



# Trends in Indian Health 2002-2003 EDITION

U.S. Department of Health and Human Services  
Indian Health Service  
Office of Public Health Support  
Division of Program Statistics

**INDIAN HEALTH SERVICE  
TRENDS IN INDIAN HEALTH  
2002-2003 EDITION**

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## PREFACE

*Since 1955, the Indian Health Service (IHS) has upheld the Federal Government's obligation to promote healthy American Indian and Alaska Native (AI/AN) communities and cultures, while honoring and protecting each Tribe's inherent sovereign rights. Our mission is to raise the physical, mental, social, and spiritual health of American Indians and Alaska Natives to the highest level.*

*The 2002–2003 edition of “**Trends in Indian Health**” describes IHS programs and provides tables and charts detailing the health status of AI/AN people. This report presents demographic information and trends as well as statistics on patient care delivery services and community health. Where appropriate, comparisons are made to the U.S. population at large.*

*The IHS remains committed to ensuring that comprehensive, culturally acceptable personal and public health services are available and accessible to AI/AN people. The data contained within this report advances our ongoing efforts to achieve this vital health care goal.*



Yvette Roubideaux, M.D., M.P.H.  
Director

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## OVERVIEW

The Indian Health Service (IHS), an agency within the Department of Health and Human Services (HHS), is responsible for providing federal health services to American Indian and Alaska Native (AI/AN) people. The provision of health services to federally recognized Indians grew out of a special relationship between the federal government and Indian Tribes. This government-to-government relationship is based on Article I, Section 8, of the United States Constitution, and has been given form and substance by numerous treaties, laws, Supreme Court decisions, and Executive Orders.

The Indian Health program became a primary responsibility of the HHS 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 is the federal health care provider and health advocate for AI/AN people and its goal is to assure that comprehensive, culturally-acceptable personal and public health services are available and accessible to AI/AN people. The mission of the IHS, in partnership with AI/AN people, is to raise their physical, mental, social, and spiritual health to the highest level. It is also the responsibility of the IHS to work with the people involved in the health delivery programs so they may be cognizant of entitlements of AI/AN 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 AI/AN 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 staffing 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 AI/AN people 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 primary level of health organization for a geographic area served by the IHS program, just as a county or city health department in a state health department.

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 administered by Area Offices.

## TRENDS IN INDIAN HEALTH

### Introduction

*"Trends in Indian Health"* provides basic statistical information to the IHS and its programs, Tribes, other federal and state government agencies, as well as other customers interested in the IHS. This publication uses narrative, charts, and tables to describe the IHS program and the health status of AI/AN people residing in the IHS service area. The IHS service area consists of counties "on" or "near" federal Indian reservations, i.e. contract health service delivery areas (CHSDAs). As of CY 2009 the Indians residing in the service area comprise about 57 percent of all AI/AN people residing in the U.S. Information pertaining to the IHS organizational structure, AI/AN demography, and patient care is included. Historical trends are depicted, and comparisons to other population groups are made, when appropriate.

### Scope and Organization of this Report

Narrative, charts, and tables are grouped into six major categories:

- IHS Structure,
- Population Statistics,
- Natality and Infant/Maternal Mortality Statistics,
- General Mortality,
- Patient Care Statistics, and
- Community Health Statistics

The tables provide detailed data, while the charts further depict significant relationships. Throughout this report each table and its corresponding chart appear next to each other. However, some self-explanatory charts do not have a corresponding table. In other instances, a table may have more than one chart associated with it.

## SUMMARY OF DATA SHOWN

### Indian Health Service Organizational Structure

The IHS is comprised of 12 regional administrative units called Area Offices. As of October 1, 2006, the Area Offices consisted of 163 basic administrative units called service units. Of the 163 service units, 106 were operated by Tribes.

The IHS operated 31 hospitals, 50 health centers, two school health centers, and 31 health stations. Tribes have two different vehicles for exercising their self determination—they can choose to take over the operation of an IHS facility through a P.L. 93-638 self-determination contract (Title I) or a P.L. 93-638 self-governance compact, as amended (Title V). A distinction is made in this publication regarding these two Tribal modes of operation, i.e., Title I and Title V. A non-638 contract mechanism is used by Alaska to provide funding to several tribally operated village clinics. Tribes operated 15 hospitals (Title I, one hospital and Title V, 14 hospitals), 254 health centers (Title I, 122 and Title V, 132), 18 school health centers (Title I, 15 and Title V, three), 112 health stations (Title I, 60 and Title V, 52), and 166 Alaska village clinics (Title I, eight and Title V, 149, and Other, nine).

There were 36 Urban Indian Health Programs ranging from full ambulatory care, limited ambulatory care, referral, and demonstration programs.

As of October 2007, all IHS hospitals, eligible IHS-operated health centers and regional youth treatment centers were accredited by the Joint Commission, Centers for Medicare and Medicaid Services (CMS), and Accreditation Association for Ambulatory Healthcare (AAAHC).

### Population Statistics

In Calendar Year (CY) 2009, the IHS service population (a count of those AI/AN people who are eligible for IHS services) will be approximately 1.9 million. Since 2000, the IHS service population is increasing at a rate of about 1.7 percent per year, excluding the impact of new Tribes.

The AI/AN population residing in the IHS service area is younger than the U.S. all-races population, based on the 2000 Census with bridged-race categories. For AI/AN, 31 percent of the population was younger than 15 years, and six percent was older than 64 years. For the U.S. all-races population, the corresponding values were 21 and 12 percent respectively. The AI/AN median age was 25.0 years compared to 34.9 years for U.S. all-races. The estimated CY 2007 population was 939,743 AI/AN residing in the Urban Indian Health Programs service area.

According to the 2000 Census with bridged-race categories, AI/ANs have lower incomes than the general population. In 1999, AI/AN people residing in U.S. had a median household income of \$30,599 compared to \$41,994 for U.S. all races. The AI/AN median household income was only marginally higher than the median household income (\$29,423) for Blacks. During this time period, 25.7 percent of AI/AN people in the U.S. lived below the poverty level in contrast to 12.4 percent for the U.S. all races population.

### **Nativity and Infant/Maternal Mortality Statistics**

The birth rate for AI/AN people residing in the IHS service area was 20.8 (rate per 1,000 population) in 2002-2004. It is 1.5 times the 2003 birth rate of 14.1 for the U.S. all-races population.

The maternal mortality rate for AI/AN people residing in the IHS service area dropped from 28.5 (rate per 100,000 live births) in 1972-1974 to 11.1 in 2002-2004, a decrease of 61 percent. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates. In 2002-2004, there were 6 unadjusted maternal deaths, whereas there were 7 maternal deaths adjusted for misreporting of AI/AN race on the state death certificate.

The infant mortality rate for AI/AN people residing in the IHS service area dropped from 25.0 (rate per 1,000 live births) in 1972-1974 to 8.3 in 2002-2004 a decrease of 67 percent. These rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates. The 2002-2004 rate (8.3) is 20 percent higher than the U.S. all-races rate (6.9) for 2003.

### **General Mortality Statistics**

The leading cause of death for AI/AN people residing in the IHS service area (2002-2004) was from heart disease followed by malignant neoplasm. (This is same as for the total U.S. all-races population in 2003). However, the cause-of-death ranking differs by sex. For AI/AN males, the top two leading causes of death were diseases of the heart and unintentional injuries. For AI/AN females, the top two leading causes of death were diseases of the heart and malignant neoplasms.

In 2002-2004, the AI/AN (IHS service area) age-adjusted death rates for the following causes were considerably higher than those for the U.S. all-races population in 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates. The following list is a comparison of AI/AN age-adjusted rate (using data that are also adjusted for misreporting of AI/AN race on the state death certificates) to the U.S. rate where there are substantial differences.

Comparison of 2002-2004 AI/AN death rates to 2003 U.S. all-races death rates.

- Tuberculosis—750 percent greater;
- Alcoholism—524 percent greater;
- Motor Vehicle Crashes—234.6 percent greater;
- Diabetes mellitus—193 percent greater;
- Unintentional injuries—153 percent greater;
- Homicide—103.3 percent greater;
- Suicide—66 percent greater;
- Pneumonia and influenza—47 percent greater; and
- Firearm injury—28 percent greater;

### **Patient Care Statistics**

In FY 2006, there were 76,054 admissions to IHS and Tribal direct and contract general hospitals. The leading cause of hospitalization was obstetric deliveries and complications of pregnancy and puerperium.

The total number of ambulatory medical visits (IHS and Tribal direct and contract facilities) was more than ten million in FY 2006, an increase of more than 488 percent since FY 1970. The leading cause of ambulatory medical visits in IHS and Tribal direct and contract facilities was supplementary classification conditions. The supplementary classification 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.

The number of direct and contract dental services provided by Indian Health Service, Tribal, and Urban Programs, as reported to the IHS central database, has increased almost 16 fold (from under 0.2 million in FY 1955 to about 3.2 million in FY 2006).

### **Community Health Statistics**

The Community Health Representative (CHR) program reported approximately 1,887,881 client services during FY 2003-2006. This number reflects about a third of the 264 tribal CHR Programs submitting data. Most of these services took place in the home (29 percent) and community (49 percent). Throughout FY 2003-2006, the leading service category was Patient Care (nearly 22 percent), followed by Monitor Patients (16 percent), Case Management (nearly 15 percent), and Transportation (nearly 15 percent). During FY 2003-2006, the top six Health Problems/issues were Other Health Promotion/Disease Prevention (32 percent); Diabetes Mellitus (18 percent); Hypertension (13 percent); Nutrition (5 percent); Dialysis (4 percent); and Heart, immunizations, and eye care/glasses (2 percent). A majority of services delivered in those top six Health Problems were to patients age 60 and over (see graphs).

For people accepted for treatment into the IHS substance abuse treatment program, most initial contacts are for alcohol addiction only. However, the number of initial contacts involving other drugs has been increasing. Also, the age-adjusted drug-related death rate for AI/AN residing in the IHS service area increased from 4.9 deaths per 100,000 population in 1979-1981 to 15.0 in 2002-2004. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates. The 2002-2004 AI/AN rate (15.0) is 1.5 times greater than the U.S. all-races rate (9.9) for 2003.

The IHS Injury Prevention (IP) Program promotes a comprehensive public health approach to prevent injuries. Evidence-based projects are used to reduce motor vehicle injuries and fatalities by increasing occupant restraint use through tribal motor vehicle occupant restraint policy development; supporting tribal law enforcement in deterring drunk drives (DUI policy development); and highway environmental modifications (street lights, guard rails, highway stripping, etc). The IP Program works in partnership through community-based IP coalitions in specific IP projects (Ride, Safe, Sleep Safe), and funds competitive cooperative agreement programs aimed at building tribal capacity, enhancing existing public health infrastructure and implementing effective community-based strategies to prevent injuries. The IHS IP program has contributed to a 6 percent decline in IHS and Tribal direct and contract hospitalizations for injuries and poisonings since FY 2002.

There were 420,778 public health nursing visits recorded in the Headquarters reports for FY 2006. The most frequent program areas dealt with during these visits were health promotion/disease prevention (39 percent of the visits), morbidity (17 percent), maternal health (5 percent) and communicable disease (4 percent). The visits were concentrated in two age groups, children under 5 years of age (21 percent) and adults over the age of 64 (19 percent). Female visits outnumbered male visits by 62 percent.

With completion of all projects approved through FY 2006, approximately 300,000 AI/AN homes will have been provided first service sanitation facilities since 1960. As of the end of FY 2007, there were over 150,000 AI/AN homes in need of sanitation facilities, including over 36,000 AI/AN homes without potable water.

The FY 2007 economically feasible sanitation deficiencies to serve existing AI/AN homes and communities totals \$1,054 billion. This amount is to provide first service sanitation facilities, to upgrade existing facilities, to provide solid waste facilities, and to provide assistance to operation and maintenance organizations.

In FY 2007, 4,415,437 patient education codes were documented for 1,924,322 patients. Areas documenting the most patient education are the Oklahoma area (28 percent), Phoenix area (17 percent), and the Navajo area (15 percent). Areas with the greatest improvement in documentation as compared to FY 2003 are the Tucson area (increase of 49.19 percent), Navajo area (increase of 26.6 percent), Nashville area (increase of 26.14 percent), and the Portland area (increase of 14.41 percent). All healthcare disciplines are encouraged to provide and document patient education.

In FY 2007, pharmacists documented 27 percent of the patient education provided to patients, followed by clinical nurses (22 percent), physicians (12 percent), LPNs (10 percent), nursing assistants (7 percent), public health nurse and nurse practitioners (5 percent). Other disciplines provided less than 5 percent and are grouped together in the other category, which totaled provided 13 percent of patient education. Most patient education is provided in the hospital (57 percent) or health center (35 percent) location. Health stations, village clinics, and chapter houses account for 4 percent of health education provided and the remaining 4 percent of health education is provided in non-health care related settings such as home, school, or the office.

