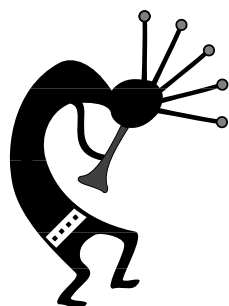


# Regional Differences 1995





INDIAN HEALTH SERVICE

# REGIONAL DIFFERENCES IN INDIAN HEALTH

1995

U.S. DEPARTMENT OF HEALTH  
AND HUMAN SERVICES  
PUBLIC HEALTH SERVICE  
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## PREFACE

Since 1955, the U.S. Public Health Service through its Indian Health Service (IHS) component, has had the responsibility for providing comprehensive health services to American Indian and Alaska Native people in order to elevate their health status to the highest possible level. The mission of the IHS is to provide a comprehensive health services delivery system for American Indians and Alaska Natives with opportunity for maximum tribal involvement in developing and managing programs to meet their health needs.

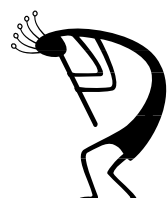
This publication presents tables and charts that describe the IHS program, and the health status of American Indians and Alaska Natives. Information pertaining to the IHS structure, and American Indian and Alaska Native demography and patient care are included. Current regional differences are presented, and comparisons to the general population are made, when appropriate.



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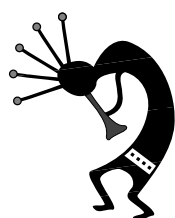
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# OVERVIEW OF THE INDIAN HEALTH SERVICE PROGRAM

The Indian Health Service (IHS) is an agency of the Public Health Service (PHS) within the Department of Health and Human Services. The IHS is responsible for providing Federal health services to American Indians and Alaska Natives. The provision of these services to members of Federally recognized Tribes is based on a special relationship between Indian Tribes and the U.S. Government first set forth in the 1830's by the U.S. Supreme Court. This relationship has been reconfirmed by numerous treaties, laws, constitutional provisions, court decisions, and executive orders.

The Indian Health program became a primary responsibility of the PHS under P.L. 83-568, the Transfer Act, on August 5, 1954. This Act provides "that all functions, responsibilities, authorities, and duties ... relating to the maintenance and operation of hospital and health facilities for Indians, and the conservation of Indian health ... shall be administered by the Surgeon General of the United States Public Health Service."

The IHS goal is to raise the health status of American Indians and Alaska Natives to the highest possible level. The mission is to provide a comprehensive health services delivery system for American Indians and Alaska Natives with opportunity for maximum Tribal involvement in developing and managing programs to meet their health needs. It is also the responsibility of the IHS to work with the people involved in the health delivery programs so that they can be cognizant of entitlements of Indian people, as American citizens, to all Federal, State, and local health programs, in addition to IHS and Tribal services. The IHS also acts as the principal Federal health advocate for American Indian and Alaska Native people in the building of health coalitions, networks, and partnerships with Tribal nations and other government agencies as well as with non-Federal organizations, e.g., academic medical centers and private foundations.

The IHS has carried out its responsibilities through developing and operating a health services delivery system designed to provide a broad-spectrum program of preventive, curative, rehabilitative and environmental services. This system integrates health services delivered directly through IHS facilities, purchased by IHS through contractual arrangements with providers in the private sector, and delivered through Tribally operated programs and urban Indian health programs.

The 1975 Indian Self-Determination Act, P.L. 93-638 as amended, builds upon IHS policy by giving Tribes the option of manning and managing IHS programs in their communities, and provides for funding for improvement of Tribal capability to contract under the Act. The 1976 Indian Health Care Improvement Act, P. L. 94-437 as amended, was intended to elevate the health status of American Indians and Alaska Natives to a level equal to that of the general population through a program of authorized higher resource levels in the IHS budget. Appropriated resources were used to expand health services, build and renovate medical facilities, and step up the construction of safe drinking water and sanitary disposal facilities. It also established programs designed to increase the number of Indian health professionals for Indian needs and to improve health care access for Indian people living in urban areas.

The operation of the IHS health services delivery system is managed through local administrative units called service units. A service unit is the basic health organization for a geographic area served by the IHS program, just as a county or city health department is the basic health organization in a State health department. These are defined areas, usually centered around a single federal reservation in the continental United States, or a population concentration in Alaska.

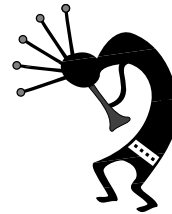
A few service units cover a number of small reservations; some large reservations are divided into a number of service units. The service units are grouped into larger cultural-demographic-geographic management jurisdictions which are administered by Area Offices.



# PURPOSE AND DESCRIPTION OF REGIONAL DIFFERENCES IN INDIAN HEALTH

The IHS Regional Differences in Indian Health attempts to fulfill the basic statistical information requirements of parties that are interested in the IHS, and its relationship with the American Indian and Alaska Native people. The tables and charts contained in the IHS Regional Differences in Indian Health describe the IHS program, and the health status of American Indians and Alaska Natives. Information pertaining to the IHS structure, and American Indian and Alaska Native demography and patient care are included. Current regional differences are depicted, and comparisons to the general population are made, when appropriate. Historical trend information can be found in the IHS companion publication called Trends in Indian Health.

The tables and charts are grouped into five major categories: 1) IHS Structure, 2) Population Statistics, 3) Natality and Infant/Maternal Mortality Statistics, 4) General Mortality Statistics, and 5) Patient Care Statistics. The tables provide detailed data, while the charts show significant relationships. A table and its corresponding chart appear next to each other. However, some charts that are self-explanatory do not have a corresponding table. Also, a table may have more than one chart associated with it.



# SUMMARY OF DATA SHOWN

## *Indian Health Service Structure*

The IHS is comprised of 11 regional administrative units called Area Offices. There is also an Office located in Tucson which is responsible for administering health services delivery. For the present statistical purposes, the Tucson Office is also considered an Area Office, thereby making 12 in total. The 12 IHS Area Offices are:

Aberdeen	Nashville
Alaska	Navajo
Albuquerque	Oklahoma
Bemidji	Phoenix
Billings	Portland
California	Tucson

As of October 1, 1994, the Area Offices consisted of 143 basic administrative units called service units. Of the 143 service units, 71 were operated by Tribes. The number of service units ranged from 2 in Tucson to 23 in California.

The IHS operated 40 hospitals, 64 health centers, 5 school health centers, and 50 health stations; while Tribes operated 9 hospitals, 116 health centers, 3 school health centers, 56 health stations, and 167 Alaska village clinics. Both California and Portland had no hospitals while Aberdeen and Phoenix had 8 hospitals each. Tucson had the fewest health centers with 3, and California the most with 33.

## *Population Statistics*

In fiscal year 1993 the IHS user population (count of those American Indians and Alaska Natives who used IHS services at least once during the last 3-year period) was nearly 1.2 million. Tucson (19,707) and Nashville (35,302) had the smallest user populations while Oklahoma (257,421) and Navajo (230,974) had the largest user populations.

The Indian population is younger, less educated and poorer than the U.S. All Races population. For the IHS user population in 1993, 12.3 percent of the persons were under age 5 compared to 7.4 percent for the U.S. All Races population. There was considerable variation by Area with Nashville at 10.2 percent and Alaska at 13.7 percent. According to the 1990 Census, 65.3 percent of Indians (age 25 and older) residing in the current Reservation States are high school graduates or higher compared to 75.2 percent for the U.S. All Races population. For 3 IHS Areas (Tucson, Navajo, and Phoenix), the percentage was less than 60.0 (based on State-level Indian data). The 1990 Census also indicated that the median household income in 1989 for Indians residing in the current Reservation States was \$19,897, while for the U.S. All Races it was \$30,056. Aberdeen had the lowest median household income at \$12,310, and California the highest at \$28,029 (based on State-level Indian data).

## *Natality and Infant/Maternal Mortality Statistics*

The birth rate for American Indians and Alaska Natives residing in the IHS service area was 27.3 (rate per 1,000 population) in 1990-1992. It is 1.7 times the 1991 birth rate of 16.3 for the U.S. All Races population. For the period 1990-1992, there

were 9 maternal deaths in the IHS service area population. Only the Navajo Area (5 deaths) had more than 1 maternal death.

The infant mortality rate for American Indians and Alaska Natives residing in the IHS service area was 9.4 (rate per 1,000 live births) in 1990-1992 compared to 8.9 for the U.S. All Races population in 1991. However, there appears to be underreporting of Indian race on death certificates in at least 3 IHS Areas – California, Oklahoma, and Portland. When these 3 Areas are excluded from the calculation, the IHS infant mortality rate for the 9 remaining Areas is 11.2, 26 percent higher than the U.S. rate. The infant mortality rate varied considerably among these 9 Areas, ranging from 7.1 in Albuquerque to 15.8 in Aberdeen.

### ***General Mortality Statistics***

In 1990-1992, the age-adjusted mortality rate (all causes) for American Indians and Alaska Natives residing in the IHS service area was 598.1 (rate per 100,000 population) compared to 513.7 for the U.S. All Races population in 1991. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 735.3. This is 43 percent greater than the U.S. rate. The Aberdeen Area rate of 1,048.7 is more than double the U.S. rate.

The 2 leading causes of death for the IHS service area population in 1990-1992 were "diseases of the heart" and "accidents and adverse effects." However, this was the order for only 3 of the IHS Areas (Billings, Phoenix, and Tucson). Six (6) IHS Areas (Aberdeen, Bemidji, California, Nashville, Oklahoma, and Portland) had the same 2 leading causes of death as the U.S. All Races population (1991), i.e., "diseases of the heart" and "malignant neoplasms." The leading causes of death were determined without any adjustment for age which is the customary method. However, it should be noted that the age composition of a population does influence its mortality pattern.

For most of the specific causes of death identified in this publication, the 1990-1992 Indian age-adjusted mortality rate (calculated by excluding the 3 IHS Areas with apparent death certificate problems) was greater than the 1991 U.S. All Races rate. There was also considerable variation in the rates among the IHS Areas. However, some of the Area rates need to be interpreted with caution because of the small number of deaths involved. Following is a comparison of the Indian (9 Area) rate to the U.S. rate where there are significant differences.

- 1) alcoholism—674 percent greater
- 2) tuberculosis—480 percent greater
- 3) accidents—265 percent greater
- 4) diabetes mellitus—234 percent greater
- 5) suicide—85 percent greater
- 6) homicide—62 percent greater
- 7) malignant neoplasms—17 percent less
- 8) human immunodeficiency virus (HIV) infection - 82 percent less

### ***Patient Care Statistics***

In FY 1993 there were about 92,000 admissions to IHS and Tribal direct and contract general hospitals. The number of admissions ranged from 522 in California to 20,779 in Navajo. The leading cause of hospitalization in IHS and Tribal direct and contract general hospitals was "obstetric deliveries and complications of puerperium and pregnancy." However, there were 8 IHS Areas with a different leading cause;

Bemidji (circulatory system diseases), Aberdeen, Billings, Nashville, Phoenix, and Tucson (respiratory system diseases), California (mental disorders), and Portland (digestive system diseases).

The total number of ambulatory medical visits (IHS and Tribal direct and contract facilities) was nearly 6.0 million in FY 1993. Tucson had the fewest ambulatory medical visits with 91,648 and Oklahoma had the most with 1,108,459. The leading cause of ambulatory medical visits in IHS and Tribal direct and contract facilities was "supplementary classifications." All IHS Areas had this same leading cause. The "supplementary classifications" category includes such clinical impressions as "other preventive health services," "well child care," "physical examination," "tests only" (lab, x-ray, screening), and "hospital, medical, or surgical follow-up."

In FY 1994, there were nearly 2.6 million dental services provided at IHS and Tribal direct and contract facilities. Two IHS Areas provided 33 percent of the dental services, Oklahoma (463,847) and Navajo (389,646).



## SOURCES AND LIMITATIONS OF DATA

### *Population Statistics*

IHS user population estimates are based on data from the IHS Patient Registration System. Patients who receive direct or contract health services from IHS or Tribally-operated programs are registered in the Patient Registration System. Those registered Indian patients that had at least one direct or contract inpatient stay or outpatient visit or a direct dental visit during the last 3 years are defined as users. The Patient Registration System was first implemented in 1984, and by now is considered to be fairly complete and accurate. It is possible for patients to register at more than one site, but the IHS central computer is programmed to unduplicate registration records within an Area. Those cases that are not clear are sent to the IHS Area Offices as possible duplicates for resolution.

The IHS user population estimates, which are shown in this publication, need to be contrasted with the IHS service population (eligible population) estimates, which are shown in the Trends in Indian Health publication. The service population estimates are based on official U.S. Census Bureau county data. These are self-identified Indians who may or may not use IHS services. IHS service populations between Census years (e.g., 1980 and 1990) are estimated by a smoothing technique in order to show a gradual transition between Census years. This normally results in upward revisions to service population figures projected prior to a Census, since each Census tends to do a better job in enumerating American Indians and Alaska Natives. IHS service populations beyond the latest Census year (1990) are projected through linear regression techniques, using the most current 10 years of Indian birth and death data provided by the National Center for Health Statistics.

IHS user population figures are used for calculating IHS patient care rates. However, since State birth and death certificates do not provide information on use of IHS services, IHS service population figures are used in calculating Indian vital event rates for the IHS service area.

The social and economic data contained in this publication are from the 1990 Census. They reflect the characteristics of persons that self-identified as Indian during the Census.

### *Vital Event Statistics*

American Indian and Alaska Native vital event statistics are derived from data furnished annually to the IHS by the National Center for Health Statistics (NCHS). Vital event statistics for the U.S. population were derived from data in various NCHS publications, as well as from some unpublished data from NCHS. NCHS obtains birth and death records for all U.S. residents from the State departments of health, based on information reported on official State birth and death certificates. The records NCHS provides IHS contain the same basic demographic items as the vital event records maintained by NCHS for all U.S. residents, but with names, addresses, and record identification numbers deleted. It should be noted that Tribal identity is not recorded on these records.

The data are subject to the degree of accuracy of reporting by the States to NCHS. NCHS does perform numerous edit checks, and imputes values for non-responses.

It is known that there is an underreporting of Indian race on State death certificates in the California, Oklahoma, and Portland Areas. Therefore, the indices based on



mortality (i.e., mortality rates, years of productive life lost, and life expectancy at birth) that appear in this publication for these Areas are suspect and should be interpreted with caution. As a result, this publication shows IHS-wide mortality-based rates with and without the data for these 3 Areas. IHS is currently assessing the extent of this problem in other IHS Areas.

Nativity statistics are based on the total file of birth records occurring in the U.S. each year. Mortality statistics are based on the total file of registered deaths occurring in the U.S. each year. Tabulations of vital events for IHS Areas are by place of residence.

The Indian vital event statistics in this publication pertain only to American Indians and Alaska Natives residing in the counties that make up the IHS service area. This contrasts with earlier editions of the Trends in Indian Health publication which showed vital event statistics for all American Indians and Alaska Natives residing in the Reservation States. Calculations done on a Reservation State basis include all counties within the State, even those outside the IHS service area. Reservation State vital event rates tend to be lower in value (i.e., lower birth rates, lower mortality rates) than IHS service area rates. Since prior to 1972, only total Reservation State data are available, Reservation State data need to be used to show trends going back to 1955, the inception of the IHS. However, now that there are sufficient vital event data available for the IHS service area to show meaningful trends, the Trends in Indian Health publication, beginning with the 1992 edition, shows vital event statistics for the IHS service population. The reason for this is that IHS service area data are more indicative of the health status of the Indians that IHS serves.

The Indian population is considerably younger than the U.S. All Races population. Therefore, the mortality rates presented in this publication have been age-adjusted, where applicable, so that appropriate comparisons can be made between these population groups. One exception is the information presented for leading causes of death. In order to determine the leading causes of death for a population group, it is necessary to rank causes of death without any adjustment for age. However, it should be kept in mind that the ranking of causes of death for a population group is affected by its age composition.

The age-adjusted mortality rates presented in this publication were computed by the direct method, that is, by applying the age-specific death rate for a given cause of death to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard to be consistent with NCHS. The rates for the total population and for each race-sex group were adjusted separately, by using the same standard population. The age-adjusted rates were based on 10-year age groups. An age-adjusted rate that was calculated based upon a small number of deaths should be interpreted with caution since the observed rate may be very different from the true underlying rate. This occasionally occurred when an Area rate was calculated for a specific cause of death, e.g., tuberculosis.

Prior to the 1993 edition of this publication, alcoholism deaths were defined through the use of three ICD-9 cause of death code groups; 291-alcoholic psychoses; 303-alcohol dependence syndrome and; 571.0-571.3-alcoholic liver disease. Various IHS Area statisticians and epidemiologists believed this definition to be incomplete and suggested that it be expanded to include five additional ICD-9 code categories. These "new" categories were used for the first time in the 1993 edition. They include; 305.0-alcohol overdose; 425.5-alcoholic cardiomyopathy; 535.3-alcoholic gastritis; 790.3-elevated blood-alcohol level; and E860.0, E860.1-accidental poisoning

by alcohol, not elsewhere classified. This expanded definition results in about a 25 percent increase in the number of alcoholism deaths identified in comparison to the previous 3-group definition. This expanded definition of alcoholism deaths is now used in all IHS publications, including Trends in Indian Health.

### ***Patient Care Statistics***

Patient care statistics are derived from IHS reporting systems. There are four main patient care reporting systems. The Monthly Inpatient Services Report is a patient census report which is prepared by each IHS hospital. It indicates the number of discharges and days by type of service (e.g., adult, pediatric, obstetric, newborn), and is used for the direct inpatient workload statistics. The Inpatient Care System is the source of IHS hospital inpatient data pertaining to various patient characteristics (age, sex, principal diagnoses, other diagnoses, community of residence, etc.). The data are collected daily, one record per discharge. The Contract Care System is the source of similar contract hospital inpatient data.

The Ambulatory Patient Care System is the source of data pertaining to the number of ambulatory medical visits at IHS facilities by various patient characteristics (age, sex, clinical impression, community of residence, etc.). The data are collected daily, one record per ambulatory medical visit. The Contract Care System is the source of similar contract ambulatory medical visit data.

The data from the automated systems are subject to recording, inputting, and transmitting errors. However, the IHS Division of Program Statistics monitors the reporting systems, and each one has a computer edit. In these ways, errors are kept to an acceptable level.

The Dental Data System is the source for dental services data. The system is monitored by IHS Headquarters Dental personnel. The tuberculosis data are based on cases reported to the Centers for Disease Control and Prevention.



## GLOSSARY

**Age-Adjustment** — The application of the age-specific rates in a population of interest to a standardized age distribution in order to eliminate the differences in observed rates that result from age differences in population composition. This adjustment is usually done when comparing two or more populations at one point in time or one population at two or more points in time.

**Area** — A defined geographic region for Indian Health Service (IHS) administrative purposes. Each Area Office administers several service units.

**Average Daily Patient Load** — The average number of patients occupying beds in a hospital on a daily basis. It is calculated by dividing total inpatient days for the year by 365.

**Birth Weight** — Weight of fetus or infant at time of delivery (recorded in pounds and ounces, or grams).

**Cause of Death** — For the purpose of national mortality statistics, every death is attributed to one underlying condition, based on information reported on the death certificate and utilizing the international rules for selecting the underlying cause of death from the reported conditions.

**Contract Care** — Services not available directly from IHS or Tribes that are purchased under contract from community hospitals and practitioners.

**Health Center** — A facility, physically separated from a hospital, with a full range of ambulatory services including at least primary care physicians, nursing, pharmacy, laboratory, and x-ray, which are available at least 40 hours a week for ambulatory care.

**Health Station** — A facility, physically separated from a hospital or health center where primary care physician services are available on a regularly scheduled basis but for less than 40 hours a week.

**Infant Mortality** — Death of live-born children who have not reached their first birthday expressed as a rate (i.e., the number of infant deaths during a year per 1,000 live births reported in the year).

**Life Expectancy** — The average number of years remaining to a person at a particular age and is based on a given set of age-specific death rates, generally the mortality conditions existing in the period mentioned.

**Live Birth** — A live birth is the complete expulsion or extraction from its mother of a product of conception irrespective of the duration of pregnancy, which after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

**Low Birth Weight** — Birth weight of less than five pounds, eight ounces or 2500 grams.

**Maternal Death** — The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

**Neonatal Mortality Rate** — The number of deaths under 28 days of age per 1,000 live births.

**Occurrence** — Place where the event occurred.

**Postneonatal Mortality Rate** — The number of deaths that occur from 28 days to 365 days after birth per 1,000 live births.

**Race** — On death certificates, race is usually recorded by the funeral director who may or not query the family members of the decedent. The race of a newborn does not appear on the birth certificate. In this report if either the mother, or the father, or both parents were recorded as American Indian or Alaska Native on the birth certificate, the birth is considered as an American Indian or Alaska Native birth.

**Reservation State** — A State in which IHS has responsibilities for providing health care to American Indians or Alaska Natives.

**Residence** — Usual place of residence of person to whom event occurred. For births and deaths, residence is defined as the mother's place of residence.

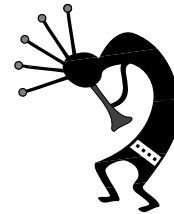
**Service Area** — The geographic areas in which IHS has responsibilities – "on or near" reservations, i.e., contract health service delivery areas.

**Service Population** — American Indians and Alaska Natives identified to be eligible for IHS services.

**Service Unit** — The local administrative unit of IHS.

**User Population** — American Indians and Alaska Natives who have used IHS services at least once during the last 3-year period.

**Years of Productive Life Lost (YPLL)** — A mortality indicator which measures the burden of premature deaths. It is calculated by subtracting the age at death from age 65 and summing the result over all deaths.



## SOURCES OF ADDITIONAL INFORMATION

Additional Indian health status information can be obtained from the IHS Division of Program Statistics. Specific responsibilities are as follows:

### ***General Information:***

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Copies of this and other Division publications may be obtained from Priscilla Sandoval or Monique E. Alston, Division Secretaries.

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# In memory of Marilyn Tulsa, 1944 - 1995

Marilyn Tulsa was a valued employee of the Division of Program Statistics, Indian Health Service, for over 30 years. Marilyn was a member of the Creek Nation of Oklahoma. She retired on January 20, 1995, and passed away in her native State of Oklahoma on April 23, 1995. Marilyn's contributions to raising the health status of the American Indian and Alaska Native population will long live.





# PART I—Indian Health Service Structure

Chart 1.1  
Indian Health Service Area Offices

The Indian Health Service is comprised of 12 regional administrative units called Area Offices. IHS responsibilities extend to all or parts of 35 States known as Reservation States.

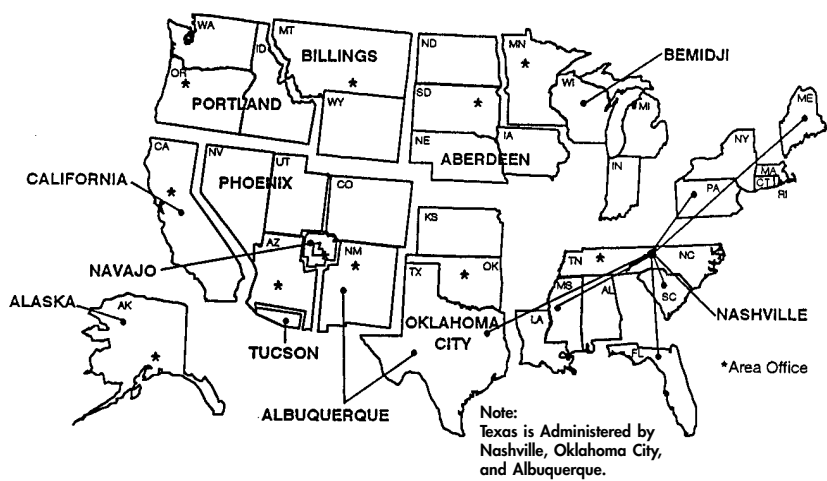


Chart 1.2  
Number of Service Units and  
Facilities

Operated by IHS and Tribes, October 1, 1994

Indian Health Service Operated 40 hospitals, 64 health centers, 5 school health centers, and 50 health stations as of October 1, 1994. Tribes operated 9 hospitals, 116 health centers, 3 school health centers, 56 health stations, and 167 Alaska village clinics as of October 1, 1994.

