Chapter 3

Overview of the Current Indian Population

Contents

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INTRODUCTION

The number of American Indians, Eskimos, and Aleuts identified by the U.S. Bureau of the Census and Bureau of Indian Affairs (BIA) is far fewer than the number, perhaps 10 million, who are thought to have been living in North America at the time of its discovery by the Europeans. Westward expansion (85), contact with disease, wars, and other scourges reduced the number of Indians by 90 percent within a century after Columbus arrived (71). Little recovery has been made by Indians in the United States in rebuilding the population as shown by records kept by government agencies. In 1890, there were approximately 274,000 Indians, Eskimos, and Aleuts in this country. Fifty years later, in 1940 the population had grown by almost 34 percent to 366,000 (see table 3-l). In the 1980 Census of Population, which used improved techniques for counting people, 1.4 million Indians, Eskimos, and Aleuts were self-identified—almost quadrupling the 1940 count. The blood quantum of these self-identified Indians, however, is not known. While most Indian tribes have a minimum blood quantum requirement for membership, the Bureau of the Census' definition of race does not denote any clear-cut scientific definition of biological stock. In the 1980 census, 6.7 million persons identified their ancestry as American Indian and 51,000 persons identified themselves as being of Aleut or Eskimo ancestry (these figures include persons who reported single and multiple ancestry groups) (150). (Race and ancestry are separate characteristics; persons reporting a particular (or multiple) ancestry may be of any race.)

Table 3-1 .—Indian Population in the United States, Decennial Census Enumerations and BIA Estimates, Selected Years 1890.1980

Year	U.S. Census enumeration	Alaska Natives	BIA estimate
1890	248,253	25,354	248,300
1900	237,196	29,536	270,500
1910	265,683	25,331	305,000
1920	244,437	26,558	336,300
1930 ., ...	332,397	29,983	340,500
1940	333,969	32,458	360,500
1950	343,410	35,047	421,600
1960	551 ,669'	—	344,951 [b]
1970	827,268'	—	477,458 [c]
1980	1,423,043a	—	734,895 [d]

[a] Includes Eskimos and Aleuts, they are in a separate column prior to 1960 as Alaska was granted statehood in 1959
[b] From BIA, "Indian population, April 1, 1960, " July 1961
[c] From the BIA report, "Indian Population On and Near Reservations, " March 1970
'From the BIA report, "Indian Service Population and Labor Force Estimates, December 1981 ," January 1982
BIA figures represent local resident service population.

SOURCES Except where noted U S Department of Health, Education, and Welfare, Public Health Service, "Health Services for American Indians, " Washington, DC, Feb. 11, 1957, verified by the U S Census Bureau on Nov 11, 1985, and U S Bureau of the Census, PC80-S1.13, 1984

This chapter explains the U.S. Bureau of the Census compilation of statistics on Indians, Federal agencies' use of Indian data, a demographic review of the Indian population, and 100-year projections of the future Indian population. In this chapter, the term "Indians" includes American Indians, Eskimos, and Aleuts except when referring to population characteristics gathered in the 1970 census, which pertain only to American Indians. "Reservation Indians" includes American Indians, Eskimos, and Aleuts living on identified American Indian reservations or identified historic areas of Oklahoma (excluding urbanized areas).

SOURCES OF ESTIMATES OF THE SIZE OF THE INDIAN POPULATION

There are at least as many definitions of who is an Indian as there are Federal agencies whose constituencies include Indians. Since one of these agencies, the U.S. Bureau of the Census, actually counts all the people in this country every 10 years, it is agreed that this agency's count of the

number of Indians is generally the most reliable measure. Even so, tribes and Federal, State, and local agencies have serious disagreements over the accuracy of the census count. In large measure, such disagreements reflect concerns about funding. Because funding for major Federal and State programs—including revenue sharing, community development block grants, home energy assistance, and various social programs—is keyed largely to population, and administering agencies use census figures to define service populations, differences in population estimates can be critical.

One reason that varying estimates of the size of the Indian population are controversial is that Federal agencies and individual tribes use different definitions of "Indian. " Many differences in the operational definitions of "Indian" can be resolved only through changes in authorizing legislation in which definitions are set forth. Changes in authorizing legislation would arouse significant disputes and bring out many opposing views. Because the economic and philosophic stakes are so high, it is not likely that laws will be revised to achieve a consistent definition of "Indian" that can be applied universally.

U.S. Bureau of the Census Estimates

In 1980, for the first time, the Bureau of the Census relied on self-identification, which allowed individuals themselves to choose the racial group with which they most identified. In the 1970 census, race had been determined "on the basis of observation by enumerators in rural areas of the country, including most reservations" (148).

Two questionnaires were used in the 1980 census; a "short form" with questions asked of all housing units/households, and a "long form" with additional questions. Both forms included the question regarding race from which the Bureau of the Census tabulated the Indian population. The long form, which was administered randomly to 80 percent of all housing units/ households, included a separate question on ancestry (see figure 3-l).

For respondents who left the race question blank on the 1980 census questionnaire, the reported race of other members of the household was used. Additionally, if race was not reported

Figure 3-1 .—Facsimiles of Race and Ancestry Questions ª: 1980 U.S. Census

ASKED OF ALL HOUSEHOLDS

ASKED OF SAMPLE HOUSEHOLDS

ª Ancestry and race are separate characteristics perSOnS reporting a particular ancestry may be of any race

SOURCE U S Department of Commerce, Bureau of the Census, 1980 Census of the United States Leaflet showing the content of the two questionnaires used in the Census of population and housing

for any member of the household, the race of a householder in a previously processed household was assigned by computer. Persons who did not check one of the specific race categories but wrote in the name of an American Indian tribe, "Canadian Indian, " "French-American Indian, " or "Spanish-American Indian" were counted as American Indians, Responses to the ancestry question on the 1980 questionnaires yielded a significant number of persons who regarded themselves to be ethnically Indian. Like race, ancestry was ascertained by self-identification, so responses reflected the ethnic group with which individuals identified regardless of the number of generations removed from their ancestor(s).

It is widely held that both the 1970 and 1980 censuses undercounted the population of American Indians, Eskimos, and Aleuts for many age groups; and the count was particularly poor in some geographic areas. Critical discussions of the Indian undercount in the 1980 census and whether the American Indian, Eskimo, and Aleut count is accurate generally fall into two categories: 1)

that intercensal measures of population change are unreliable, and 2) that the enumeration techniques used by the Bureau in the census are inadequate. According to the census, the American Indian population grew by 72 percent between 1970 and 1980. If one assumes that the 1970 count was accurate, however, the natural increase (i. e., the effect of American Indian births and deaths) yields a number that is lower than the 1980 count. The same inconsistency occurred between 1960 and 1970 (97).

One intercensal measure adjusts for the natural increase in population using-data from the National Center for Health Statistics (NCHS). Shortcomings inherent in this method are that Indian births and deaths are undercounted. States do not record paternal race if a birth has occurred out of wedlock. Therefore, children born out of wedlock to an Indian father and non-Indian mother will not be included in the count of Indian births unless an Indian father has acknowledged paternity. Indian deaths are underreported in many States, most notably in California, in part because of the difficulty in distinguishing Indians from individuals of other races and ethnic heritages such as Hispanics.

In addition to counting Indians, the census also distinguishes between Indians living inside "identified areas" and Indians living elsewhere. An identified area includes reservations, tribal trust lands, Alaska Native villages, and historic areas of Oklahoma (which consist of the former reservations having legally established boundaries between 1900 and 1907, excluding urbanized areas). The boundaries of identified areas used in the census are those established by treaty, statute, executive order, or court order for federally and State-recognized tribes. In 1970, 115 reservations were identified. In 1980, 278 reservations and 209 Alaska Native villages were identified. Table 3-2 shows the American Indian population living on and off reservations or identified tribal trust lands by State, and figure 3-2 shows the total distribution for 1980.

Indian Health Service Estimates

A second source of population estimates frequently cited is that of the Indian Health Service (IHS), which computes its service population based on figures from the 1980 census as reported by county. The IHS service population consists of American Indians, Eskimos, and Aleuts (who identified themselves as such in the 1980 census) living within the geographic areas that define where IHS has responsibilities. These geographic areas are counties within reservation States having the reservation of a federally recognized tribe within or contiguous to its borders. This concept of geographic proximity is referred to as "on or near" a federally recognized reservation. A "reservation State" is a State in which IHS has responsibilities; not all States in the United *States* are considered "reservation States. " The reservation must be federally recognized (there are tribes with land holdings that have State recognition only). The 32 reservation States as of 1985 are listed in table 3-3, Local administrative units within IHS area offices are known as service units. For attributing population to specific service units when service units cross county lines, estimates are made by field administrators as to the number of individuals within each county to include in the service unit. These proportions, which are from the 1980 census, are applied to all subsequent estimates, IHS adjusts its population estimates annually for the natural increase only, using the most recently available data on Indian births and deaths from NCHS, As previously noted, these Indian births and deaths are undercounted by States. In some States the undercount may be significant. Except where noted, the Office of Technology Assessment (OTA) has used IHS's 1985 estimates of its service population throughout this report,

Bureau of Indian Affairs Estimates

A third population estimate, from BIA, identifies local resident population, but as in the case of the IHS service population does not necessarily refer to tribal membership. According to BIA's Office of Financial Management, local BIA agencies estimate population figures and labor force participation using "whatever information may be available for the reservation. Accuracy varies from place to place; it is relatively high at small, isolated locations where everyone's activity is common knowledge" *(208).* "Data for the Navajo Area, the State of Oklahoma (Anadarko and Muskogee Areas), and the State of Alaska are

Table 3-2.—American Indian Population Living On and Off Reservations or Identified Tribal Trust Lands, by State, 1980

States	All races	Number				Percent		
		American Indian	On reservation	On trust lands	Off reservation or trust lands	On reservation	On trust lands	off reservation or trust lands
west:								
Alaska	401,851	21,869 42,234ª	942	—	20,927	4.30/o	—	95.7 %
Arizona	2,718,215	152,498	113,763	**465**	38,270	74.6	0.3%	25.1
California	23,667,902	198,275	9,265	**77**	188,933	4,7	—	95.3
Colorado.	2,889,964	17,734	1,966	—	15,768	11.1	—	88,9
Hawaii	964,691	2,655	—	—	2,655	—	—	100,0
Idaho	943,935	10,418	4,771	3	5,644	45.8	—	54.2
Montana	786,690	57,598	24,043	1	13,544	63,9		36.0
Nevada	800,493	13,306	4,400	339	8,567	33.1	2,5	64.4
New Mexico	1,302,894	107,338	61,876	21,556	23,906	57.6	20.1	22.3
Oregon	2,633,105	26,591	3,072	12	23,507	11.6		88.4
Utah.	1,461,037	19,158	6,868	17	12,273	35.8	0.1	64.1
Washington	4,132,156	58,186	16,440	310	42,436	28.3	0.5	71.2
Wyoming	469,557	7,057	4,159	—	2,898	58.9		41.1
South:								
Alabama	3,893,888	7,502	—	—	7,502	—	—	100.0
Arkansas.	2,286,435	9,364	—	—	9,364	—	—	100,0
Delaware.	594,338	1,307	—	—	1,307	—	—	100.0
District of Columbia.	638,333	996	—	—	996	—	—	100.0
Florida ., ...	9,746,324	19,134	1,303	—	17,831	6.8	—	93.2
Georgia.	5,463,105	7,442	30	—	7,412	0.4	—	99.6
Kentucky	3,660,777	3,518	—		3,518	—	—	100,0
Louisiana	4,205,900	11,969	210	185	11,574	1.8	1.5	96.7
Maryland.	4,216,975	7,823	—		7,823	—	—	100.0
Mississippi.	2,520,638	6,131	2,756	410	2,965	45.0	6.7	48.4
North Carolina	5,881,766	64,536	4,844		59,692	7,5	—	92.5
Oklahoma	3,025,290	169,292	4,749		164,543	2,8	—	97,2
South Carolina	3,121,820	5,665	728	—	4,937	12.9	—	87.1
Tennessee	4,591,120	5,013	—	—	5,013	—	—	100.0
Texas	14,229,191	39,740	859	—	38,881	2.2	—	97.8
Virginia	5,346,818	9,211	118	—	9,093	1.3	—	98.7
West Virginia. . ..., ...	1,949,644	1,555	—	—	1,555	—	—	100.0
Midwest								
Illinois	11,426,518	15,846	—	—	15,846	—	—	100.0
Indiana	5,490,224	7,682	—	—	7,682	—	—	100.0
Iowa	2,913,808	5,369	492	—	4,877	9,2	—	90.8
Kansas	2,363,679	15,256	715		14,541	4.7	—	95.3
Michigan, ...	9,262,078	39,734	1,607	183	37,944	**4.0**	0.5	95.5
Minnesota	4,075,970	34,831	9,901	218	24,712	28.4	0.6	70.9
Missouri ..., ...	4,916,686	12,129	—		12,129	—	—	100.0
Nebraska	1,569,825	9,145	2,846	—	6,299	31.1		68.9
North Dakota	652,717	20,120	11,287	1,753	7,080	56.1	8,7	35.2
Ohio	10,797,630	11,985	—	—	11,985	—		100.0
South Dakota	690,768	44,948	28,468	4,657	11,823	63.3	10.4	26.3
Wisconsin	4,705,767	29,320	9,361	79	19,880	31.9	0.3	67.8
Northeast								
Connecticut	3,107,576	4,431	27	—	4,404	0.6	—	99.4
Maine	1,124,660	4,057	1,235	—	2,822	30.4	—	69.6
Massachusetts	5,737,037	7,483	1	—	7,482	—	—	100.0
New Hampshire.	920,610	1,297	—	—	1,297	—	—	100.0
New Jersey	7,364,823	8,176	—	—	8,176	—	—	100.0
New York	17,558,072	38,967	6,734	—	32,233	17,3	—	82,7
Pennsylvania	11,863,895	9,179	—	—	9,179	—	—	100.0
Rhode Island	947,154	2,872	—	—	2,872	—	—	100.0
Vermont ., ...	511,456	968	—	—	968	—	—	100.0
Total United States	226,545,805	1,366,676	339,836	30,265	996,575	24.90/a	2,2%	72,90/a