The top 25 patient education codes in FY 2007 made up 63.6 percent of all patient education codes provided (2,808,706 codes out of a total 4,415,706). The top 25 education codes fall into 7 categories. The most education was provided on medications (63 percent), immunizations (11 percent), diabetes (9 percent), wellness (6 percent), women's health (5 percent), medical safety (4 percent), and tobacco (2 percent).

## SOURCES AND LIMITATIONS OF DATA

### Population Statistics

Registered AI/AN patients with at least one direct or contract inpatient stay, outpatient visit, or dental visit during the last three years are defined as users. IHS user population estimates are drawn from data in the IHS Patient Registration System. First implemented in 1984, the Patient Registration System functioned adequately for many years; but, in recent years, system changes resulted in registration record errors. New system-wide improvements were implemented. From December 2003 through January 2006 local facilities re-sent complete and up-to-date information for all patients who had ever received direct or contract health services from IHS or Tribally-operated programs to a central data repository. Data matching software was then applied to the information, allowing for the identification and removal of duplicate records. Thanks to the dedicated efforts of area statistical officers and information technologists alike, this publication contains some of the most accurate user population estimates ever produced.

The service population estimates are based on official U.S. Census Bureau county data, representing self-identified AI/AN people who may or may not use IHS services. IHS service populations between census years (e.g., 1990 and 2000) are estimated using 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 AI/AN people. IHS service populations beyond the latest census year (2000) are projected through linear regression techniques, using the most current ten years of AI/AN birth and death data provided by the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC).

State birth and death certificates do not provide information on use of IHS services, IHS service population figures are used in calculating AI/AN vital event rates for the IHS service areas.

The social and economic data contained in this publication are from the 2000 census and reflect the characteristics of persons self-identifying as AI/AN (alone).

### IHS Service Population

#### *Definition*

The IHS service population is based on the 2000 Census with bridged-race categories (developed by the U.S. Census Bureau and the Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS). The service population consists of AI/AN people and serves as a measure of those eligible for IHS services. Those AI/AN eligible are estimated by counting AI/AN who reside in geographic areas in which IHS has responsibilities (“on or near” reservations) and is comprised of approximately 57 percent of all AI/AN residing in the U.S. These people **may** or **may not** use IHS health services. (Migration is not a factor when developing the IHS service population).

### *Description of Service Population Calculation*

The Division of Program Statistics (DPS) produces service populations for IHS Areas, service units, and counties. Since state birth and death certificates do not provide information on use of IHS services, the IHS service population counts are used as the denominator when calculating AI/AN vital event rates for the IHS service areas.

IHS service populations between census years (e.g., 1990 and 2000) are estimated using a smoothing technique in order to illustrate 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 conduct a better job in enumerating AI/AN people. IHS service populations beyond the latest census years (2000) are projected through linear regression techniques, using the most current ten years of AI/AN birth and death data provided by NCHS.

IHS service population figures are based on the 2000 census with bridged-race categories (at the county level) file. The Census Bureau enumerates those individuals who identify themselves as AI/AN. The IHS service population consists of those enumerated AI/ANs who reside in the geographic areas in which IHS has responsibilities (“on or near” reservations, i.e., contract health service delivery areas (CHSDAs)).

*The 2000 Census allowed respondents to report more than one race category to describe themselves and household members. This was a result of the revised Office of Management and Budget (OMB) guidelines issued on October 30, 1997. All other censuses prior to 2000 had offered the respondent with the option for self-identification of a single race with which the respondent most closely identified. As a result of the aforementioned OMB revised standards, a methodology was developed to “bridge” the 2000 Census with previous decennial censuses. This impacted the manner in which the total AI/AN population was counted.*

The Census Bureau and NCHS are credited for developing the bridging methodology to address the inconsistencies for identifying race between the 2000 Census and the previous censuses. The 2000 Census with bridged-race categories re-categorizes more than one race responses to a single race response. The 2000 Census’ (with bridged-race categories) single race corresponds with the single race categories used on the birth and death certificates.

*Source: National Center for Health Statistics. Estimates of the July 1, 2000-July 1, 2004, United States resident population from the Vintage 2004 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the U.S. Census Bureau. Available on the Internet at: <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm>. September 8, 2005*

Using the 2000 Census with bridged-race categories increased the AI/AN population denominators resulting in an AI/AN population of 3.3 million for the entire U.S.; thereby slightly decreasing the IHS mortality rates.

This AI/AN population of 3.3 million falls between the population of all AI/AN in the U.S. of 2.5 million who identified themselves as an AI/AN race (alone) and the population of all AI/AN in the U.S. of 4.2 million who identified themselves as an AI/AN and a combination of at least one other race (combination).

IHS service populations beyond the latest census (2000) are projected through linear regression techniques using the latest ten years of AI/AN birth and death data provided by NCHS. The estimated natural change for a county (number of births minus the number of deaths) is applied accumulatively to the latest census

enumeration for each county and each year beyond the census. DPS produces a new set of IHS service population projections each year.

The IHS service populations are produced for the IHS area, service unit, and county levels. If a county is split between and/or among service units and/or IHS service areas, DPS allocates the county population to the affected service units and/or service areas. These population allocations are based on percentage splits developed and agreed by the affected IHS areas. A letter of agreement describing the formal arrangement (including a valid authorization by all authorities for the population allocation) is sent to DPS and kept on file. These percentage splits are calculated using sub-county census data and census maps.

DPS also generates AI/AN population estimates and projections, utilizing an identical methodology, for non-service IHS counties. Therefore, DPS produces census-based AI/AN population figures for every U.S. county and all 50 states.

### Changes in Methodologies

DPS used updated methodologies to produce age-adjusted mortality rates. These applied methodologies coincide with methodologies used by NCHS, CDC and the U.S. Census Bureau. Using these updated methodologies enabled AI/AN mortality rates to be compared to U.S. all-races mortality rates produced by the aforementioned agencies.

Age-adjusted mortality rates for *“Trends in Indian Health” (2000-2001)* developed for data years 1972-1974 through years 1996-1998 are **NOT** comparable to these latest published mortality rates calculated for data years 1972-1974 through years 2002-2004. This is due to several changes in the methodology used to calculate the age-adjusted mortality rate produced by DPS.

Under **no** circumstances should data published in this issue of *“Trends in Indian Health”* be compared to any data published in prior *“Trends in Indian Health”* publications. This holds true for other previous IHS publications including *“Regional Differences in Indian Health,”* the *“Focus Reports,”* the *“Life Expectancy Report,”* and all YPLL data provided by DPS. (All forthcoming publications will calculate data that are comparable by using the following updated methodologies).

The three major updated methodologies applied by DPS include:

#### *ICD-9 Conversion to ICD-10*

Beginning with the 1999 mortality data a new classification system was implemented to categorize causes of death. The International Classification of Diseases, Version 10 (ICD-10) was used by the states and NCHS to code all causes of death for years 1999 onward. The ICD-10 classification system consists of a new nomenclature scheme with new and revised categories for some causes of death. Comparability ratios are applied when appropriate, i.e., to adjust data analyzed using the past classification system (ICD-9). Such revisions are noted on the data when applicable. *“Trends in Indian Health”* applies comparability ratios to all data years prior to the 1999. These comparability ratios were developed by NCHS and applied to ICD-8 (years 1972-1978) and ICD9 codes (years 1979-1998). Since there is no direct ‘code-to-code’ correlation these comparability ratios assist with bridging the different classifications systems to insure that data are comparable when illustrating trends. *“Trends in Indian Health”* provides data for years prior to 1999 therefore necessitating the use of adjustment factors when calculating the mortality rates.

#### *2000 U.S. Census Populations with Bridged Race Categories (2000 Census Bridged File)*

The 2000 U.S. Census Population with Bridged-Race Categories (2000 Census Bridged File) for AI/ANs was used by IHS to calculate mortality and natality age-adjusted rates. The 2000 Census allowed respondents to report more than one race category to describe their race. The birth and death certificates (vital events) used by the states for years 1999-2001 allow only a **single race** category to be reported. Vital event totals are used in the numerator and the 2000 Census bridged population is used in the denominator to produce the birth or death rates that occur in the population of interest. The denominator data are based on the 2000 Census bridge file, which re-categorizes responses to a single race where more than one race was reported. This corresponds to the single race categories used on birth and death certificates.

#### *Age Adjustment Based on the 2000 Standard Population*

The HHS recommended that all HHS agencies use the 2000 Census standard population to age-adjust mortality rates. IHS calculates age-adjusted rates based on the 2000 standard population to comply with this HHS recommendation.

### **Vital Event Statistics**

AI/AN vital event statistics are derived from data provided annually to IHS by NCHS. Vital event statistics for the U.S. population were derived from data reported in various NCHS publications as well as from some unpublished data from NCHS.<sup>1</sup> NCHS obtains birth and death records for all U.S. residents from state health departments, based on information reported on official birth and death state certificates. The records NCHS provides to 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 natality and mortality data are only as accurate as the reporting by the states to NCHS. NCHS does perform numerous edit checks, applies verification methods, and imputes values for non-responses.

Misreporting of AI/AN race on state death certificates occurs, especially in areas distant from traditional AI/AN reservations. In order to determine the degree and scope of the misreporting, IHS conducted a study utilizing the National Death Index (NDI) maintained by NCHS. The study involved matching IHS patient records of those patients who could have died during 1986 through 1988 with all death records of U.S. residents for 1986 through 1988 as contained on the NDI. The results were published in a document entitled, *Adjusting for Miscoding of Indian Race on State Death Certificates*, November 1996. The study revealed that on 10.9 percent of the matched IHS-NDI records, the race reported for the decedent was other than AI/AN. The percentage of records with inconsistent classification of race ranged from 1.2 percent in the Navajo Area to 28.0 and 30.4 percent in the Oklahoma and California Areas, respectively.<sup>2</sup>

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<sup>1</sup> Arias, E. *United States Life Tables, 2003. National Vital Statistics Report; Vol. 54 No 14.* Hyattsville, Maryland: National Center for Health Statistics. 2006.

<sup>2</sup> Indian Health Service, Division of Program Statistics, *Adjusting for Miscoding of Indian Race on State Death Certificates.* November, 1996.

The results of the NDI study provide sufficient numbers to calculate adjustments for each IHS Area, IHS overall and selected age groups. In addition to these adjustments based on the study findings, IHS assumed the following: (a) the results from 1986-88 apply to other years; (b) IHS age-group adjustments applied also to each Area; and (c) the Area adjustments applied to the causes of death used in this publication, i.e. if an Area's total deaths needed to be increased by ten percent, than the deaths for each cause of death would also increase by this same rate. These assumptions cannot be statistically supported by the results of the study. However, it was necessary to adjust all the death rates in this publication to provide a meaningful and comprehensive look at health status.

These NDI adjustments were used for the first time in the 1997 edition of this publication. Both unadjusted and adjusted information is shown, as applicable. The adjustments were applied to the results obtained from using an unadjusted death file.

IHS has more specific adjustment factors for the age group less than one year. These are derived from the linked birth/infant death data sets produced by the NCHS.<sup>3</sup> In this edition unadjusted and adjusted infant mortality rates will be shown. These adjustments based on the linked data sets take precedent over the NDI adjustments for the under one-year age group, described above.

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 AI/AN vital event statistics in this publication pertain only to AI/AN people residing in the counties that make up the IHS service area, in contrast to earlier editions of the *"Trends in Indian Health"* publication which depicted vital event statistics for all AI/AN people 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 death rates) than IHS service area rates. Since prior to 1972, only Reservation State data were available; these data were used to show trends going back to 1955, the inception of the IHS. However, now that sufficient vital event data are 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. IHS service area data are more indicative of the health status of the AI/AN people that IHS serves.

The AI/AN population is considerably younger than the U.S. all-races population. Therefore, the death rates presented in this publication have been age-adjusted where applicable so that appropriate comparisons can be made between these population groups. Two exceptions are the information presented for leading causes of death and leading cancer sites.<sup>4</sup> In order to determine the leading causes of death or cancer sites for a population group, it is necessary to rank without any adjustment for age. However, it should be kept in mind that the ranking of causes of death or cancer sites for a population group is affected by its age composition.

All age-adjusted death rates calculated using a small number of deaths should be interpreted with caution as the observed rate may be quite different from the true

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<sup>3</sup> <http://www.cdc.gov/nchs/linked.htm>

<sup>4</sup> <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/leadingdeaths03/leadingdeaths03.htm>

underlying rate. This occasionally occurred when an Area rate was calculated for a specific cause of death, e.g., tuberculosis. Any rate based upon fewer than 20 deaths may not be reliable as the sample will be too small.