Type of facility	IHS	Tribal
• Service Units	72	71
• Hospitals	40	9
• Outpatient Facilities	119	342
—Health Centers	64	116
—School Health Centers	5	3
—Health Stations	50	56
—Alaska Village Clinics	—	167



**Chart 1.3**

## **Number of Service Units and Facilities**

Operated by Aberdeen Area and Tribes, October 1, 1994

In the Aberdeen Area, Indian Health Service operated 8 hospitals, 8 health centers, 1 school health center, and 12 health stations as of October 1, 1994. Tribes operated 3 health centers, 2 school health centers, and 2 health stations as of October 1, 1994.

<i>Type of facility</i>	<i>IHS</i>	<i>Tribal</i>
• Service Units	13	3
• Hospitals	8	—
• Outpatient Facilities	21	7
—Health Centers	8	3
—School Health Centers	1	2
—Health Stations	12	2

**Chart 1.4**

## **Number of Service Units and Facilities**

Operated by Alaska Area and Tribes, October 1, 1994

In the Alaska Area, Indian Health Service operated 2 hospitals as of October 1, 1994. Tribes operated 5 hospitals, 14 health centers, and 167 village clinics as of October 1, 1994.

<i>Type of facility</i>	<i>IHS</i>	<i>Tribal</i>
• Service Units	2	7
• Hospitals	2	5
• Outpatient Facilities	—	181
—Health Centers	—	14
—School Health Centers	—	—
—Health Stations	—	—
—Village Clinics	—	167

### Chart 1.5

## Number of Service Units and Facilities

Operated by Albuquerque Area and Tribes, October 1, 1994

In the Albuquerque Area, Indian Health Service operated 5 hospitals, 9 health centers, 1 school health center, and 7 health stations as of October 1, 1994. Tribes operated 3 health centers as of October 1, 1994.

<i>Type of facility</i>	<i>IHS</i>	<i>Tribal</i>
• Service Units	6	1
• Hospitals	5	—
• Outpatient Facilities	17	3
—Health Centers	9	3
—School Health Centers	1	—
—Health Stations	7	—

### Chart 1.6

## Number of Service Units and Facilities

Operated by Bemidji Area and Tribes, October 1, 1994

In the Bemidji Area, Indian Health Service operated 2 hospitals, 2 health centers, and 5 health stations as of October 1, 1994. Tribes operated 13 health centers and 14 health stations as of October 1, 1994.

<i>Type of facility</i>	<i>IHS</i>	<i>Tribal</i>
• Service Units	3	10
• Hospitals	2	—
• Outpatient Facilities	7	27
—Health Centers	2	13
—School Health Centers	—	—
—Health Stations	5	14

**Chart 1.7**

## **Number of Service Units and Facilities**

Operated by Billings Area and Tribes, October 1, 1994

In the Billings Area, Indian Health Service operated 3 hospitals, 6 health centers, and 4 health stations as of October 1, 1994. Tribes operated 3 health centers and 1 health station as of October 1, 1994.

<i>Type of facility</i>	<i>IHS</i>	<i>Tribal</i>
• Service Units	7	1
• Hospitals	3	—
• Outpatient Facilities	10	4
—Health Centers	6	3
—School Health Centers	—	—
—Health Stations	4	1

**Chart 1.8**

## **Number of Service Units and Facilities**

Operated by California Area and Tribes, October 1, 1994

In the California Area, Indian Health Service did not operate any facilities as of October 1, 1994. Tribes operated 33 health centers and 16 health stations as of October 1, 1994.

<i>Type of facility</i>	<i>IHS</i>	<i>Tribal</i>
• Service Units	—	23
• Hospitals	—	—
• Outpatient Facilities	—	49
—Health Centers	—	33
—School Health Centers	—	—
—Health Stations	—	16

## Chart 1.9 Number of Service Units and Facilities

Operated by Nashville Area and Tribes, October 1, 1994

In the Nashville Area, Indian Health Service operated 1 hospital and 1 health station as of October 1, 1994. Tribes operated 1 hospital, 14 health centers, 1 school health center, and 4 health stations as of October 1, 1994.

<i>Type of facility</i>	<i>IHS</i>	<i>Tribal</i>
• Service Units	1	19
• Hospitals	1	1
• Outpatient Facilities	1	19
—Health Centers	—	14
—School Health Centers	—	1
—Health Stations	1	4

## Chart 1.10 Number of Service Units and Facilities

Operated by Navajo Area and Tribes, October 1, 1994

In the Navajo Area, Indian Health Service operated 6 hospitals, 8 health centers, 2 school health centers, and 12 health stations as of October 1, 1994. There were no Tribally-operated facilities as of October 1, 1994.

<i>Type of facility</i>	<i>IHS</i>	<i>Tribal</i>
• Service Units	8	—
• Hospitals	6	—
• Outpatient Facilities	22	—
—Health Centers	8	—
—School Health Centers	2	—
—Health Stations	12	—

**Chart 1.11**

## **Number of Service Units and Facilities**

Operated by Oklahoma Area and Tribes, October 1, 1994

**I**n the Oklahoma Area, Indian Health Service operated 4 hospitals and 12 health centers as of October 1, 1994. Tribes operated 3 hospitals and 18 health centers as of October 1, 1994.

<i>Type of facility</i>	<i>IHS</i>	<i>Tribal</i>
• Service Units	9	2
• Hospitals	4	2
• Outpatient Facilities	12	18
—Health Centers	12	18
—School Health Centers	—	—
—Health Stations	—	—

**Chart 1.12**

## **Number of Service Units and Facilities**

Operated by Phoenix Area and Tribes, October 1, 1994

**I**n the Phoenix Area, Indian Health Service operated 8 hospitals, 6 health centers, 1 school health center, and 7 health stations as of October 1, 1994. Tribes operated 6 health centers and 4 health stations as of October 1, 1994.

<i>Type of facility</i>	<i>IHS</i>	<i>Tribal</i>
• Service Units	9	1
• Hospitals	8	—
• Outpatient Facilities	14	10
—Health Centers	6	6
—School Health Centers	1	—
—Health Stations	7	4

### Chart 1.13

## Number of Service Units and Facilities

Operated by Portland Area and Tribes, October 1, 1994

In the Portland Area, Indian Health Service operated 11 health centers and 1 health station as of October 1, 1994. Tribes operated 8 health centers and 15 health stations as of October 1, 1994.

<i>Type of facility</i>	<i>IHS</i>	<i>Tribal</i>
• Service Units	12	3
• Hospitals	—	—
• Outpatient Facilities	12	23
—Health Centers	11	8
—School Health Centers	—	—
—Health Stations	1	15

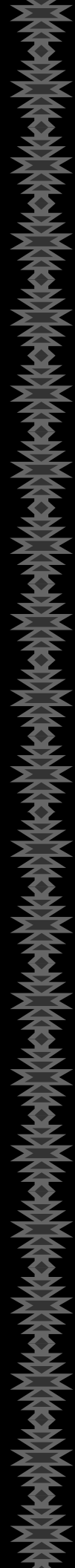
### Chart 1.14

## Number of Service Units and Facilities

Operated by Tucson Area and Tribes, October 1, 1994

In the Tucson Area, Indian Health Service operated 1 hospital, 2 health centers, and 1 health station as of October 1, 1994. There was 1 Tribally-operated health center as of October 1, 1994.

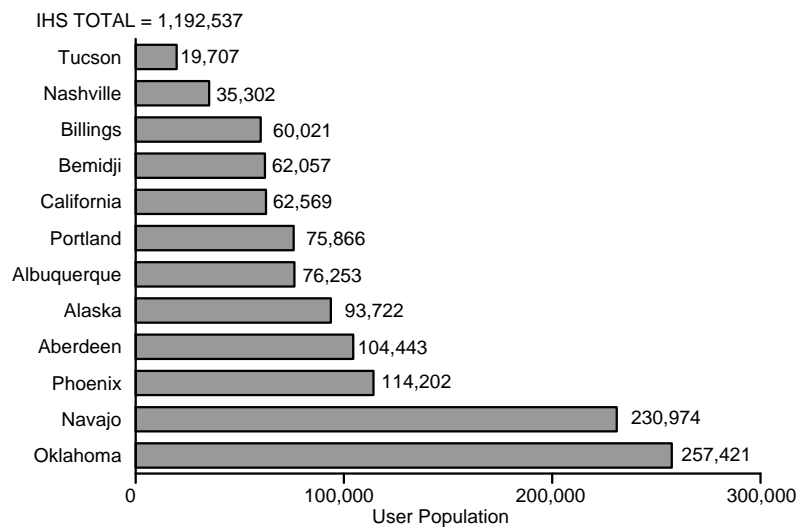
<i>Type of facility</i>	<i>IHS</i>	<i>Tribal</i>
• Service Units	2	—
• Hospitals	1	—
• Outpatient Facilities	3	1
—Health Centers	2	1
—School Health Centers	—	—
—Health Stations	1	—



## PART II—Population Statistics

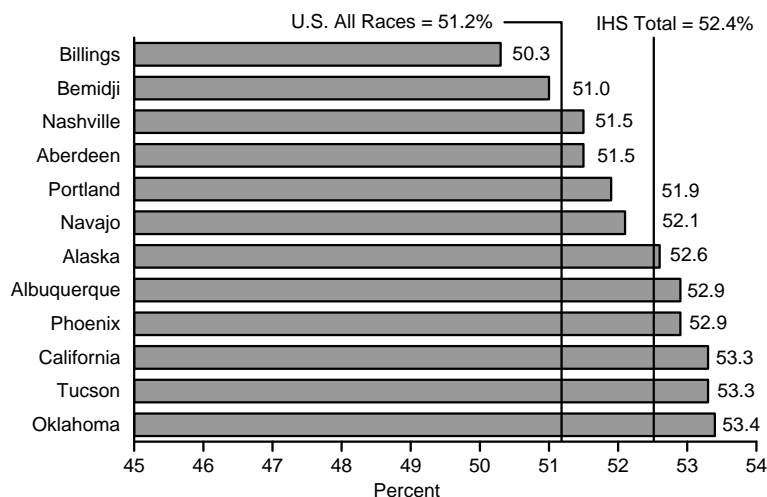
**Chart 2.1**  
**IHS User Population, FY 1993**

In FY 1993, the Indian Health Service user population was nearly 1.2 million. Approximately 41 percent of the user population was concentrated in 2 IHS Areas, Oklahoma and Navajo.



**Chart 2.2**  
**Percent of Females in User Population, FY 1993**

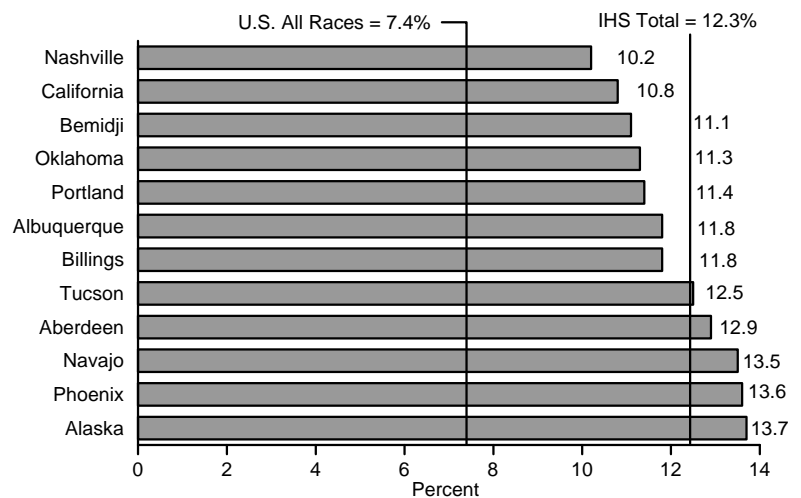
There was a slightly higher percentage of females in 1993 in the IHS user population and the U.S. All Races population. Oklahoma had the highest percentage of females at 53.4.





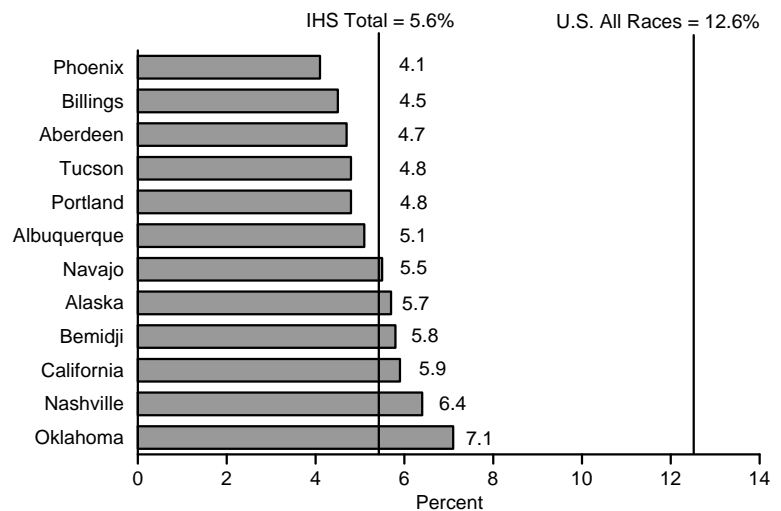
**Chart 2.3**  
**Percent of User Population Under Age 5, FY 1993**

The IHS user population in 1993 was considerably younger than the U.S. All Races population. The Nashville Area, which had the lowest percentage of population under age 5 (10.2), still had a percentage that was nearly 1.4 times the U.S. All Races percentage (7.4).



**Chart 2.4**  
**Percent of User Population Over Age 64, FY 1993**

In 1993, 12.6 percent of the U.S. All Races population was over age 64 compared to 5.6 for the IHS user population. Oklahoma and Nashville had the highest percentages for this age group.

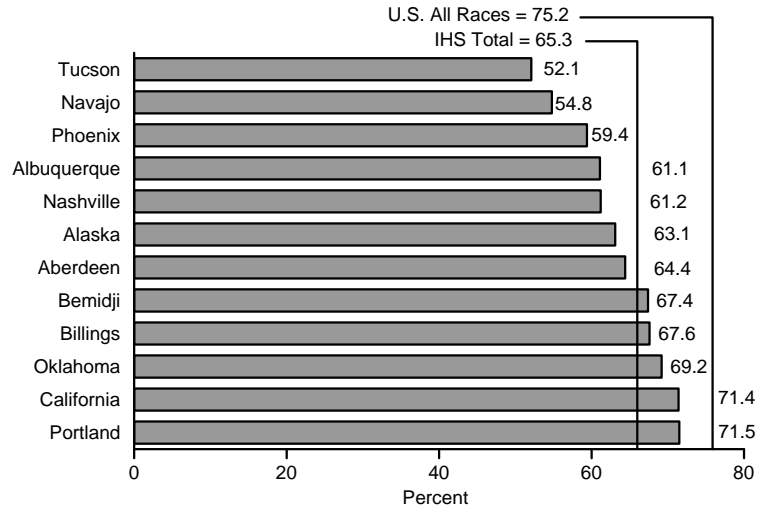


## Chart 2.5

### Percent High School Graduate or Higher, Age 25 and Older

1990 Census State-Level Indian Data

According to the 1990 Census, 65.3 percent of Indians, age 25 and older, residing in the current Reservation States are high school graduates or higher compared to 75.2 percent for the U.S. All Races population. Tucson, Navajo, and Phoenix had percentages less than 60.0.

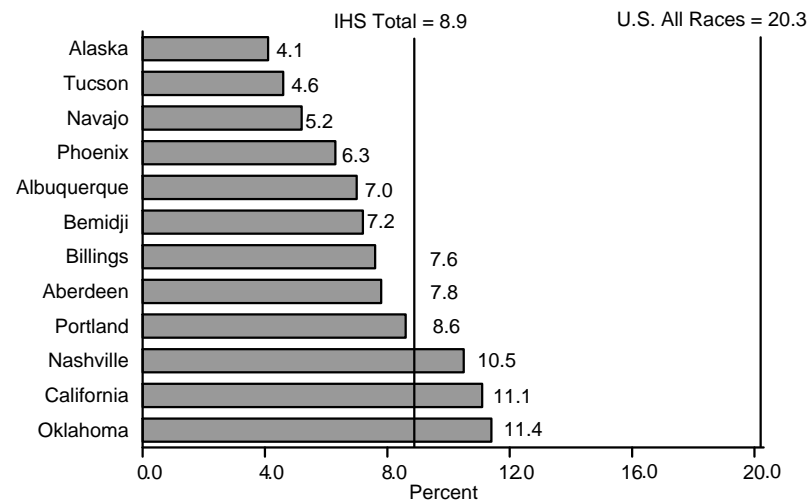


## Chart 2.6

### Percent Bachelor's Degree or Higher, Age 25 and Older

1990 Census State-Level Indian Data

The 1990 Census indicated that 8.9 percent of Indians, age 25 and older, residing in the current Reservation States have a bachelor's degree or higher. This is well below the percentage for the U.S. All Races population of 20.3. The Area percentages ranged from 4.1 in Alaska to 11.4 in Oklahoma.

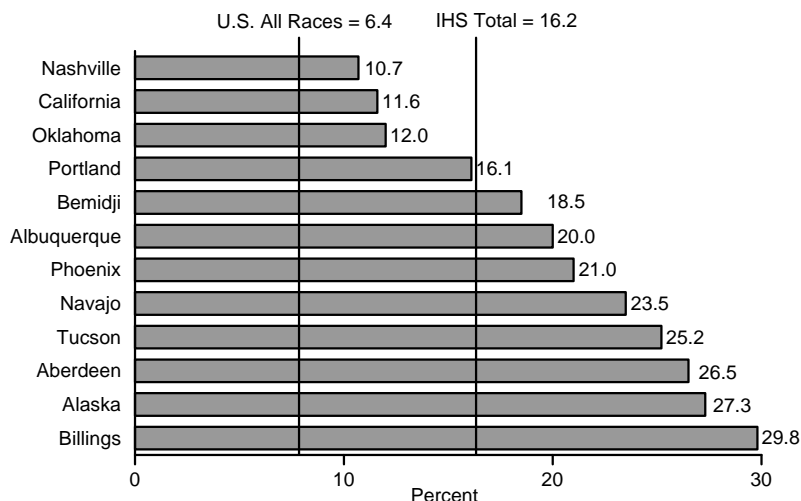


**Chart 2.7**

## **Percent of Males Unemployed, Age 16 and Older**

1990 Census State-Level Indian Data

In 1990, 16.2 percent of Indian males, age 16 and older, residing in the current Reservation States were unemployed compared to 6.4 percent for the U.S. All Races male population. Billings, Alaska, Aberdeen, and Tucson had unemployment rates greater than 25.0 percent.

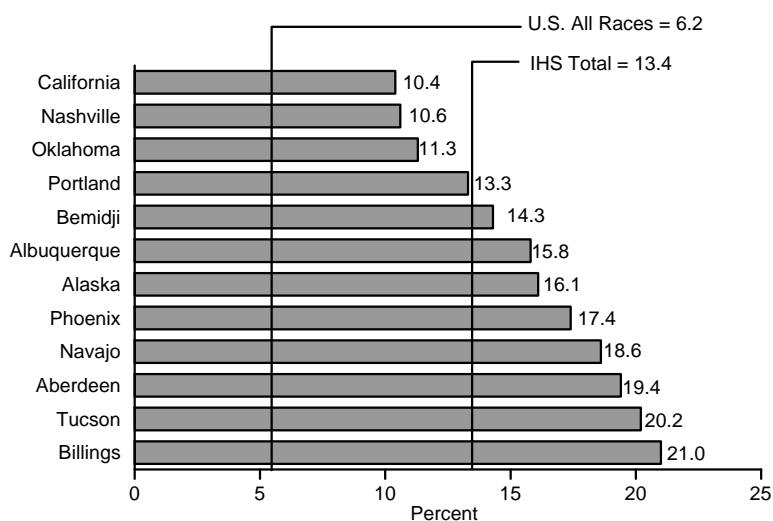


**Chart 2.8**

## **Percent of Females Unemployed, Age 16 and Older**

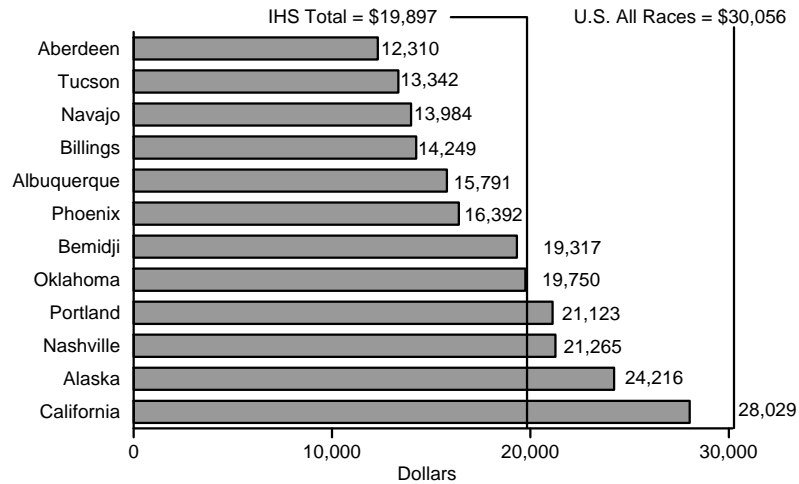
1990 Census State-Level Indian Data

In 1990, 13.4 percent of Indian females, age 16 and older, residing in the current Reservation States were unemployed compared to 6.2 percent for the U.S. All Races female population. The Area unemployment rates ranged from 10.4 in California to 21.0 in Billings.



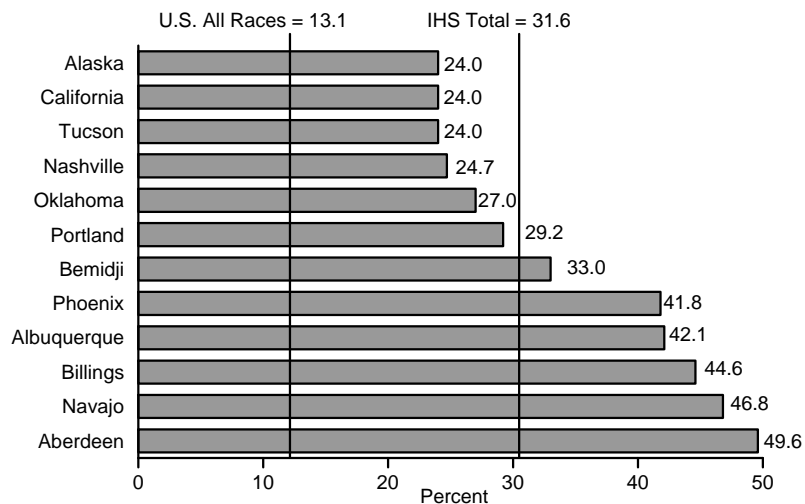
**Chart 2.9**  
**Median Household Income in 1989**  
 1990 Census State-Level Indian Data

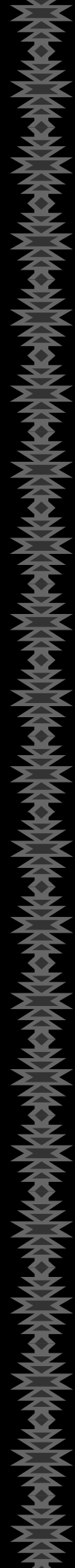
According to the 1990 Census, the median household income in 1989 for Indians residing in the current Reservation States was \$19,897. This is two-thirds of the U.S. All Races figure for 1989 of \$30,056. Aberdeen, Tucson, Navajo, and Billings had median household incomes that were less than half the U.S. figure.



**Chart 2.10**  
**Percent of Population Below Poverty Level**  
 1990 Census State-Level Indian Data

The 1990 Census indicated that 31.6 percent of Indians residing in the current Reservation States were below the poverty level. This is 2.4 times the comparable U.S. All Races figure of 13.1. Aberdeen, Navajo, Billings, Albuquerque, and Phoenix had percentages exceeding 40.0.



