this report also noted that urban American Indian/Alaska Native elders gave a positive self-assessment of their health concomitant with the presence of at least one health problem. The study by Hatton also revealed this to be the case. The study in 1989 was on urban Indians, age 52-80 plus, predominantly female, all English-speaking, and the majority of whom lived in extended families. Three tribes were represented: Washoe, Paiute, or Shoshone. The purpose was to determine how these elders characterized the nature of their health and management of their health. This particular group defined their health and management thereof in terms of five core dimensions: wardship, opportunity structure, health perceptions, health actions/interactions and past/present world.
Wardship included the boarding school experience that afforded access to Western medicine and limited access to traditional cultural medicine. Past and present health was defined by evaluating signs of sickness, incorporating health perceptions of others and finding cause. Some defined it as doing things or getting around. Most characterized their health as sound in the past, and equally divided as sound, frail or qualified health. Those with sound health had some form of chronic disease, usually. These elders were characterized as hearty survivors, sophisticated consumers of health care and looked for what worked. They evaluated signs of sickness by the medical science categorizations. The causes were also reflective of Western medicine causes. Health actions and interactions involved practicing self care and seeking care from providers, with multiple interactions with Western providers. Health actions and interactions did not necessarily reflect ethnicity as it did a lifelong integration of numerous health situations with Western and non-Indian providers (Hatton, 1989).

Differences in health between urban and rural populations of older Indians might be expected, given the more limited access to health services in rural areas. However, one survey of medical records of two urban Indian health clinics found that primary health problems and needs of urban Indians were quite similar to those of the general Indian population residing in the surrounding rural areas of the region (Taylor, 1988). Indeed, use of primary care services by urban Indians 65 and older was found to exactly parallel that of the total older population served by the IHS, which was 4.9 visits per person per year in 1982 (Taylor, 1988).

In general, the findings of the medical records survey also indicated that the people using the primary health care services of urban Indian clinics are among the most impoverished of the urban Indian population. They further suggest that if these Indians are using other health providers, they probably are limited to providers in public health departments and hospital emergency rooms, which offer limited services, and the Indian Health Service (Taylor, 1988).

In the American Indian Elders Outreach Project, which interviewed 328 American Indian elders, 1 out of 5 interviewees stated that they did not wish to return to the reservation. It appeared that once in the urban setting, few would return to their native reservations (Kramer, 1991). In this study, 6 of 10 individuals lived alone or with spouse, but not in an extended family situation. Common medical problems included diabetes, cataracts, hypertension, arthritis and dental disorders. These same Indian elders identified senior centers where traditional foods and activities could be held, transportation, legal aid, Bingo and lack of information on available services as their needs (Kramer, 1992).

**Problems and Gaps**

There still exist large recent datasets that do not give adequate characterization of ethnicity. American Indians are still classified as "other" in some datasets. This
results in the lack of true and accurate figures when assessing the numbers of American Indian/Alaska Natives. Another area of concern in the datasets is the confusion that occurs with certain surnames. The accuracy of the data may be influenced by the lack of stringent documentation and coding of the statistics. Discrepancies exist in statistics on American Indian/Alaska Natives in general and in American Indian/Alaska Native elders in particular among the major datasets on American Indian/Alaska Natives: Bureau of Indian Affairs, Indian Health Service, tribal datasets, and U.S. Census.

The fact that the tribes are very heterogeneous may limit the generalizability of the research findings. Researchers and funding agencies would do well to keep this in mind. For example, when we consider just the possible significant differences in linguistic and cultural patterns that may characterize the older members of the many different Indian groups found in just one metroplex, the San Francisco Bay area for example, the tremendous gaps in our knowledge and understanding of the needs of older Indians become even more evident. It also becomes clear that these gaps are both the cause and consequence of the inexcusable indifference and ignorance concerning older Indians shared by the majority of researchers and health care providers.

Research on American Indian/Alaska Native elders can be quite different than research conducted on the white population. What do researchers need to be aware of when dealing with American Indian/Alaska Native research subjects and elder populations? The Navajo Nation has its own internal review board that monitors all research conducted on Navajo people. The type of research, clinical vs. bench, may make a difference in the acceptability of the project by the American Indian/Alaska Native communities. The proper disposal of blood products may be an issue for some American Indian/Alaska Native tribes. Many such questions and concerns arise that non-Indian researchers may not be aware of, but should be sensitive to. It behooves the researchers to make it a point to learn about and be sensitive such issues.