Prior to this publication, “alcohol causes of deaths” used ICD-9 codes for years prior to 1999. All ICD-9 codes used in IHS publications are consistent with codes used by NCHS. For years 1999 onward, alcohol-induced causes of death include the following ICD-10 codes:

- F10 (mental and behavioral disorders due to the use of alcohol)
- G31.2 (degeneration of the nervous system due to alcohol)
- G62.1 (alcoholic polyneuropathy)
- I42.6 (alcoholic cardiomyopathy)
- K29.2 (alcoholic gastritis)
- K70 (alcoholic liver disease)
- R78.0 (finding of alcohol in blood)
- X45 (accidental poisoning by and exposure to alcohol)
- X65 (intentional self-poisoning by and exposure to alcohol), and
- Y15 (poisoning by and exposure to alcohol, undetermined intent)

The list of codes for alcohol-induced causes of death was expanded in 2003 to include E24.4, G72.1, and K86.0. Definitions of these expanded codes are:

- E24.4 (alcohol-induced pseudo-Cushing’s syndrome)
- G72.1 (alcoholic myopathy)
- K86.0 (alcohol-induced chronic pancreatitis)

The NCHS definition of alcohol-related deaths includes all of these ICD-10 codes groups and that are used in all IHS publications. (*NOTE: The category “alcohol-induced causes” includes not only deaths from dependent and nondependent use of alcohol, but also accidental poisoning by alcohol. It excludes unintentional injuries, homicides, and other causes indirectly related to alcohol use as well as deaths due to fetal alcohol syndrome.*)<sup>5</sup>

#### Age-Adjustment

The age-adjusted death 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 2000 was selected as the standard since this is the standard used by NCHS.<sup>6</sup> 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 ten-year age groups. It is important **not** to compare age-adjusted death rates with crude rates.

A new table, “Poisoning Deaths and Death Rates,” was added beginning with the 2002-2003 edition because of its significance in the AI/AN community. The “poisoning” table and chart include deaths for the following ICD-10 codes: U01.6-U01.7 (poisoning via terrorism); X40-X49 (accidental poisoning by exposure to noxious substances); X60-X69 (suicide by poisoning); X85-X90 (homicide by poisoning); Y10-Y19 (undetermined poisoning); and Y35.2 (poisoning by legal intervention/war).

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<sup>5</sup> Hoyert DL, Heron MP, Murphy SL, Kung H. Deaths: Final Data for 2003. National Vital Statistics Reports; vol 54 no 13. Hyattsville, Maryland: National Center for Health Statistics. 2006.

<sup>6</sup> Anderson RN, Rosenberg, HM. Age Standardization of Death Rates: Implementation of the Year 2000 Standard; National Vital Statistics Reports, vol 47 no 3. Hyattsville, Maryland: National Center for Health Statistics. 1998.

### Patient Care Statistics

Patient care statistics are derived from several IHS reporting systems. Almost all patient care data used in this report for IHS and Tribal facilities originated from the National Data Warehouse (NDW), the central data repository which is managed by the National Patient Information Reporting System (NPIRS) team in collaboration with the IHS Division of Program Statistics. This effort began in December 2003 with files that contained initial loads of historical data as early as 2001 from the sites. Initial loads were completed in November 2005. In January 2006, incremental files started to be exported from all reporting sites. As of this writing, almost all reporting sites (99 percent) transmit exports to the NDW in incremental files monthly in one of two standard formats, Health Level 7 (HL7) or simplified format. Reporting sites do not need to run the Resource Patient Management System (RPMS) software locally in order to send files successfully to the NDW. Data received by the NDW is subject to errors in entering, transmitting, and formatting. Data quality issues with registration and encounter data might occur. The NPIRS team works with the Division of Program Statistics, Area Statistical staff, and Facility statistical staff to resolve such issues and continuously analyze, maintain, and improve the timeliness and accuracy of the data.

The NDW contains only IHS federal and Tribal direct and contract facility inpatient and outpatient data pertaining to various patient characteristics (age, sex, principal diagnoses, other diagnoses, community of residence, etc.). The data are collected by the local medical records system at each facility (RPMS or other), one record per inpatient discharge or outpatient visit, and then transmitted electronically to the NDW.

Starting with the 1996 edition, leading causes of hospitalization and ambulatory medical visits are shown for specific age groups. In prior editions, they were only shown for all ages and by sex.

In some cases, other information systems than the NDW were used by individual programs to provide data, presented in this report, pertaining to patient care. Facility accreditation, Tribal health contract and grant awards, urban projects, dental services, and provision of sanitary services reports were taken from data sources and reports run by the individual IHS programs.

### Community Health Statistics

Data on the IHS Community Health Representatives (CHR) Program is obtained only from the CHR Patient Care Component (PCC) application in the IHS Resource Patient Management System (RPMS). While the primary focus of CHR PCC is documentation of patient services, it is a powerful tool to record all services and activities to provide a complete accounting picture of CHR functions for program management and administration. With roughly a third of CHR Programs reporting nationally, the reduction of **reported** CHR services (4.1 million in FY 1993) through FY 2006 reflects the transfer of resources to Tribes as part of Self-Determination choices, geographic and security-related challenges just to access and use the CHR data application, and under-reporting of services as identified during training sessions on enhancements and upgrades to the data system. The data is derived from CHR Programs which enter and export data through CHR PCC, approximately 85 of 264 Programs nationwide. Data presented herein are primarily aggregate patient data over three fiscal years (FY 2003-2006). Data from CHR Programs utilizing “regular” RPMS PCC is not accessible through the reporting mechanism used at present. Future data based on improvements to the CHR PCC should reflect enhanced capacity and more specificity to better classify health problems and services delivery.

Direct patient care services includes hands-on care such as checking vital signs, providing personal care, providing emotional support, delivering medications/supplies/equipment, etc. Monitoring patients includes following up on health and well-being of clients pursuant to clinician referrals or as part of regularly scheduled work activities or care plans; ensuring that patients have enough food, medications, a safe living environment, etc. Case management can include services such as making medical appointments or scheduling check-ups or other activities on behalf of patients to ensure they receive health or socio-economic services and care needed. Transport Patients includes conveying patients to medical appointments when patients in mostly remote or rural areas don't have resources to get to health care or in the absence of public or tribally sponsored transportation systems.

IHS continues to encourage Tribal governments to utilize the CHR PCC data application for its 1) user-friendliness, 2) functionality and capacity to yield reports to supply needed patient information and track individual tribal CHR program effectiveness along with 3) identification of health trends and 4) baseline information for grant justifications. Historically and anecdotally patients, providers, tribal leaders and community members have viewed "transportation" as the primary service provided by CHRs. During FY 2003-2006, transportation consumed 31 percent of the CHR work hours yet represented only 14% of the actual patient services CHRs delivered. One hour of transport time is just that, one hour – yet an hour inside a patient's home typically results in the provision of 5-12 other kinds of patient services, many of which often go unreported – an ongoing training and access issue currently being addressed. CHRs verbally report that they often take advantage of that hour of transport time to provide health education or emotional support to patients - but just as often don't report those services in CHR PCC.

Future plans for the CHR Program include increased integration of CHRs into the health care team through collaboration with improvement initiatives within the Indian Health System; enhanced education and skills based competencies; and increased functionality and accessibility of RPMS CHR PCC to ensure program accountability and effectiveness.

Public Law 86-121 authorizes IHS to provide essential sanitation facilities to Indian homes and communities (P.L. 86-121; 42 U.S.C. § 2004a). The IHS, Sanitation Facilities Construction (SFC) Program, an integral component of the IHS disease prevention activity, has carried out those authorities since 1959 using both contributed funds and funds appropriated for SFC to provide potable water and waste disposal facilities for American Indian/Alaska Native (AI/AN) people. The provision of safe water and wastewater disposal not only plays a significant day to day role in improving the quality of life for AI/AN people, it remains the single most important intervention in breaking the chain of waterborne communicable disease episodes as well as enhancing the health promotion and disease prevention efforts of other public health specialists such as public health nurses, nutritionists, and community health representatives.

Data on patient education is collected through the Resource and Patient Management System (RPMS) and the National Data Warehouse (NDW).

## GLOSSARY

*Age-Adjustment (direct method)*—The application of age-specific rates in a population of interest to a standardized age distribution in order to eliminate 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 using the international rules for selecting the underlying cause of death from the conditions stated on the death certificate. The underlying cause is defined by the World Health Organization (WHO) as the disease or injury that initiated the train of events leading directly to death, or the circumstances of the accident or violence, which produced the fatal injury. Generally, more medical information is reported on death certificates than is directly reflected in the underlying cause of death. The conditions that are not selected as underlying cause of death constitute the non-underlying cause of death, also known as multiple cause of death. Cause of death is coded according to the appropriate revision of the International Classification of Diseases (ICD). Effective with

deaths occurring in 1999, the United States began using the Tenth Revision of the ICD (ICD-10); during the period 1979-98, causes of death were coded and classified according to the Ninth Revision (ICD-9). Each of these revisions has produced discontinuities in cause-of-death trends. These discontinuities are measured using comparability ratios.

*Census Definitions*—Definitions for census information including: unemployment, median household income, and poverty can be found on the census website.<sup>7</sup>

*Comparability Ratios*—Adjustment factors designed to measure the effects of a new revision of the ICD on the comparability with the previous revision of mortality statistics cause of death.<sup>8</sup>

*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 forty 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 forty hours a week.

*High Birthweight*—Birthweight of 4,000 grams or more.

*Infant Mortality*—The death of a live-born child before his or her first birthday. Deaths in the first year of life may be further classified according to age as neonatal and postneonatal. Neonatal deaths are those that occur before the 28th day of life; postneonatal deaths are those that occur between 28 and 365 days of age.

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<sup>7</sup> <http://www.census.gov>

<sup>8</sup> Anderson RN, Minino AM, Hoyert DL, Rosenberg, HM. Comparability of Cause of Death Between ICD-9 and ICD-10: Preliminary Estimates. National Vital Statistics Reports; vol 49 no. 2. Hyattsville, Maryland: National Center for Health Statistics. 2001.

**Infant Mortality Rate**—A rate based on period files calculated by dividing the number of infant deaths during a calendar year by the number of live births reported in the same year. It is expressed as the number of infant deaths per 1,000 live births.<sup>9</sup>

**International Classification of Diseases**—The Ninth Revision (ICD-9) codes are used for years prior to 1999. The Tenth Revision (ICD-10) codes are used for data years 1999 onward.

**Life Expectancy**—Life expectancy is the average number of years of life 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. Life expectancy may be determined by race, sex, or other characteristics using age-specific death rates for the population with that characteristic.<sup>10</sup>

**Live Birth**—In the WHO’s definition, also adopted by the United Nations and the NCHS, a live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life such as heartbeat, umbilical cord pulsation, or definite movement of voluntary muscles, whether the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered live born.<sup>11</sup>

**Low Birthweight**—Birthweight of less than five pounds, eight ounces or 2,500 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. Maternal death is one for which the certifying physician has designated a maternal condition as the underlying cause of death. Maternal conditions are those assigned to Complications of Pregnancy, Childbirth, and the Puerperium, (ICD-10 codes A34, O00-O95.9, O98-O99.9).<sup>12</sup>

**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**—Federal Register Notice (October 30, 1997), Revision to the Standards for the Classification of Federal Data on Race and Ethnicity. The revised standards have five minimum categories for data on race: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. There will be two categories for data on ethnicity: “Hispanic or Latino:” and “Not Hispanic or Latino.” Persons are offered the option to select one or more races.<sup>13</sup>

**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 an 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**—AI/AN people identified to be eligible for IHS services.

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

**User Population**—AI/AN people who have used IHS services at least once during the last three-year period according to their community of residence.