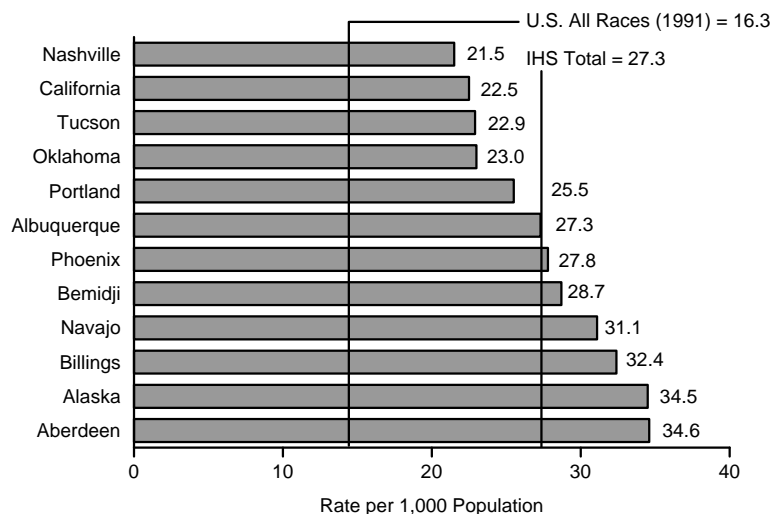


## Part III—Natality and Infant/Maternal Mortality Statistics

**Chart 3.1**  
**Birth Rates**

Calendar Years 1990–1992

The birth rate for the IHS service area population in 1990-1992 was 1.7 times the rate for the U.S. All Races population in 1991, i.e., 27.3 compared to 16.3. Even the IHS Area with the lowest birth rate (Nashville, 21.5) had a rate considerably greater than the U.S. rate (32 percent greater).



**Table 3.1**  
**Number and Rate of Live Births**

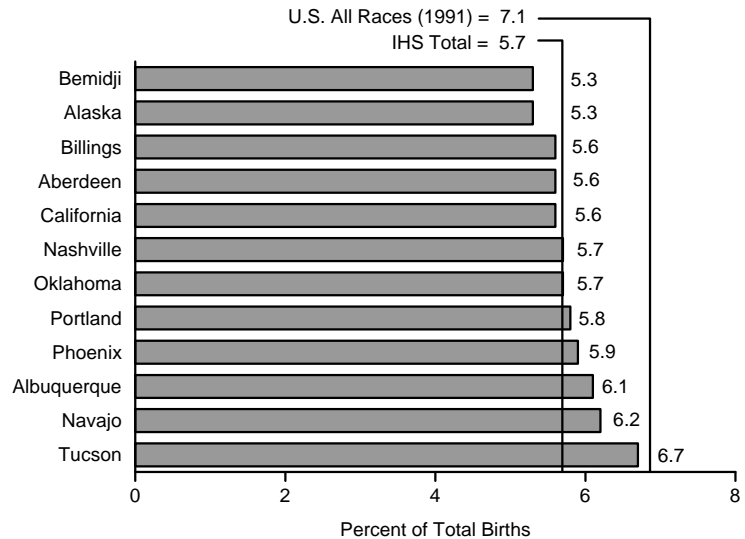
Calendar Years 1990–1992

	Number	Rate <sup>1</sup>
U.S. All Races (1991)	4,110,907	16.3
All IHS Areas	101,531	27.3
Aberdeen	8,270	34.6
Alaska	9,170	34.5
Albuquerque	5,653	27.3
Bemidji	5,399	28.7
Billings	4,683	32.4
California	7,210	22.5
Nashville	3,411	21.5
Navajo	17,306	31.1
Oklahoma	18,425	23.0
Phoenix	10,304	27.8
Portland	9,979	25.5
Tucson	1,721	22.9

<sup>1</sup> Rate per 1,000 population.

**Chart 3.2**  
**Low Weight Births**  
 Calendar Years 1990–1992

For 1990–1992, 5.7 percent of all Indian births in the IHS service area were low weight (less than 2,500 grams) births. This was better than the figure for the U.S. All Races population, i.e., 7.1 percent in 1991. All IHS Areas had relatively fewer low weight births than occurred in the general population.



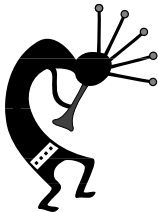
**Table 3.2**  
**Births of Low Weight as a Percent of Total Live Births**  
 Calendar Years 1990–1992

	Total live births <sup>1</sup>	Number low weight <sup>2</sup>	Percent low weight <sup>3</sup>
U.S. All Races (1991)	4,110,907	292,230	7.1
All IHS Areas	101,531	5,824	5.7
Aberdeen	8,270	464	5.6
Alaska	9,170	483	5.3
Albuquerque	5,653	344	6.1
Bemidji	5,399	285	5.3
Billings	4,683	261	5.6
California	7,210	401	5.6
Nashville	3,411	193	5.7
Navajo	17,306	1,066	6.2
Oklahoma	18,425	1,036	5.7
Phoenix	10,304	603	5.9
Portland	9,979	573	5.8
Tucson	1,721	115	6.7

<sup>1</sup> Includes 4,744 U.S. All Races live births and 211 American Indian/Alaska Native live births with birth weight not stated.

<sup>2</sup> Births of less than 2,500 grams.

<sup>3</sup> Percent low weight based on live births with a birth weight reported.

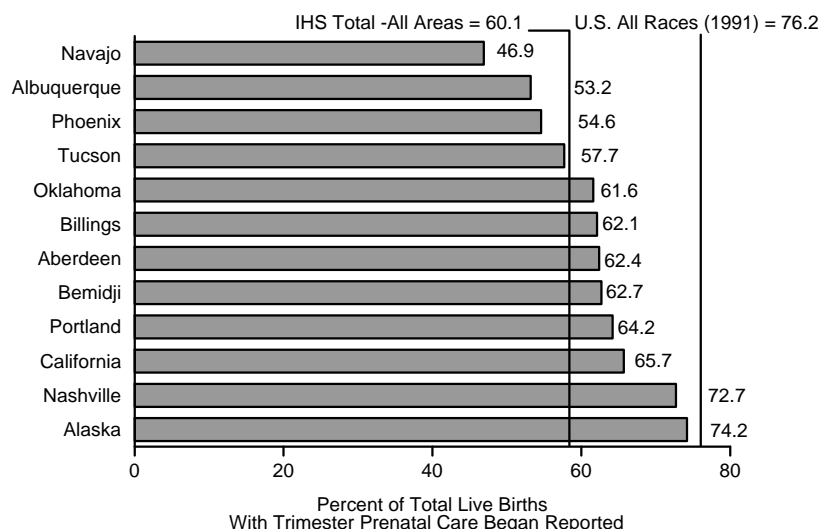


### Chart 3.3

## Live Births With Prenatal Care Beginning in First Trimester

Calendar Years 1990–1992

In 1990-1992, prenatal care began in the first trimester for 60.1 percent of Indian live births for the IHS service area population. This compared to 76.2 percent for the U.S. All Races population in 1991. The percentages varied widely among IHS Areas, ranging from 46.9 for Navajo to 74.2 for Alaska.



### Table 3.3

## Live Births With Prenatal Care Beginning in First Trimester

Calendar Years 1990–1992

	Total live births <sup>1</sup>	Live births with trimester prenatal care began reported	Live births with prenatal care beginning in the first trimester <sup>2</sup>	
			Number	Percent
U.S. All Races (1991)	4,110,907	4,022,985	3,067,495	76.2
All IHS Areas	101,531	99,041	59,498	60.1
Aberdeen	8,270	8,177	5,103	62.4
Alaska	9,170	9,008	6,688	74.2
Albuquerque	5,653	5,345	2,846	53.2
Bemidji	5,399	5,259	3,299	62.7
Billings	4,683	4,659	2,893	62.1
California	7,210	7,148	4,696	65.7
Nashville	3,411	3,354	2,440	72.7
Navajo	17,306	17,038	7,987	46.9
Oklahoma	18,425	17,819	10,980	61.6
Phoenix	10,304	9,935	5,424	54.6
Portland	9,979	9,591	6,156	64.2
Tucson	1,721	1,708	986	57.7

<sup>1</sup> Includes 87,922 U.S. All Races live births and 2,490 American Indian/Alaska Native live births for which trimester of pregnancy that prenatal care began was not reported on the State birth certificate.

<sup>2</sup> Percent based on live births with this information reported.

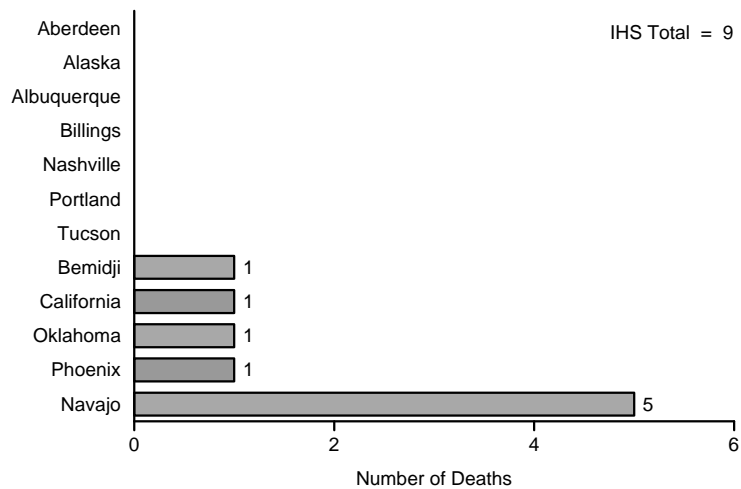


### Chart 3.4

## Maternal Deaths

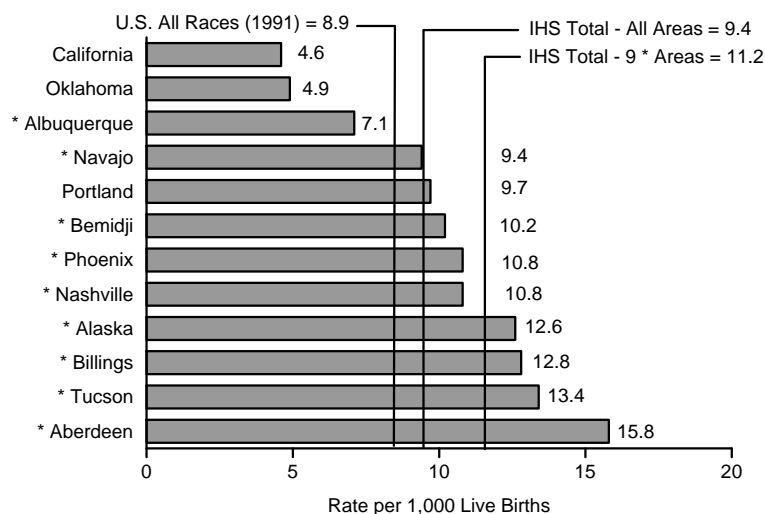
Calendar Years 1990–1992

There were 9 maternal deaths in the IHS service area population in 1990-1992. Only the Navajo Area (5 deaths) had more than 1 maternal death.



**Chart 3.5**  
**Infant Mortality Rates**  
 Calendar Years 1990–1992

The infant mortality rate for the IHS service area population in 1990-1992 was 9.4. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 11.2. This is 26 percent higher than the U.S. All Races rate of 8.9 for 1991. The Aberdeen and Tucson Areas had the highest rates, 15.8 and 13.4, respectively.



**Table 3.5**  
**Infant Mortality Rates**  
**(Under 1 Year)**  
 Calendar Years 1990–1992

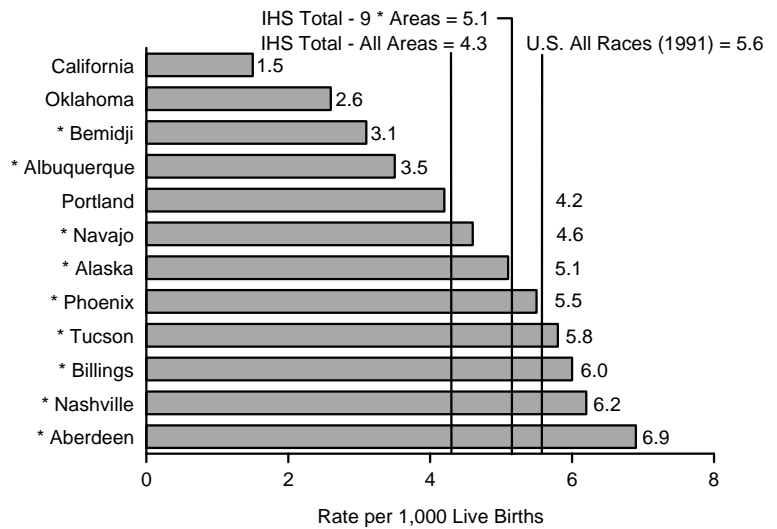
	Live births	Infant deaths	Rate <sup>1</sup>
U.S. All Races (1991)	4,110,907	36,766	8.9
All IHS Areas	101,531	956	9.4
9* Areas <sup>2</sup>	65,917	736	11.2
Aberdeen*	8,270	131	15.8
Alaska*	9,170	116	12.6
Albuquerque*	5,653	40	7.1
Bemidji*	5,399	55	10.2
Billings*	4,683	60	12.8
California	7,210	33	4.6
Nashville*	3,411	37	10.8
Navajo*	17,306	163	9.4
Oklahoma	18,425	90	4.9
Phoenix*	10,304	111	10.8
Portland	9,979	97	9.7
Tucson*	1,721	23	13.4

<sup>1</sup> Rate per 1,000 live births.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

**Chart 3.6**  
**Neonatal Mortality Rates**  
 Calendar Years 1990–1992

The neonatal mortality rate for the IHS service area population in 1990-1992 was 4.3. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 5.1. This is still less than the U.S. All Races rate of 5.6 for 1991. The Aberdeen Area had the highest rate at 6.9.



**Table 3.6**  
**Neonatal Mortality Rates**  
**(Under 28 Days)**  
 Calendar Years 1990–1992

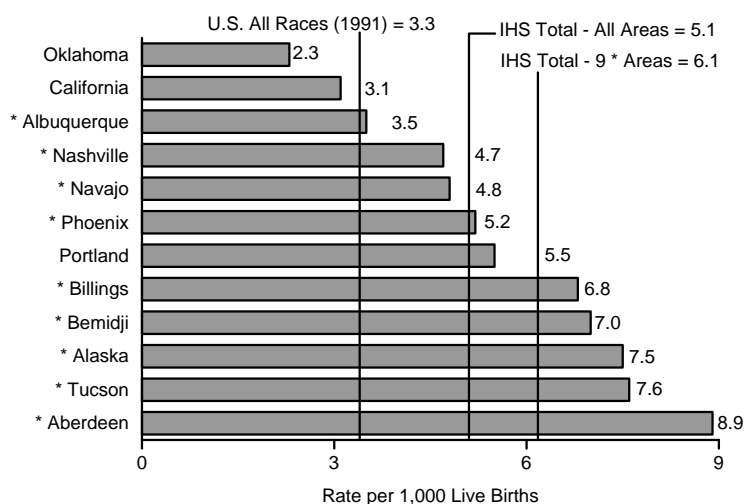
	Live births	Infant deaths	Rate <sup>1</sup>
U.S. All Races (1991)	4,110,907	22,978	5.6
All IHS Areas	101,531	437	4.3
9* Areas <sup>2</sup>	65,917	337	5.1
Aberdeen*	8,270	57	6.9
Alaska*	9,170	47	5.1
Albuquerque*	5,653	20	3.5
Bemidji*	5,399	17	3.1
Billings*	4,683	28	6.0
California	7,210	11	1.5
Nashville*	3,411	21	6.2
Navajo*	17,306	80	4.6
Oklahoma	18,425	47	2.6
Phoenix*	10,304	57	5.5
Portland	9,979	42	4.2
Tucson*	1,721	10	5.8

<sup>1</sup> Rate per 1,000 live births.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

**Chart 3.7**  
**Postneonatal Mortality Rates**  
 Calendar Years 1990–1992

The postneonatal mortality rate for the IHS service area population in 1990-1992 was 5.1. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 6.1. This is 1.8 times the U.S. All Races rate of 3.3 for 1991. The Aberdeen and Tucson Areas had the highest rates, 8.9 and 7.6, respectively.



**Table 3.7**  
**Postneonatal Mortality Rates**  
**(28 Days to Under 1 Year)**  
 Calendar Years 1990–1992

	Live births	Infant deaths	Rate <sup>1</sup>
U.S. All Races (1991)	4,110,907	13,788	3.3
All IHS Areas	101,531	519	5.1
9* Areas <sup>2</sup>	65,917	399	6.1
Aberdeen*	8,270	74	8.9
Alaska*	9,170	69	7.5
Albuquerque*	5,653	20	3.5
Bemidji*	5,399	38	7.0
Billings*	4,683	32	6.8
California	7,210	22	3.1
Nashville*	3,411	16	4.7
Navajo*	17,306	83	4.8
Oklahoma	18,425	43	2.3
Phoenix*	10,304	54	5.2
Portland	9,979	55	5.5
Tucson*	1,721	13	7.6

<sup>1</sup> Rate per 1,000 live births.

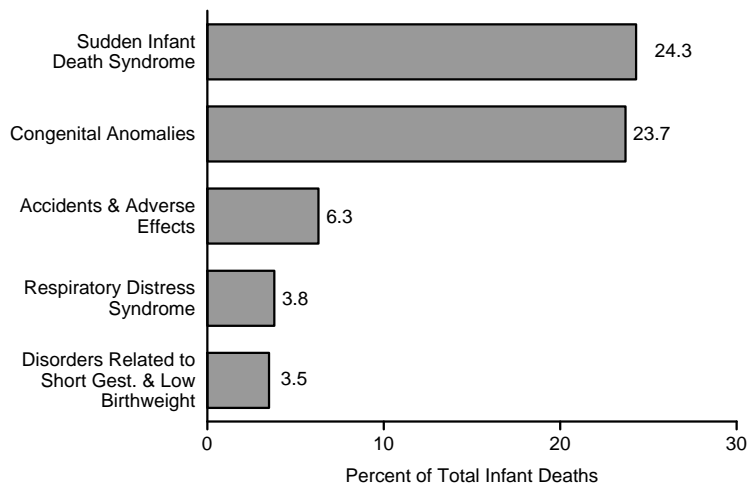
<sup>2</sup> The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

**Chart 3.8**

## Leading Causes of Infant Deaths

All IHS Areas, Calendar Years 1990–1992

In 1990–1992, 24.3 percent of all infant deaths in the IHS service area were caused by sudden infant death syndrome. This was followed by congenital anomalies at 23.7 percent.

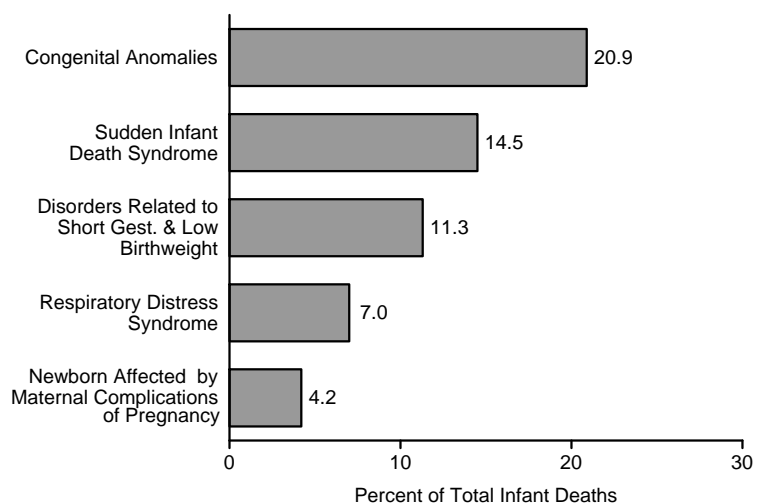


**Chart 3.9**

## Leading Causes of Infant Deaths

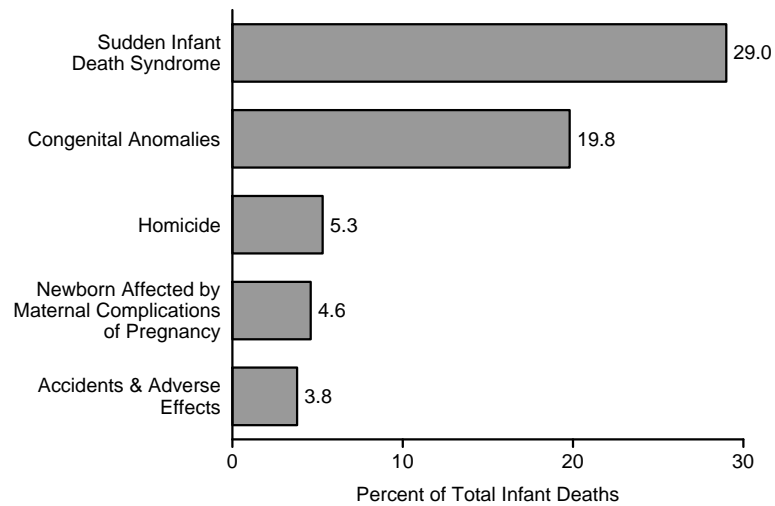
U.S. All Races, 1991

In 1991, 20.9 percent of all infant deaths in the U.S. were caused by congenital anomalies. This was followed by sudden infant death syndrome at 14.5 percent.



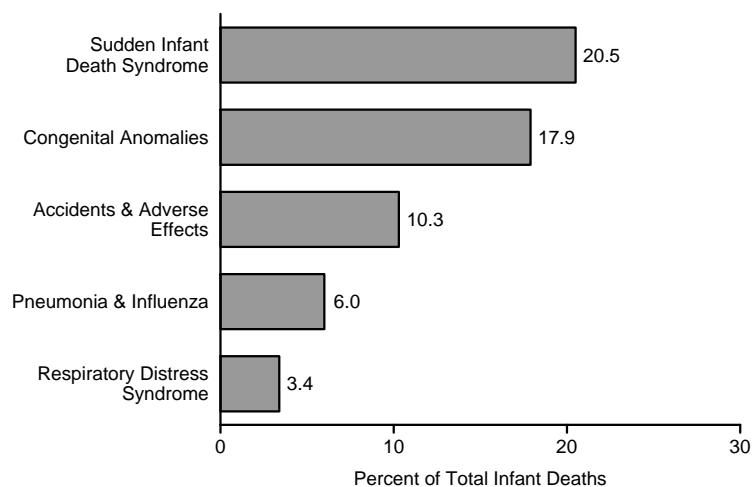
**Chart 3.10**  
**Leading Causes of Infant Deaths**  
 Aberdeen Area, Calendar Years 1990–1992

In 1990-1992, 29.0 percent of all infant deaths in the Aberdeen Area were caused by sudden infant death syndrome. This was followed by congenital anomalies at 19.8 percent.



**Chart 3.11**  
**Leading Causes of Infant Deaths**  
 Alaska Area, Calendar Years 1990–1992

In 1990-1992, 20.5 percent of all infant deaths in the Alaska Area were caused by sudden infant death syndrome. This was followed by congenital anomalies at 17.9 percent.

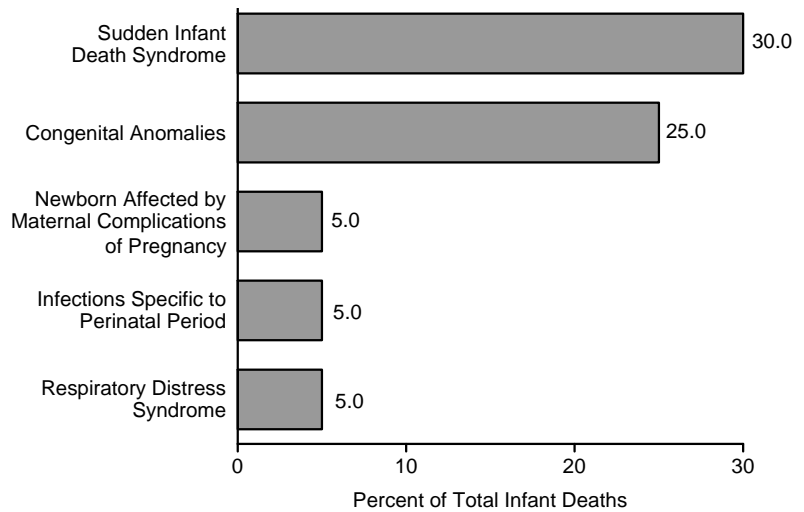


**Chart 3.12**

## **Leading Causes of Infant Deaths**

Albuquerque Area, Calendar Years 1990–1992

In 1990-1992, 30.0 percent of all infant deaths in the Albuquerque Area were caused by sudden infant death syndrome. This was followed by congenital anomalies at 25.0 percent.