ªEskimos and Aleuts residing in Alaska. An additional 14,133 Eskimos and Aleuts live outside of Alaska and are not Included in this table

SOURCE, U.S. Bureau of the Census, PC80-S1-13, 1984.

Figure 3-2.— Distribution of the American Indian, Eskimo, and Aleut Population, 1980
(inside and outside identified areas and villages)
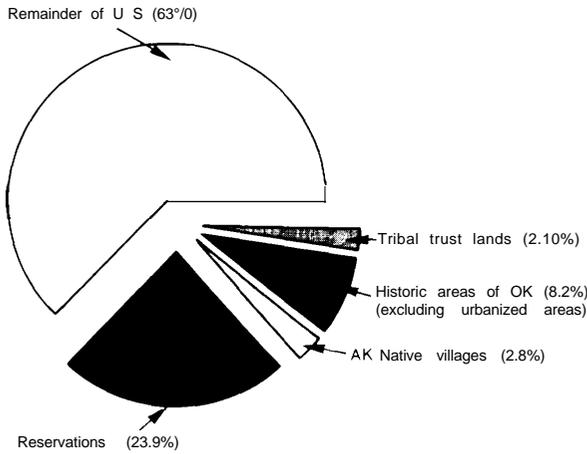
SOURCE U S Bureau of the Census, PC80-S1.13, 1984

Table 3-3.–32 Reservation States as of 1985

Alabama	Maine	Oklahoma
Alaska	Michigan	Oregon
Arizona	Minnesota	Pennsylvania
California	Mississippi	Rhode Island
Colorado	Montana	South Dakota
Connecticut	Nebraska	Texas
Florida	Nevada	Utah
Idaho	New Mexico	Washington
Iowa	New York	Wisconsin
Kansas	North Carolina	Wyoming
Louisiana	North Dakota	

SOURCE U S Department of Health and Human Services, Public Health Service, Health Resources and Services Administration, Indian Health Service, *Chart Series Book,* 1985

considered the least accurate and the most difficult to estimate because of the large population scattered over large geographic areas" (208). The primary purpose of BIA's population publication is for the information it contains on employment and earnings on Indian reservations.

Appendix A summarizes 1980 U.S. census, IHS, and BIA estimates of the Indian population organized by IHS area, along with tribal estimates when available. The fourth column of appendix A has been included to show tribal versions of population that OTA received from some tribes or from enrollment figures provided by BIA. Apparent discrepancies exist between what some tribes may claim their population to be and what

the Bureau of the Census and BIA report. IHS does not compute service population by tribe but has provided OTA with a list of tribes served by each of its service units.

Implications of Varying Estimates

The discrepancies in population size are attributed largely to the varying definitions of "Indian" that are used by each of these sources. Such definitions are included in regulations governing BIA, IHS, and other governmental programs serving Indians. Moreover, many tribes maintain rolls separately from those kept by BIA and its local agencies,

A major difference between tribal rolls and census or BIA estimates is that many tribes count individuals without regard to their residence. The tribal rolls list full-fledged members, and may include others who are enrolled but do not have the full privileges of members such as voting rights or rights to share in tribal benefits such as occasional per capita payments. The 1980 census supplementary survey of Indians living on reservations found that *87* percent were enrolled in their tribe (152). According to Vine Deloria, a contemporary Indian social theorist, the passage of the Indian Reorganization Act and the Oklahoma Indian Welfare Act in 1934 and 1936 made certain Federal services available to tribal members that had not been available in previous decades, and tribes may have developed special categories of tribal membership to enable more individuals to become eligible for some of these Federal services (29).

One of the reasons that IHS regulations extend eligibility to nonmembers of tribes is in recognition of the variations across tribes in the requirements for tribal membership. Tribal rolls may be closed and reopened infrequently, a situation that would make it difficult for Indians who are not on their tribal rolls to prove their eligibility if membership were the sole criterion for services from IHS. Tribal edict or personal choice (for political reasons, some individuals choose not to be members of their tribes) keep many Indians from becoming members of their tribes. Though tribal membership requirements are not uniform across

the United States and in some cases may not seem fair to the individuals concerned, when challenged, courts have consistently upheld the sovereign right of tribes to determine their own rules governing membership.

Having an accurate estimate of the number of Indians, especially those living within or in close proximity to reservations, is necessary for planning of services delivery, allocating resources to provide services, and eventually for detecting whether the services provided have had any impact. The size of a given population being served is generally a good indicator of the expected demand for the services being offered, but within the IHS system, demand for health care varies considerably by area and is not necessarily related to its estimated population size (see ch. 5). IHS previously estimated its service population without regard to actual users of its services, but a patient registration system instituted in January 1984 now accounts for current users of IHS services and should improve IHS's use of population data for planning purposes.

CHARACTERISTICS OF THE AMERICAN INDIAN, ESKIMO, AND ALEUT POPULATIONS

The most important point to be made about the Indian population in the United States is that each Indian tribe has its own unique culture, history, geography, and demography. No single variable or socioeconomic indicator encompasses the diverse characteristics of Indians and Alaska Natives in this country.

The characteristics presented here, which are drawn from census reports, are based on a sample and are therefore subject to errors. These descriptive statistics are also limited by the fact that they are national aggregates. National measures of the Indian population and the U.S. all races population may not accurately describe local conditions nor reflect changing situations, since they are collected at one point in time. (For a more complete discussion of the sources of statistical error in census data, see the "Accuracy of Data" appendix in any of the Bureau of the Census' subject reports.)

Characteristics cited in this section are for Indians throughout the United States except where certain subpopulations are specified. "Reservation Indians, " for example, include Indians on identified reservations and in historic areas of Oklahoma (excluding urbanized areas).

The size of the Indian population living on reservations in 1980 ranged from 104,978 on the Navajo reservation to O on 21 reservations. The Pine Ridge Reservation of the Oglala Sioux had 11,946 Indian persons. The Blackfeet, Montana; Fort Apache, Gila River, Hopi, Papago, and San Carlos reservations of Arizona; Rosebud, South Dakota, and Zuni, New Mexico each had more than *5,500* Indian residents, or 14.8 percent of all reservation Indians when combined. The 10 most populous reservations had 49 percent of all reservation Indians (see figure 3-3).

The Indian population is residing in urban areas more than ever before. As of 1980, 22 percent of the Indian, Eskimo, and Aleut population lived in central cities, 32 percent lived in urbanized areas outside central cities, and the remaining 46 percent chose nonmetropolitan residences (see figure 3-4). In 1970, 19.9 percent of American Indians lived in central cities, 25 percent in other urban areas, and 55.1 percent in rural areas. The 10 Standard Metropolitan Statistical Areas (SMSAs) having the largest number of Indians, Eskimos, and Aleuts in 1980 (in descending order) were Los Angeles-Long Beach, Tulsa, Oklahoma City, Phoenix, Albuquerque, San Francisco-Oakland, Riverside-San Bernardino-Ontario, Seattle-Everett, Minneapolis-St. Paul, and Tucson (see figure 3-5). Each of these cities has an urban Indian health program with IHS funding, though their level of services may vary. Table 3-4 shows the distribution of Indians by urban or rural residence and sex as well as the total number of persons of all races for each State. The Eskimo and Aleut population has begun a similar shift away from their traditional homelands, though the majority, 74 percent, of all Eskimos and Aleuts still lived in Alaska in 1980 (see figure 3-6).

Figure 3.3.–Ten Reservations With Highest Number of Indians, 1980

Navajo, AZ-NM-UT — 104,978

I pine Ridge, SD — I 11,946

Gila River, AZ — 7,067

I Papago, AZ — 6,959

Fort Apache, AZ — 16,660

Hopi, AZ — 6,591

Zuni, NM — 5,988

San Carlos, AZ — 5,872

I Rosebud. SD — 15,688

Blackfeet, MT — 5,525

0   4,000   8,000   12,000   16,000   20,000

SOURCE U S Bureau of the Census PC80·S1 13 1984

Figure 3-5.—Ten SMSAs With the Highest Numbers of American Indians, Eskimos, and Aleuts, 1980

Los Angeles-Long Beach — 48,120

Tulsa — 38,489

Oklahoma City — 24,752

Phoenix — 22,903

Albuquerque — 20,788

San Francisco-Oakland — 18,136

Riverside-San Bernardino-Ontario — 17,288

Seattle-Everett — 16,596

Minneapolis-St, Paul — 15,950

Tucson — 14,928

o   10,000   20,000   30000   40000   50000   60,000
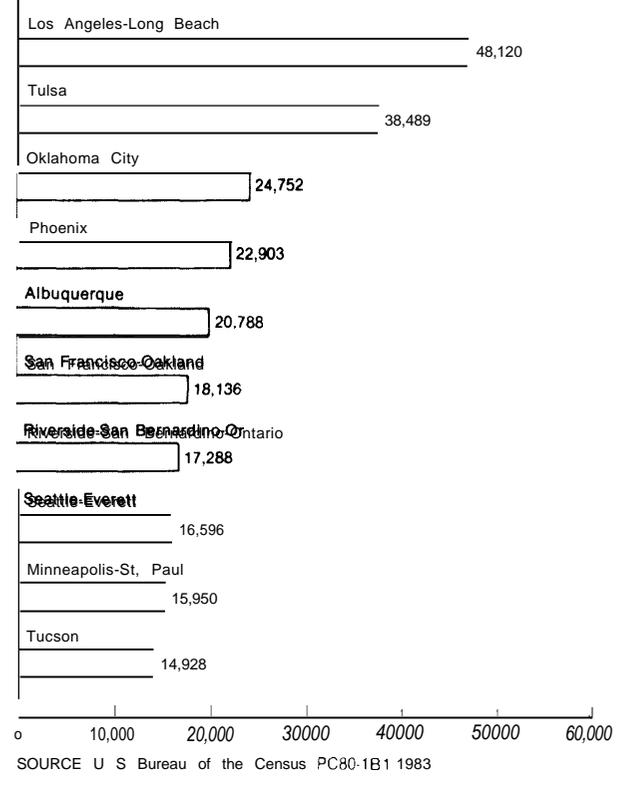
SOURCE U S Bureau of the Census PC80·1B1 1983

Figure 3.4.—Urban and Rural Residence for American Indian, Eskimo, and Aleut Populations, 1980

American Indian, Eskimo, and Aleut 54 %: 22 | 32 | 10 | 36 | 46%

U S all races 74%: 30 | 44 | 11 | 15 | 26%

80   60   40   20   0   20   40   60   80
Percent

Urban residence   Rural residence

☐ Central cities   ☐ Outside central cities   ▨ Rural area inside SMSA   ☐ Other rural

SOURCE: U S Bureau of the Census. PC80·1·C1, 1983.