**Years of Potential Life Lost (YPLL)**—A mortality indicator that measures the burden of premature deaths, calculated by subtracting the age at death from age 65 and summing the result over all deaths.<sup>14</sup>

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<sup>9</sup> <http://www.cdc.gov/nchs/deaths.htm>

<sup>10</sup> <http://www.cdc.gov/nchs/deaths/htm>

<sup>11</sup> <http://www.cdc.gov/nchs/births.htm>

<sup>12</sup> <http://www.cdc.gov/nchs/deaths.htm>

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<sup>13</sup> <http://www.whitehouse.gov/omb/fedreg/1997standards.html>

<sup>14</sup> <http://webapp.cdc.gov/sasweb/ncipc/ypll9.html>

## SOURCES OF COPIES AND ADDITIONAL INFORMATION

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

### *General Information*

Edna L. Paisano, Principal Statistician and Director, Division of Program Statistics  
Priscilla Sandoval, Program Analyst

### *Demographic Statistics*

Jo Ann Glakas Pappalardo, Team Leader  
Alan Friedman, Health Statistician

### *Patient Care Statistics*

Kirk Greenway, Team Leader

Copies of this and other statistical publications may be obtained from Division of Program Statistics at:

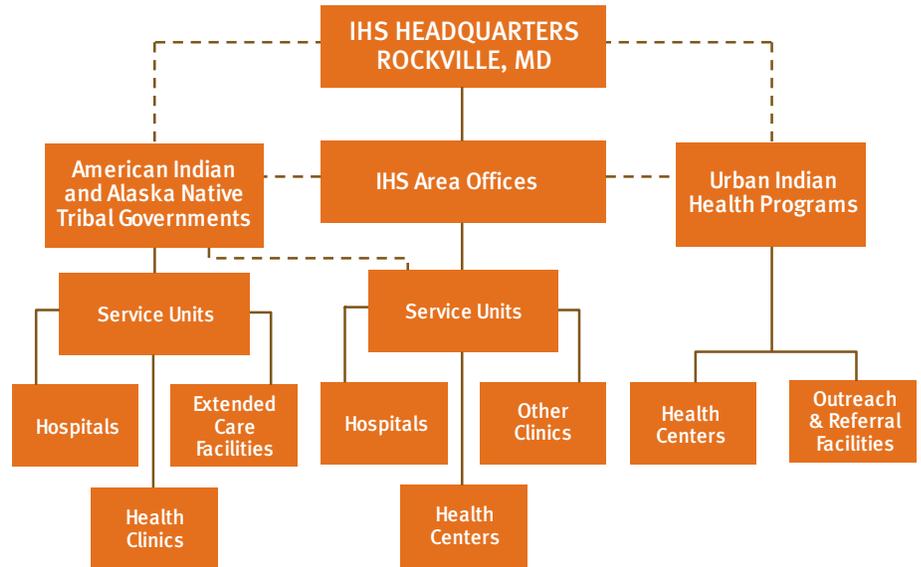
Indian Health Service  
Office of Public Health Support  
Division of Program Statistics  
801 Thompson Building  
Suite 120  
Rockville, Maryland 20852

Phone: 301-443-1180  
Email: [DPS.Publications@ihs.gov](mailto:DPS.Publications@ihs.gov)



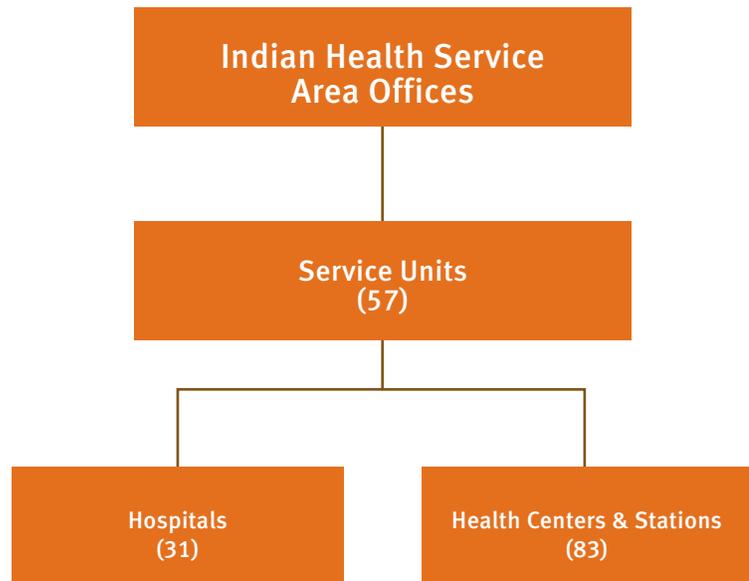
The Indian Health Service is composed of twelve regional administrative units called Area Offices. Some of the health programs are operated by Tribes, and there are a limited number of projects to serve Indians living in urban areas.

Chart 1.1 Indian Health Service – DHHS



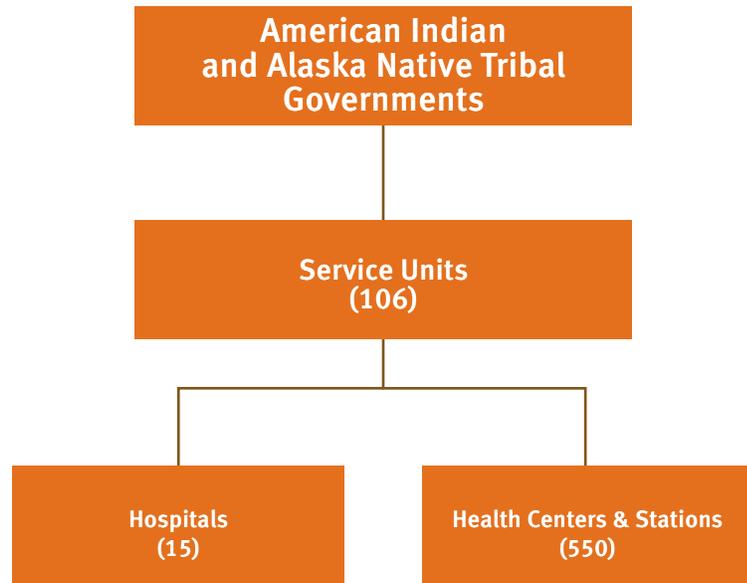
There were 57 Indian Health Service-operated service units that administered 31 hospitals and 83 health centers, school health centers, and health stations as of October 1, 2006.

Chart 1.2 Indian Health Service Area Offices



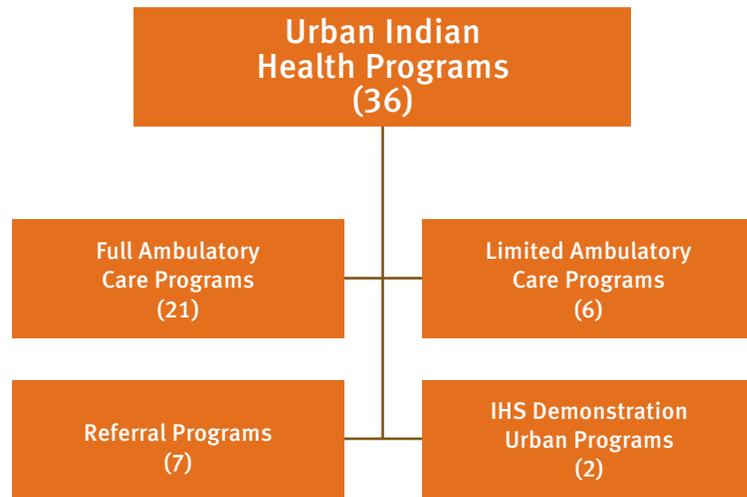
There were 106 Tribally operated service units that administered 15 hospitals and 550 health centers, school health centers, health stations, and Alaska village clinics as of October 1, 2006.

**Chart 1.3 American Indian and Alaska Native Tribal Governments**



There were 36 Urban Indian Health Programs as of August 1, 2007. The Urban Indian programs include full ambulatory care, limited ambulatory care, referral, and demonstration programs.

**Chart 1.4 Urban Indian Health Programs**



Indian Health Service operated 31 hospitals, 50 health centers, 2 school health centers, and 31 health stations as of October 1, 2006. Tribes can operate a facility under a P.L. 93-638 self-determination contract (Title I) or self-governance compact (Title V). Tribes operated 15 hospitals (Title I, 1 hospitals and Title V, 14 hospitals), 254 health centers (Title I, 122 and Title V, 132), 18 school health centers (Title I, 15 and Title V, 3), 112 health stations (Title I, 60 and Title V, 52), and 166 Alaska village clinics (Title I, 8, Title V, 149, and Other, 9).

**Chart 1.5** Number of Facilities Operated by IHS and Tribes as of October 1, 2006

Type of Facility	Total	IHS	TRIBAL			
			Total	I	V	Other
<i>Hospitals</i>	<i>46</i>	<i>31</i>	<i>15</i>	<i>1</i>	<i>14</i>	<i>—</i>
<i>Ambulatory Facilities</i>	<i>633</i>	<i>83</i>	<i>550</i>	<i>205</i>	<i>336</i>	<i>9</i>
Health Centers	304	50	254	122	132	—
School Health Centers	20	2	18	15	3	—
Health Stations	143	31	112	60	52	—
Alaska Village Clinics	166	—	166	8	149	9

I—operated under Title I, P.L. 93-638 Self-Determination Contracts

V—operated under Title V, P.L. 106-260 Tribal Self-Governance Amendment of 2000

Other—operated by a local government, not a tribe, for some Alaska Native villages through a standard procurement contract

The Indian Health Service budget (appropriations and collections) has increased 189 percent from FY 1990 to FY 2006. However, in constant 2001 dollars, the budget has only increased 58 percent.

**Chart 1.6** Trend in Indian Health Service Budget

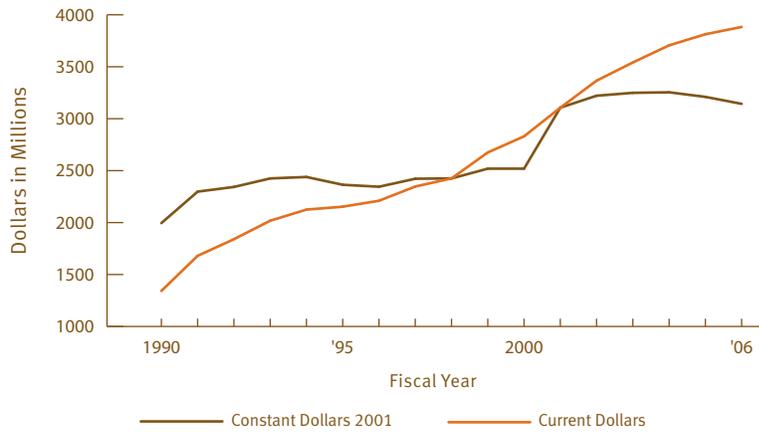


Table 1.6 Trend in Indian Health Service Budget

(Dollars in Thousands)

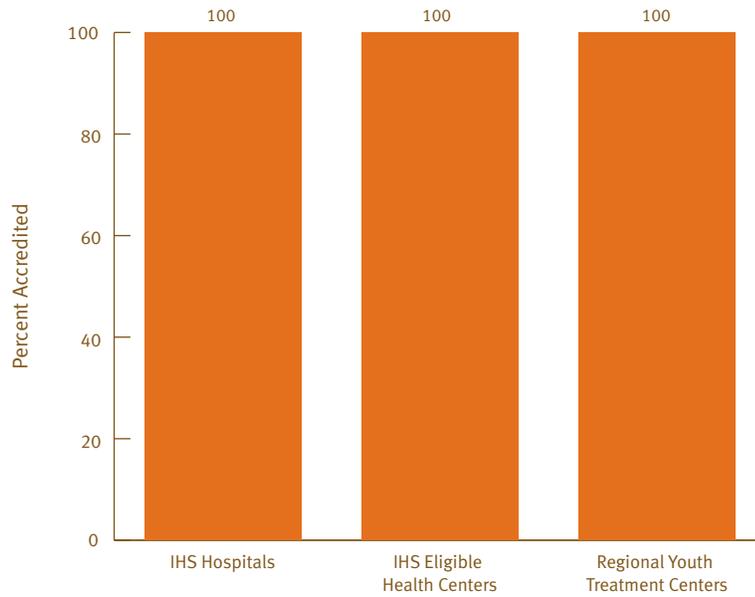
Category	FY 1990	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998
<i>Clinical Services</i>	1,031,072	1,235,481	1,276,185	1,251,660	1,325,462	1,370,421	1,417,641	1,368,639	1,476,854
<i>Preventive Health Services</i>	77,630	89,978	64,951	70,011	74,464	77,032	78,018	79,346	82,770
<i>Other Services</i>									
Urban Health	13,049	15,687	17,195	20,965	22,834	23,349	23,360	24,768	25,288
Indian Health Professions	9,540	13,380	19,205	26,092	27,406	27,479	26,271	28,270	28,720
Tribal Management	2,562	4,235	5,038	5,161	5,285	5,048	2,348	2,348	2,348
Direct Operations/Agency Management	44,484	52,406	49,029	48,659	49,471	49,709	49,260	133,088	47,386
Self Governance	-	-	-	1,884	4,980	8,594	9,104	9,090	9,106
Contract Support Cost	-	-	-	100,558	136,186	145,460	154,840	161,202	168,702
Sub-Total Other	69,635	85,708	90,467	203,319	246,162	259,639	265,183	358,766	281,550
Total Services	1,178,337	1,411,167	1,431,603	1,524,990	1,646,088	1,707,092	1,760,842	1,806,751	1,841,174
<i>Facilities</i>	71,633	166,402	274,351	333,640	296,982	252,982	238,958	247,249	257,538
<b>TOTAL SERVICES &amp; FACILITIES<sup>1</sup></b>	<b>1,249,970</b>	<b>1,577,569</b>	<b>1,705,954</b>	<b>1,858,630</b>	<b>1,943,070</b>	<b>1,960,074</b>	<b>1,999,800</b>	<b>2,054,000</b>	<b>2,098,712</b>
Medicare/Medicaid Collections	88,097	94,301	121,628	140,805	159,605	162,066	176,536	260,913	288,927
Private Insurance Collections	3,500	8,326	12,350	18,184	22,700	31,233	33,784	32,335	37,448
Quarters Collections	3,000	3,500	4,443	4,615	3,601	4,576	4,500	4,500	4,700
Advance Transfer Appropriations: Diabetes									30,000
<i>Advance Transfer Appropriations: Y2K Funds</i>									
TOTAL IHS <sup>3</sup> - CURRENT \$s	1,341,567	1,680,196	1,839,932	2,017,619	2,125,375	2,153,373	2,210,120	2,347,248	2,425,087
TOTAL IHS <sup>3</sup> - CONSTANT \$s <sup>4</sup>	1,995,045	2,298,166	2,343,227	2,425,350	2,438,641	2,364,316	2,344,742	2,422,288	2,425,087
<b>Category</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>FY 2006</b>	
<i>Clinical Services</i>	1,542,326	1,632,299	1,766,236	1,891,939	1,973,789	2,024,909	2,090,243	2,176,221	
<i>Preventive Health Services</i>	87,120	91,859	95,709	99,724	102,597	106,930	110,381	117,109	
<i>Other Services</i>									
Urban Health	26,382	27,813	29,843	30,947	31,323	31,619	31,816	32,744	
Indian Health Professions	29,623	30,491	30,486	31,165	31,114	30,774	30,392	31,039	
Tribal Management	2,390	2,411	2,406	2,406	2,390	2,376	2,343	2,394	
Direct Operations/Agency Management	49,309	50,988	52,946	55,323	60,176	60,714	61,648	62,195	
Self Governance	9,391	9,531	9,803	9,876	5,553	5,643	5,586	5,668	
Contract Support Cost	203,781	228,781	248,234	268,234	268,974	267,398	263,684	264,730	
Sub-Total Other	320,876	350,015	373,718	397,951	399,530	398,524	395,469	398,770	
Total Services	1,950,322	2,074,173	2,235,663	2,389,614	2,475,916	2,530,363	2,596,093	2,692,100	
<i>Facilities</i>	291,965	316,555	363,103	369,487	373,745	391,351	388,974	353,210	
<b>TOTAL SERVICES &amp; FACILITIES<sup>1</sup></b>	<b>2,242,287</b>	<b>2,390,728</b>	<b>2,598,766</b>	<b>2,759,101</b>	<b>2,849,661</b>	<b>2,921,714</b>	<b>2,985,067</b>	<b>3,045,310</b>	
Medicare/Medicaid Collections	334,576	364,630	428,984	458,168	536,894	575,402	608,936	606,324 <sup>2</sup>	
Private Insurance Collections	39,960	39,960	43,114	43,114	48,903	52,845	62,389	75,101 <sup>2</sup>	
Quarters Collections	4,700	4,700	5,500	5,700	5,900	5,900	6,225	6,288	
Advance Transfer Appropriations: Diabetes	30,000	30,000	30,000	100,000	100,000	150,000	150,000	150,000	
<i>Advance Transfer Appropriations: Y2K Funds</i>	23,400								
TOTAL IHS <sup>3</sup> - CURRENT \$s	2,674,923	2,830,018	3,106,364	3,366,083	3,541,358	3,705,861	3,812,617	3,883,023	
TOTAL IHS <sup>3</sup> - CONSTANT \$s <sup>4</sup>	2,518,895	2,518,895	3,106,364	3,221,084	3,248,694	3,253,803	3,209,542	3,143,294	