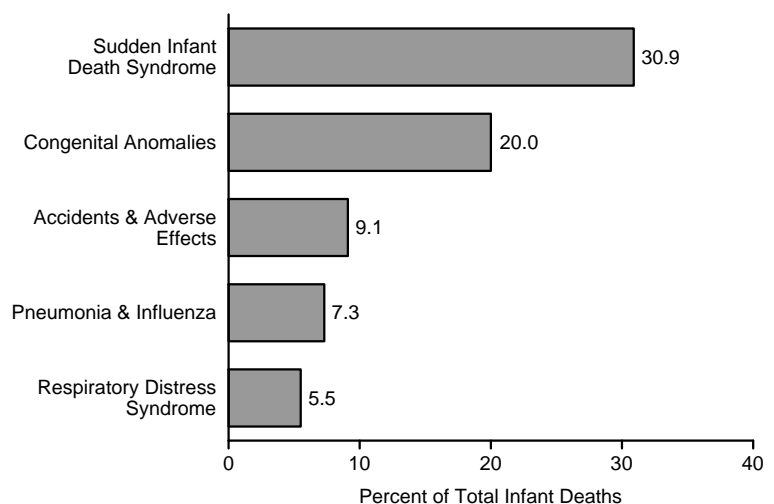


**Chart 3.13**

## **Leading Causes of Infant Deaths**

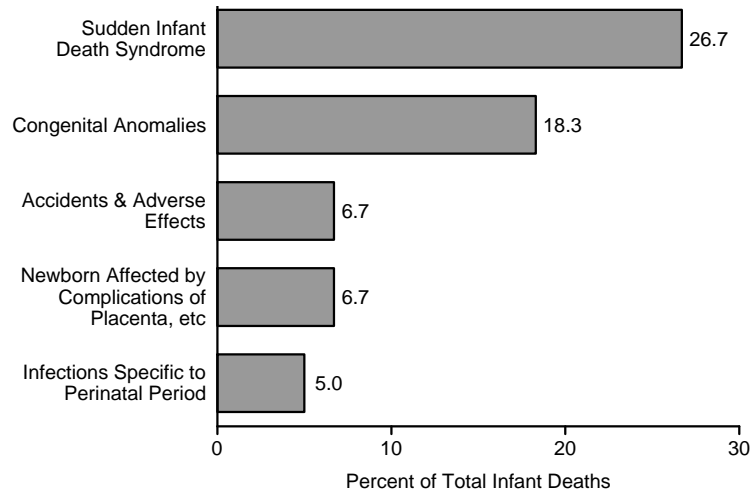
Bemidji Area, Calendar Years 1990–1992

In 1990-1992, 30.9 percent of all infant deaths in the Bemidji Area were caused by sudden infant death syndrome. This was followed by congenital anomalies at 20.0 percent.



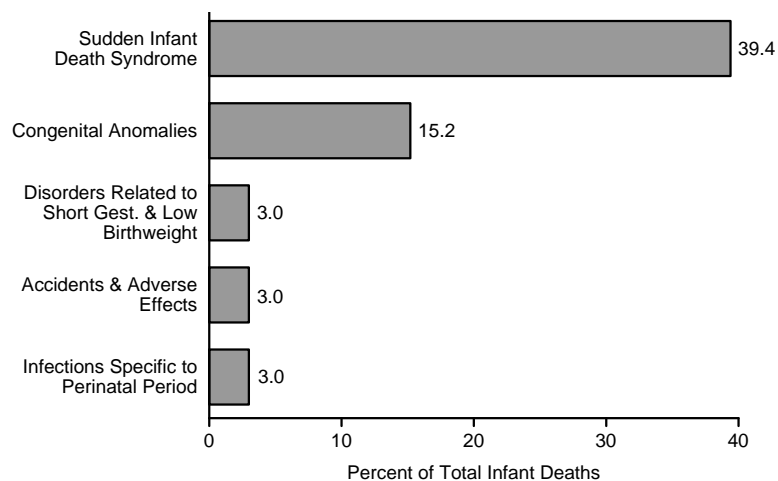
**Chart 3.14**  
**Leading Causes of Infant Deaths**  
 Billings Area, Calendar Years 1990–1992

In 1990-1992, 26.7 percent of all infant deaths in the Billings Area were caused by sudden infant death syndrome. This was followed by congenital anomalies at 18.3 percent.



**Chart 3.15**  
**Leading Causes of Infant Deaths**  
 California Area, Calendar Years 1990–1992

In 1990-1992, 39.4 percent of all infant deaths in the California Area were caused by sudden infant death syndrome. This was followed by congenital anomalies at 15.2 percent.



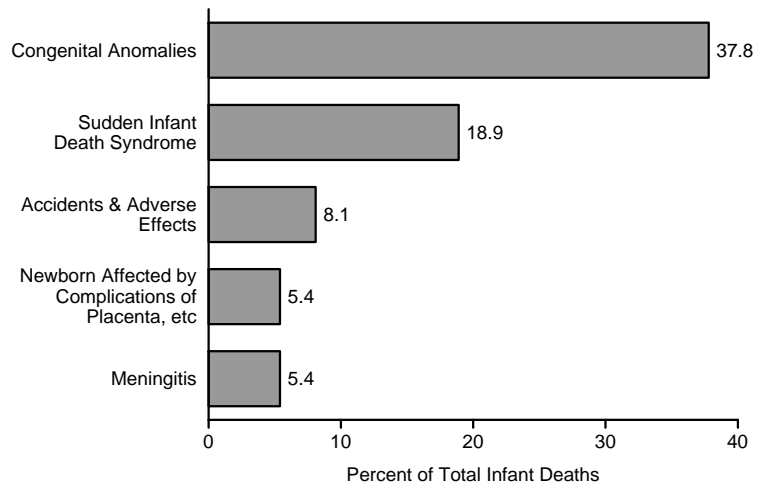


**Chart 3.16**

## **Leading Causes of Infant Deaths**

Nashville Area, Calendar Years 1990–1992

In 1990-1992, 37.8 percent of all infant deaths in the Nashville Area were caused by congenital anomalies. This was followed by sudden infant death syndrome at 18.9 percent.

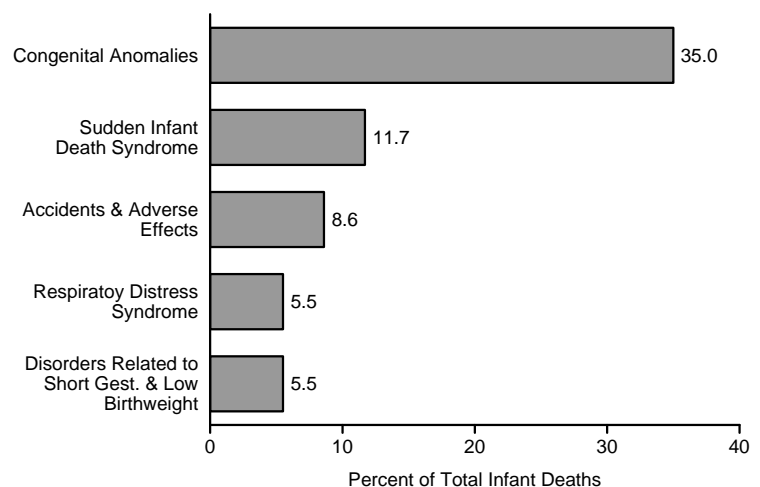


**Chart 3.17**

## **Leading Causes of Infant Deaths**

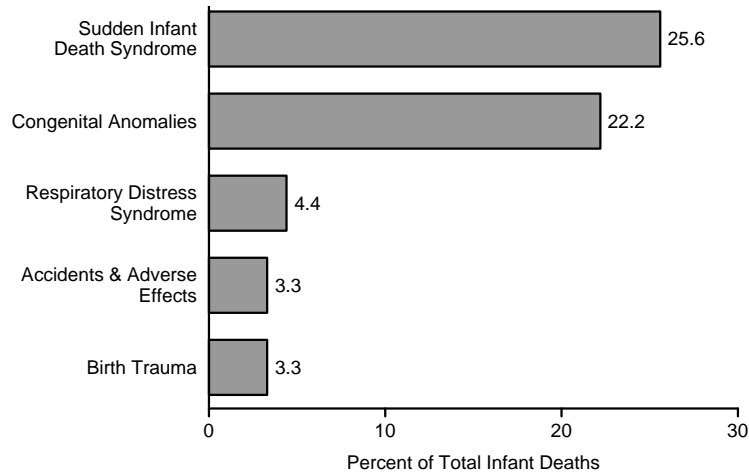
Navajo Area, Calendar Years 1990–1992

In 1990-1992, 35.0 percent of all infant deaths in the Navajo Area were caused by congenital anomalies. This was followed by sudden infant death syndrome at 11.7 percent.



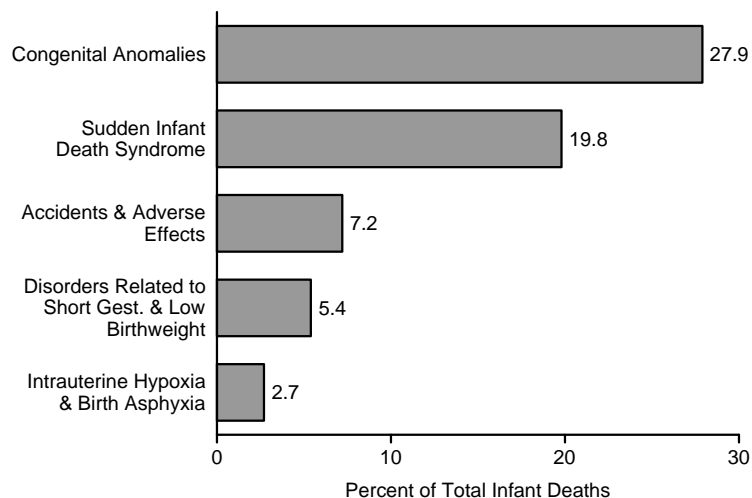
**Chart 3.18**  
**Leading Causes of Infant Deaths**  
 Oklahoma Area, Calendar Years 1990–1992

In 1990-1992, 25.6 percent of all infant deaths in the Oklahoma Area were caused by sudden infant death syndrome. This was followed by congenital anomalies at 22.2 percent.



**Chart 3.19**  
**Leading Causes of Infant Deaths**  
 Phoenix Area, Calendar Years 1990–1992

In 1990-1992, 27.9 percent of all infant deaths in the Phoenix Area were caused by congenital anomalies. This was followed by sudden infant death syndrome at 19.8 percent.

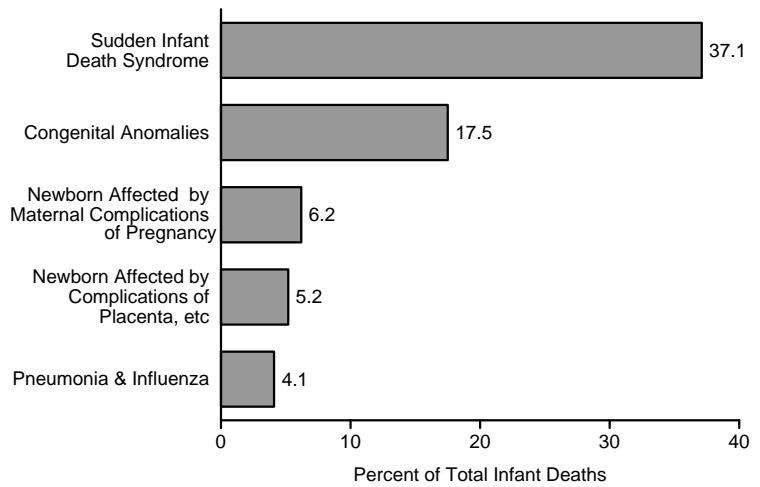


**Chart 3.20**

## Leading Causes of Infant Deaths

Portland Area, Calendar Years 1990–1992

In 1990-1992, 37.1 percent of all infant deaths in the Portland Area were caused by sudden infant death syndrome. This was followed by congenital anomalies at 17.5 percent.

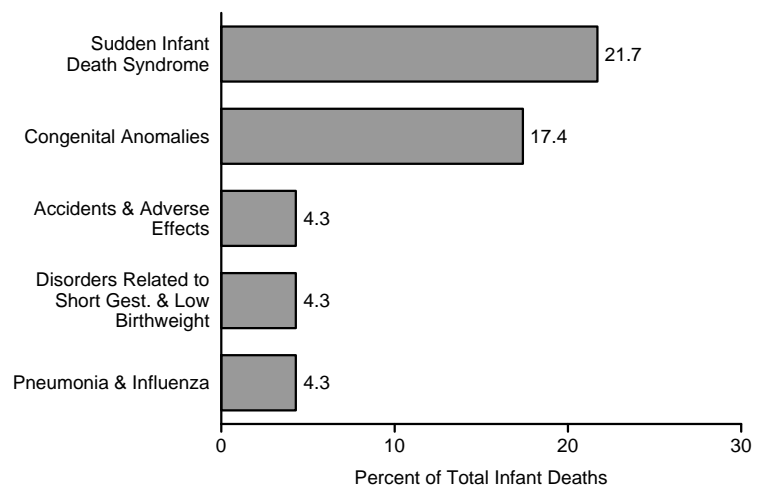


**Chart 3.21**

## Leading Causes of Infant Deaths

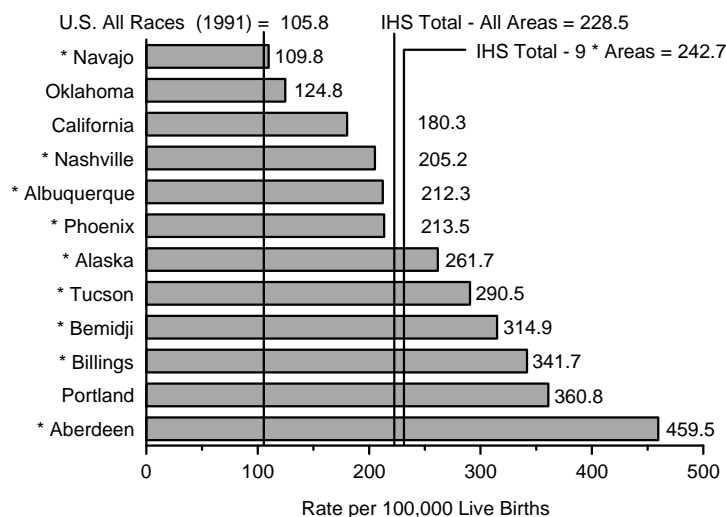
Tucson Area, Calendar Years 1990–1992

In 1990-1992, 21.7 percent of all infant deaths in the Tucson Area were caused by sudden infant death syndrome. This was followed by congenital anomalies at 17.4 percent.



**Chart 3.22**  
**Sudden Infant Death Syndrome Rates**  
 Calendar Years 1990–1992

In 1990-1992, the mortality rate for sudden infant death syndrome (SIDS) for the IHS service area population was over 2 times the rate for the U.S. All Races population in 1991, 228.5 compared to 105.8. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the IHS rate in this instance is only slightly higher (242.7) because of the problem with SIDS in the Portland Area. In the Portland Area, 37 percent of infant deaths were because of SIDS.

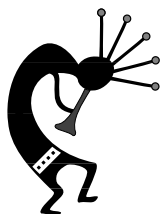


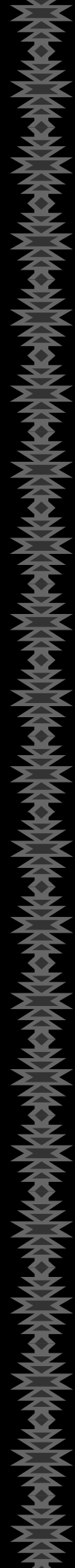
**Table 3.22**  
**Sudden Infant Death Syndrome Rates**  
 Calendar Years 1990–1992

	Infant deaths	Live births	Rate <sup>1</sup>
U.S. All Races (1991)	5,349	4,110,907	105.8
All IHS Areas	232	101,531	228.5
9* Areas <sup>2</sup>	160	65,917	242.7
Aberdeen*	38	8,270	459.5
Alaska*	24	9,170	261.7
Albuquerque*	12	5,653	212.3
Bemidji*	17	5,399	314.9
Billings*	16	4,683	341.7
California	13	7,210	180.3
Nashville*	7	3,411	205.2
Navajo*	19	17,306	109.8
Oklahoma	23	18,425	124.8
Phoenix*	22	10,304	213.5
Portland	36	9,979	360.8
Tucson*	5	1,721	290.5

<sup>1</sup> Rate per 100,000 live births.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

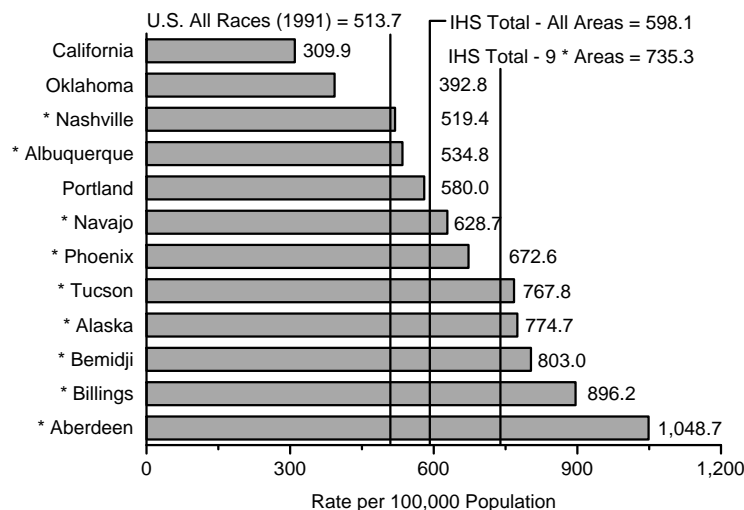




# PART IV—General Mortality Statistics

**Chart 4.1**  
**Age-Adjusted Mortality Rates**  
Calendar Years 1990–1992

In 1990-1992, the age-adjusted mortality rate (all causes) for the IHS service area population was 598.1. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 735.3. This is 43 percent higher than the U.S. All Races rate of 513.7 for 1991. The Aberdeen rate (1,048.7) was more than double the U.S. rate.



**Table 4.1**  
**Age-Adjusted Mortality Rates**  
**(All Causes)**  
Calendar Years 1990–1992

	Total Deaths	Rate <sup>1</sup>
<b>U.S. All Races (1991)</b>	<b>2,169,518</b>	<b>513.7</b>
<b>All IHS Areas</b>	<b>19,425</b>	<b>598.1</b>
9* Areas <sup>2</sup>	13,223	735.3
Aberdeen*	1,921	1048.7
Alaska*	1,746	774.7
Albuquerque*	977	534.8
Bemidji*	1,258	803.0
Billings*	1,016	896.2
California	908	309.9
Nashville*	788	519.4
Navajo*	3,082	628.7
Oklahoma	3,459	392.8
Phoenix*	1,944	672.6
Portland	1,835	580.0
Tucson*	491	767.8

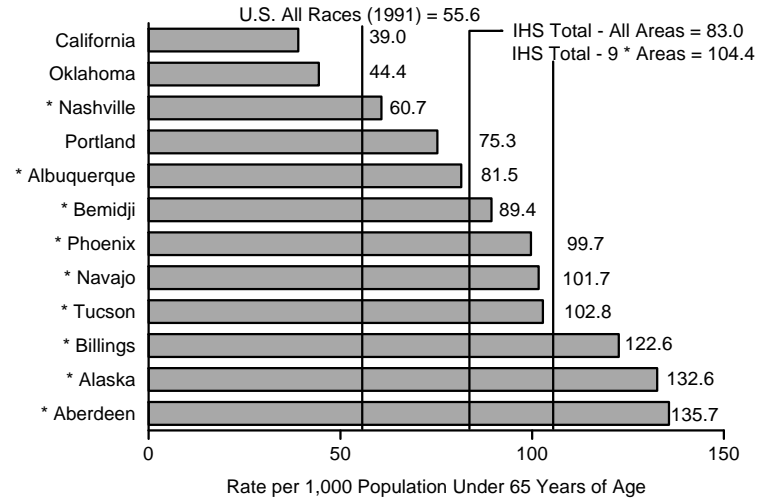
<sup>1</sup> Rate per 100,000 population.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

## Chart 4.2 Years of Productive Life Lost Rates

Calendar Years 1990–1992

In 1990-1992, the years of productive life lost rate (all causes) for the IHS service area population was 83.0. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 104.4. This is nearly double the U.S. All Races rate of 55.6 for 1991. Each of the remaining 9 IHS Areas had a rate greater than the U.S. All Races rate.



## Table 4.2 Years of Productive Life Lost (YPLL) Rates (All Causes)

Calendar Years 1990–1992

	Number of YPLL <sup>1</sup>	Rate <sup>2</sup>
<b>U.S. All Races (1991)</b>	<b>12,565,117</b>	<b>55.6</b>
<b>All IHS Areas</b>	<b>291,269</b>	<b>83.0</b>
9* Areas <sup>3</sup>	218,663	104.4
Aberdeen*	30,870	135.7
Alaska*	33,597	132.6
Albuquerque*	15,984	81.5
Bemidji*	15,906	89.4
Billings*	16,936	122.6
California	11,789	39.0
Nashville*	8,995	60.7
Navajo*	53,745	101.7
Oklahoma	32,721	44.4
Phoenix*	35,329	99.7
Portland	28,096	75.3
Tucson*	7,301	102.8

<sup>1</sup> Years of Productive Life Lost (YPLL) is a mortality indicator which measures the burden of premature deaths. It is calculated by subtracting the age at death from age 65 and summing the result over all deaths.

<sup>2</sup> Rate per 1,000 population under 65 years of age.

<sup>3</sup> The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

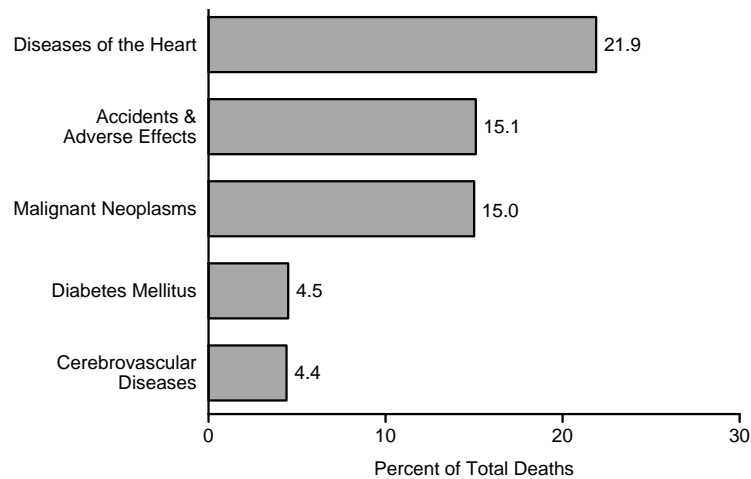


### Chart 4.3

## Leading Causes of Death

All IHS Areas, Calendar Years 1990–1992

In 1990-1992, 21.9 percent of all deaths in the IHS service area were caused by diseases of the heart. This was followed by accidents and adverse effects at 15.1 percent.

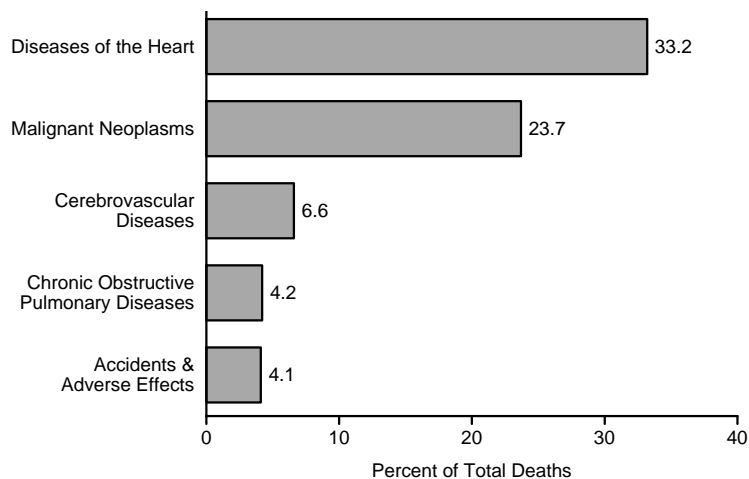


### Chart 4.4

## Leading Causes of Death

U.S. All Races, Calendar Year 1991

In 1991, 33.2 percent of all deaths in the U.S. were caused by diseases of the heart. This was followed by malignant neoplasms at 23.7 percent.