Figure 3-6.— Distribution of the Eskimo and Aleut Population, 1980

In Alaska — 34,144 / 8,090

Outside Alaska — 8,018 / 6,115

o   10000   20,000   30,000   40,000
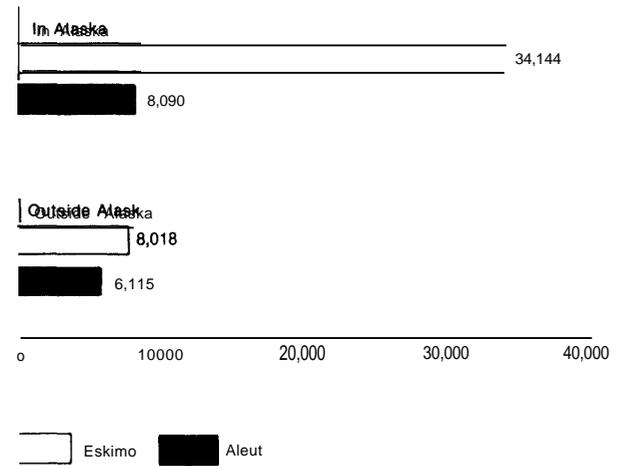
☐ Eskimo   ■ Aleut

SOURCE U S Bureau of the Census, PC80·S1 13 1984

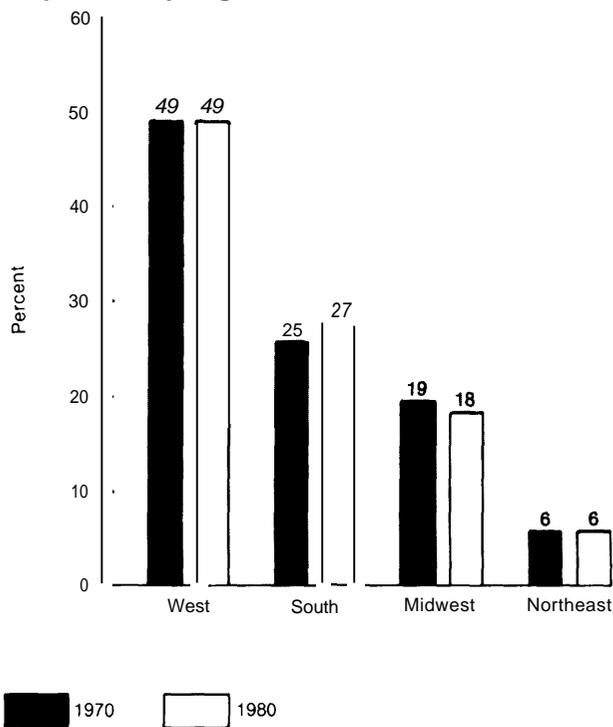**Table 3-4.—American Indians, Eskimos, and Aleuts, by State, Urban/Rural Residence, and Sex, 1980**

States	Us., all races	American Indians, Eskimos, and Aleuts						
		Urban		Rural		Total urban and rural		
		Male	Female	Male	Female	Male	Female	Both sexes
Alabama	3,893,888	1,674	1,654	2,149	2,097	3,823	3,751	7,574
Alaska.	401,851	9,211	10,393	23,331	21,168	32,542	31,561	64,103
Arizona ., ...	2,718,215	23,069	25,127	51,328	53,221	74,397	78,348	152,745
Arkansas	2,286,435	2,117	2,276	2,492	2,526	4,609	4,802	9,411
California	23,667,902	80,323	83,855	19,115	18,076	99,438	101,931	201,369
Colorado.	2,889,964	6,671	6,440	2,556	2,401	9,227	8,841	18,068
Connecticut	3,107,576	1,826	1,889	413	399	2,239	2,288	4,527
Delaware	594,338	225	243	416	423	641	666	1,307
District of Columbia.	638,333	479	552	—	—	479	552	1,031
Florida	9,746,324	7,243	7,043	2,606	2,341	9,849	9,384	19,233
Georgia	5,463,105	2,530	2,162	1,548	1,376	4,078	3,538	7,616
Hawaii	964,691	1,311	1,046	193	196	1,504	1,242	2,746
Idaho	943,935	1,683	1,763	3,521	3,544	5,204	5,307	10,511
Illinois	11,426,518	6,985	7,081	1,111	1,106	8,096	8,187	16,283
Indiana	5,490,224	2,702	2,771	1,210	1,142	3,912	3,913	7,825
Iowa	2,913,808	1,911	2,012	773	745	2,684	2,757	5,441
Kansas	2,363,679	5,460	5,430	2,251	2,211	7,711	7,641	15,352
Kentucky	3,660,777	1,259	972	655	705	1,914	1,677	3,591
Louisiana	4,205,900	3,125	2,943	3,086	2,900	6,211	5,843	12,054
Maine	124,660	717	736	1,317	1,287	2,034	2,023	4,057
Maryland	4,216,975	3,314	3,343	681	672	3,995	4,015	8,010
Massachusetts	5,737,037	2,993	3,090	800	853	3,793	3,943	7,736
Michigan	9,262,078	12,553	13,048	7,269	7,180	19,822	20,228	40,050
Minnesota	4,075,970	9,883	10,563	7,338	7,232	17,221	17,795	35,016
Mississippi	2,520,638	732	678	2,305	2,431	3,037	3,109	6,146
Missouri	4,916,686	3,957	3,987	2,209	2,168	6,166	6,155	12,321
Montana	786,690	4,640	5,170	13,808	13,652	18,448	18,822	37,270
Nebraska	1,569,825	2,301	2,459	2,217	2,210	4,518	4,669	9,187
Nevada	800,493	3,959	4,131	2,645	2,554	6,604	6,685	13,289
New Hampshire	920,610	365	334	344	295	709	629	1,338
New Jersey	7,364,823	3,389	3,536	748	695	4,137	4,231	8,368
New Mexico. ......, ...	1,302,894	14,699	16,732	36,328	38,354	51,027	55,086	106,113
New York	17,558,072	12,854	14,738	6,323	5,667	19,177	20,405	39,582
North Carolina	5,881,766	7,161	7,175	24,909	25,407	32,070	32,582	64,652
North Dakota	652,717	2,014	2,129	7,940	8,060	9,954	10,189	20,143
Ohio	10,797,630	4,623	4,804	1,442	1,361	6,065	6,165	12,230
Oklahoma	3,025,290	40,450	43,619	42,399	42,981	82,849	86,600	169,449
Oregon	2,633,105	7,863	8,099	5,707	5,645	13,570	13,744	27,314
Pennsylvania	11,863,895	3,398	3,650	1,288	1,129	4,686	4,779	9,465
Rhode Island	947,154	1,116	1,258	249	249	1,365	1,507	2,872
South Carolina	3,121,820	1,256	1,118	1,690	1,671	2,946	2,789	5,735
South Dakota	690,768	5,582	6,234	16,398	16,734	21,980	22,968	44,948
Tennessee	4,591,120	1,545	1,495	1,072	983	2,617	2,478	5,095
Texas	14,229,191	16,655	15,750	3,986	3,684	20,641	19,434	40,075
Utah	1,461,037	5,014	5,372	4,371	4,486	9,385	9,858	19,243
Vermont	511,456	142	195	329	302	471	497	968
Virginia	5,346,818	3,615	3,055	1,405	1,366	5,020	4,421	9,441
Washington	4,132,156	17,129	17,804	13,074	12,797	30,203	30,601	60,804
West Virginia	1,949,644	273	282	505	532	778	814	1,592
Wisconsin	4,705,767	6.716	7,021	7,875	7.887	14,591	14,908	29,499
Wyoming	469,557	1,052	1,038	2,470	2,518	3,522	3,556	7,078
Total United States . . .	225,545,805	361,764	378,295	340,195	339,619	701,959	717,914	1,419,873

SOURCE: US. Bureau of the Census, PC80-1-B1, 1983,

Changes in the regional distribution of Indians from 1970 to 1980 were apparently minute. In the Midwest, the Indian population declined by 1 percent, and in the South, it increased by 2 percent between the 1970 and 1980 censuses. The region with the most (49 percent) Indians is the West. The South had *27* percent of the Indians in the 1980 census, the Midwest had 18 percent, and the Northeast had 6 percent (figure 3-7). (For a list of States by region, see table 3-2, above.)

Four States dominate the list of 10 States with the largest number of Indians (figure 3-8). Indian population growth between 1970 and 1980 was highest in the State of California, which grew by 118 percent to 201,489—more than doubling its Indian population in 10 years. The Indian population in California is concentrated in urban areas (81 percent). Oklahoma had the second largest increase, from 98,468 in 1970 to 169,459 in 1980.

Figure 3-7.— Percent of Total U.S. American Indian Population, by Region of Residence³: 1970 and 1980
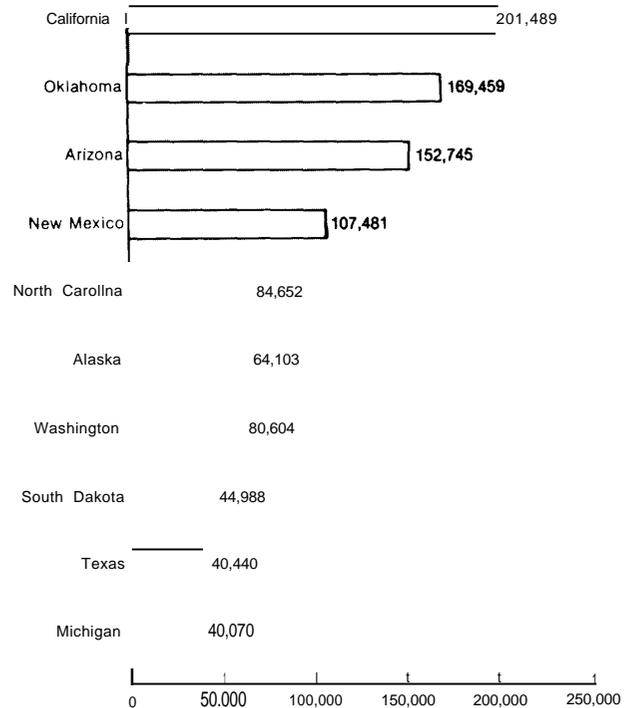

1970 ▪   1980 ☐

American Indian population only, excluding Eskimos and Aleuts

a F₀r a list of States by region, see table 3-2.

SOURCE U S Bureau of the Census, PC(2)-1 F, 1973 and PC80-S1-13, 1984

Figure 3-8.—Ten States With the Largest American Indian, Eskimo, and Aleut Population, 1980
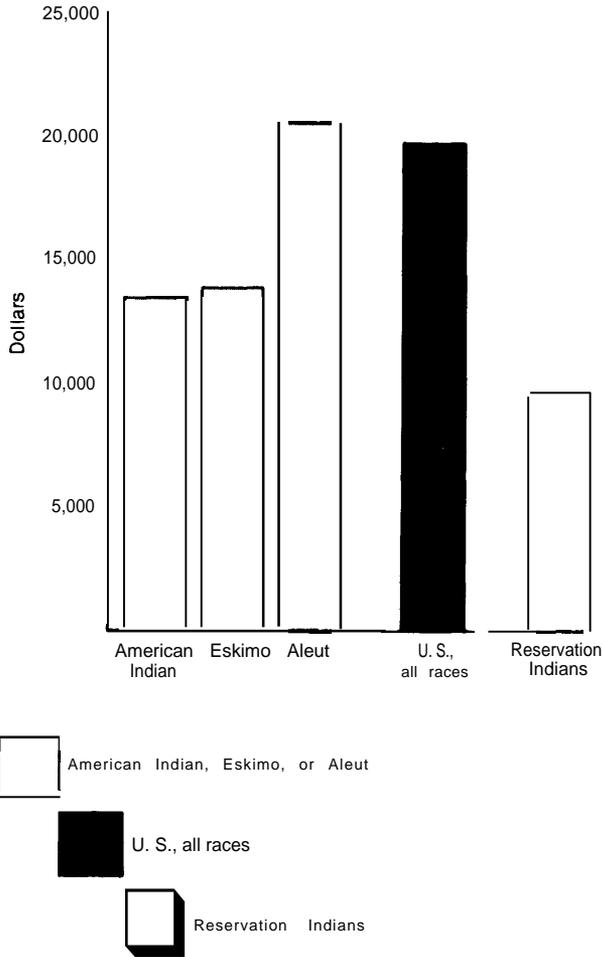

SOURCE U S Bureau of the Census, *PC80-S1-13*, 1984

Two other States, Arizona and New Mexico, had more than 100,000 Indians in 1980, with 152,745 and 107,481, respectively.

Median income (for American Indian families) in 1979 was $13,678, the figure was $13,829 (for Eskimo families), and $20,313 for Aleut families. Indian families living on reservations had median incomes in 1979 of $9,924. The corresponding figure for U.S. families of all races was $19,917 (see figure 3-9). (Median income is the amount at which half the people are below and half above the quoted figure.)