<sup>1</sup>Total IHS appropriations.<sup>2</sup>Estimated collections.<sup>3</sup>Total dollars available to spend.<sup>4</sup>Constant 2001 dollars based on annual Consumer Price Index-Workforce (CPI-W) for medical care, 1990-2006 where 2001 is index year.

Constant 2001 dollars based on Bureau of Economic Analysis, National Income and Product Accounts Table 1.1.2 Implicit Price Deflators for Gross Domestic Product, line 23, Nondefense, Government Consumption expenditures and gross investment, recentered where 2001 is index year.

As of October 2007, all IHS hospitals, eligible IHS-operated health centers, and Regional Youth Treatment Centers were accredited by the Joint Commission, Centers for Medicare and Medicaid Services (CMS), and Accreditation Association for Ambulatory Healthcare (AAAHC).

**Chart 1.7 Accreditation Status of Selected Health Facilities, October 2007**



**Table 1.7 Accreditation Status of Hospitals, Health Centers, and Regional Youth Treatment Centers, October 2007**

Type of Facility	Total	Accredited <sup>1</sup>	Not Accredited	Percent Accredited
IHS Hospitals	35	35	0	100
IHS Eligible Health Centers	48 <sup>2</sup>	48	0	100
Regional Youth Treatment Centers <sup>3</sup>	11	11 <sup>4</sup>	0	100

<sup>1</sup>Accrediting bodies are Joint Commission, Centers for Medicare and Medicaid Services (CMS), Accreditation Association for Ambulatory Healthcare (AAAHC).

<sup>2</sup>Excludes health centers not eligible for accreditation survey and those under Tribal management pursuant to P.L. 93-638.

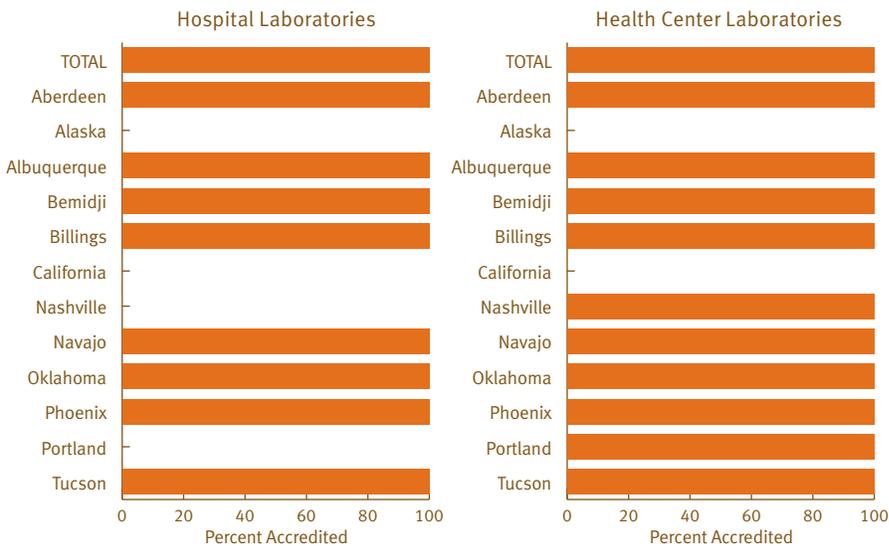
<sup>3</sup>Provide alcohol and substance abuse treatment.

<sup>4</sup>Accreditation of these facilities is a combination of Joint Commission and the Commission on Accreditation of Rehabilitation Facilities (CARF).

NOTE: IHS no longer tracks Tribal Hospitals.

One hundred percent of health center laboratories and 100 percent of hospital laboratories operated by the Indian Health Service were accredited as of October 2007.

**Chart 1.8 Accreditation Status of IHS Laboratories, October 2007**



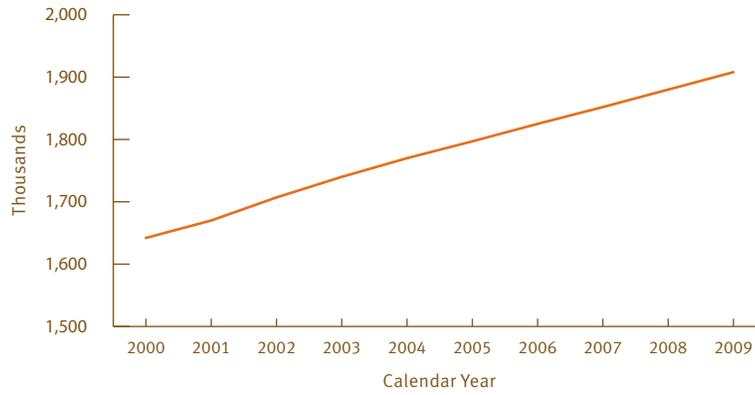
**Table 1.8 Indian Health Service Laboratory Accreditation Status, October 2007**

Area	IHS HOSPITAL LABORATORIES			IHS HEALTH CENTER LABORATORIES		
	Total	Accredited <sup>1</sup>	Percent Accredited	Total	Accredited <sup>1</sup>	Percent Accredited
<i>All Areas</i>	<i>35</i>	<i>35</i>	<i>100</i>	<i>48</i>	<i>48</i>	<i>100</i>
Aberdeen	8	8	100	5	5	100
Alaska	–	–	–	–	–	–
Albuquerque	5	5	100	4	4	100
Bemidji	2	2	100	1	1	100
Billings	3	3	100	9	9	100
California	–	–	–	–	–	–
Nashville	–	–	–	2	2	100
Navajo	6	6	100	4	4	100
Oklahoma	4	4	100	11	11	100
Phoenix	6	6	100	4	4	100
Portland	–	–	–	7	7	100
Tucson	1	1	100	1	1	100

<sup>1</sup>Laboratories hold a certificate of accreditation from the College of American Pathologists, the Joint Commission or the Commission on Laboratory Accreditation as mandated under the Clinical Laboratory Improvement Amendments (CLIA) of 1988. Excludes laboratories under Tribal management pursuant to P.L. 93-638.

The IHS service population is increasing at a rate of about 1.7 percent per year, excluding the impact of new Tribes. It is estimated to be approximately 1.9 million in CY 2009.

**Chart 2.1 American Indian and Alaska Native IHS Service Population**



The largest percentage of the CY 2009 service population, 20, is located in the Oklahoma City Area, followed by the Navajo Area with 13. The Tucson Area has the smallest percentage, 2.