Morbidity and mortality statistics are one measure of health, but this does not give the full picture. Issues such as the individuals’ perception of need, perception of success of a medical intervention, the functional assessment of an individual after a medical intervention, the patients’ perception of causes of illness, the effects of any medical intervention on the family, the social and financial picture, the individuals definition of health, and the patient expectation vs. the provider expectation need to be determined in order to restore full health. Health outcomes research findings may give a better picture of how effective medical intervention are for American Indian/Alaska Native elders.

Research on healthy American Indian and Alaska Native elders needs to be conducted. Are there metabolic/physiologic/pharmacologic differences in healthy
American Indian elders compared to the white elder population? What is the contribution of American Indian elders to the maintenance of the culture? Research on healthy American Indian/Alaska Native elders compared to the white population is probably necessary, but research on healthy American Indian/Alaska Native elders in the setting and the context of their environment and culture is equally important.

When we consider the significant gaps in literature on aging Indians and other American Indian/Alaska Natives, it is clear much more research is needed before even tentative hypotheses, much less conclusions, can be advanced. More accurate statistics are needed for the population at all levels. Better descriptions of the conditions of older American Indians in both urban and rural contexts are desperately needed before adequately addressing the important policy issues.

CONCLUSION AND RECOMMENDATIONS

It is important for health providers to overcome their shared indifference toward, and ignorance of, older Indian health conditions and needs and to encourage the development of new research projects and health care delivery programs at all levels. True concern, compassion and adequate understanding and care for those Indian elders who appear among those truly in the greatest of need are desperately needed.

The ethnographic studies of aging American Indian/Alaska Natives have primarily focused their observations on the later life course in the traditional cultures, and examined the discontinuities and continuities in cultural elements and experiences, social positions and practices, structured roles and relationships over time. Most studies look at the effects of social change on the status of American Indian/Alaska Native elders and their traditions. Some attention has been given to how perceptions and definitions of aging among Indians differ from those of the U.S. dominant majority. All the studies include discussions of the negative effects of the penetration of Anglo-American culture as adopted by younger Indians. The shared conclusion is that this penetration is related to American Indian elders’ loss of their traditional positions and privileges associated with being political leaders and bearers of treasured tribal knowledge.

It seems that specific tribal cultural factors influence both the meaning of caregiving and the coping strategies employed, but precisely how certain behaviors and practices reflect the beliefs and values of different tribes remains unclear. For example, although we know that religious or spiritual beliefs and health care behaviors are often intertwined for most older Indians, we must learn much more about the ways that members of different tribes integrate traditional rituals and modern medicines.

Needs assessments, epidemiological research, and action or applied projects are usually related theoretically and methodologically. Epidemiological and needs
assessment research have concentrated on studies of informal and formal supports and social services among older American Indian/Alaska Natives. The general goal of this research is to make its findings culturally relevant, with an applied focus, and to address issues likely to have a positive impact on the lives of older Indians. The few action or applied research projects reports primarily outline strategies for planning and implementing service delivery to older American Indians. Components of these usually include needs and lifestyles assessments, along with outreach strategies.

Most of the policy analyses examine and discuss the failure of agents of the federal, state and local governments to respond effectively to the documented needs of older Indians, as mandated by the Older Americans Act, and explain the underutilization of available services by them. Some focus on service deficiencies in such mandated areas as information and referral services, income maintenance, housing, and health care. Most generally conclude that the human and health services system fails to reach and address the needs of older Indians because they do not integrate family generations, are not based on adequate information of older Indians, and do not include assessments of family lifestyle, institutional arrangements, cultural factors and native languages into their service plan.

Although a number of older American Indian/Alaska Natives do receive medical treatment for their major illnesses, they are not receiving services that could help prevent illness and disease. The following set of comments and recommendations regarding the promotion of health among older American Indian/Alaska Natives are among more important ones presented in a report by the Office of Disease Prevention and Health Promotion (1987), and the needs assessment survey by the Los Angeles County Area Agency on Aging (1989).

**Transportation.** A major barrier to access of needed medical and preventive health services by older American Indian/Alaska Natives is the lack of transportation and mobility outside the home (e.g., Los Angeles County Area Agency on Aging, 1989). In the rural sectors of the United States, older American Indian/Alaska Natives living on incomes below the national poverty level are especially vulnerable to inaccessible health care. Health care providers within every community need to engage in creative outreach to older American Indian/Alaska Natives.

**Participation.** More participation by older American Indian/Alaska Natives in the decision making regarding the allocation of resources will facilitate addressing the health needs of older American Indian/Alaska Natives.