The difference in **poverty rates** (the percentage of the population whose income falls below the poverty level) between American Indians and the total population provides another example of the extent to which the U.S. all races population is better off than the Indian population. In 1980, the poverty rate for American Indian persons was *27.5, 28.8* for Eskimos, and 19.5 for Aleuts; when combined, poverty occurs at more than twice the rate of 12.4 for the U.S. all races population,
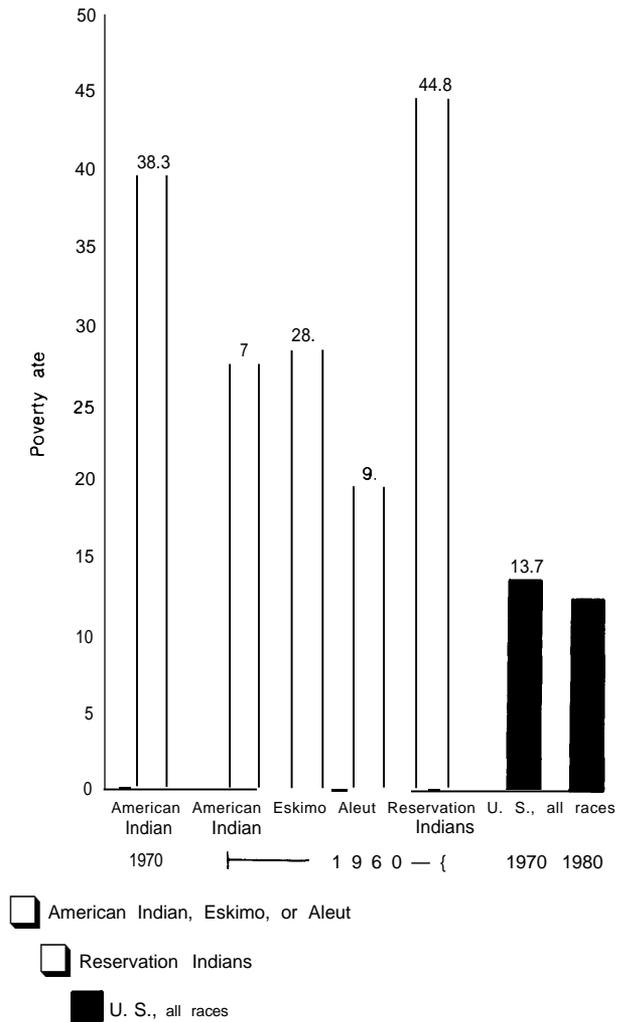
Figure 3-9.— Median Family Money Income in 1979

SOURCE U S Bureau of the Census, PC80-1-C1, 1983 and PC80-2-1D, part 1, 1985

Figure 3-10.— Poverty Rates of Persons, 1970 and 1980 (percent below poverty level)

SOURCE U.S Bureau of the Census, PC(2)-1 F, 1973, PC80-1-C1, 1983, and PC80-2-1 D, part 1, 1985

These are believed to be decreases in the poverty rates compared to 1970. Only one racial group had a higher poverty rate; 29.9 percent of all black persons reported incomes in 1979 that were below the poverty level. Poverty among Indians on reservations is significantly higher, with 44.8 percent of persons who had income in 1979 below the poverty level (see figure 3-10). (Data on poverty status are derived from responses to the Census Bureau's questions on income level in 1979. Poverty thresholds are based on income, size of household, age of householder, and the percentage of income that families spend on food. The number of individuals below the poverty level is the sum of related and unrelated persons in families with incomes below the poverty level.)

The number of *families maintained by women,* which may be related to changes in poverty status, rose between 1970 and 1980 in the United States and among Indians. In 1980, for the U.S. all races population, 14 percent of all families were maintained by women, whereas *22.7* percent of American Indian families, *21.3* percent of Eskimo families, 17,4 percent of Aleut families, and 25.8 percent of reservation families were maintained by women (see figure 3-11).

Unemployment rates, another indicator of relative economic well-being, show that unemploy -
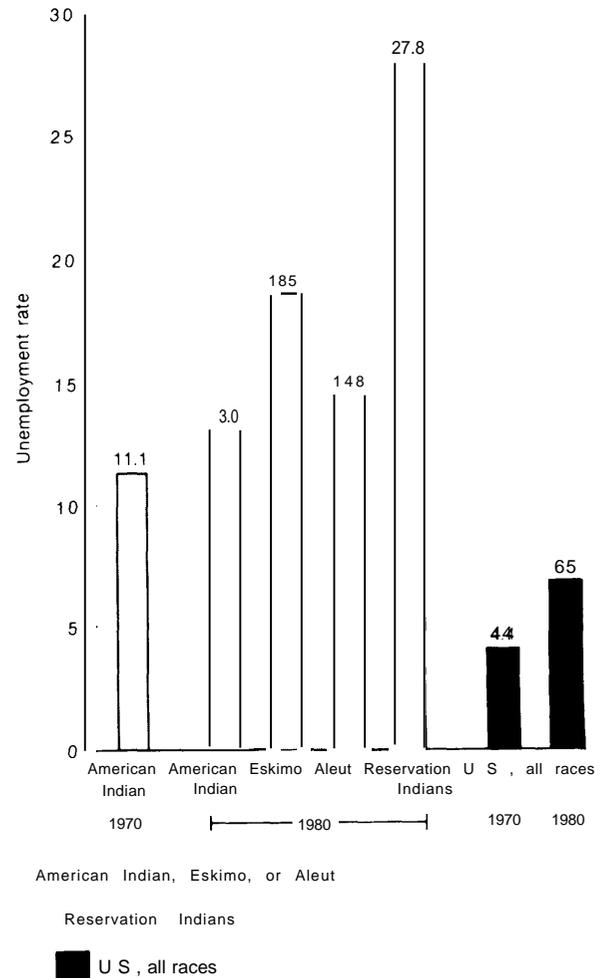
Figure 3-11.— Families Maintained by Women, 1970 and 1980 (percent of families)
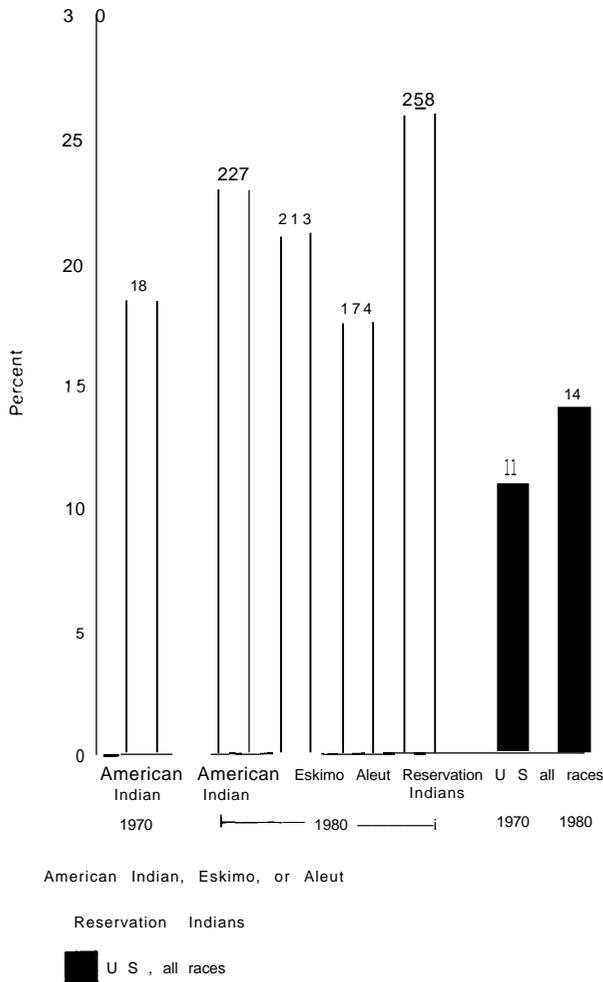
American Indian, Eskimo, or Aleut

Reservation Indians

U S , all races

Figure 3-12.—Unemployment Rates for American Indians, Eskimos, and Aleuts, 1970 and 1980

American Indian, Eskimo, or Aleut

Reservation Indians

U S , all races

ment rates for Indians were more than twice the U.S. all races rates of *4.4* and 6.5 percent in 1970 and 1980, respectively (see figure 3-12). In 1980, 13 percent of American Indians, 18.5 percent of Eskimos, and *14.8* percent of Aleuts were unemployed. On reservations, unemployment in 1980 was 27.8 percent of the labor force—more than four times higher than the U.S. all races rate. (Unemployment figures include civilians 16 years old and over who were neither "at work" nor "with a job but not at work, " who were looking for work during the last 4 weeks and were available to accept a job, and who were waiting to be called back to a job from which they had been laid off.)
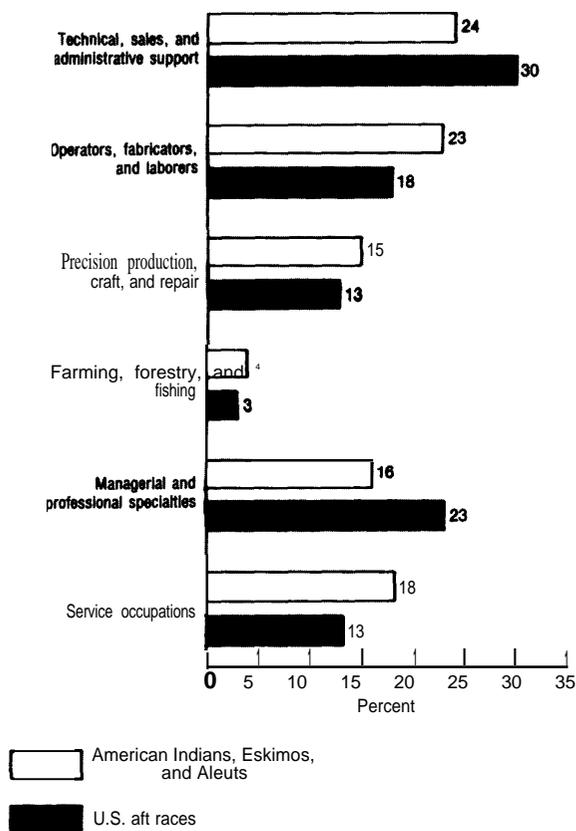
For over 507,000 Indians 16 years old and over who were employed in 1980, jobs held were largely in the technical, sales, and administrative support occupations (24.2 percent), followed closely by jobs as operators, fabricators, and laborers (23 percent), and then by service occupations (18 percent). Three occupational categories with the highest numbers of Indians included food service, cleaning, and building service workers; administrative support occupations, especially secretaries and typists; and professional specialties with highest representation in the job category including teachers, librarians, and counselors. These top three categories included 39.6

**Figure 3-13.-Occupation of Employed American
Indians, Eskimos, and Aleuts, 1980
(percent of employed persons 16 years and over)**

Occupation	American Indians, Eskimos, and Aleuts	U.S. aft races
Technical, sales, and administrative support	24	30
Operators, fabricators, and laborers	23	18
Precision production, craft, and repair	15	13
Farming, forestry, fishing	4	3
Managerial and professional specialties	16	23
Service occupations	18	13

☐ American Indians, Eskimos, and Aleuts

■ U.S. aft races

SOURCE U S Bureau of the Census, PC80-1-C1, 1983

percent of all Indian workers age 16 and over in 1980. The remaining workers were moderately well represented in other occupations (see figure 3-13).

One difference in employment patterns by sex among Indians is that a slightly higher percentage of female workers than male workers held managerial or professional jobs, although in 1980 there were only 854 Indian women out of a total of 5,804 Indian engineers and natural scientists. There were only 150 Indian women and 713 Indian men in health-diagnosing occupations.

Further, a substantially higher percentage of Indian women than men were employed in sales, technical, administrative support, and service occupations. A similar edge was held by Indian men over women in the precision production, craft, repair, machine, fabricating, and labor occupations. These gross comparisons are based on only six major occupational categories that were delineated by the U.S. Bureau of the Census to represent as closely as possible the structure of the American economy in 1980. Clearly, the occupational categories are oversimplified here. It is also important to note that reporting and coding errors have been known to be particularly problematic with individual, self-reported occupations, including those collected by the census.