**Chart 2.2 Indian Health Service, Service Population by Area, CY 2009**

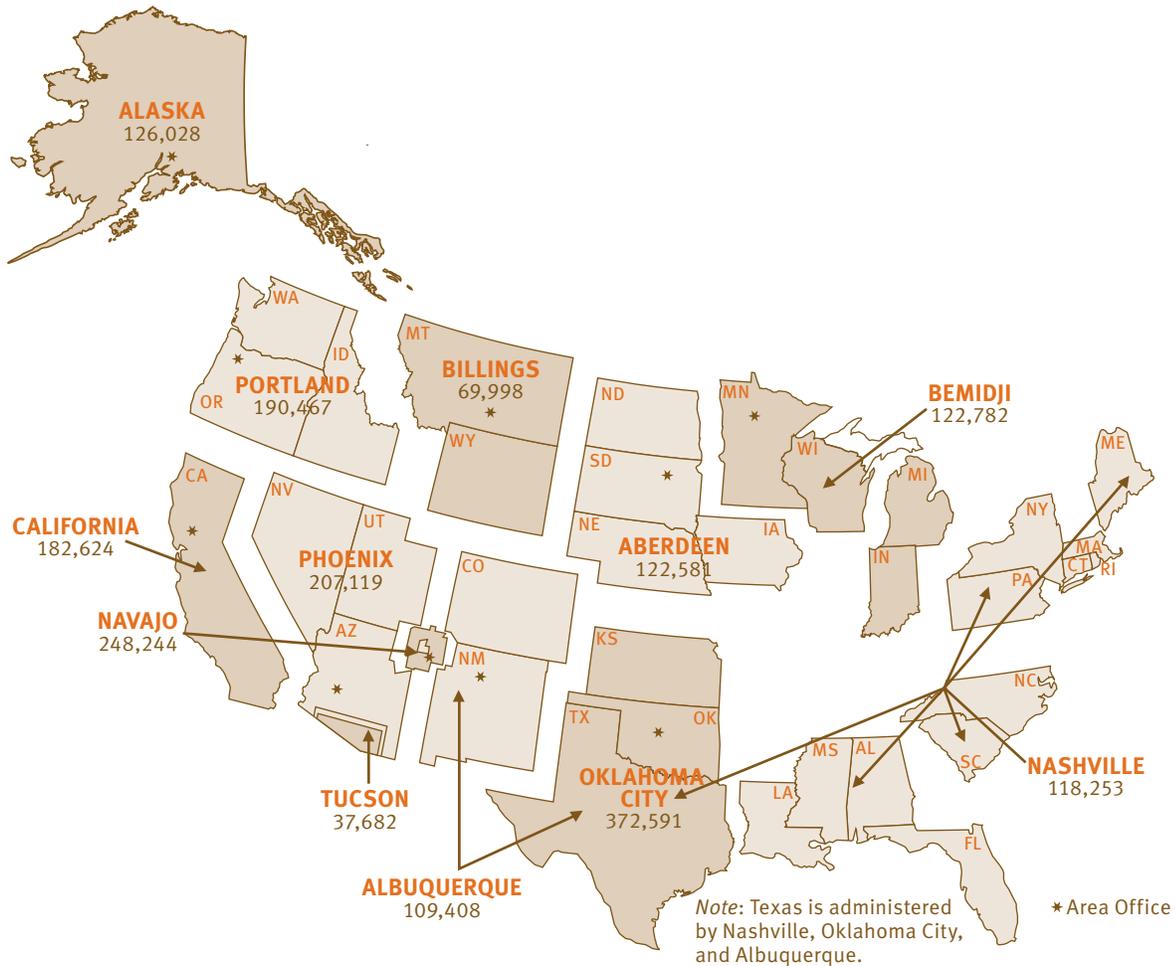


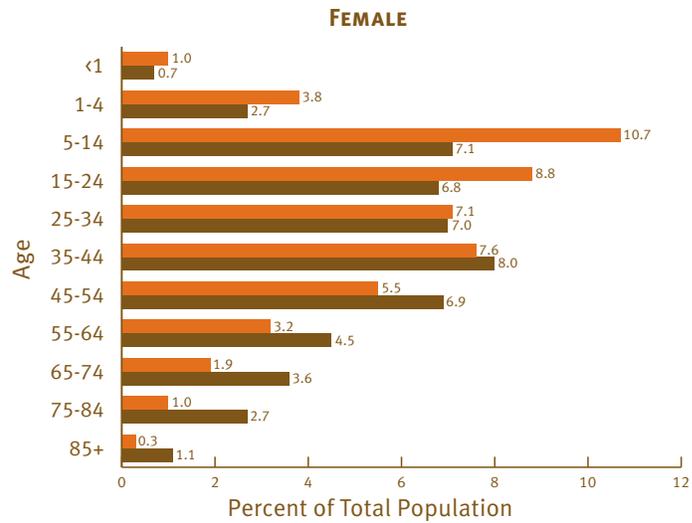
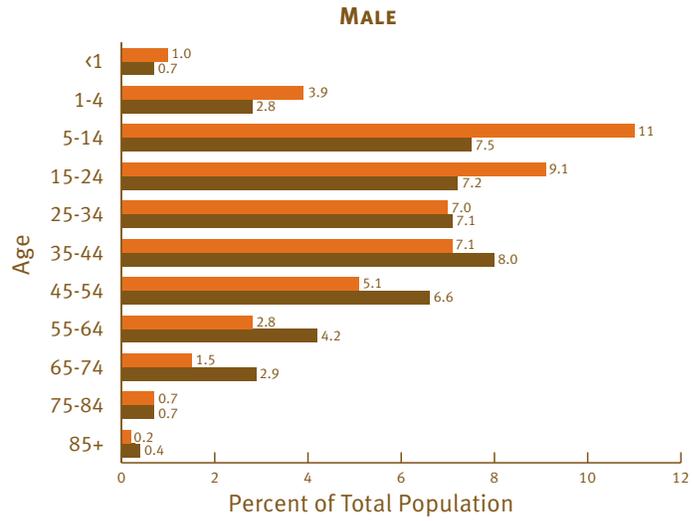
Table 2.1 IHS Service Population by Area, 2000-2009

Area	2000 (Census)	2001	2002	2003	2004	2005	2006	2007	2008	2009
<i>All Areas</i>	<i>1,641,828</i>	<i>1,669,599</i>	<i>1,706,723</i>	<i>1,739,906</i>	<i>1,769,896</i>	<i>1,797,364</i>	<i>1,824,845</i>	<i>1,852,417</i>	<i>1,880,056</i>	<i>1,907,777</i>
(% Growth Rate)		1.69	2.22	1.94	1.72	1.55	1.53	1.51	1.49	1.47
Aberdeen	100,853	103,064	105,336	107,641	110,018	112,430	114,890	117,407	119,968	122,581
Alaska	107,715	109,790	111,844	113,896	115,939	117,980	119,999	122,021	124,027	126,028
Albuquerque	95,385	96,811	98,265	99,758	101,277	102,836	104,428	106,054	107,714	109,408
Bemidji	106,551	108,256	109,984	111,718	113,501	115,304	117,134	118,989	120,868	122,782
Billings	58,476	59,627	60,792	61,998	63,242	64,533	65,848	67,194	68,578	69,998
California	166,665	168,699	170,668	172,562	174,403	176,178	177,884	179,526	181,108	182,624
Nashville	93,138	94,585	106,209	108,133	109,793	111,463	113,142	114,833	116,535	118,253
Navajo	218,455	221,830	225,196	228,538	231,864	235,175	238,468	241,744	245,002	248,244
Oklahoma	318,344	323,921	329,616	335,439	341,353	347,371	353,513	359,767	366,125	372,591
Phoenix	175,342	178,437	181,632	184,956	188,380	191,913	195,547	199,296	203,157	207,119
Portland	168,199	171,392	173,518	181,122	185,444	186,917	188,161	189,175	189,942	190,467
Tucson	32,705	33,187	33,663	34,145	34,682	35,264	35,831	36,411	37,032	37,682

SOURCE: Estimated American Indian and Alaska Native service population by Area based on 1995-2004 vital events and the 2000 census bridged-race file.

The AI/AN male and female populations (ages 24 and younger) are higher than the corresponding male and female populations for the U.S. all-races. Sixteen (16) percent of AI/AN males are under age 15 and 15 percent of AI/AN females are in this age group. The percent for U.S. all-races under 15 is 11 percent for males and 10 percent for females.

Chart 2.3 Population by Age and Sex, 2000 Census with Bridged Race Categories



American Indians and Alaska Natives U.S. All Races

Table 2.3 Age and Sex Percent Distribution

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 2000 Census with Bridged Race Categories*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE, IHS SERVICE AREA <sup>1</sup>		U.S. ALL RACES		U.S. WHITE	
	Male	Female	Male	Female	Male	Female
<b>Percent of Both Sexes:</b>						
<i>All Ages</i>	<i>49.335</i>	<i>50.665</i>	<i>49.069</i>	<i>50.931</i>	<i>49.320</i>	<i>50.680</i>
Under 1 year	0.998	0.953	0.700	0.667	0.669	0.636
1-4 years	3.947	3.806	2.779	2.654	2.657	2.526
5-14 years	10.969	10.660	7.460	7.103	7.123	6.755
15-24 years	9.060	8.780	7.158	6.801	6.953	6.519
25-34 years	7.008	7.066	7.125	6.995	7.029	6.737
35-44 years	7.084	7.553	7.963	8.049	8.054	7.971
45-54 years	5.060	5.484	6.611	6.854	6.849	6.957
55-64 years	2.846	3.167	4.152	4.500	4.391	4.677
65-74 years	1.539	1.886	2.941	3.568	3.181	3.787
75-84 years	0.653	0.970	1.740	2.662	1.927	2.922
85 years and over	0.171	0.340	0.442	1.077	0.488	1.194
<b>Percent of Within Each Sex:</b>						
<i>All Ages</i>	<i>100.000</i>	<i>100.000</i>	<i>100.000</i>	<i>100.000</i>	<i>100.000</i>	<i>100.000</i>
Under 1 year	2.024	1.880	1.426	1.309	1.356	1.254
1-4 years	8.001	7.513	5.663	5.212	5.387	4.983
5-14 years	22.233	21.040	15.203	13.947	14.443	13.329
15-24 years	18.364	17.330	14.587	13.353	14.097	12.864
25-34 years	14.204	13.946	14.520	13.735	14.251	13.292
35-44 years	14.359	14.907	16.228	15.803	16.330	15.728
45-54 years	10.256	10.824	13.473	13.457	13.888	13.728
55-64 years	5.769	6.252	8.462	8.836	8.903	9.229
65-74 years	3.120	3.723	5.994	7.006	6.449	7.473
75-84 years	1.323	1.914	3.545	5.227	3.907	5.766
85 years and over	0.347	0.671	0.900	2.115	0.990	2.355

<sup>1</sup>Counts may not sum exactly to 2000 Census with Bridged Race Categories totals found in other tables due to rounding of counts by age and sex for counties split between service units. This table should be used for population by age and sex only.

For AI/AN, 31 percent of the population was younger than 15 years and six percent was older than 64 years. For the U.S. all-races population, the corresponding percentages were 21 and 12, respectively.

Chart 2.4 Population by Age

2000 Census with Bridged Race Categories

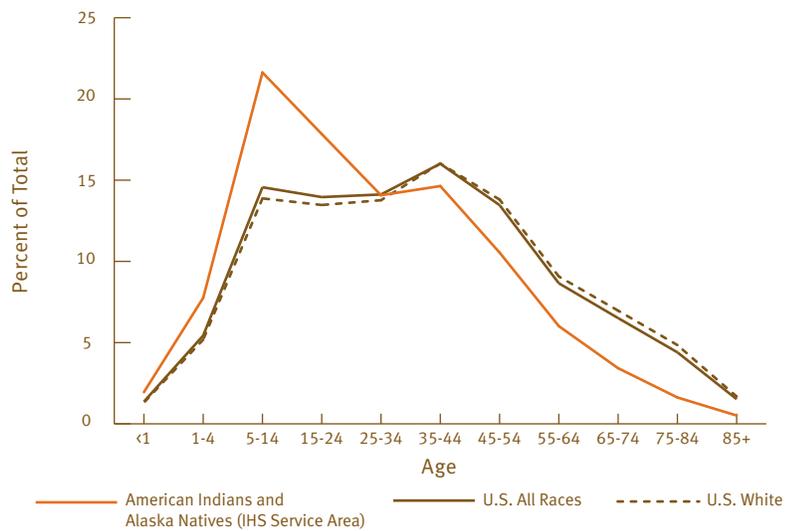


Table 2.4 Percent Age Distribution

American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 2000 Census with Bridged Race Categories

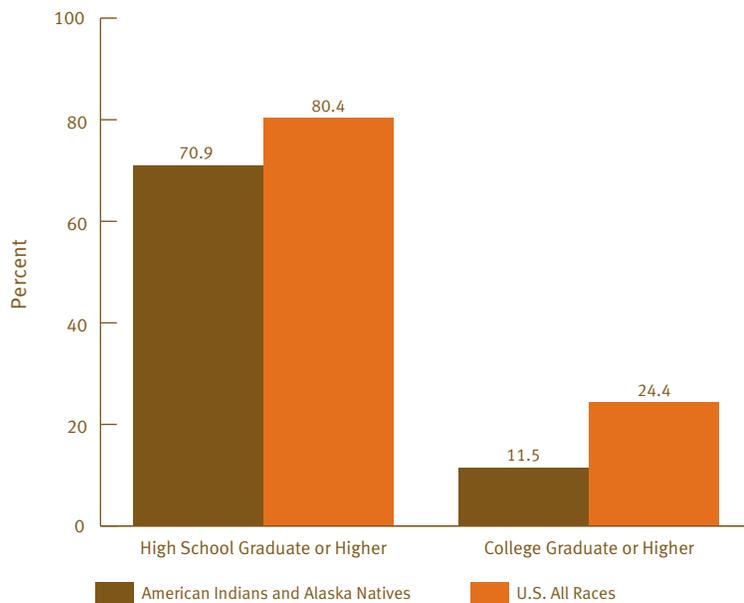
Age Group	American Indian and Alaska Native <sup>1</sup>	U.S. All Races	U.S. White
<b>All Ages</b>	<b>100.000</b>	<b>100.000</b>	<b>100.000</b>
Under 1 year	1.951	1.366	1.305
1-4 years	7.754	5.433	5.182
5-9 years	10.642	7.256	6.887
10-14 years	10.986	7.307	6.991
15-19 years	10.023	7.180	6.924
20-24 years	7.817	6.778	6.548
25-29 years	7.113	6.841	6.620
30-34 years	6.960	7.279	7.146
35-39 years	7.609	8.030	7.995
40-44 years	7.028	7.982	8.030
45-49 years	5.852	7.166	7.292
50-54 years	4.692	6.299	6.514
55-59 years	3.400	4.805	5.036
60-64 years	2.614	3.847	4.033
65-69 years	1.975	3.373	3.578
70-74 years	1.450	3.137	3.390
75-79 years	1.027	2.635	2.891
80-84 years	0.595	1.767	1.958
85 years & over	0.511	1.519	1.682
<b>Median Age</b>	<b>25.0</b>	<b>34.9</b>	<b>36.2</b>

<sup>1</sup>Counts may not sum exactly to 2000 Census with Bridged Race Categories totals found in other tables due to rounding of counts by age and sex for counties split between service units. This table should be used for population by age and sex only.

According to the 2000 Census, 70.9 percent of AI/AN (alone) age 25 and older are high school graduates or higher, compared with 80.4 percent for the U.S. all-races population. For bachelor's degree or higher, these percentages are 11.5 and 24.4, respectively.

**Chart 2.5 Educational Attainment**

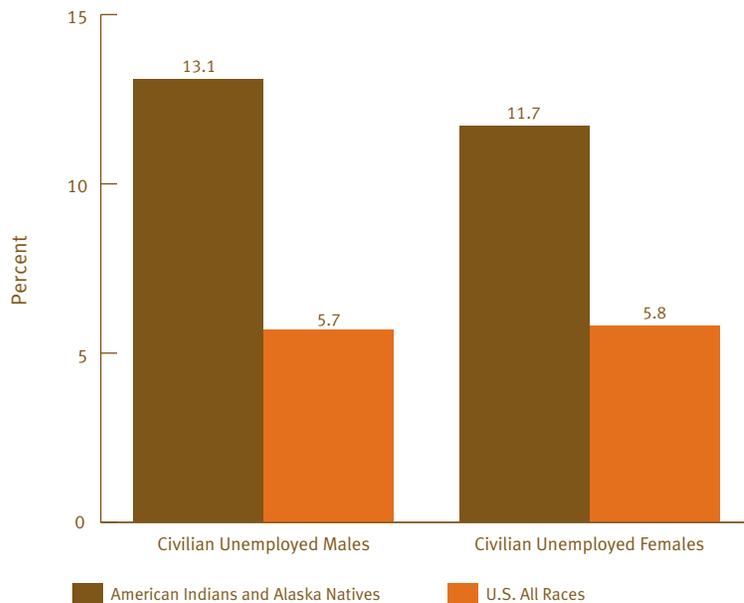
*American Indians and Alaska Natives (alone) and U.S. All Races, 2000 Census*



According to the 2000 Census, 13.1 percent of AI/AN (alone) males age 16 and older were unemployed, compared with 5.7 percent for the U.S. all-races male population. For females, these percentages were 11.7 and 5.8, respectively.