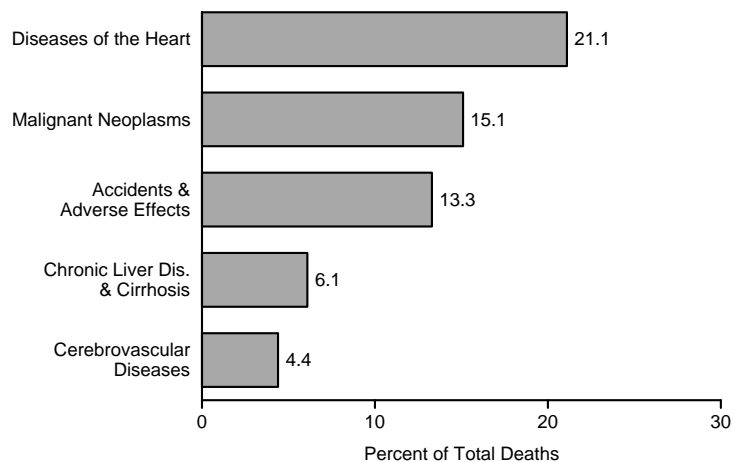


**Chart 4.5**

## **Leading Causes of Death**

Aberdeen Area, Calendar Years 1990–1992

**I**n 1990-1992, 21.1 percent of all deaths in the Aberdeen Area were caused by diseases of the heart. This was followed by malignant neoplasms at 15.1 percent.



**Chart 4.6**

## **Leading Causes of Death**

Alaska Area, Calendar Years 1990–1992

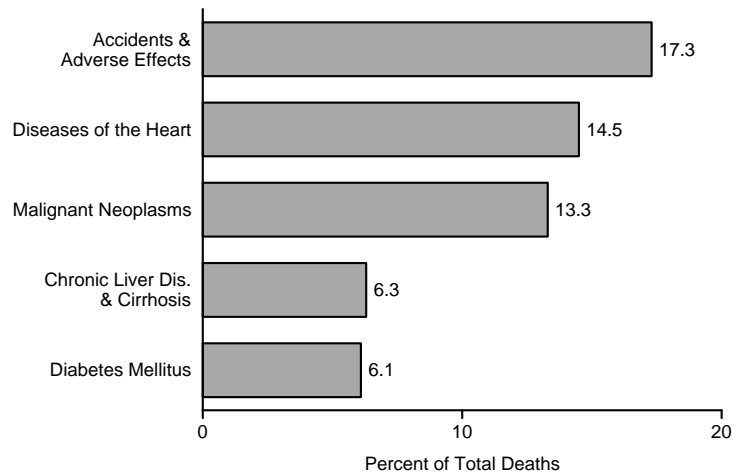
**I**n 1990-1992, 22.0 percent of all deaths in the Alaska Area were caused by accidents and adverse effects. This was followed by malignant neoplasms at 16.8 percent.



## Chart 4.7 Leading Causes of Death

Albuquerque Area, Calendar Years 1990–1992

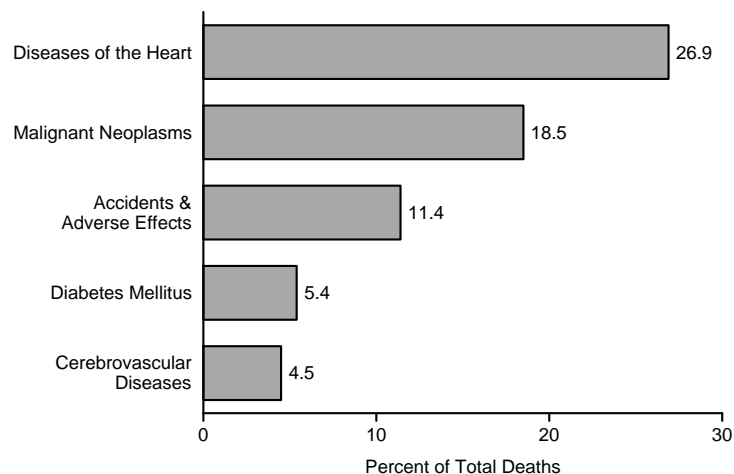
In 1990-1992, 17.3 percent of all deaths in the Albuquerque Area were caused by accidents and adverse effects. This was followed by diseases of the heart at 14.5 percent.



## Chart 4.8 Leading Causes of Death

Bemidji Area, Calendar Years 1990–1992

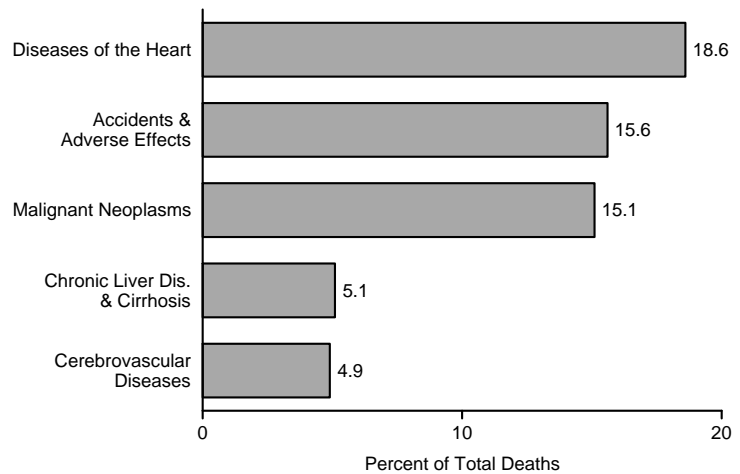
In 1990-1992, 26.9 percent of all deaths in the Bemidji Area were caused by diseases of the heart. This was followed by malignant neoplasms at 18.5 percent.



## Chart 4.9 Leading Causes of Death

Billings Area, Calendar Years 1990–1992

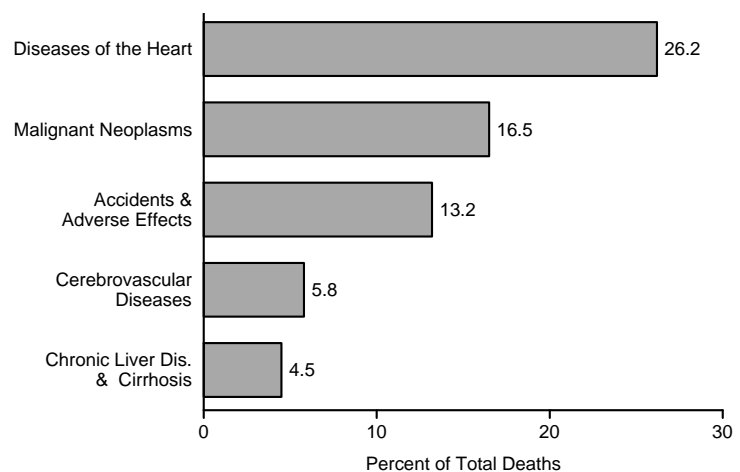
In 1990-1992, 18.6 percent of all deaths in the Billings Area were caused by diseases of the heart. This was followed by accidents and adverse effects at 15.6 percent.



## Chart 4.10 Leading Causes of Death

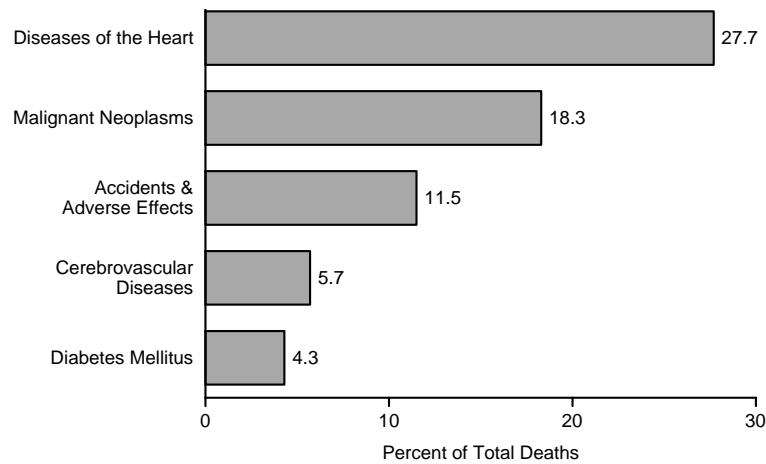
California Area, Calendar Years 1990–1992

In 1990-1992, 26.2 percent of all deaths in the California Area were caused by diseases of the heart. This was followed by malignant neoplasms at 16.5 percent.



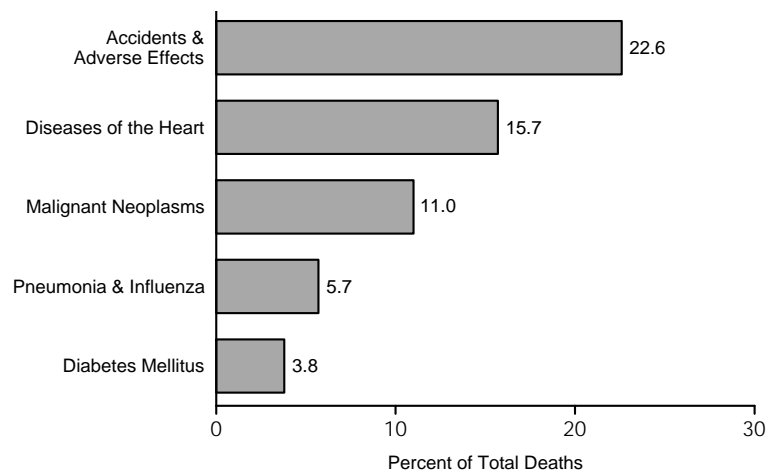
**Chart 4.11**  
**Leading Causes of Death**  
 Nashville Area, Calendar Years 1990–1992

In 1990-1992, 27.7 percent of all deaths in the Nashville Area were caused by diseases of the heart. This was followed by malignant neoplasms at 18.3 percent.



**Chart 4.12**  
**Leading Causes of Death**  
 Navajo Area, Calendar Years 1990–1992

In 1990-1992, 22.6 percent of all deaths in the Navajo Area were caused by accidents and adverse effects. This was followed by diseases of the heart at 15.7 percent.

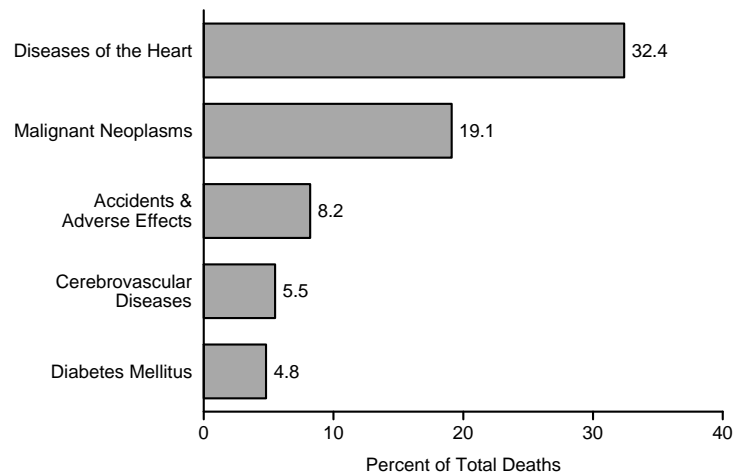


**Chart 4.13**

## **Leading Causes of Death**

Oklahoma Area, Calendar Years 1990–1992

**I**n 1990-1992, 32.4 percent of all deaths in the Oklahoma Area were caused by diseases of the heart. This was followed by malignant neoplasms at 19.1 percent.

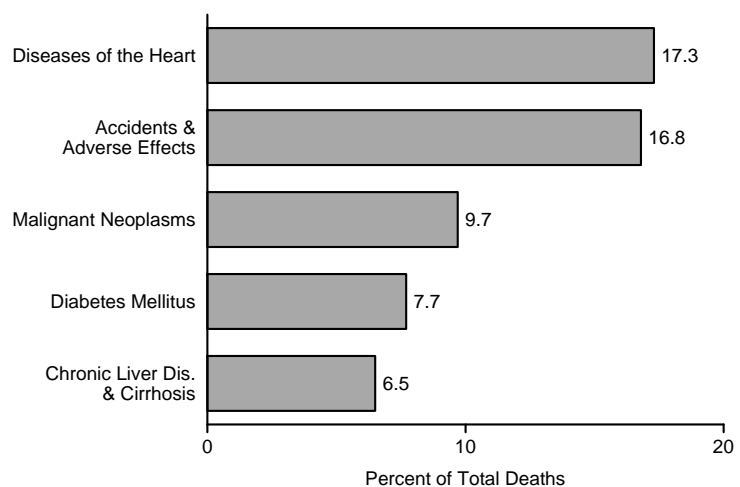


**Chart 4.14**

## **Leading Causes of Death**

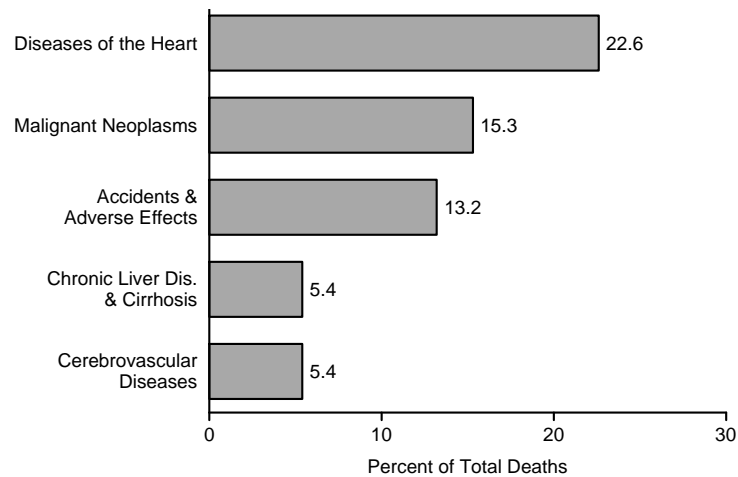
Phoenix Area, Calendar Years 1990–1992

**I**n 1990-1992, 17.3 percent of all deaths in the Phoenix Area were caused by diseases of the heart. This was followed by accidents and adverse effects at 16.8 percent.



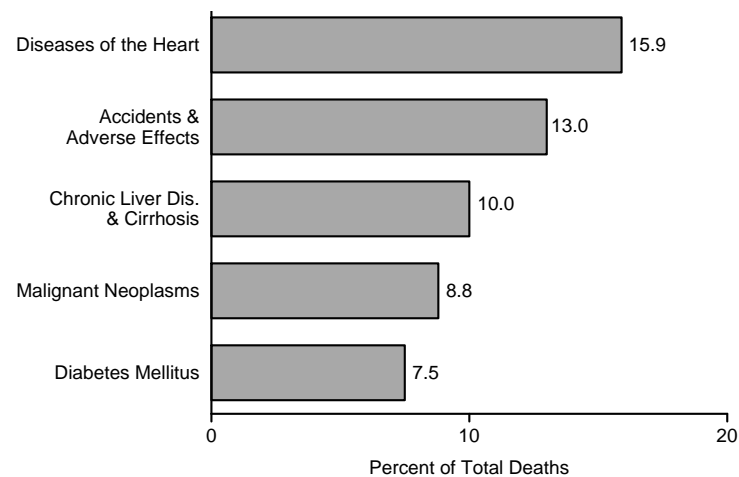
**Chart 4.15**  
**Leading Causes of Death**  
 Portland Area, Calendar Years 1990–1992

In 1990-1992, 22.6 percent of all deaths in the Portland Area were caused by diseases of the heart. This was followed by malignant neoplasms at 15.3 percent.



**Chart 4.16**  
**Leading Causes of Death**  
 Tucson Area, Calendar Years 1990–1992

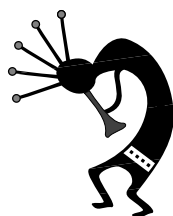
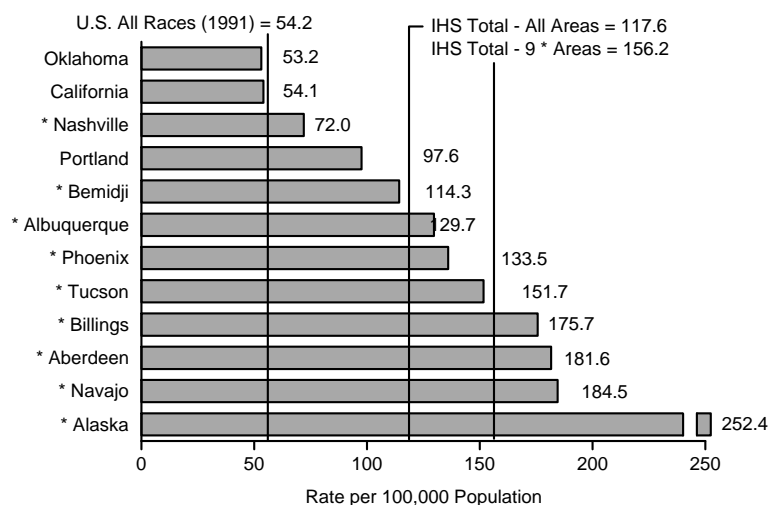
In 1990-1992, 15.9 percent of all deaths in the Tucson Area were caused by diseases of the heart. This was followed by accidents and adverse effects at 13.0 percent.



## Chart 4.17 Age-Adjusted Injury and Poisoning Mortality Rates

Calendar Years 1990-1992

In 1990-1992, the age-adjusted injury and poisoning mortality rate for the IHS service area population was 117.6. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 156.2. This is nearly 3 times the U.S. All Races rate of 54.2 for 1991. Four Areas (Alaska, Navajo, Aberdeen, and Billings) had rates exceeding 175.0.



## Table 4.17 Age-Adjusted Injury and Poisoning<sup>1</sup> Mortality Rates

Calendar Years 1990-1992

	Deaths <sup>2</sup>	Rate <sup>3</sup>
U.S. All Races (1991)	149,187	54.2
All IHS Areas	4,115	117.6
9* Areas <sup>4</sup>	3,159	156.2
Aberdeen*	371	181.6
Alaska*	513	252.4
Albuquerque*	252	129.7
Bemidji*	199	114.3
Billings*	232	175.7
California	171	54.1
Nashville*	110	72.0
Navajo*	903	184.5
Oklahoma	413	53.2
Phoenix*	478	136.0
Portland	372	97.6
Tucson*	101	151.7

<sup>1</sup> Includes the following ICD-9 cause of death groups combined: Motor vehicle accidents-E810-E825. Other accidents-E800-E807, E826-E949. Suicide-E950-E959. Homicide-E960-E978. Injury undetermined whether accidentally or purposely inflicted-E980-E989. Injury resulting from operations of war-E990-E999.

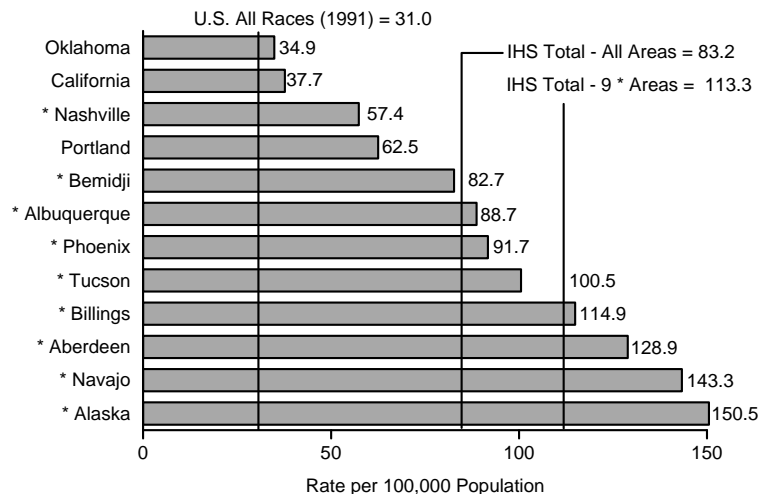
<sup>2</sup> Includes deaths with age not reported. For IHS, includes Albuquerque-1 death, Oklahoma-2 deaths, and Phoenix-1 death.

<sup>3</sup> Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

<sup>4</sup> The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

**Chart 4.18**  
**Age-Adjusted Accident Mortality Rates**  
 Calendar Years 1990–1992

In 1990-1992, the age-adjusted accident mortality rate for the IHS service area population was 83.2. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 113.3. This is 265 percent higher than the U.S. All Races rate of 31.0 for 1991. The Alaska Area had the highest rate (150.5), and the Navajo Area was second (143.3). For the IHS service area, 23.5 percent of the motor vehicle accidents were pedestrian-related compared to 15.2 percent for the U.S. All Races population.



**Table 4.18**  
**Age-Adjusted Accident Mortality Rates**  
 Calendar Years 1990–1992

	Motor Vehicle Accidents							
					Pedestrian-related <sup>1</sup>			
	All Accidents		Totals		Percent of Motor Vehicle Accident		Other Accidents	
	Deaths	Rate <sup>2</sup>	Deaths	Rate <sup>2</sup>	Deaths	Deaths	Deaths	Rate <sup>2</sup>
U.S. All Races (1991)	89,347	31.0	43,536	17.0	6,624	15.2%	45,811	13.9
All IHS Areas	2,898	83.2	1,644	47.5	386	23.5%	1,291	37.6
9* Areas <sup>3</sup>	2,269	113.3	1,278	63.9	317	24.8%	1,012	50.5
Aberdeen*	256	128.9	159	80.1	26	16.4%	97	48.8
Alaska*	382	150.5	79	31.5	24	30.4%	305	119.7
Albuquerque*	169	88.7	110	56.4	44	40.0%	59	32.3
Bemidji*	144	82.7	89	52.2	15	16.9%	55	30.5
Billings*	151	114.9	101	76.9	12	11.9%	57	43.0
California	118	37.7	71	22.2	15	21.1%	49	16.2
Nashville*	89	57.4	58	37.7	12	20.7%	33	21.0
Navajo*	696	143.3	438	89.3	130	29.7%	260	54.4
Oklahoma	274	34.9	171	22.4	33	19.3%	112	13.5
Phoenix*	318	91.7	205	58.6	44	21.5%	121	35.3
Portland	237	62.5	124	33.0	21	16.9%	118	30.7
Tucson*	64	100.5	39	58.7	10	25.6%	25	41.8

<sup>1</sup> Includes motor vehicle accidents having ICD-9 codes E810-E825 with a fourth digit code .7. The fourth digit code .7 indicates that a pedestrian was the subject decedent as a result of the motor vehicle accident.

<sup>2</sup> Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

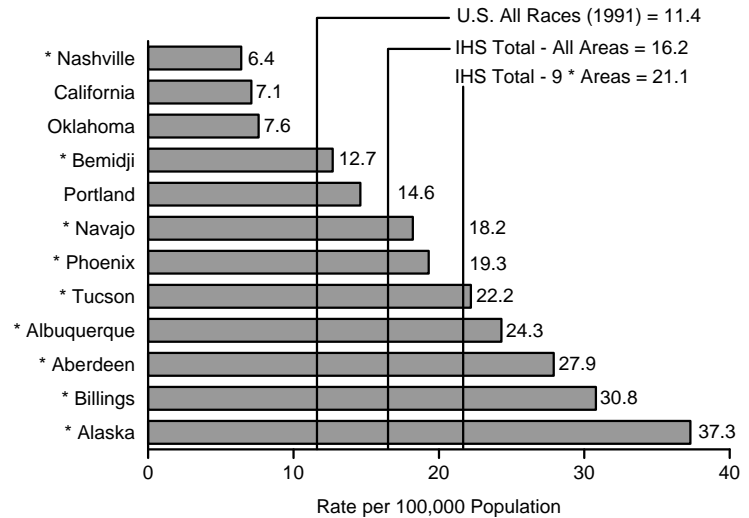
<sup>3</sup> The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.