Many people assume that Federal, State, and local governments (including tribal governments) are the major employers of Indians. This perception is most likely due to the relatively high visibility of Indians employed in the public sector, especially those employed by BIA and IHS. Actually, American Indian, Eskimo, and Aleut workers in 1980 were predominantly employed in private sector jobs. Sixty-six percent of Indian workers 16 years of age and over worked in the private sector, another 5 percent were self-employed, and a marginal number were unpaid family workers. Government workers comprised 29 percent of the total with 11 percent, 6 percent, and 12 percent employed in Federal, State, and local government jobs, respectively.

Educational attainment includes within each category of the highest grade of school completed: 1) the number of persons who reported the indicated grade as the highest grade attended and that they had finished it; 2) those who attended but did not complete the next higher grade; and 3) persons still attending the next higher grade. Largely because of government and tribal scholarship or financial aid programs, American Indians were receiving more education beyond high school between 1970 and 1980. In 1980, 16 percent of the U.S. all races population over 25 years had completed 4 or more years of college; the percentages for Aleuts, Eskimos, and American Indians were 12, 5, and 8 percent, respectively. By comparison, the number of persons completing 4 years of high school and some college were closer across each of these four groups; 50 percent of the U.S. all races population, 47 percent of Aleuts, 39 percent of Eskimos, and 48 percent of American Indians 25 years old and over had

Figure 3-14.— Educational Attainment of Persons 25 Years Old and Over, United States All Races and Indian Population*: 1980

Four years of high school or college 1 to 3 years

Four or more years of college
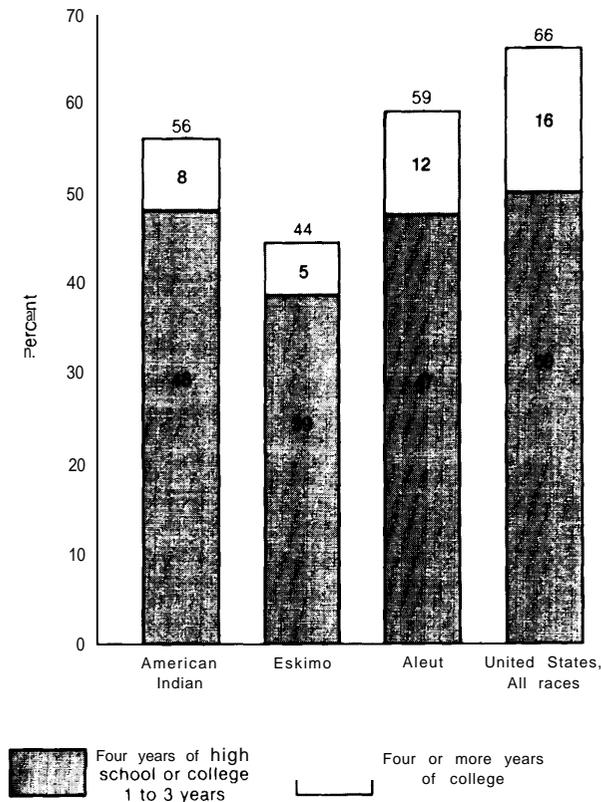
*The two categories combined (figure at top of each column) represent the percents of the population groups that have, at a minimum, graduated from high school

SOURCE U S Bureau of the Census, PC80-1-C1, 1983

high school diplomas or the equivalent plus some college background (see figure 3-14). In 1980, 43.2 percent, or roughly three out of every seven reservation Indians 25 years old and over, were high school graduates.

Median age in 1980 was 23.4 for American Indians, 21.3 for Eskimos, 24,5 for Aleuts, and 19.7 for reservation Indians, compared to 30.0 for the U.S. all races population.

One would expect that educational attainment rates would increase as the Indian population ages, and this might indeed be the overall effect nationally; but recently published data for reservation Indians suggest that educational opportunities are not as widely pursued by reservation Indians as they are among Indians living off res-

ervations. The Bureau of the Census reports that 27.1 percent of reservation Indians 16 to 19 years old *were* not enrolled in a regular school and were not high school graduates in 1980. These persons, in all likelihood, were drop-outs. If individuals were enrolled in trade or business schools, company training, or were receiving schooling through a tutor, they were counted as being enrolled only if the course credits they would obtain were transferable to a regular elementary school, high school, or college. So this indicator, which includes only "regular schooling, " might overstate educational deficiencies slightly. Nevertheless, only *2.6* percent of reservation Indians 20 to 34 years old, an age group spanning 15 years, were enrolled in school.

Unpublished findings based on an analysis of the Bureau of the Census' 1980 public-use microsample data set indicate that for certain Indians 25 years and older living on or near a reservation, the probability of completing 4 or more years of postsecondary education was the lowest that it had been for 50 years. In the 25 to 30 and 61 to 65 year age groups, Indian men and women who had finished high school had less than a 10 percent chance of ever completing 4 or more years of college. The highest probabilities of completing postsecondary education and perhaps the best educational opportunities were found among Indian men in three age groups comprising those who were **41 to 55** years of age in 1980. This is probably due to GI bill educational benefits, since the same phenomenon does not exist among Indian women (114).

A recent study of over 9,500 Indian students at the University of New Mexico (UNM) found an alarmingly high propensity for failure to complete postsecondary education programs. An Indian student at UNM completing an undergraduate degree in 4 years and a master's degree in 2 years is a rare exception. Tentative findings show that the median number of years it has taken UNM's Indian students to complete an associate degree is 8 if a student attended UNM on a part-time basis. A small minority of students, around 1 percent of the total included in the study, required a median number of 5 years to complete a bachelor's degree if they undertook 13 or more credit hours per semester (53). While these find-

ings perhaps should not be generalized to all Indian students enrolled in universities, research of this type may aid in explaining why Indian students have greater difficulty completing degree programs than their non-Indian counterparts. Budgets of many Indian scholarship programs, including those of private foundations, have been cut back in recent years, and restrictions on the number of semesters for which support can be extended create financial barriers that many Indian students cannot overcome. While national level data on Indian educational attainment appear positive, closer examination over time by age group, sex, and residence indicate serious deficiencies in educational opportunities for Indians. Interrupted, nontraditional educational careers seem to prevail, and therefore the economic returns resulting from higher education are probably not the same for Indians as those experienced by the general U.S. population.

The lack of complete plumbing facilities for exclusive use was no longer a problem of major proportion in 1980 in the United States as a whole. On the other hand, American Indian, Eskimo, and Aleut housing units on average were about 20 years behind the U.S. all races average in this respect. The last time housing units in the United States had experienced plumbing deficiencies that were roughly equal to the 1980 average for Indian housing units was in 1960. Worse yet, in 1980, more than 50 percent of all Eskimo housing units lacked plumbing for exclusive use—78.9 percent of these households had no plumbing facilities at all (see figure 3-15). Among over 81,000 Indian housing units on reservations, 24.1 percent were without complete plumbing for exclusive use in 1980.

Settlement patterns of Indians in SMSAs show that urban Indians are a highly mobile group. According to the 1980 census, approximately *52* million housing units in the United States were owner-occupied, and 29 million were occupied by renters. In other words, *64* percent of all U.S. housing units were occupied by owners themselves. Each percentage point represents more than half a million (517,964) housing units for the United States as a whole. Of the 60 million U.S. housing units within SMSAs, 37 million were lived in by owners and *23* million by renters.

Figure 3-15.—Percent of Occupied Housing Units Lacking Complete Plumbing Facilities, 1980
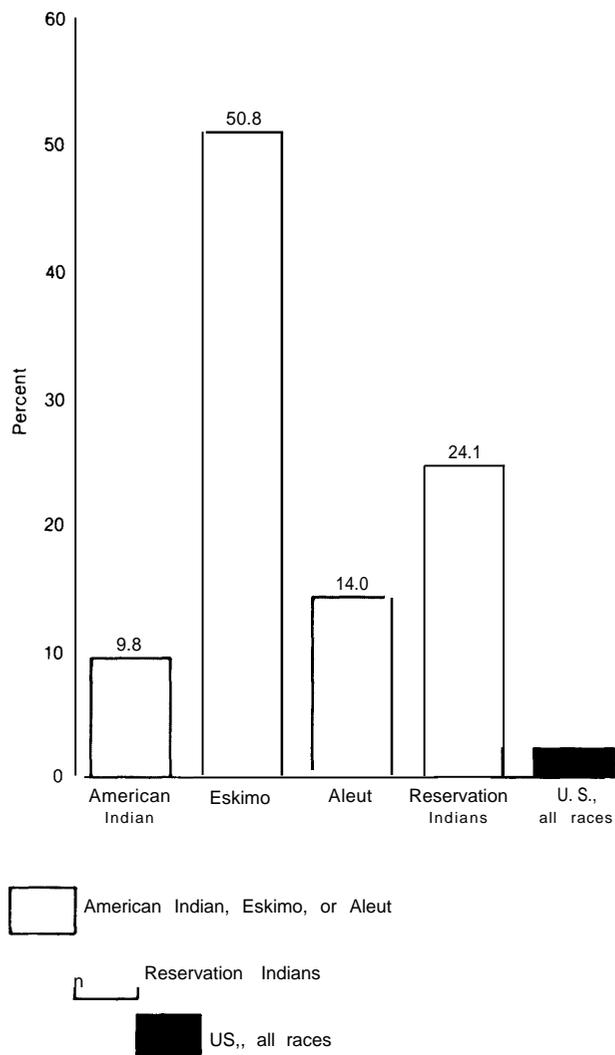
SOURCE U S Bureau of the Census, HC80-1-A1, 1983, and PC80-2-1 D, part 1, 1985.

Thus, 61 percent of U.S. householders in SMSAs were in owner-occupied housing. In rural areas, an even higher percentage of U.S. housing units, 80 percent, were occupied by owners,

According to the 1980 census, trends in home ownership were similar in rural and urban areas. Fifty-six percent of the 52 million owner-occupied housing units in the United States had been moved into since 1970; 21 percent were established between 1960 and 1969, 12.8 percent between 1950 and 1959, and only 9.7 percent in 1949 or earlier.

In SMSAs, *56* percent of all householders had moved into owner-occupied housing since 1970; 22.1 percent had done so between 1960 and 1969, 13.4 percent between 1950 and 1959, and 8.5 percent in 1949 or earlier. In rural areas, *60* percent had moved into owner-occupied housing units since *1970; 20* percent had done so between 1960 and 1969, 10 percent between 1950 and 1959, and 11 percent in 1949 or earlier.

In 114 SMSAs where the combined American Indian, Eskimo, and Aleut population was greater than or equal to 1,000, the 1980 census identified *99,998* Indian householders in owner-occupied housing units. Sixty-eight percent of these households—the vast majority–had been established since *1970; 19* percent between *1960* and *1969,* and 13 percent in 1959 or earlier (contrasted with the U.S. a]] races average of *22.5* percent) (see figure *3-16).* Each percentage point in SMSAs with 1,000 or more Indians, Eskimos, and Aleuts represents 997 housing units with an Indian householder.

Among 117,201 Indian householders in renter-occupied housing units in the same 114 SMSAs, 54 percent (representing 63,501 renter-occupied housing units) had just moved into these units within the 15-month period prior to the census date. Thirty-one percent had moved into their rented units between *1975* and 1978, 8.8 percent between 1970 and 1974, and 6.6 percent in 1969 or earlier (see figure 3-17). For every five Indian renters living in SMSAs, roughly two had moved one or more times within the same metropolitan area, and another two had lived in the same place during the 5 years prior to the 1980 census.