**Chart 2.6 Employment Status by Sex**

*American Indians and Alaska Natives (alone) and U.S. All Races, 2000 Census*



According to the 2000 Census, the median household income in 1999 for AI/AN (alone) was \$30,599, compared with \$41,994 for the U.S. all-races population. During this period, 25.7 percent of AI/AN lived below the poverty level in contrast to 12.4 percent for the U.S. all-races population.

Chart 2.7 Income Status in 1999

American Indians and Alaska Natives (alone) and U.S. All Races, 2000 Census

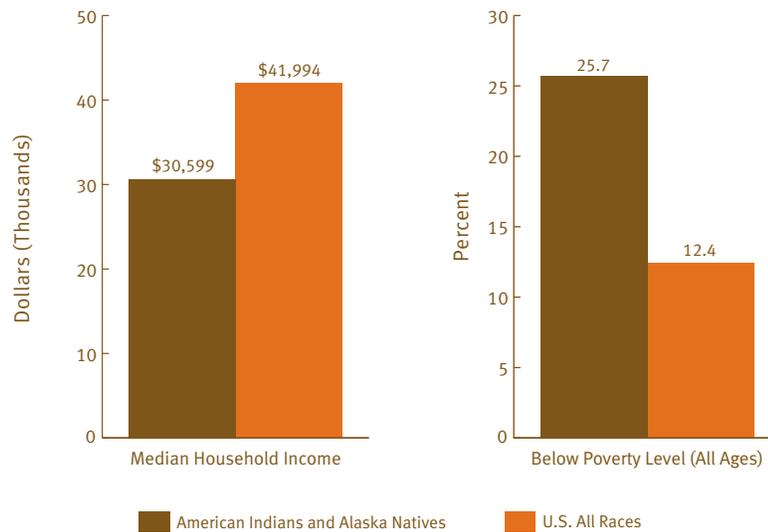


Table 2.5 Selected Economic Profiles for the United States, 2000 Census

	American Indian and Alaska Native (alone)	All Races	White (alone)	Black (alone)	Asian (alone)	Native Hawaiian and Other Pacific Islander (alone)	Hispanic <sup>1</sup> (alone)
<b>Educational Attainment (Persons 25 years and older):</b>							
Percent less than 9th grade	11.1	7.5	5.9	7.9	10.7	7.5	27.8
Percent 9th to 12th grade, no diploma	18.0	12.1	10.5	19.8	8.9	14.2	19.8
Percent high school graduate or higher	70.9	80.4	83.6	72.3	80.4	78.2	52.4
Percent bachelor's degree or higher	11.5	24.4	26.1	14.3	44.1	13.8	10.4
<b>Civilian Employment Status by Sex (Persons 16 years and older):</b>							
Percent unemployed, males	13.1	5.7	4.6	12.0	5.0	10.8	8.2
Percent unemployed, females	11.7	5.8	4.6	10.8	5.3	11.0	10.6
<b>Household Income in 1999:</b>							
Median household income	\$30,599	\$41,994	\$44,687	\$29,423	\$51,908	\$42,717	\$33,676
<b>Percent Below the Poverty Level by Age:</b>							
All ages	25.7	12.4	9.1	24.9	12.6	17.7	22.6
Under 5 years	34.5	18.2	12.5	36.7	6.4	11.6	28.8
5 years	33.6	17.6	12.0	35.2	1.5	2.4	28.5
6 to 11 years	31.7	16.9	11.3	33.5	9.5	14.5	28.2
12 to 17 years	29.0	14.8	10.0	29.4	9.9	12.8	26.2
18 to 64 years	22.6	11.1	8.6	20.7	65.1	55.5	19.9
65 to 74 years	21.9	8.5	6.7	21.4	4.4	2.1	18.4
75 years and older	26.3	11.5	10.0	26.6	3.1	1.0	21.8

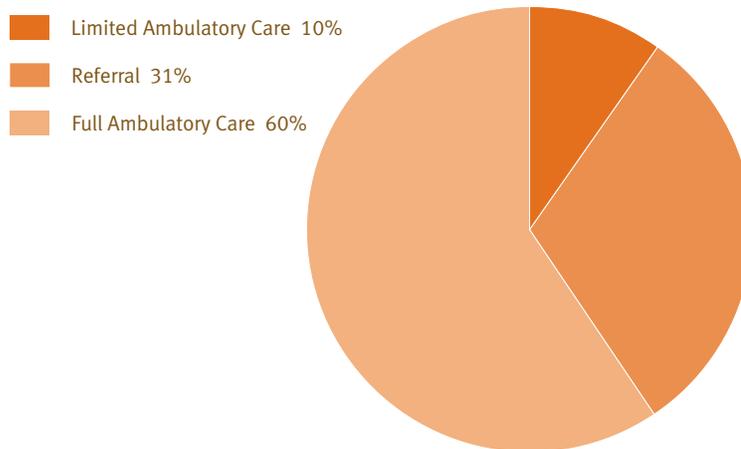
<sup>1</sup>Data for Hispanic persons are not tabulated separately by race. Data shown for Hispanic persons include all persons of Hispanic origin of any race.

NOTE: Selected Population Groups: American Indian and Alaska Native (alone); White (alone); Black or African American (alone); Asian (alone); and Native Hawaiian and other Pacific Islander (alone); and Hispanic (alone).

SOURCE: U.S. Bureau of the Census, Census 2000 Summary File 3

The estimated CY 2007 population was 939,743 AI/AN people residing in the Urban Indian Health Programs service area. Of these, 60 percent in full ambulatory care programs, 31 percent resided within urban programs offering referral programs, and 10 percent in limited ambulatory care programs.

**Chart 2.8 Urban Indian Health Programs Service Area Population By Category**



**Table 2.8 Urban Indian Health Programs Service Area Population by Category**

Traditional Urban Indian Health Programs	Estimated CY 2007 Population	Percent of Total American Indians in Urban Projects
<i>Total</i>	<i>939,743<sup>1</sup></i>	<i>100.0</i>
Full Ambulatory Care	562,246	59.8
Referral	287,291	30.6
Limited Ambulatory Care	90,206	9.6
Demonstration	NA	NA

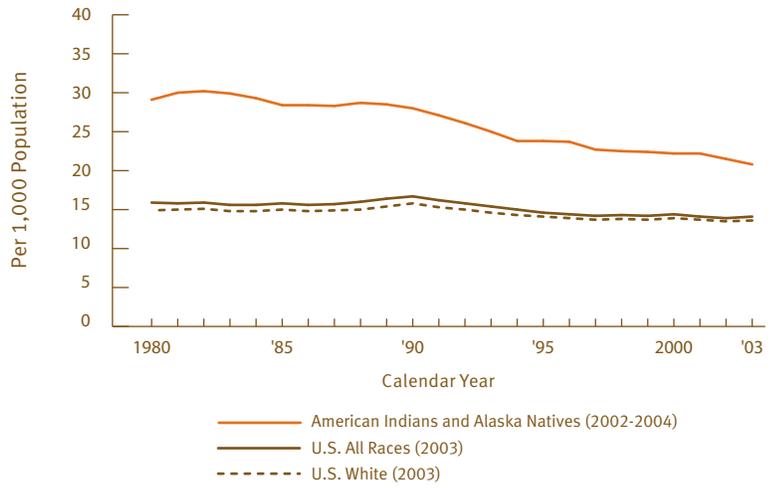
<sup>1</sup>Includes 398,595 American Indian and Alaska Natives who reside in 36 counties in the IHS service areas.

NOTE: NA denotes data not available. Demonstration Project population is not collected by the IHS, Office of Urban Indian Health Programs.

SOURCE: IHS Division of Program Statistics, "Projected American Indian/Alaska Native Population for Specified Urban Programs by County, 2000 to 2020".

The birth rate for the IHS service population in 2002-2004 was 1.5 times the rate for the U.S. all-races population in 2003, (20.8 and 14.1, respectively). The AI/AN birth rate is 53 percent greater than the rate for the U.S. white population of 13.6.

**Chart 3.1 Birth Rates**



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

*American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1955-2003 (Rate per 1,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE		U.S. ALL RACES		U.S. WHITE
	Number	Rate	Number	Rate	Rate <sup>1</sup>
2002-2004 (2003)	35,492	20.8	4,089,950	14.1	13.6
2001-2003 (2002)	37,624	21.5	4,021,726	13.9	13.5
2000-2002 (2001)	36,930	22.2	4,025,933	14.1	13.7
1999-2001 (2000)	36,599	22.2	4,058,814	14.4	13.9
1998-2000 (1999)	35,559	22.4	3,959,417	14.2	13.7
1997-1999 (1998)	35,680	22.5	3,941,553	14.3	13.8
1996-1998 (1997)	33,923	22.7	3,880,894	14.2	13.7
1995-1997 (1996)	33,599	23.7	3,891,494	14.4	13.9
1994-1996 (1995)	32,548	23.8	3,899,589	14.6	14.1
1993-1995 (1994)	32,876	23.8	3,952,767	15.0	14.3
1992-1994 (1993)	33,429	25.0	4,000,240	15.4	14.6
1991-1993 (1992)	33,894	26.1	4,065,014	15.8	15.0
1990-1992 (1991)	34,083	27.1	4,110,907	16.2	15.3
1989-1991 (1990)	33,554	28.0	4,158,212	16.7	15.8
1988-1990 (1989)	34,143	28.5	4,040,958	16.4	15.4
1987-1989 (1988)	32,544	28.7	3,909,510	16.0	15.0
1986-1988 (1987)	31,133	28.3	3,809,394	15.7	14.9
1985-1987 (1986)	29,996	28.4	3,756,547	15.6	14.8
1984-1986 (1985)	30,194	28.4	3,760,561	15.8	15.0
1983-1985 (1984)	28,416	29.3	3,669,141	15.6	14.8
1982-1984 (1983)	29,352	29.9	3,638,933	15.6	14.8
1981-1983 (1982)	28,701	30.2	3,680,537	15.9	15.1
1980-1982 (1981)	25,595	30.0	3,629,238	15.8	15.0
1979-1981 (1980)	25,346	29.1	3,612,258	15.9	14.9
1972-1974 (72-74)	50,562	29.2	3,136,965	14.8	13.8
1954-1956 (1955)	17,028	37.5	4,097,000	25.0	23.8

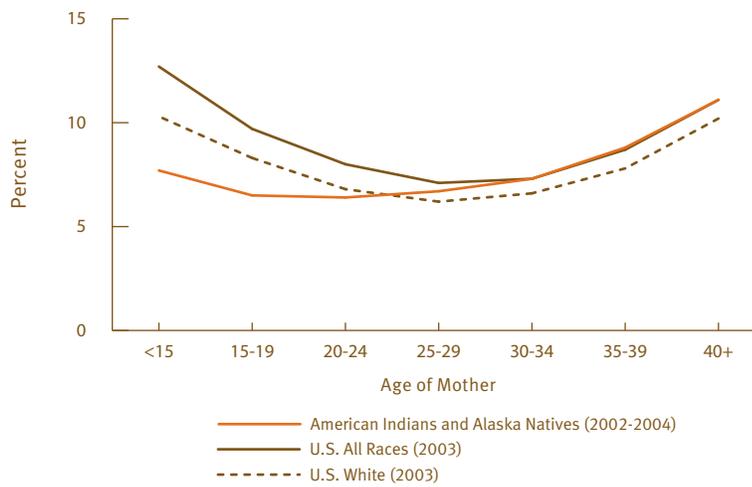
<sup>1</sup>Starting in 1991, birth data for the U.S. White population are shown for the race of the mother, rather than the race of the child (as shown for the years prior to 1991).

NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN birth rate column presents data for the three-year period specified; the U.S. all races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN and U.S. population births for a one-year period, respectively.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

For 2002-2004, 6.9 percent of all AI/AN births in the IHS service area were considered low birthweight (less than 2,500 grams). This was better than the figure for the U.S. all-races population (7.9 percent in 2003). For AI/AN mothers under the age of 15 the percent of low birthweight is 1.6 times less than U.S. all-races (7.7 and 12.7 respectively).