**Health Promotion.** Safety, health and dental health prevention activities are noted as especially important to help decrease disability in old age. Because alcohol abuse has reached epidemic proportions among Indians in many areas, the misuse of alcohol and drugs is the area of major importance for older American Indian/Alaska Natives and requires immediate and intense attention, since a significant number of
accidents and injuries is believed to be associated with drinking. Promotion of good nutrition combined with exercise can help control obesity, a significant health problem among older American Indian/Alaska Natives (Los Angeles Co. AAA, 1989).

**Sensory Deprivation Prevention.** Preventing the loss of sight, hearing, and other senses could decrease the rate of injuries in later life, enable more American Indian/Alaska Native elders to be more active and less isolated, and decrease dependency and institutionalization. The existing preventive and rehabilitation services could effectively reduce this problem, if made more widely available to older American Indian/Alaska Natives.

**Hypertension Control.** Hypertension appears a major problem for American Indian/Alaska Natives in both urban and rural reservation areas, and in many cases is related to obesity. Hypertension is a problem in urban areas and on reservations. Many older American Indian/Alaska Natives diagnosed as hypertensive do not seem to understand the nature and treatment of high blood pressure.

**Information Dissemination.** Information should be disseminated through the channels of communication existing within the Indian/Eskimo/Aleut communities.

**Outreach Personnel.** Outreach personnel should target peers who have well-established networks of elders within the American Indian/Alaska Native communities.

**Funding.** Priority should be provided for health care programs and projects that include involvement of older American Indian/Alaska Native clients in planning and implementation.

**Research.** Older American Indian/Alaska Natives should be included in the planning of all research projects, and the results should be disseminated to American Indian/Alaska Native populations and their health care providers. Research is especially needed regarding: 1) factors contributing to the high rate of a) alcohol abuse and b) diabetes among older American Indian/Alaska Natives; 2) appropriateness of traditional American Indian/Alaska Native health care perspectives and practices for problems associated with aging.
REFERENCES CITED


Moss, F. E., & Halamandaris, V. J. (1977). "No vacancy for minority groups." In F. E. Moss and V. J. Halamandaris (Eds.), Too old, too sick, too bad: Nursing homes in America (pp. 121-123). Germantown, MD: Aspen System.


ENDNOTES

1. This gratefully acknowledges the assistance of a number of scholars, staff, and students with the development and production of this working paper, especially the following: Dr. Spero Manson and Dr. Josea Kramer, for their reading and critical feedback for the first and second editions, respectively; members of the Stanford Geriatric Education Center (SGEC) Core Faculty for their critical review, especially Drs. Gwen Yeo, Julee Richardson, and Nancy Morioka-Douglas; a number of excellent research assistants for their help with the exhaustive search and collection of references—Michelle Diaz, Chris Gonzales Clarke, and especially Merry Lee Eilers; and SGEC staff members Toni Whyloshek, Merry Lee Eilers, and Nona Gamel for their extensive proofreading and copy editing assistance.

2. It is important to note that these figures should be read as conservative, given the widely-acknowledged undercounting of American Indian and Alaska Native populations, particularly in urban centers, by the 1980 census.

3. The apparent discrepancy between the official percent of older Indians in poverty at the national and state levels could be due to undercounting of older Indian migrants living in poor urban areas.

4. Studies among older Indians using the OARS and other interview schedules have suggested the need for substantial revision of such measures as financial background, daily life activities, and physical and mental health status. (See Joos & Levy, 1988; Kunitz & Levy, 1988; Manson, Shore, & Bloom, 1985; and National Indian Council on Aging [NICOA], 1976).

5. Some argue that tribes are better positioned than the IHS to plan services because they have a sharper focus on the client, are more sensitive, more relevant, more responsive to community needs, and may be less likely to be displaced in their pursuit of the service goals.
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   Lecture by Gwen Yeo, PhD, in AARP Series on Ethnicity and Long Term Care, 1997.

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<td>&quot;Introduction to Ethnogeriatric Nursing Care Principles, A Curriculum Module for Nurse Assistant, Vocational Nurse, and Associate Degree Nursing Programs,&quot; Ruth Madalena, MA, 1996</td>
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<td>&quot;Ethnogeriatric Module for Family Nurse Practitioner and Physician Assistant Programs,&quot; MaryEm Wallace, PhD, RN, FNP and Melen McBride, RN, PhD, 1996.</td>
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Developed by the members of the Collaborative on Ethnogeriatric Education. October 2000.

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