On an individual level, mobility among urban Indians is pronounced. For persons 5 years and older, the Bureau of the Census ascertained residence in 1975. There were 620,502 Indian persons who were at least 5 years old living in the top 114 SMSAs in 1980. Between 1975 and 1980, 58.8 percent of these individuals had lived in a different house in the United States, *39.6* percent lived in the same house, and *1.6* percent lived abroad. Of the 58.8 percent (or 364,834 individuals) who lived in a different house in the United States, 136,229 had moved in from outside of their current SMSA; of these, *86,753* had lived in a different SMSA, and 49,476 had moved in from nonmetropolitan settings. In 1975, 121,528 or one-third of those

Figure 3-16.— Year Householder Moved Into Owner-Occupied Housing Unit
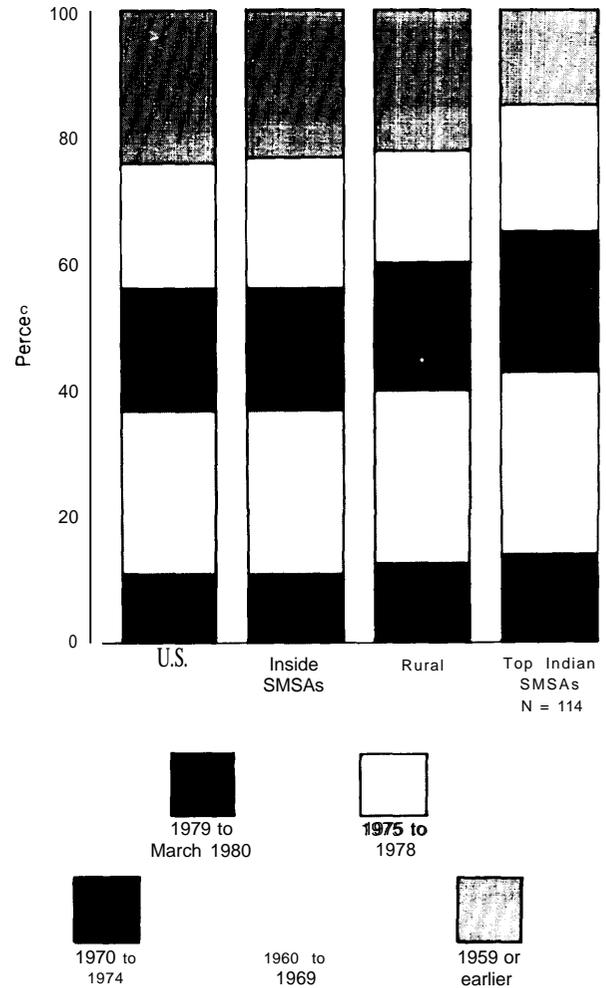
SOURCE U S Bureau of the Census, HC80 1 Al, 1983, and State reports on SMSAs tabulated by OTA

living in a different house in the United States lived in the central city of their current SMSA. Thus, of the *620,502* Indian persons 5 years and older living in the top 114 SMSAs in 1980, the overwhelming majority (90.4 percent) had been metropolitan dwellers for at least 5 years; 8 percent were new metropolitan dwellers; and 1.6 percent moved to a metropolitan area after having lived outside of the United States (see table 3-5).

A point that should be made here is that not all Indians living off reservations and other designated areas are urban Indians. According to the Census Bureau, 63 percent of the Indian, Eskimo, and Aleut population in 1980 lived outside iden-

Figure 3-17.—Year Householder Moved Into Renter-Occupied Housing Unit
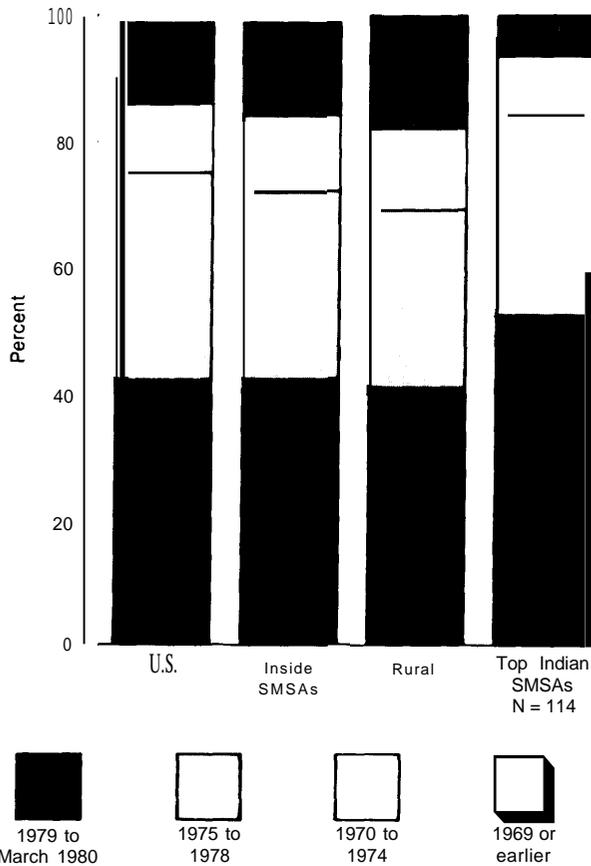
SOURCE: U.S Bureau of the Census, HC80-1-A1, 1983, and State reports on SMSAs tabulated by OTA

tified Indian areas (reservations, tribal trust lands, Alaska Native villages, and historic areas of Oklahoma excluding urbanized areas). Only 54 percent of the Indian, Eskimo, and Aleut population (compared to 74 percent of the U.S. all races population) in 1980, however, lived in metropolitan areas (146). In other words, some nonreservation Indians lived in nonmetropolitan areas. A separate but closely related point is that some reservation Indians are urban Indians. A number of Indian reservations are located in metropolitan areas inside SMSAs because of increasing growth of urban land areas nationally, and roughly 10 percent of IHS's estimated service population for its reservation-oriented direct care system resides n metropolitan areas.

Table 3-5.—Settlement Patterns of Indians in 114 SMSAs With 1,000 or More American Indians, Eskimos, and Aleuts

	Number	Percent
Residence in 1975:		
Persons 5 years old and over	620,502	
1. Living in the same house	245,727	39.6°/0
2. Living in a different house		
in the U.S.	364,834	58.8
Central city of this SMSA	121,528	
Remainder of this SMSA	107,077	
Outside of this SMSA	136,229	
Different SMSA	86,753	
3. Abroad	9,941	1.6

SOURCE: U.S. Bureau of the Census, State reports on SMSAs tabulated by OTA.

FOUR PROJECTIONS OF THE EFFECT OF INTERMARRIAGE ON THE NUMBER OF INDIAN DESCENDANTS

The U.S. Bureau of the Census reported in 1985 that both American Indian women and men were marrying non-Indians at rates exceeding 50 percent (149). In 1980, 119,448 out of 258,154 married American Indian, Eskimo, and Aleut couples were married within the same racial group; 130,256 Indian individuals were married to either whites, blacks, Filipinos, Japanese, or Chinese; and 8,450 Indians were married to individuals of other races. A married couple in the census is a husband and wife enumerated as members of the same household and includes persons in formal as well as common-law marriages. Fourteen categories of race were used to determine whether husbands

and wives were of the same or different race. From 1970 to 1980, the rate of marriage to non-Indians increased by almost 20 percentage points. In 1970, the rate was already quite high: 35.6 percent of married Indian women were married to white husbands, and 33.4 percent of married Indian men were married to white wives (97).

Births resulting from unions of Indians and non-Indians, whether consensual or within marriage, will greatly increase the number of persons claiming to be of Indian descent and will decrease the blood quantum of the "average" Indian in the long run. Especially with respect to health care pro-

vialed by IHS, the implications of this projected growth for tribes in determining who is an Indian and for services provided on the basis of Indian descendancy, are that growth must be accommodated by increasing services or by eventually restricting services to fewer individuals.

Figure 3-18 shows an estimated distribution of reservation residents by Indian blood quantum for 1950. This information, which had been collected in part to provide justification for the termination and assimilation policies of the 1950s, is no longer available from BIA but may be available on an individual tribal basis. BIA headquarters has no interest in maintaining such records,

Figure 3-18.— Distribution of Reservation Residents, by Quantum of Indian Blood for Selected Bureau of Indian Affairs Administrative Areas,[a] United States, 1950

aThose for which data on blood quantum were reported

SOURCE U S Department of Health, Education, and Welfare, Surgeon General of the Public Health Service, *Health Services for the American Indian* (Washington, DC U S Department of Health, Education, and Welfare, Feb 11, 1957), p 14

because a one-fourth blood Indian is treated the same as a full-blooded Indian for eligibility purposes, and certification for services takes place at the agency (field) level (15).

A special version of an age-cohort, demographic projection model specifying populations for each of nine different blood quantum groupings was developed under an OTA contract. The model was applied under four sets of assumptions to estimate the distribution of Indians by blood quantum in the 32 reservation States for various years up to 100 years into the future (221).

Indians were tracked according to blood quantum in order to estimate the composition of the IHS service population for these years. The basic assumptions were that fertility rates, mortality rates, and survival rates would remain constant from the base year of the projection, 1980, and that they are the same for all nine blood quantum groupings. The model permits one to change any of the basic assumptions. Such a change could be, for example, to assume that Indian mortality rates would reach the current level of the U.S. all races population by the year *2000.* Throughout all four scenarios, the fertility, mortality, and survival rates are assumed to be the same.

To show the range of future possibilities in the composition of the Indian population, OTA created four different scenarios, varying the outmarriage rates and distribution of the base population into blood quantum groups. In Scenario I, all Indians are assumed to be full-blooded in the base year, and all unions are presumed to be with other Indians; hence, all offspring would also be full-blooded Indians. In Scenario II, the assumption again is that in the base year all Indians are full-blooded, but the 53 percent outmarriage rate reported by the Bureau of the Census is used to assign probabilities that births resulting from Indian/non-Indian unions will fall into specific blood quantum groups. The use of "marriage rate" and "outmarriage rate" is meant to represent "unions-potential for births, " not actual marriages. Marriage and outmarriage "rates" are used to determine potential populations of females to which the fertility rates will be applied to calculate births, In Scenario III, an approximation of the 1950 blood quantum information is used; i.e.,
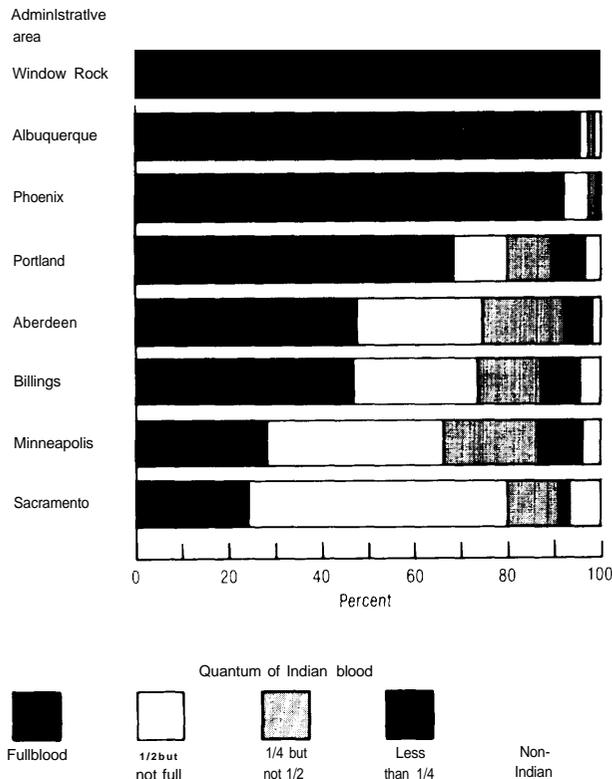
that 60.2 percent of all Indians are full-blooded, 26.7 percent are half, 9.5 percent are one-fourth and 3.6 percent are less than one-fourth. These figures have been adjusted by including an approximated blood quantum distribution for Oklahoma area Indians. The Oklahoma area, which comprised 21 percent of the BIA population in *1950,* was assumed to have a blood quantum distribution equal to that of Indians in the Sacramento area. A constant outmarriage rate of 53 percent was applied across all blood quantum groups. Scenario IV is almost identical to Scenario 111, except that the rate at which births result from Indian and non-Indian unions is lowered to 40 percent. The rate has been adjusted downward to take into consideration births resulting from Indian unions occurring consensually that may not be reflected in the census data on marriage. The information generated by the latter three projections are used to examine variations in the future size of the Indian population at certain blood quantum thresholds.

All of the data for OTA's population projections were made available by the IHS Program Statistics Branch and the U.S. Bureau of the Census. Insofar as the projection model yields results in actual numbers, OTA advises that they be used cautiously. The data on which OTA's projections are based are presented below along with a description of the four scenarios outlined above. Results for 1985 and each 20-year period after the base year through 2080 are printed in a summary table at the end of this section. Twenty-year periods are used to approximate one generation, though in many areas, a generation in the Indian population may be less than 20 years.