## Chart 4.19 Age-Adjusted Suicide Mortality Rates

Calendar Years 1990–1992

In 1990-1992, the age-adjusted suicide mortality rate for the IHS service area population was 16.2. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 21.1. This is 85 percent higher than the U.S. All Races rate of 11.4 for 1991. Four Areas (Alaska, Billings, Aberdeen, and Albuquerque) had rates more than double the U.S. rate.



## Table 4.19 Age-Adjusted Suicide Mortality Rates

Calendar Years 1990–1992

	Deaths	Rate <sup>1</sup>
<b>U.S. All Races (1991)</b>	<b>30,810</b>	<b>11.4</b>
<b>All IHS Areas</b>	<b>572</b>	<b>16.2</b>
9* Areas <sup>2</sup>	437	21.1
Aberdeen*	59	27.9
Alaska*	79	37.3
Albuquerque*	50	24.3
Bemidji*	23	12.7
Billings*	40	30.8
California	22	7.1
Nashville*	9	6.4
Navajo*	91	18.2
Oklahoma	58	7.6
Phoenix*	70	19.3
Portland	55	14.6
Tucson*	16	22.2

<sup>1</sup> Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

# Rates

Calendar Years 1990–1992



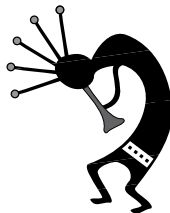
	Deaths
<b>U.S. All Races (1991)</b>	<b>26,513</b>
<b>All IHS Areas</b>	<b>520</b>
9* Areas <sup>2</sup>	371
Aberdeen*	48
Alaska*	40
Albuquerque*	28
Bemidji*	27
Billings*	28
California	25
Nashville*	8
Navajo*	98
Oklahoma	64
Phoenix*	73
Portland	60
Tucson*	21

<sup>1</sup> Age-adjusted rate per 100,000 population. Rates based on a should be interpreted with caution.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk (California, appear to have a problem with underreporting of Indian rates. Therefore a separate IHS rate was calculated excluding these

# Injury and Poisoning Other Causes<sup>1</sup>

Calendar Years 1990–1992



## U.S. All Races (1991)

### All IHS Areas

9\* Areas<sup>3</sup>

Aberdeen\*

Alaska\*

Albuquerque\*

Bemidji\*

Billings\*

California

Nashville\*

Navajo\*

Oklahoma

Phoenix\*

Portland

Tucson\*

<sup>1</sup> Includes the following ICD-9 cause of death whether accidentally or purposely inflicted-E980-E989 of war-E990-E999 there were 10 deaths due to 1991 and 0 deaths for the American Indian a service area, 1990-1992).

<sup>2</sup> Age-adjusted rate per 100,000 population. Rate should be interpreted with caution.

<sup>3</sup> The 3 IHS Areas that do not have an asterisk appear to have a problem with underreporting. Therefore a separate IHS rate was calculated.

	All Causes	Number of Deaths and ICD-9 Causes of Death Group						
		291	303	305.0	425.5	535.3	571.0–571.3	790.3
<b>U.S. All Races (1991)</b>	<b>19,091</b>	<b>361</b>	<b>5,055</b>	<b>804</b>	<b>891</b>	<b>92</b>	<b>11,702</b>	<b>2,000</b>
<b>All IHS Areas</b>	<b>1,098</b>	<b>19</b>	<b>292</b>	<b>108</b>	<b>24</b>	<b>7</b>	<b>618</b>	<b>1,000</b>
9* Areas <sup>2</sup>	875	14	236	92	19	4	484	1,000
Aberdeen*	141	1	38	7	3	—	91	—
Alaska*	97	2	14	24	5	1	40	1,000
Albuquerque*	89	5	24	6	1	—	53	—
Bemidji*	44	2	10	3	1	1	25	—
Billings*	60	1	15	1	2	—	41	—
California	50	—	18	1	1	1	29	—
Nashville*	32	—	6	2	1	1	21	—
Navajo*	238	2	90	38	6	1	92	—
Oklahoma	63	1	12	8	2	1	38	—
Phoenix*	138	1	33	10	—	—	92	—
Portland	110	4	26	7	2	1	67	—
Tucson*	36	—	6	1	—	—	29	—

<sup>1</sup> Age-adjusted rate per 100,000 population. The rate computation excludes 3 deaths with age not reported. number of deaths should be interpreted with caution.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with the Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

291—Alcoholic Psychoses; 303—Alcoholic Dependence Syndrome; 305.0—Alcohol Overdose; 425.5—Alcoholic Liver Disease; 535.3—Alcoholic Gastritis; 571.0–571.3—Alcoholic Liver Disease; 790.3—Elevated Blood-Alcohol Level; E86.0–E86.9—Poisoning by Alcohol, not elsewhere classified.

# Mortality Rates

Calendar Years 1990–1992

## U.S. All Races (1991)

### All IHS Areas

9\* Areas <sup>2</sup>

Aberdeen\*

Alaska\*

Albuquerque\*

Bemidji\*

Billings\*

California

Nashville\*

Navajo\*

Oklahoma

Phoenix\*

Portland

Tucson\*

<sup>1</sup> Age-adjusted rate per 100,000 population. Rate should be interpreted with caution.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk appear to have a problem with underreporting. Therefore a separate IHS rate was calculated.

## Table 4.24

# Age-Adjusted Tuberculosis Mortality Rates

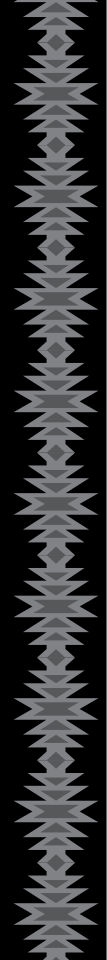
Calendar Years 1990–1992



	Deaths
<b>U.S. All Races (1991)</b>	<b>1,713</b>
<b>All IHS Areas</b>	<b>68</b>
9* Areas <sup>2</sup>	50
Aberdeen*	9
Alaska*	7
Albuquerque*	—
Bemidji*	1
Billings*	3
California	—
Nashville*	2
Navajo*	20
Oklahoma	12
Phoenix*	6
Portland	6
Tucson*	2

<sup>1</sup> Rate per 100,000 population. Rates based on a small number of deaths may be interpreted with caution.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk (California, Nevada, and Utah) appear to have a problem with underreporting of Indian rates. Therefore a separate IHS rate was calculated excluding these areas.



# Diseases Mortality

Calendar Years 1990–1992

## U.S. All Races (1991)

### All IHS Areas

9\* Areas <sup>2</sup>

Aberdeen\*

Alaska\*

Albuquerque\*

Bemidji\*

Billings\*

California

Nashville\*

Navajo\*

Oklahoma

Phoenix\*

Portland

Tucson\*

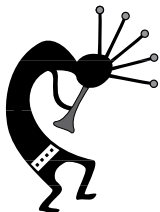
<sup>1</sup> Age-adjusted rate per 100,000 population. Rates should be interpreted with caution.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk appear to have a problem with underreporting. Therefore a separate IHS rate was calculated.

# Heart Mortality Rates

Calendar Years 1990–1992

	Deaths
<b>U.S. All Races (1991)</b>	<b>720,862</b>
<b>All IHS Areas</b>	<b>4,249</b>
9* Areas <sup>2</sup>	2,473
Aberdeen*	406
Alaska*	283
Albuquerque*	142
Bemidji*	338
Billings*	189
California	238
Nashville*	218
Navajo*	483
Oklahoma	1,123
Phoenix*	336
Portland	415
Tucson*	78



<sup>1</sup> Age-adjusted rate per 100,000 population. Rates based on a should be interpreted with caution.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk (California, appear to have a problem with underreporting of Indian rates. Therefore a separate IHS rate was calculated excluding these



# Diseases Mortality

Calendar Years 1990–1992

## U.S. All Races (1991)

### All IHS Areas

9\* Areas <sup>2</sup>

Aberdeen\*

Alaska\*

Albuquerque\*

Bemidji\*

Billings\*

California

Nashville\*

Navajo\*

Oklahoma

Phoenix\*

Portland

Tucson\*

<sup>1</sup> Age-adjusted rate per 100,000 population. Rates should be interpreted with caution.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk appear to have a problem with underreporting. Therefore a separate IHS rate was calculated.

# Mortality Rates

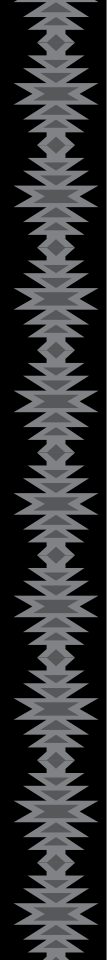
## Calendar Years 1990–1992



	Deaths
<b>U.S. All Races (1991)</b>	<b>514,657</b>
<b>All IHS Areas</b>	<b>2,906</b>
9* Areas <sup>2</sup>	1,815
Aberdeen*	290
Alaska*	293
Albuquerque*	130
Bemidji*	233
Billings*	153
California	150
Nashville*	144
Navajo*	340
Oklahoma	660
Phoenix*	189
Portland	281
Tucson*	43

<sup>1</sup> Age-adjusted rate per 100,000 population. Rates based on a should be interpreted with caution.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk (California, appear to have a problem with underreporting of Indian ra Therefore a separate IHS rate was calculated excluding these



# Mortality Rates For

Calendar Years 1990–1992

## U.S. All Races (1991)

### All IHS Areas

9\* Areas <sup>2</sup>

Aberdeen\*

Alaska\*

Albuquerque\*

Bemidji\*

Billings\*

California

Nashville\*

Navajo\*

Oklahoma

Phoenix\*

Portland

Tucson\*

<sup>1</sup> Age-adjusted rate per 100,000 female population. Deaths should be interpreted with caution.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk appear to have a problem with underreporting. Therefore a separate IHS rate was calculated.

## Calendar Years 1990–1992

	Total Deaths
<b>U.S. All Races (1991)</b>	<b>4,514</b>
<b>All IHS Areas</b>	<b>96</b>
9* Areas <sup>2</sup>	63
Aberdeen*	14
Alaska*	7
Albuquerque*	2
Bemidji*	4
Billings*	4
California	4
Nashville*	3
Navajo*	20
Oklahoma	18
Phoenix*	7
Portland	11
Tucson*	2

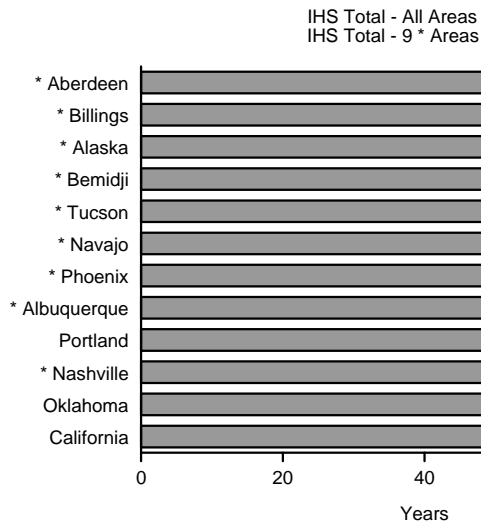
<sup>1</sup> Age-adjusted rate per 100,000 female population. Rates based on small numbers of deaths should be interpreted with caution.

<sup>2</sup> The 3 IHS Areas that do not have an asterisk (California, Nevada, and Utah) appear to have a problem with underreporting of Indian race. Therefore a separate IHS rate was calculated excluding these areas.

caution because of the small  
number of deaths involved.

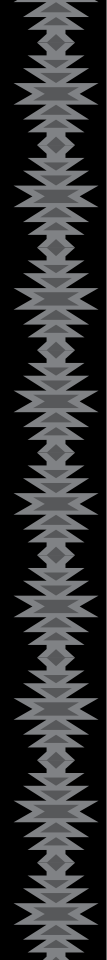


In 1990-1992, the life expectancy at birth for males in the IHS service area population was 69.4 years. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the life expectancy is 66.1 years. This is 5.9 years less than the 1991 figure of 72.0 years for the U.S. All Races male population. Most Areas had figures less than the U.S. figure.





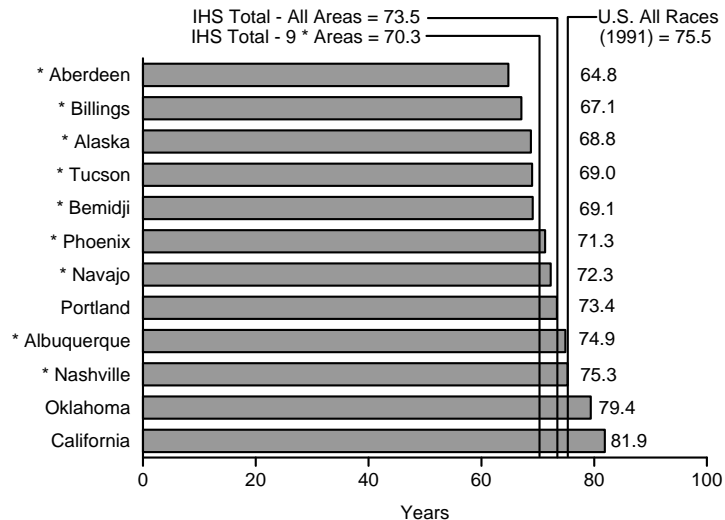




## Chart 4.32 Life Expectancy at Birth, Both Sexes

Calendar Years 1990–1992

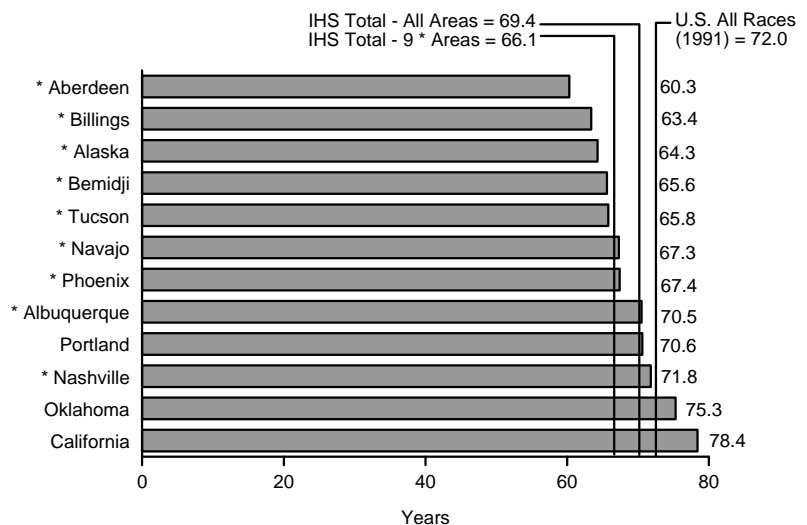
In 1990-1992, the life expectancy at birth (both sexes) for the IHS service area population was 73.5 years. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the life expectancy is 70.3 years. This is 5.2 years less than the 1991 figure of 75.5 for the U.S. All Races population. Most Areas had figures less than the U.S. figure.



## Chart 4.33 Life Expectancy at Birth, Males

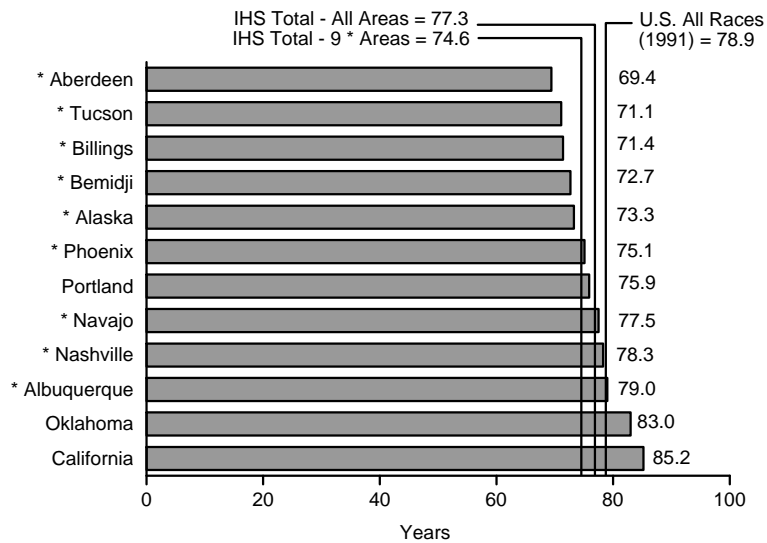
Calendar Years 1990–1992

In 1990-1992, the life expectancy at birth for males in the IHS service area population was 69.4 years. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the life expectancy is 66.1 years. This is 5.9 years less than the 1991 figure of 72.0 years for the U.S. All Races male population. Most Areas had figures less than the U.S. figure.



# Chart 4.34 Life Expectancy at Birth, Females Calendar Years 1990–1992

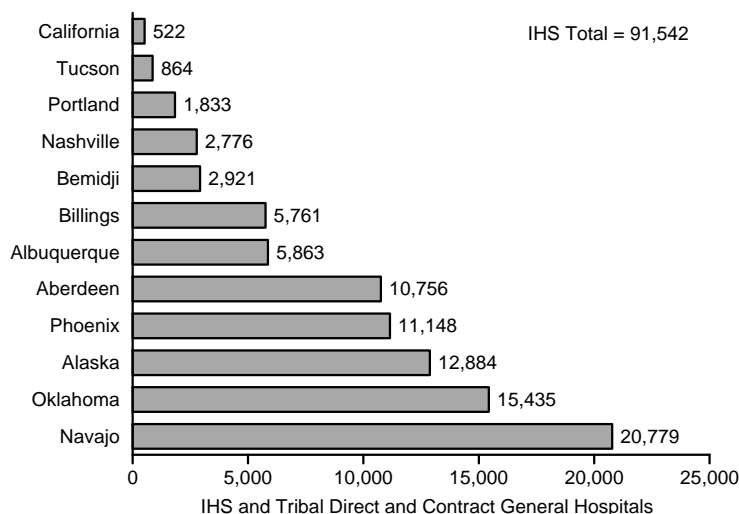
In 1990-1992, the life expectancy at birth for females in the IHS service area population was 77.3 years. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the life expectancy is 74.6 years. This is 4.3 years less than the 1991 figure of 78.9 years for the U.S. All Races female population. Most Areas had figures less than the U.S. figure.



# PART V—Patient Care Statistics

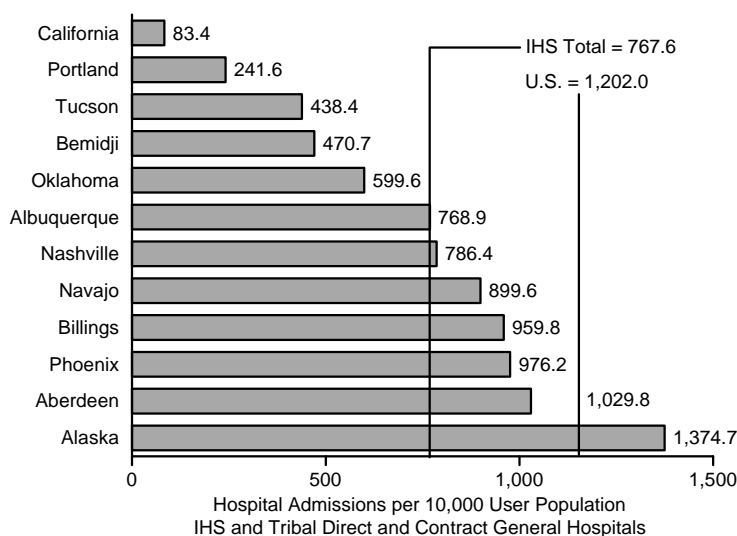
**Chart 5.1**  
**Number of Admissions, FY 1993**

In FY 1993, there were about 92,000 admissions to IHS and Tribal direct and contract general hospitals. Approximately 40 percent of these admissions were in 2 IHS Areas, Navajo (20,779) and Oklahoma (15,435).



**Chart 5.2**  
**Hospital Admission Rates, FY 1993**

The IHS admission rate of 767.6 admissions per 10,000 user population in FY 1993 was 36 percent lower than the U.S. rate of 1,202.0 in CY 1993. The IHS Area rates ranged from 83.4 in California, where the IHS provides little inpatient care, to 1,374.7 in Alaska.



## Table 5.1

# Number and Rate of Admissions

Indian Health Service and Tribal Direct and Contract  
General Hospitals, FY 1993  
U.S. Short-Stay Community Hospitals, CY 1993

	Total admission rate <sup>1</sup>	Total admissions	IHS admissions		Tribal admissions	
			Direct	Contract	Direct	Contract
<b>U.S. All Races (1991)</b>	<b>1,202.0</b>	<b>30,825 <sup>2</sup></b>				
<b>All IHS Areas</b>	<b>767.6</b>	<b>91,542</b>	<b>60,575</b>	<b>17,071</b>	<b>8,443</b>	<b>5,453</b>
Aberdeen	1,029.8	10,756	6,984	3,520	—	252
Alaska	1,374.7	12,884	5,559	359	5,456	1,510
Albuquerque	768.9	5,863	4,525	1,338	—	—
Bemidji	470.7	2,921	1,140	430	—	1,351
Billings	959.8	5,761	3,060	2,701	—	—
California	83.4	522	—	—	—	522
Nashville	786.4	2,776	864	184	999	729
Navajo	899.6	20,779	18,794	1,985	—	—
Oklahoma	599.6	15,435	9,691	3,176	1,988	580
Phoenix	976.2	11,148	9,407	1,708	—	33
Portland	241.6	1,833	—	1,410	—	423
Tucson	438.4	864	551	260	—	53

<sup>1</sup> Number of admissions per 10,000 population.

<sup>2</sup> Number of admissions in thousands.

Sources: IHS Direct: Monthly Report of Inpatient Services

IHS Contract: Contract Statistical System (Report 3I)

Tribal Direct: Monthly Report of Inpatient Services

Tribal Contract: IHS Area submissions

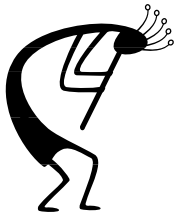
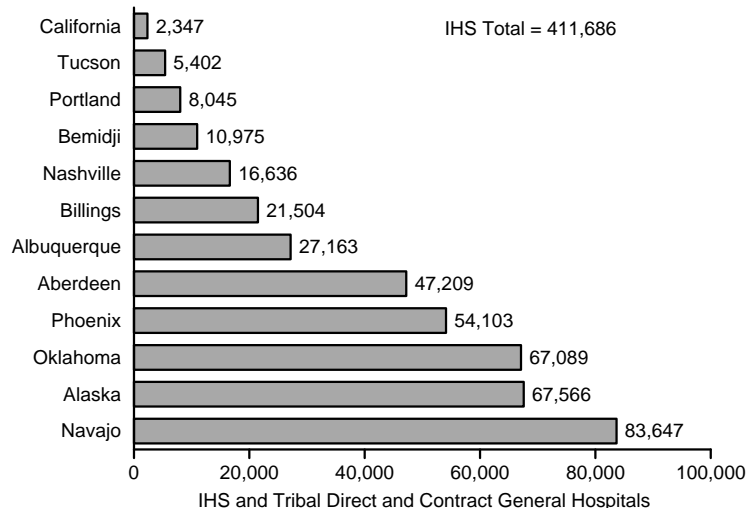
U.S.: Unpublished Data, NCHS Hospital Discharge Survey Branch



## Chart 5.3

### Number of Hospital Days, FY 1993

The number of inpatient days in IHS and Tribal direct and contract general hospitals was about 412,000 in FY 1993. The number varied considerably among the IHS Areas, ranging from 2,347 in California to 83,647 in Navajo.