The distribution of the Indian population in the 32 reservation States by age and sex is shown in table 3-6. (Note that the population in table 3-6, 1.3 million, is for 32 States, compared to 1.4 million in all 50 States.) Given the age-specific distribution of fertility shown in table 3-7, one is able to calculate that the total fertility rate is 2.92 (i. e., the number of live births per woman of childbearing age were she to progressively follow throughout her life the birth pattern of each age group). Births to women in age groups less than 15 years old are not included; there were 413 live births to Indian women under 15 living in reservation

Table 3.6.—American Indian and Alaska Native Population for 32 Reservation States, by 5-Year Age Group and Sex, 1980 Census Data

Age	Total	Male	Female
<5	139,529	70,783	68,746
5 to 9	136,361	68,859	67,502
10 to 14 .., . . .	144,882	73,496	71,386
15 to 19	156,749	79,005	77,744
20 to 24	134,769	67,184	67,585
25 to 29	112,519	55,193	57,326
30 to 34	95,949	46,810	49,139
35 to 39, ...	75,169	36,591	38,578
40 to 44	61,983	30,009	31,974
45 to 49	52,134	24,986	27,148
50 to 54	46,307	22,308	23,999
55 to 59	40,313	19,170	21,143
60 to 64	30,711	14,463	16,248
65 to 69 ..., . .	25,817	11,748	14,069
70 to 74	18,076	8,062	10,014
75 to 79 .., . . .	12,476	5,587	6,889
80 to 84	6,367	2,619	3,748
>85	5,339	2,126	3,213
Total	1,295,450	638,999	656,451

SOURCE U S Department of Health and Human Services, Public Health Service, Health Resources and Services Administration, Indian Health Service, Population Statistics Staff, September 1985, (0062K)/p 15

Table 3-7.—Age-Specific Fertility Rates for American Indians and Alaska Natives by Age of Mother, Reservation States, 1980-82

Age of mother	Live births	Female population	Age-specific fertility rate
15 to 19	23,746	231,195	0.5135
20 to 24	39,764	199,239	0.9980
25 to 29	25,672	168,981	0.7595
30 to 34	12,170	144,327	0.4215
35 to 39	4,062	113,089	0.1795
40 to 44	834	93,873	0.0445
45 to 49	41	79,705	0.0025

SOURCE U S. Department of Health and Human Services, Public Health Service, Health Resources and Services Administration, Indian Health Service, Vital Events Staff, Apr 2, 1985 (262K)

States from 1980 to 1982. Survival rates for males and females are computed as the proportion of individuals in each age group at one point in time who survive into the next age group and time period. Survival rates for the Indian population are included in table 3-8. Information to calculate survival rates is available in "life tables" computed from vital statistics. For example, the Indian male survival rate in the 15 to 19 age group equals *97,518* divided by 97,792 or 0.99, which indicates that 99 percent of the males aged 10 to 14 can be expected to survive to the next age group, 15 to 19. (Numerical results by selected

Table 3-8.—Number of American Indians and Alaska Natives in 28 Reservation States, Living at Beginning of Age Interval of 100,000 Born Alive, 1979-81

Age group	Males	Females
<5	98,478	98,705
5 to 9	98,037	98,326
10 to 14	97,792	98,159
15 to 19	97,518	98,022
20 to 24	96,274	97,605
25 to 29	94,152	96,966
30 to 34	92,053	96,170
35 to 39	90,061	95,227
40 to 44	87,597	94,050
45 to 49	84,519	92,345
50 to 54	80,971	90,245
55 to 59	76,614	87,473
60 to 64	70,853	84,355
65 to 69	63,546	79,599
70 to 74	54,922	73,043
75 to 79	45,531	65,525
80 to 84	35,924	57,266
>85	26,748	45,589

SOURCE US Department of Health and Human Services, Public Health Serv. ice Service, Health Resources and Services Administration, Indian Health Service, Indian Health Service, Vital Events Staff, "American Indian and Alaska Native Life Expectancy 1979-1981,' June 1984

age group, sex, and total population are presented later in table 3-9 for all four projections.)
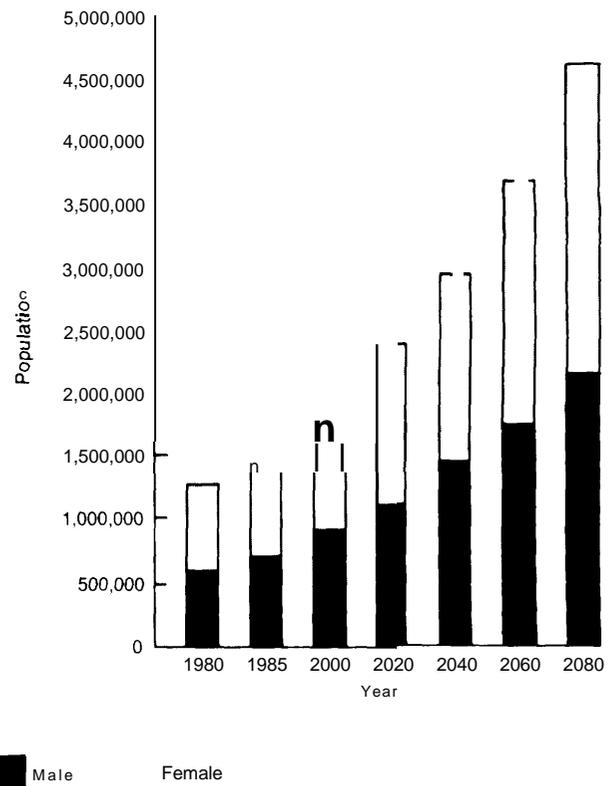
Scenario I

As a lower bound, assuming a 100 percent blood quantum (all Indians are full-blooded) in the base year and presuming that all births result from unions of Indians with Indians, the 1980 Indian population of 1.3 million doubles in about **45** years and grows to roughly **4.6** million Indians in **2080.** The unrealistic aspects of this scenario are that all Indians in 1980 were not full-blooded, and the effect of out-unions is not captured. Subsequent scenarios use assumptions that come progressively closer to representing existing factors likely to influence Indian population growth. One factor is the rate of births resulting from the pairing of Indians and non-Indians which, when they have children, have considerable potential to increase the number of Indian descendants. Another factor that we try to account for is the dilution of Indian blood quantum on average that naturally occurs with intermarriage. Recall that the use of "marriage rate" and "outmarriage rate" or "out-union" rate is meant to represent "unions-potential for births, " not actual marriages. These "rates" are used to determine potential popula-

tions of females to which the fertility rates will be applied to calculate births (see figure 3-19).

Scenario II

We assume again that all Indians are full-blooded in the base year but use an outmarriage rate of 53 percent as reported by the Bureau of the Census for **1980** to assign offspring to one of nine blood quantum groups. For example, the child of two full-blooded Indians remains in the same blood quantum group as his or her parents; the child born of a mother who is one-quarter Indian and a father who is one-half is assigned to the three-eighths group. Assignment of offspring to specific blood quantum groups works correspondingly for succeeding generations. Under the assumptions of Scenario II, doubling occurs more quickly than in Scenario I, in roughly two generations, shortly after the year 2000. Over the

Figure 3.19.—OTA Population Projection Scenario 1: No Outmarriage

Male   Female

SOURCE Off Ice of Technology Assessment

Table 3-9.—Age-Focused Population Projection Summary
All Indians and Indian Descendants, Selected Years, 1980.2080

	Projection year						
	1980	1985	2000	2020	2040	2060	2080
Scenario 1:							
Females:							
<5	**68,746**	**88,219**	**96,872**	**128,134**	**156,038**	**192,632**	**242,153**
15 to 49 ...,	**349,494**	**386,945**	**471,487**	**573,843**	**729,875**	**913,817**	**1,134,337**
>60	**54,181**	**63,248**	**90,591**	**162,259**	**216,461**	**275,675**	**344,537**
Total females	656,451	722,136	927,549	1,213,497	1,527,602	1,901,854	2,375,910
Males:							
<5	70,783	91,819	100,826	133,364	162,407	200,495	252,037
15 to 49	339,778	376,180	459,897	570,454	726,685	909,324	1,129,211
>60	44,605	48,332	58,589	98,319	127,190	168,897	210,712
Total males.	638,999	697,196	880,879	1,139,494	1,429,027	1,785,740	2,230,092
Both sexes:							
<5	139,529	180,038	197,698	261,498	318,445	393,127	494,190
15 to 49 ...,	689,272	763,125	931,384	1,144,297	1,456,560	1,823,141	2,263,548
>60	98,786	111,580	149,180	260,578	343,651	444,572	555,249
Total both sexes	1,295,450	1,419,332	1,808,428	2,352,991	2,956,629	3,687,594	4,606,002
Scenario ii:							
Females:							
<5	68,746	134,975	148,214	294,353	494,497	812,098	1,325,201
15 to 49 ...,	349,494	386,945	516,788	831,448	1,462,830	2,522,578	4,259,294
>60	54,181	63,248	90,591	162,259	216,461	398,248	689,583
Total females	656,451	768,892	1,126,293	1,890,643	3,158,066	5,358,944	9,054,242
Males:							
<5	70,783	140,484	154,263	306,367	514,680	845,245	1,379,293
15 to 49	339,778	376,180	506,762	832,157	1,466,109	2,524,929	4,264,264
>60	44,605	48,332	58,589	98,319	127,190	249,578	435,220
Total males.	638,999	745,861	1,087,193	1,837,183	3,085,888	5,247,613	8,861,834
Both sexes:							
<5	139,529	275,459	302,477	600,720	1,009,177	1,657,343	2,704,494
15 to 49	689,272	763,125	1,023,550	1,663,605	2,928,939	5,047,507	8,523,558
>60	98,786	111,580	149,180	260,578	343,651	647,826	1,124,803
Total both sexes	1,295,450	1,514,753	2,213,466	3,727,826	6,243,954	10,606,557	17,916,076
Percent one-half or more	100.0	100.0	100.0	81.2	56.9	32.9	15.7
Percent one-fourth or more	100.0	100.0	100,0	100.0	92.3	75.7	55.2
Scenario III:							
Females:							
<5	68,746	134,973	148,216	287,217	464,419	715,609	1,076,408
15 to 49,	349,494	386,946	516,790	830,222	1,437,144	2,404,500	3,847,954
>60	54,181	63,330	90,637	162,259	216,461	398,251	677,794
Total females	656,451	768,974	1,126,342	1,872,653	3,068,394	5,025,108	7,991 ,378
Males:							
<5	70,783	140,485	154,264	298,941	483,374	744,817	1,120,344
15 to 49	339,778	376,181	506,764	830,887	1,439,816	2,405,154	3,847,892
>60	44,605	48,333	58,588	98,318	127,192	249,579	427,029
Total males.	638,999	745,860	1,087,175	1,818,491	2,993,081	4,904,347	7,775,828
Both sexes:							
<5	139,529	275,458	302,479	586,157	947,793	1,460,425	2,196,753
15 to 49.	689,272	763,126	1,023,552	1,661,114	2,876,962	4,809,655	7,695,846
>60	98,786	111,659	148,227	260,577	343,653	647,827	1,104,823
Total both sexes	1,295,450	1,514,834	2,213,517	3,691,144	6,061,475	9,929,455	15,767,206
Percent one-half or more	86.9	83.8	77.8	57.4	36.1	18.8	8.2
Percent one-fourth or more	96.4	95.3	93.4	87.4	76.0	58.8	41.1

Table 3-9.—Age-Focused Population Projection Summary
All Indians and Indian Descendants, Selected Years, 1980-2080—Continued

	Projection year						
	1980	1985	2000	2020	2040	2060	2080
Scenario IV:							
Females:							
<5	68,746	123,506	135,621	242,350	370,028	550,613	822,205
15 to 49. , ...	349,494	386,947	505,678	766,331	1,242,909	1,961,008	3,001,000
>60	54,181	63,329	90,637	162,259	216,463	368,184	586,391
Total females . . . . , ...	656,451	757,506	1,077,594	1,696,233	2,628,134	4,083,941	6,260,685
Males:							
<5 , ...	70,783	128,546	141,555	252,242	385,130	573,088	855,765
15 to 49. , ...	339,778	376,180	495,269	765,970	1,243,648	1,959,546	2,998,853
>60	44,605	48,332	58,589	98,318	127,191	229,788	367,260
Total males.	638,999	733,923	1,036,574	1,636,630	2,544,988	3,960,277	6,060,519
Both sexes:							
<5	139,529	252,054	276,777	494,593	755,158	1,123,701	1,677,920
15 to 49	689,272	763,126	1,000,947	1,532,303	2,486,556	3,920,556	5,999,857
>60	98,786	111,661	149,227	260,577	343,653	597,974	953,651
Total both sexes	1,295,450	1,491,429	2,114,168	3,332,863	5,173,122	8,044,218	12,321,204
Percent one-half or more	86.9	84.6	80.1	64.7	46,6	29.1	15.6
Percent one-fourth or more	96.4	95.7	94.2	90.5	83.2	71,5	57,6

SOURCE Off Ice of Technology Assessment

next several generations, the one-fourth and less than one-fourth blood groups increase in numbers, becoming the majority of the Indian population in the generation between *2040* and 2060. In 2060, 4.1 percent of Indians are projected to be full-blooded; the blood quantum of 33 percent would be one-half or more. Then by 2080, less than 1 percent of the projected Indian population of 17.9 million would be comprised of surviving full-blooded Indians compared with a majority of descendants whose Indian blood quantum is significantly diminished. In this scenario, the Indian blood quantum of only *16* percent of the total Indian population in *2080* would be one-half or more. Fifty-five percent would be at least one-fourth, and 45 percent of the total would be less than one-fourth (see figure 3-20).
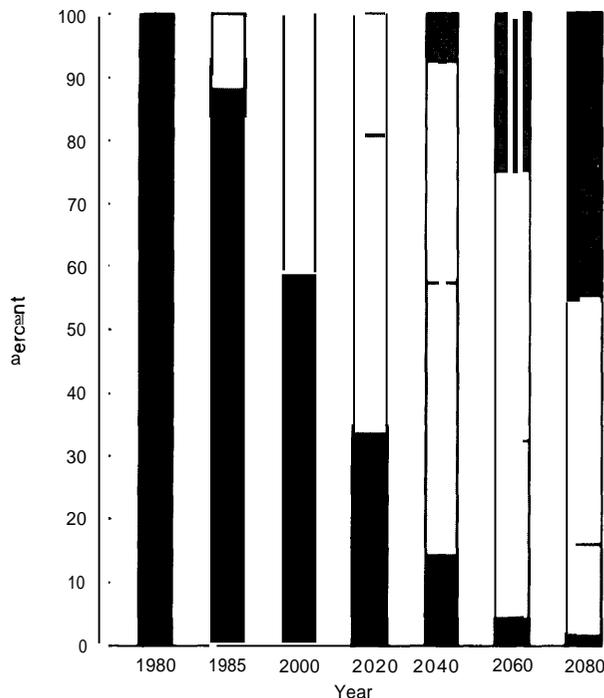
Scenario III

The third scenario assumes a distribution of Indians in the *1980* base year into blood groups reflecting the findings of the *1950* BIA data with an approximated value for Oklahoma. The total Indian population of all age groups are distributed such that *60.2* percent are assumed to be full-blooded, *26.7* percent are one-half, 9.5 percent are one-fourth, and 3.6 percent are less than one-fourth. For each blood group the outmarriage

rates to non-Indians is the same as in Scenario II; we have assumed that the marriage rates, or rather "union" rates which produce children, between Indians in different blood groups are determined by the proportions of Indians of marriageable *age* in each group.

For about two generations, population growth across the four blood quantum groups remains somewhat constant except that in the category of full-blooded Indians, the contribution of inmarriage and reproduction rates is not high enough to keep up with the number being born in lower blood quantum categories. The number of full-blooded Indians declines from *60.2* percent in the base year to 34 percent in 2000, 16 percent in 2020, 6 percent in 2040, to just under 1.5 percent in 2060, and decreases to three-tenths of 1 percent in *2080.* The proportion of persons who are at least one-half Indian grows from 1980 for about three generations and then begins dropping off by the fourth generation. Growth in the lower blood quantum groups increases at a fairly steady rate from the base year and grows quite rapidly three generations into the future. Having started out in 1980 with 13.1 percent of the Indian population being one-fourth or less Indian, by 2040, the Indian blood quantum of the majority of the Indian population, 53 percent, would be one-fourth or less, a transition taking approximately 60 years

Figure 3-20.—OTA Population Projection Distribution of Indian Population by Blood Quantum Scenario II: Outmarriage = 53%, Both Sexes
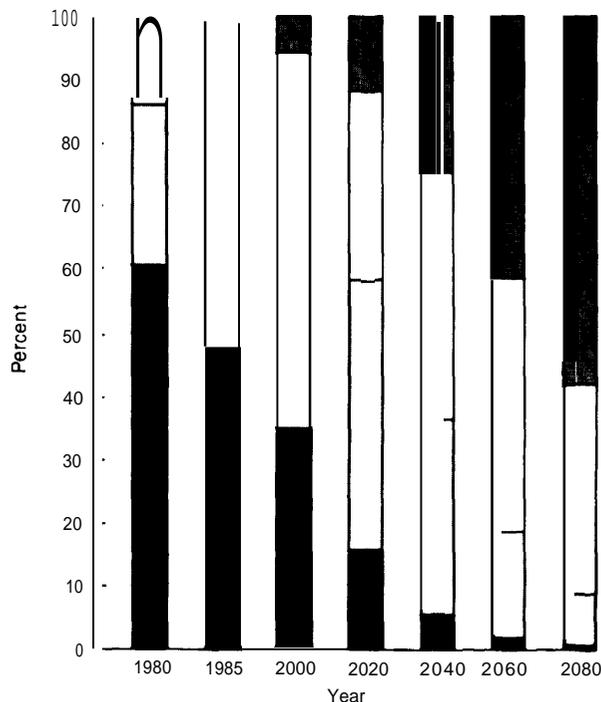

Figure 3-21 .—OTA Population Projection Distribution of Indian Population by Blood Quantum Scenario III: Outmarriage-53%, Base Population Mix, Both Sexes

■ Full blood   ⊔ Half, but not full

▢ One-fourth, but not one-half   ▢ Less than one-fourth

SOURCE Office of Technology Assessment

■ Full blood   Half, but not full

One-fourth, but not one-half   ▨ Less than one-fourth

SOURCE Office of Technology Assessment

from the base year. At that point, surviving individuals born into either the full- or one-half blood quantum group between 1980 and 1985 would be between 60 and 65 years old, well beyond the end of their childbearing years (see figure 3-21).

In terms of the total Indian population, including persons in all nine blood quantum groups, a base population of 1.3 million individuals in 1980 is projected to grow by 71 percent in 20 years and to double by the year 2005 under the assumptions of Scenario III. The much larger population of 2020, some 3.7 million persons, is projected to have grown *67* percent in the 20 years since 2000. Another generation later, the number of Indians is projected to increase 64.2 percent to just over 6 million. Under the assumptions of Scenario 111,

the Indian population is projected to be *4.7* times higher in 2040 than in the base year. By 2060, the Indian population is projected to grow to 9.9 million and reaches 15.8 million by 2080, more than a twelvefold increase from the base year.
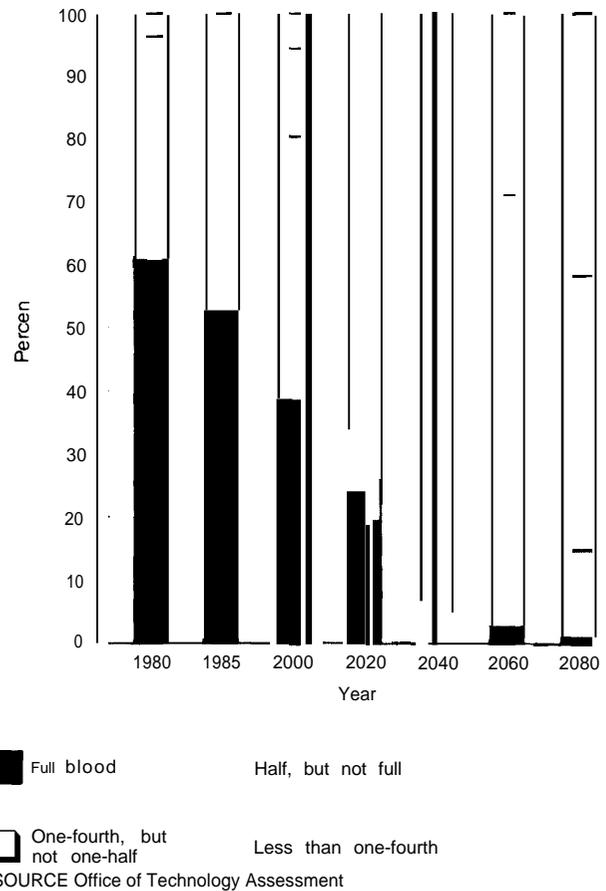
Scenario IV

This scenario attempts to account for births that occur to Indians out of wedlock that might not have been reflected in the census data on marriage. For example, reports from the States of New Mexico and South Dakota show births to unmarried Indian women to be *47* and 62 percent, respectively, of all Indian births in those States (115,116). The proportion of these births that are from Indian versus non-Indian fathers is not

known. In South Dakota, birth data are based on the race of the mother, and no attempt is made to determine the race of the child based on the father's race. Likewise, in New Mexico birth certificates of infants born to single mothers by law contain no information about the father without acknowledgment of paternity. Therefore, data from which an estimate could be drawn of the numbers of children born out of wedlock to Indian and non-Indian fathers are not available.

The only assumption changed in Scenario IV from the assumptions of Scenario 111 is the outmarriage rate, which is lowered to 40 percent. Again, the base population in 1980 is distributed by Indian blood quantum with 60.2 percent of all males and females assumed to be full-blooded, 26.7 percent are one-half, 9.5 percent are one-fourth, and *3.6* percent are less than one-fourth. By 1985, given a *40* percent rate of unions between Indians of all blood quantum groups and non-Indians, the difference in the distribution of the population as compared with Scenario III is minor, and the total Indian population is projected to be only 1.5 percent lower. For approximately three generations, the percentage of individuals in the full and one-half blood quantum groups are slightly higher in Scenario IV compared with Scenario III. By the end of the next two 20-year periods, *2060* and *2080,* the percentages of individuals in the full- and one-half blood quantum groups are about twice as high as in Scenario 111. This indicates that over time, a lower outmarriage rate has a considerable positive effect on the number of Indians with higher degrees of Indian blood. At the 2060 turning point, under Scenario IV there are close to *2.3* million persons in the two lowest blood quantum groups, whereas Scenario III includes roughly 4.1 million persons in the same two groups. The total Indian population in 2060 is projected to be 8 million under Scenario IV and 9.9 million under Scenario III. Under Scenario IV, by 2080 the total number of Indians is projected to have grown to 12,3 million, with 58 percent being of one-fourth or more Indian blood quantum (see figure 3-22), Scenarios III and IV demonstrate sensitivity to the size of the outmarriage rate. There would be more individuals in higher Indian blood quantum groups given lower rates of outmarriage.

Figure 3-22.—OTA Population Projection Distribution of Indian Population by Blood Quantum Scenario IV: Outmarriage-40%, Base Population Mix, Both Sexes

SOURCE Office of Technology Assessment

As shown in table 3-9, the numerical differences between Scenarios 111 and IV are relatively minor for the first two generations following the base year. The projected population under Scenario III is 15 percent higher in *2040, 19* percent higher in *2060,* and 22 percent higher in 2080. Under the assumptions of Scenario IV, the Indian population is projected to grow by a factor of 9.5 from the base year to 12.3 million in 100 years.

Summary and Conclusions

A summary of the four population projections appears in table 3-9, which is organized by selected age groups (less than 5 years; *15* to *49; 60* years and over), sex, and total population for each

of the projection years, and includes the percentages of the total Indian population that are one-half or more and one-fourth or more Indian blood. What is most evident in table 3-9 and the preceding presentation of Scenarios I through IV is that even between *1980* and *2000,* the projected population growth is quite large, ranging from *40* to 71 percent. The projections of Indian population that are farthest into the future are so large numerically that they should be interpreted with caution.

An important point that should be kept in mind when referring to these population projections is that several of the scenarios use assumed distributions of blood quantum in the base year. The use of blood quantum by Indian tribes as one of the bases for determining tribal membership and use of blood quantum to determine eligibility for Federal services are ridden with controversy. Many tribal members are emphatically against the Federal Government's use of a blood quantum standard; and the opposing Government view is that if tribes use blood quantum, then it should be acceptable for the Federal Government to use it in determining eligibility. Indians are the only group of people in this country who use blood quantum to define their members.

The potential effects of imposing a blood quantum eligibility rule on current users of IHS services are serious. There will be many individual situations in which a nationally applied definition of "Indian" for eligibility purposes will mean absolute termination of health care benefits. A complicated situation, illustrated by OTA's population projections, is that there is a growing number of Indian descendants of mixed Indian parentage who may not have enough Indian blood of any particular tribe to qualify for membership. IHS's proposed rule to extend eligibility to nontribal members who are at least one-half Indian is a partial solution.

One can easily think of individual situations where descendants would be unable to meet a stricter eligibility standard while still maintaining strong tribal affiliations. Moreover, eligibility for services to individuals would have to be cut off summarily at some point. Hypothetically, under the proposed rule, a baby born in an IHS facility and requiring expensive intensive care, who was three-eighths Indian and not eligible for membership in his or her tribe, could be liable for the cost of his or her care. Situations such as these could occur on a potentially large scale. Provisions would have to be made to ensure that individuals caught in transition from relatively broad to comparatively strict eligibility rules would not be denied treatment if an eligibility standard based on blood quantum were to be implemented.