## Table 5.3

### Number of Hospital Days

Indian Health Service and Tribal Direct and Contract General Hospitals, FY 1993

	Total days	IHS days		Tribal days	
		Direct	Contract	Direct	Contract
<b>All IHS Areas</b>	<b>411,686</b>	<b>266,784</b>	<b>83,194</b>	<b>39,239</b>	<b>22,469</b>
Aberdeen	47,209	29,410	16,419	—	1,380
Alaska	67,566	37,658	1,378	25,274	3,256
Albuquerque	27,163	20,917	6,246	—	—
Bemidji	10,975	4,025	1,716	—	5,234
Billings	21,504	9,648	11,856	—	—
California	2,347	—	—	—	2,347
Nashville	16,636	5,580	990	5,517	4,549
Navajo	83,647	73,343	10,304	—	—
Oklahoma	67,089	37,036	18,031	8,448	3,574
Phoenix	54,103	45,411	8,618	—	74
Portland	8,045	—	6,398	—	1,647
Tucson	5,402	3,756	1,238	—	408

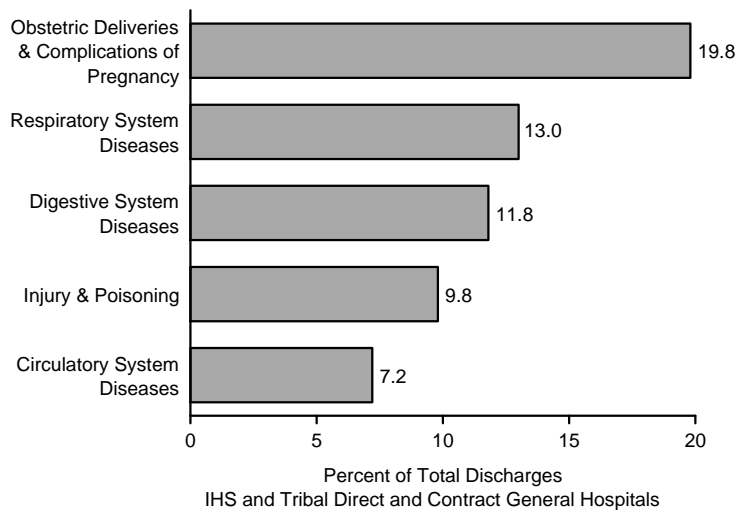
Sources: IHS Direct: Monthly Report of Inpatient Services  
 IHS Contract: Contract Statistical System (Report 3I)  
 Tribal Direct: Monthly Report of Inpatient Services  
 Tribal Contract: IHS Area Submissions

**Chart 5.4**

## Leading Causes of Hospitalization

All IHS Areas, FY 1993

In FY 1993, 19.8 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy and the puerperium. This was followed by respiratory system diseases at 13.0 percent.

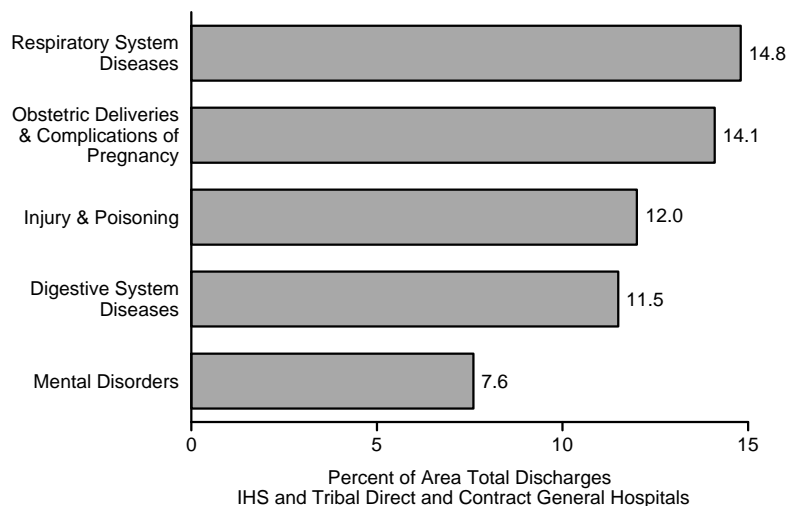


**Chart 5.5**

## Leading Causes of Hospitalization

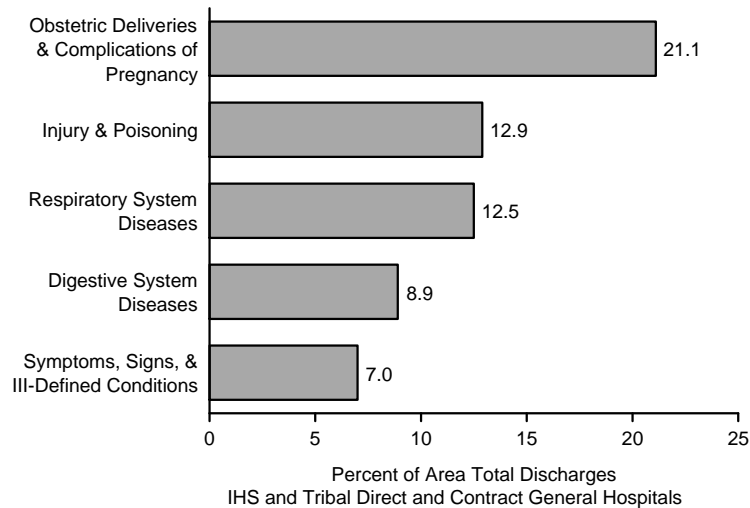
Aberdeen Area, FY 1993

For the Aberdeen Area in FY 1993, 14.8 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to respiratory system diseases. This was followed by obstetric deliveries and complications of pregnancy and the puerperium at 14.1 percent.



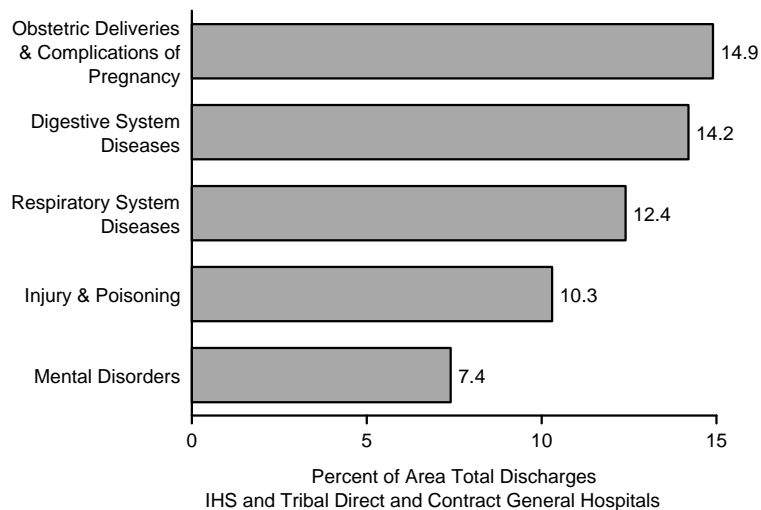
**Chart 5.6**  
**Leading Causes of Hospitalization**  
 Alaska Area, FY 1993

For the Alaska Area in FY 1993, 22.1 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy and the puerperium. This was followed by injury and poisoning at 12.9 percent.



**Chart 5.7**  
**Leading Causes of Hospitalization**  
 Albuquerque Area, FY 1993

For the Albuquerque Area in FY 1993, 14.9 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy and the puerperium. This was followed by digestive system diseases at 14.2 percent.



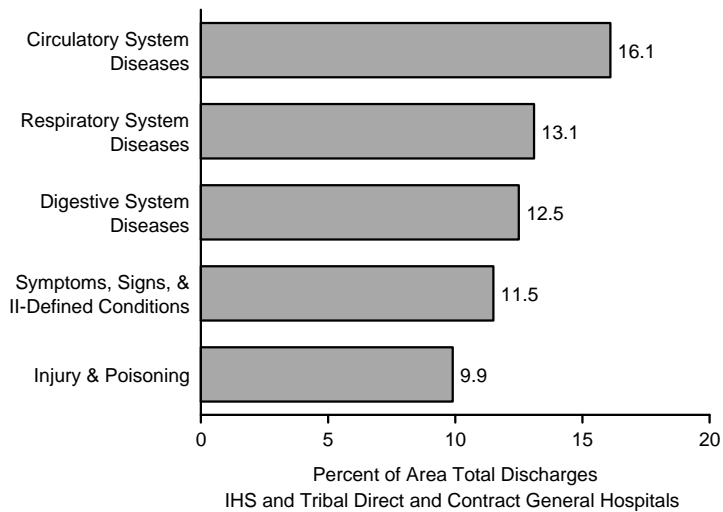


## Chart 5.8

# Leading Causes of Hospitalization

Bemidji Area, FY 1993

For the Bemidji Area in FY 1993, 16.1 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to circulatory system diseases. This was followed by respiratory system diseases at 13.1 percent.

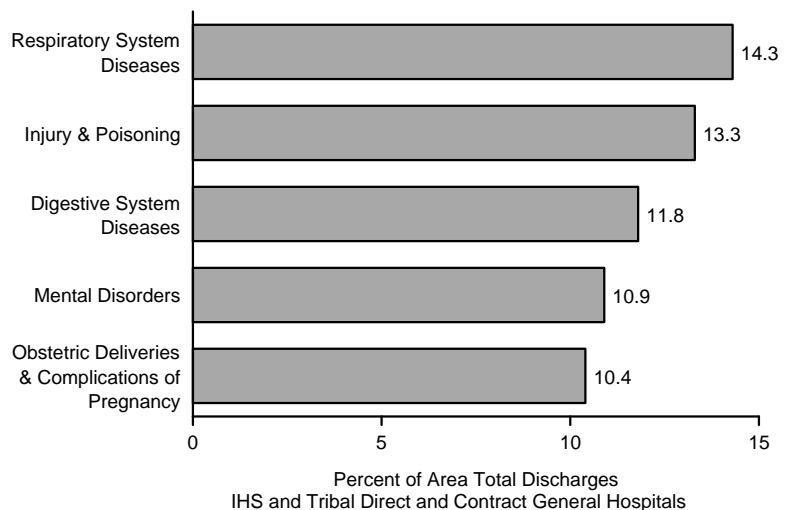


## Chart 5.9

# Leading Causes of Hospitalization

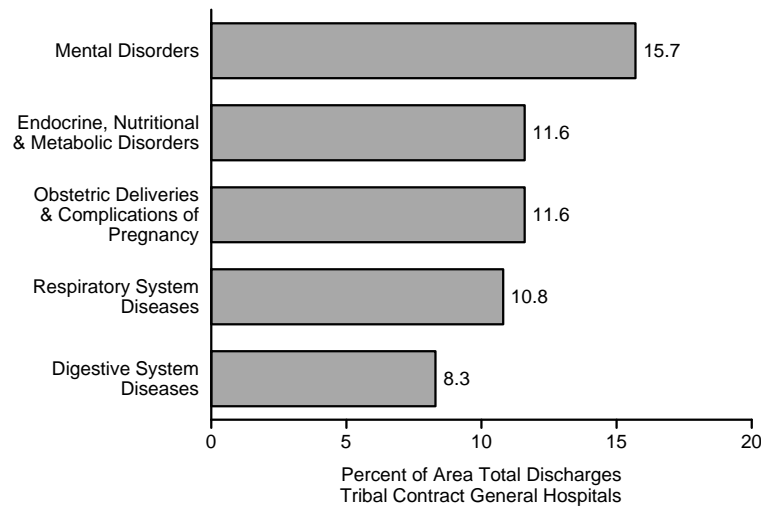
Billings Area, FY 1993

For the Billings Area in FY 1993, 14.3 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to respiratory system diseases. This was followed by injury and poisoning at 13.3 percent.



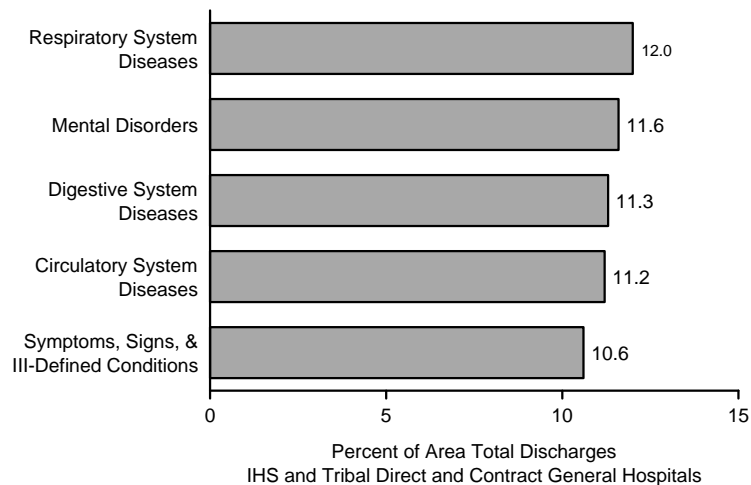
**Chart 5.10**  
**Leading Causes of Hospitalization**  
 California Area, FY 1993

For the California Area in FY 1993, 15.7 percent of all discharges from Tribal contract health service hospitals pertained to mental disorders. This was followed by endocrine, nutritional, and metabolic disorders at 11.6 percent.



**Chart 5.11**  
**Leading Causes of Hospitalization**  
 Nashville Area, FY 1993

For the Nashville Area in FY 1993, 12.0 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to respiratory system diseases. This was followed by mental disorders at 11.6 percent.

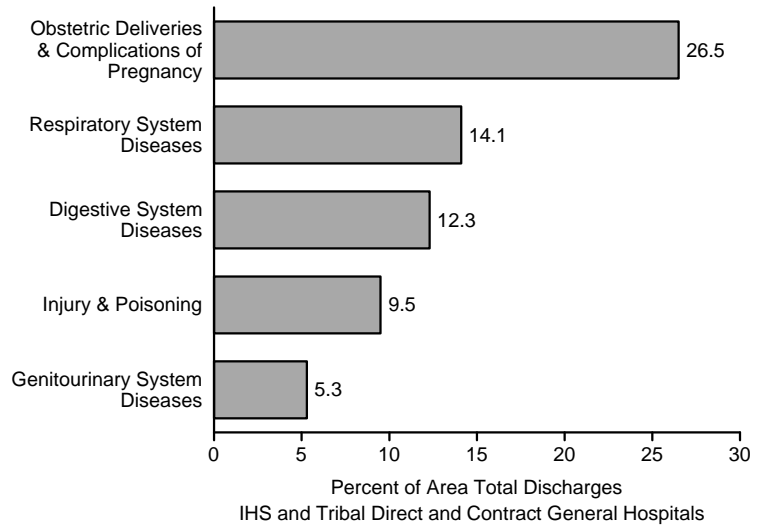


**Chart 5.12**

## Leading Causes of Hospitalization

Navajo Area, FY 1993

For the Navajo Area in FY 1993, 26.5 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy and the puerperium. This was followed by respiratory system diseases at 14.1 percent.

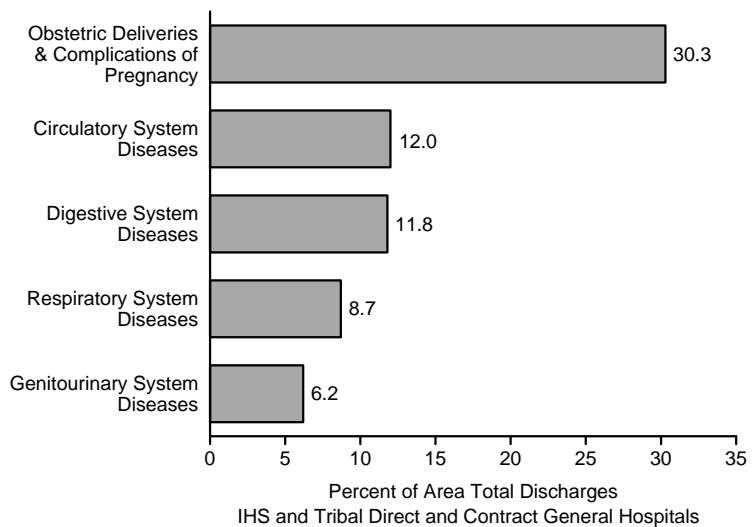


**Chart 5.13**

## Leading Causes of Hospitalization

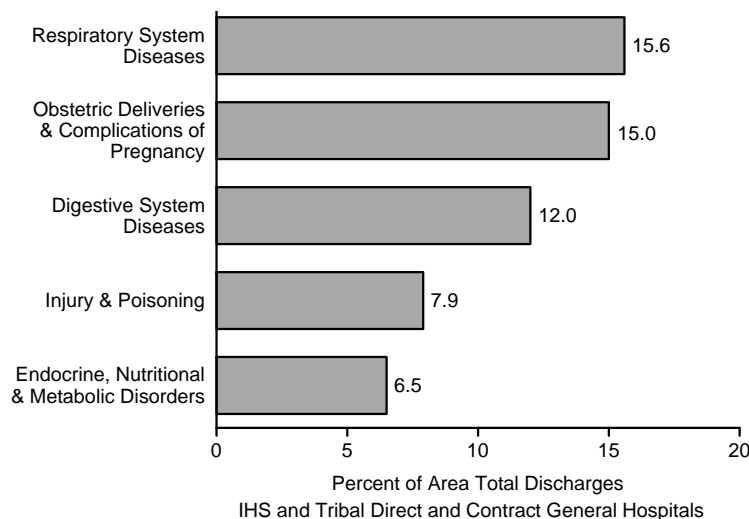
Oklahoma Area, FY 1993

For the Oklahoma Area in FY 1993, 30.3 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy and the puerperium. This was followed by circulatory system diseases at 12.0 percent.



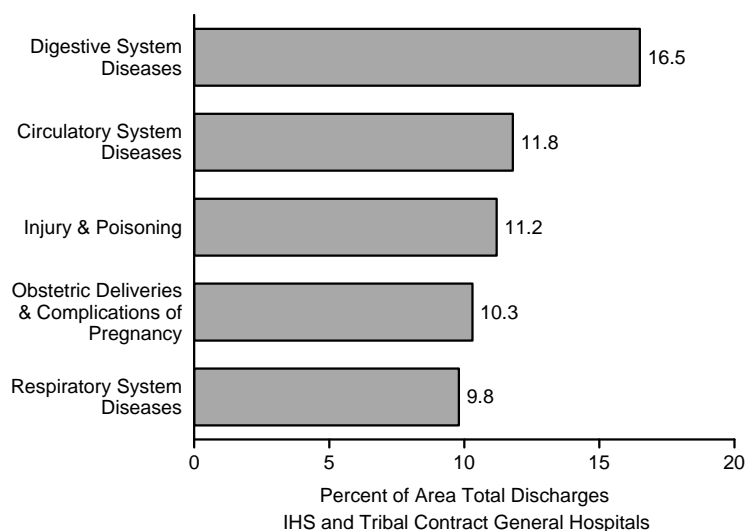
**Chart 5.14**  
**Leading Causes of Hospitalization**  
 Phoenix Area, FY 1993

For the Phoenix Area in FY 1993, 15.6 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to respiratory system diseases. This was followed by obstetric deliveries and complications of pregnancy and puerperium at 15.0 percent.



**Chart 5.15**  
**Leading Causes of Hospitalization**  
 Portland Area, FY 1993

For the Portland Area in FY 1993, 16.5 percent of all discharges from IHS and Tribal contract general hospitals pertained to digestive system diseases. This was followed by circulatory system diseases at 11.8 percent.

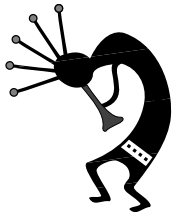
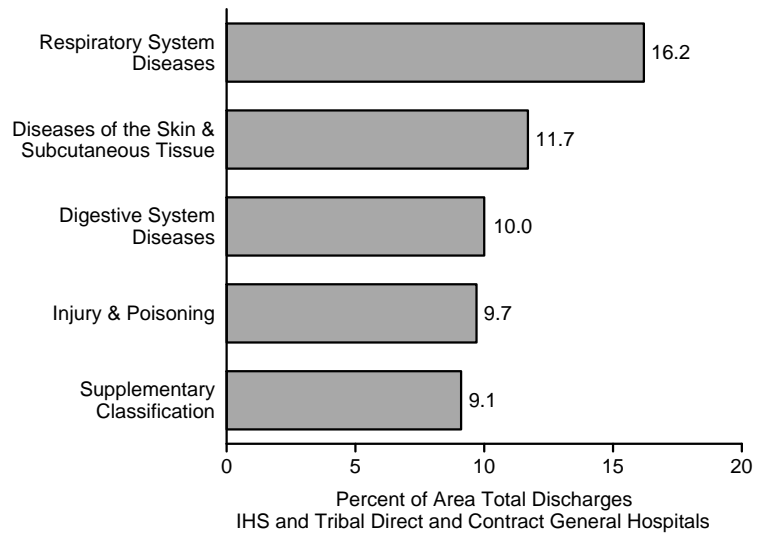


**Chart 5.16**

## **Leading Causes of Hospitalization**

Tucson Area, FY 1993

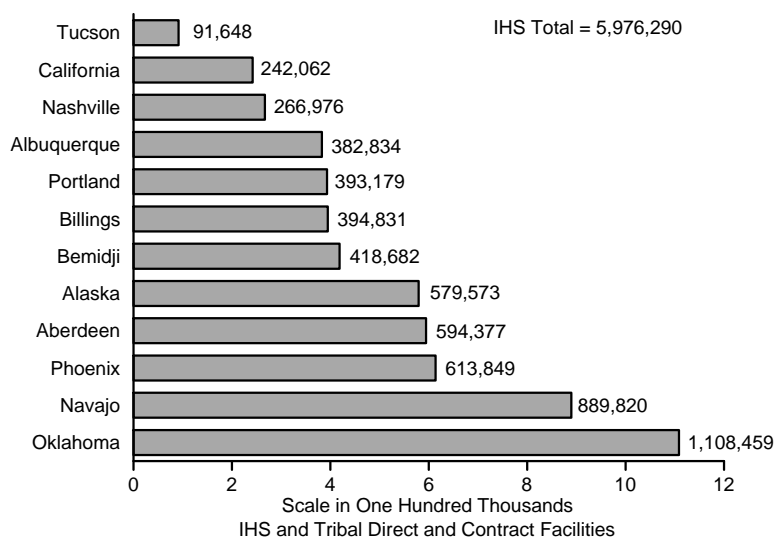
For the Tucson Area in FY 1993, 16.2 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to respiratory system diseases. This was followed by diseases of the skin and subcutaneous tissue at 11.7 percent.



## Chart 5.17

### Number of Ambulatory Medical Visits, FY 1993

In FY 1993, there were nearly 6.0 million ambulatory medical visits to IHS and Tribal direct and contract facilities. Two IHS Areas had 33 percent of the visits, Oklahoma (1,108,459) and Navajo (889,820).



## Table 5.17

### Number of Ambulatory Medical Visits

Indian Health Service and Tribal Direct and Contract Facilities, FY 1993

	Total	Indian Health Service		Tribal	
		Direct	Contract	Direct	Contract
<b>All IHS Areas</b>	<b>5,976,290</b>	<b>4,084,118</b>	<b>169,625</b>	<b>1,582,748</b>	<b>139,799</b>
Aberdeen	594,377	516,788	18,037	56,105	3,447
Alaska	579,573	206,551	1,279	332,939	38,804
Albuquerque	382,834	352,173	8,484	22,177	—
Bemidji	418,682	123,702	3,944	258,692	32,344
Billings	394,831	363,7357	31,096	—	—
California	242,062	—	—	225,853	16,209
Nashville	266,976	63,177	1,320	185,204	17,275
Navajo	889,820	850,826	38,994	—	—
Oklahoma	1,108,459	745,908	21,614	336,088	4,849
Phoenix	613,849	538,398	14,537	59,319	1,595
Portland	393,179	244,758	29,538	93,607	25,276
Tucson	91,648	78,102	782	12,764	—

Sources: IHS Direct: APC Data System (Report 1A)  
IHS Contract: Contract Statistical System (Report 3G)  
Tribal Direct and Contract: Area Submissions

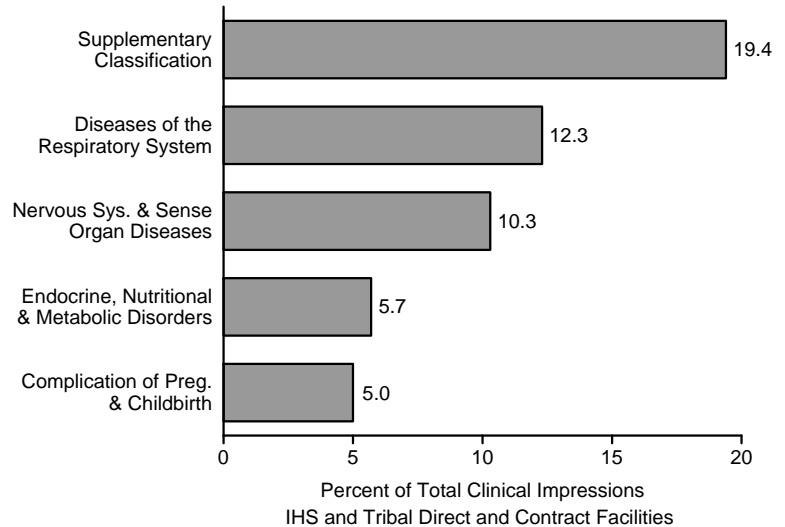


**Chart 5.18**

## **Leading Causes of Ambulatory Medical Visits**

All IHS Areas, FY 1993

In FY 1993, 19.4 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications. This was followed by diseases of the respiratory system at 12.3 percent.

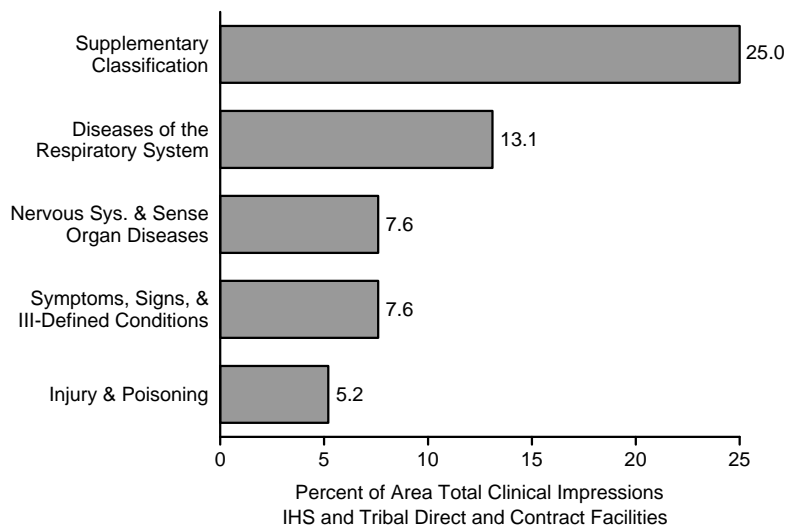


**Chart 5.19**

## **Leading Causes of Ambulatory Medical Visits**

Aberdeen Area, FY 1993

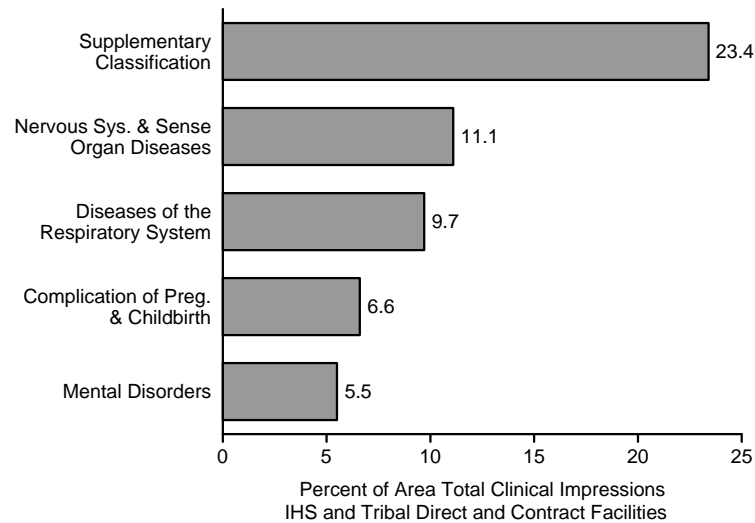
For the Aberdeen Area in FY 1993, 25.0 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications. This was followed by diseases of the respiratory system at 13.1 percent.



## Chart 5.20 Leading Causes of Ambulatory Medical Visits

Alaska Area, FY 1993

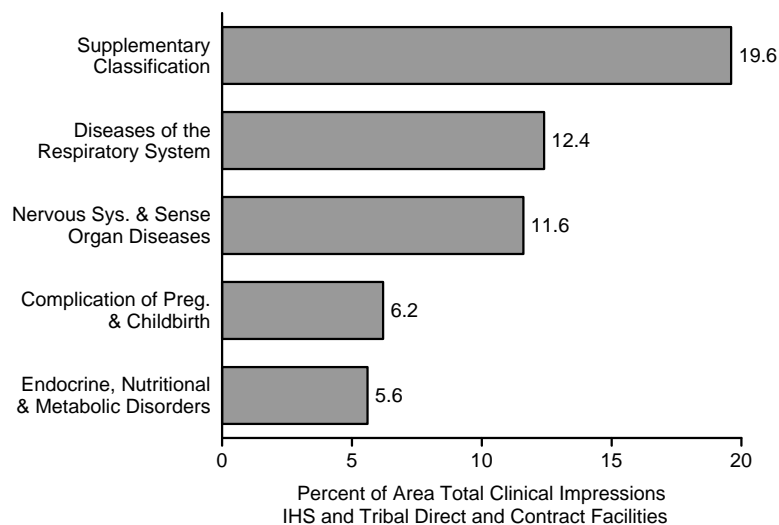
For the Alaska Area in FY 1993, 23.4 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications. This was followed by nervous system and sense organ diseases at 11.1 percent.



## Chart 5.21 Leading Causes of Ambulatory Medical Visits

Albuquerque Area, FY 1993

For the Albuquerque Area in FY 1993, 19.6 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications. This was followed by diseases of the respiratory system at 12.4 percent.



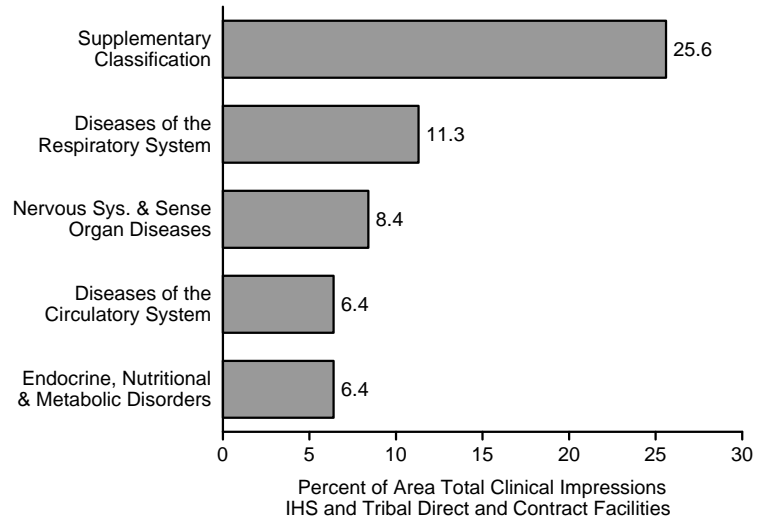


**Chart 5.22**

## Leading Causes of Ambulatory Medical Visits

Bemidji Area, FY 1993

For the Bemidji Area in FY 1993, 25.6 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications. This was followed by diseases of the respiratory system at 11.3 percent.

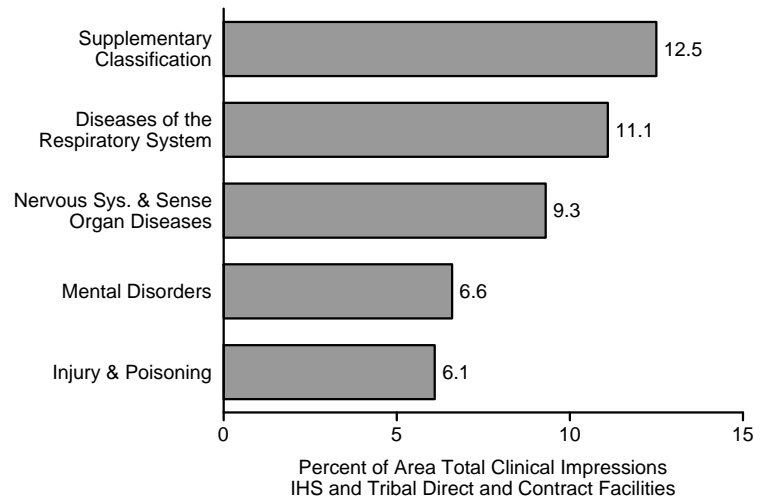


**Chart 5.23**

## Leading Causes of Ambulatory Medical Visits

Billings Area, FY 1993

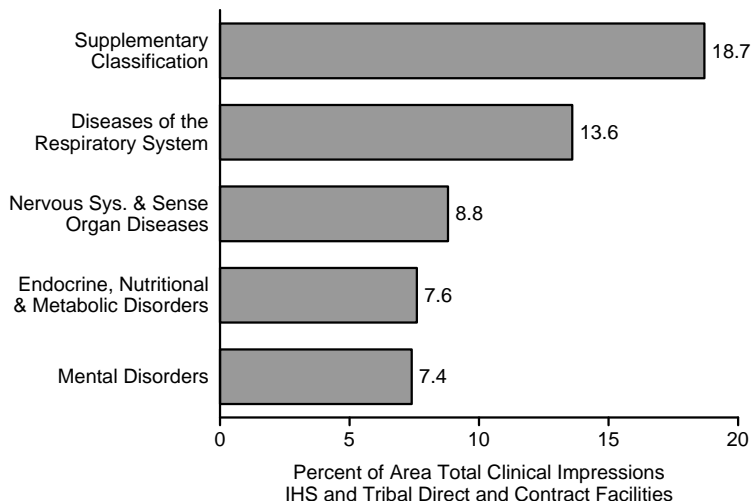
For the Billings Area in FY 1993, 12.5 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications. This was followed by diseases of the respiratory system at 11.1 percent.



## Chart 5.24 Leading Causes of Ambulatory Medical Visits

California Area, FY 1993

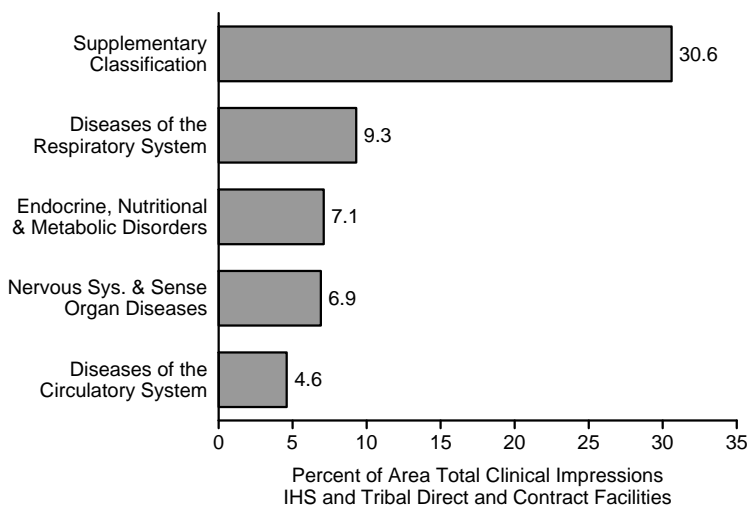
For the California Area in FY 1993, 18.7 percent of all clinical impressions in Tribal direct and contract facilities pertained to supplementary classifications. This was followed by diseases of the respiratory system at 13.6 percent.



## Chart 5.25 Leading Causes of Ambulatory Medical Visits

Nashville Area, FY 1993

For the Nashville Area in FY 1993, 30.6 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications. This was followed by diseases of the respiratory system at 9.3 percent.

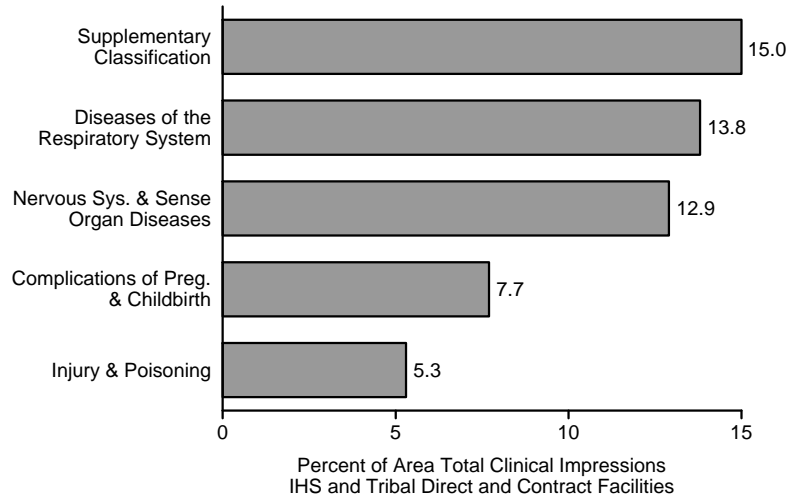


**Chart 5.26**

## Leading Causes of Ambulatory Medical Visits

Navajo Area, FY 1993

For the Navajo Area in FY 1993, 15.0 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications. This was followed by diseases of the respiratory system at 13.8 percent.

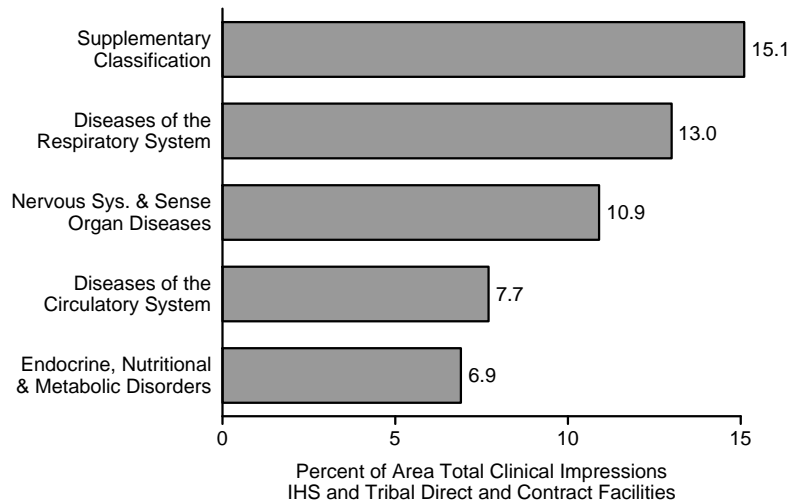


**Chart 5.27**

## Leading Causes of Ambulatory Medical Visits

Oklahoma Area, FY 1993

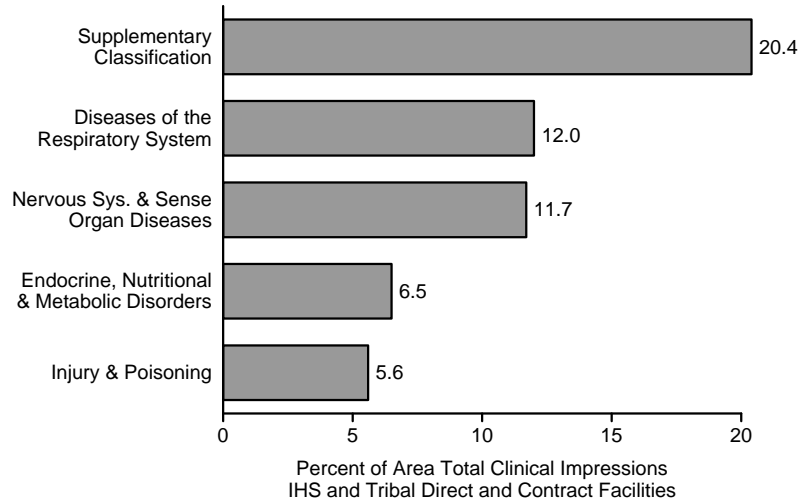
For the Oklahoma Area in FY 1993, 15.1 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications. This was followed by diseases of the respiratory system at 13.0 percent.



## Chart 5.28 Leading Causes of Ambulatory Medical Visits

Phoenix Area, FY 1993

For the Phoenix Area in FY 1993, 20.4 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications. This was followed by diseases of the respiratory system at 12.0 percent.



## Chart 5.29 Leading Causes of Ambulatory Medical Visits

Portland Area, FY 1993

For the Portland Area in FY 1993, 23.0 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications. This was followed by diseases of the respiratory system at 13.9 percent.

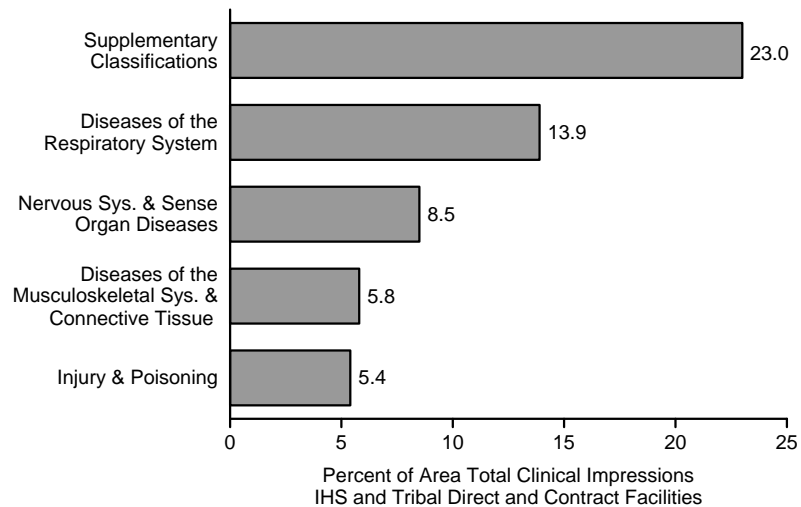
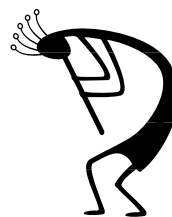
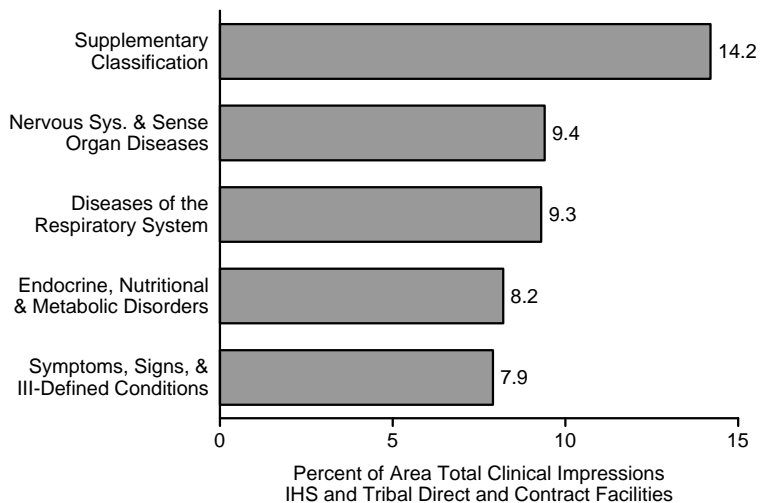


Chart 5.30

## Leading Causes of Ambulatory Medical Visits

Tucson Area, FY 1993

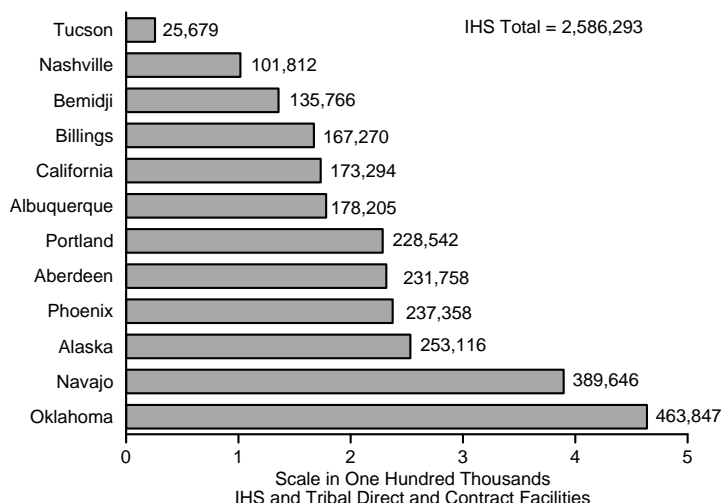
For the Tucson Area in FY 1993, 14.2 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications. This was followed by nervous system and sense organ diseases at 9.4 percent.



## Chart 5.31

### Number of Dental Services Provided, FY 1994

In FY 1994, there were nearly 2.6 million dental services provided at IHS and Tribal direct and contract facilities. Two IHS Areas provided 33 percent of the dental services, Oklahoma (463,847) and Navajo (389,646).



## Table 5.31

### Number of Dental Services Provided

Indian Health Service and Tribal Direct and Contract Facilities, FY 1994

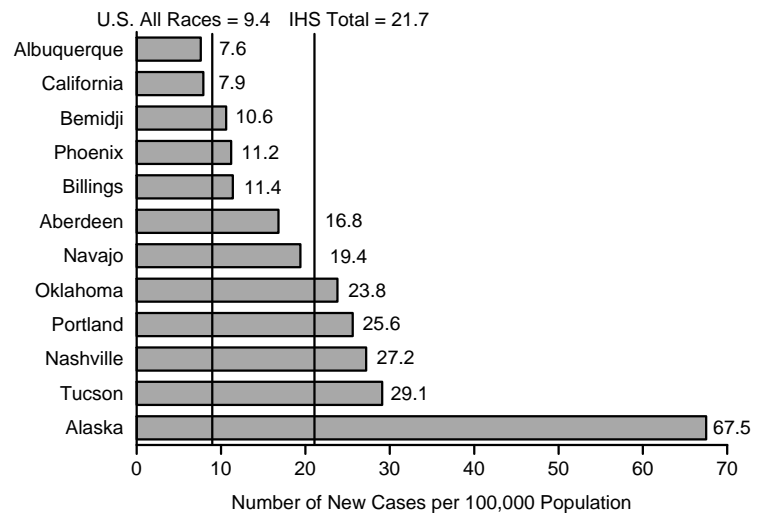
	Total		IHS direct		IHS contract		Tribal direct		Tribal contract	
	Patients	Services	Patients	Services	Patients	Services	Patients	Services	Patients	Services
<b>All IHS Areas</b>	<b>379,309</b>	<b>2,586,293</b>	<b>242,805</b>	<b>1,686,892</b>	<b>13,363</b>	<b>64,483</b>	<b>116,059</b>	<b>790,870</b>	<b>7,082</b>	<b>44,048</b>
Aberdeen	37,522	231,758	29,022	181,036	1,984	12,182	5,736	34,728	780	3,812
Alaska	37,590	253,116	11,989	80,441	688	3,616	24,913	169,059	0	0
Albuquerque	26,097	178,205	23,043	156,336	163	1,104	2,869	20,624	22	141
Bemidji	21,488	135,766	6,085	35,647	621	4,226	13,830	90,791	952	5,102
Billings	23,277	167,270	20,142	146,235	193	1,391	2,942	19,644	0	0
California	23,277	173,294	0	0	0	0	22,914	171,080	363	2,214
Nashville	16,026	101,812	3,622	23,791	12	71	11,273	72,053	1,119	5,897
Navajo	55,769	389,646	53,119	379,661	2,650	9,985	0	0	0	0
Oklahoma	66,382	463,847	41,371	307,511	4,019	20,295	20,369	131,803	623	4,238
Phoenix	33,336	237,358	29,563	212,484	551	1,911	3,178	22,761	44	202
Portland	33,579	228,542	21,245	142,086	1,120	5,687	8,035	58,327	3,179	22,442
Tucson	4,966	25,679	3,604	21,664	1,362	4,015	0	0	0	0

Source: IHS Dental Workload Data Reporting System, 1994

## Chart 5.32

### Rate of New Tuberculosis Cases, CY 1994

The rate of new tuberculosis cases for the IHS in CY 1994 was 2.3 times the rate for the U.S., 21.7 new cases per 100,000 population compared to 9.4. The Alaska Area rate (67.5) was over 7 times the U.S. rate.



## Table 5.32

### Number and Rate of New Tuberculosis Cases, CY 1994

	Case rate <sup>1</sup>	Number of cases <sup>1</sup>
U.S. All Races	9.4	24,361
All IHS Areas	21.7	266
Aberdeen	16.8	18
Alaska	67.5	66
Albuquerque	7.6	6
Bemidji	10.6	7
Billings	11.4	7
California	7.9	5
Nashville	27.2	10
Navajo	19.4	45
Oklahoma	23.8	63
Phoenix	11.2	13
Portland	25.6	20
Tucson	29.1	6

<sup>1</sup> Number of new cases per 100,000 service population. Rates are based on a small number of new cases and should be interpreted with caution.

Source: Centers for Disease Control and Prevention (data by State and county)