**Chart 3.2** Low Birthweight (less than 2,500 grams) as a Percent of Total Live Births by Age of Mother



**Table 3.2 Low Birthweight (less than 2,500 grams) by Age of Mother**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004,  
and U.S. All-Races and White Populations, 2003*

Age of Mother	Total Live Births	Number Low Birthweight	Percent Low Birthweight
<b>American Indian and Alaska Native</b>			
<i>All Ages</i>	<i>108,490<sup>1</sup></i>	<i>7,462</i>	<i>6.9</i>
Under 20 years	19,742	1,288	6.5
Under 15 years	324	25	7.7
15-19 years	19,418	1,256	6.5
20-24 years	37,583	2,414	6.4
25-29 years	26,545	1,782	6.7
30-34 years	15,710	1,154	7.3
35-39 years	7,127	626	8.8
40 years and over	1,783	198	11.1
<b>U.S. All Races</b>			
<i>All Ages</i>	<i>4,089,950<sup>2</sup></i>	<i>324,064</i>	<i>7.9</i>
Under 20 years	421,241	41,059	9.7
Under 15 years	6,661	848	12.7
15-19 years	414,580	40,211	9.7
20-24 years	1,032,305	82,494	8.0
25-29 years	1,086,366	76,631	7.1
30-34 years	975,546	71,477	7.3
35-39 years	467,642	40,550	8.7
40 years and over	106,850	11,853	11.1
<b>U.S. White</b>			
<i>All Ages</i>	<i>3,225,848<sup>3</sup></i>	<i>223,612</i>	<i>6.9</i>
Under 20 years	302,024	25,152	8.3
Under 15 years	3,677	378	10.3
15-19 years	298,347	24,774	8.3
20-24 years	790,910	53,600	6.8
25-29 years	871,496	54,143	6.2
30-34 years	795,902	52,407	6.6
35-39 years	379,773	29,593	7.8
40 years and over	85,743	8,717	10.2

<sup>1</sup>Excludes 121 AI/AN live births with birthweight not stated.

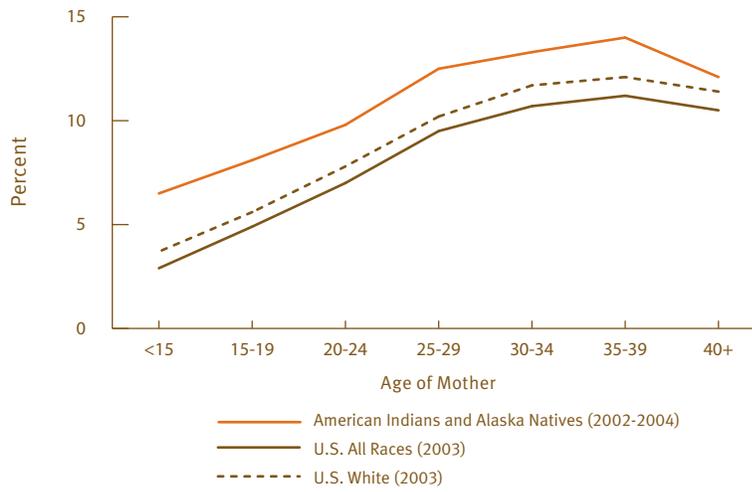
<sup>2</sup>Excludes 3,600 U.S. all-races live births with birthweight not stated.

<sup>3</sup>Excludes 2,505 U.S. white live births with birthweight not stated.

SOURCE: Rates for U.S. All Races and U.S. White: Martin JA, Hamilton BE, Sutton PD, et al. Births: Final data for 2003. National vital statistics reports; vol 54 no 2. Hyattsville, MD: National Center for Health Statistics. 2005.

The AI/AN population experiences more birth of high birthweights than the U.S. all-races population. High birthweight may be a complication of diabetic pregnancies. In 2002-2004, 11.0 percent of all babies in the IHS service area were high birthweight (4,000 grams or more). In contrast, the U.S. all-races percentage was 2.2 percentage points lower (8.8 percent) in 2003. For AI/AN mothers under the age of 15 the percent of high birthweight is 2.2 times greater than U.S. all-races (6.5 and 2.9 respectively).

**Chart 3.3 High Birthweight (4,000 grams or more) as a Percent of Total Live Births by Age of Mother**



**Table 3.3 High Birthweight (4,000 grams or more) by Age of Mother**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004,  
and U.S. All-Races and White Populations, 2003*

Age of Mother	Total Live Births	Number High Birthweight	Percent High Birthweight
American Indian and Alaska Native			
<i>All Ages</i>	<i>108,490<sup>1</sup></i>	<i>11,906</i>	<i>11.0</i>
Under 20 years	19,742	1,595	8.1
Under 15 years	324	21	6.5
15-19 years	19,418	1,574	8.1
20-24 years	37,583	3,694	9.8
25-29 years	26,545	3,306	12.5
30-34 years	15,710	2,095	13.3
35-39 years	7,127	1,001	14.0
40 years and over	1,783	215	12.1
U.S. All Races			
<i>All Ages</i>	<i>4,089,950<sup>2</sup></i>	<i>361,842</i>	<i>8.8</i>
Under 20 years	421,241	20,540	4.9
Under 15 years	6,661	194	2.9
15-19 years	414,580	20,346	4.9
20-24 years	1,032,305	72,546	7.0
25-29 years	1,086,366	102,874	9.5
30-34 years	975,546	104,552	10.7
35-39 years	467,642	52,152	11.2
40 years and over	106,850	11,178	10.5
U.S. White			
<i>All Ages</i>	<i>3,225,848<sup>3</sup></i>	<i>316,000</i>	<i>9.8</i>
Under 20 years	302,024	16,823	5.6
Under 15 years	3,677	135	3.7
15-19 years	298,347	16,688	5.6
20-24 years	790,910	61,758	7.8
25-29 years	871,496	88,576	10.2
30-34 years	795,902	92,970	11.7
35-39 years	379,773	46,083	12.1
40 years and over	85,743	9,790	11.4

<sup>1</sup>Excludes 121 AI/AN live births with birthweight not stated.

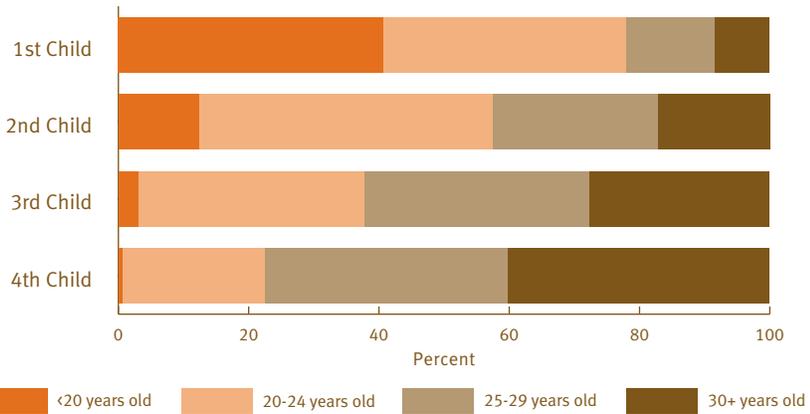
<sup>2</sup>Excludes 3,600 U.S. all-races live births with birthweight not stated.

<sup>3</sup>Excludes 2,505 U.S. white live births with birthweight not stated.

SOURCE: Rates for U.S. All Races and U.S. White: Martin JA, Hamilton BE, Sutton PD, et al. Births: Final data for 2003. National vital statistics reports; vol 54 no 2. Hyattsville, MD: National Center for Health Statistics. 2005.

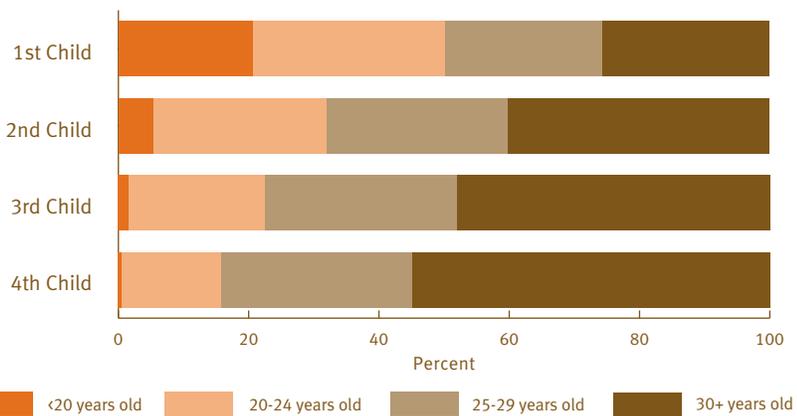
During 2002-2004, 41 percent of AI/AN mothers were under the age of 20 when their first child was born while 37 percent were at least age 20.

**Chart 3.4 Birth Order by Age of Mother, Percent Within Birth Order, American Indians and Alaska Natives**



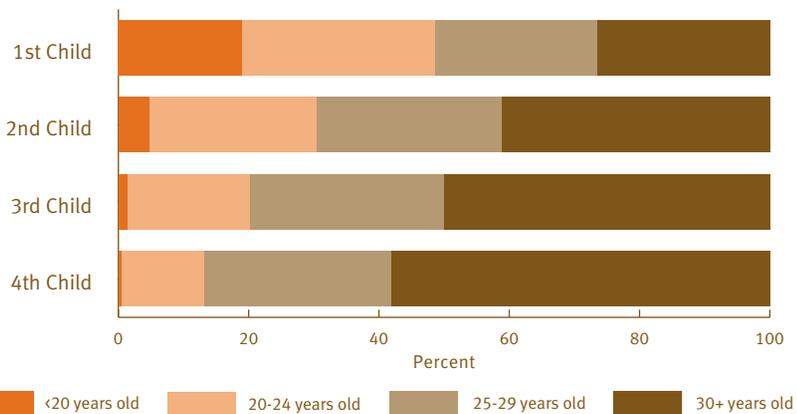
For the U.S. all-races population, 21 percent of mothers were under age 20 when they had their first child while 30 percent were at least age 20.

**Chart 3.5 Birth Order by Age of Mother, Percent Within Birth Order, U.S. All Races**



For the U.S. white population, 19 percent of mothers were under age 20 when they had their first child while 30 percent were at least age 20.

**Chart 3.6 Birth Order by Age of Mother, Percent Within Birth Order, U.S. White**



**Table 3.4** Number and Percent Distribution of Live Births by Age of Mother within Birth Order

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003*

Age Group	Total Live Births	LIVE BIRTH ORDER					
		1st Child	2nd Child	3rd Child	4th Child	5th Child	6th+ Child
American Indian and Alaska Native, IHS Service Area							
<i>All Ages</i>	<i>108,490<sup>1</sup></i>	<i>37,626</i>	<i>29,973</i>	<i>19,661</i>	<i>10,576</i>	<i>5,252</i>	<i>4,991</i>
<i>All Ages</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Under 20 years	18.2	40.7	12.3	3.0	0.6	0.1	0.0
20-24 years	34.6	37.2	45.2	34.8	21.9	11.2	3.3
25-29 years	24.5	13.6	25.3	34.4	37.2	35.5	23.3
30-34 years	14.5	5.9	12.0	18.6	25.7	31.2	35.9
35-39 years	6.6	2.1	4.3	7.5	11.8	17.7	27.7
40-44 years	1.6	0.4	0.9	1.6	2.6	4.1	9.3
45-54 years	0.1	0.0	0.0	0.1	0.1	0.2	0.6
U.S. All Races							
<i>All Ages</i>	<i>4,089,950<sup>2</sup></i>	<i>1,633,987</i>	<i>1,320,477</i>	<i>684,296</i>	<i>267,683</i>	<i>97,308</i>	<i>74,244</i>
<i>All Ages</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Under 20 years	10.3	20.6	5.3	1.6	0.5	0.2	0.0
20-24 years	25.2	29.5	26.6	20.8	15.2	10.3	3.9
25-29 years	26.6	24.1	27.8	29.6	29.4	27.8	19.1
30-34 years	23.9	17.6	26.4	29.0	30.9	32.0	32.2
35-39 years	11.4	6.7	11.6	15.8	19.2	22.6	30.5
40-44 years	2.5	1.4	2.2	3.1	4.6	6.7	13.1
45-54 years	0.1	0.1	0.1	0.1	0.2	0.4	1.2
U.S. White							
<i>All Ages</i>	<i>3,225,848<sup>3</sup></i>	<i>1,288,684</i>	<i>1,057,829</i>	<i>544,265</i>	<i>205,040</i>	<i>70,741</i>	<i>50,601</i>
<i>All Ages</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Under 20 years	9.4	19.0	4.7	1.3	0.4	0.1	0.0
20-24 years	24.5	29.5	25.8	18.8	12.8	7.9	2.8
25-29 years	27.0	24.9	28.4	29.9	28.7	26.0	15.9
30-34 years	24.7	18.2	27.1	30.4	32.6	33.5	31.7
35-39 years	11.8	6.9	11.7	16.4	20.4	24.7	33.1
40-44 years	2.5	1.4	2.2	3.1	4.9	7.3	15.2
45-54 years	0.1	0.1	0.1	0.1	0.2	0.5	1.3

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup> Excludes 411 AI/AN births with birth order not reported.

<sup>2</sup> Excludes 11,955 U.S. all-races births with birth order not reported.

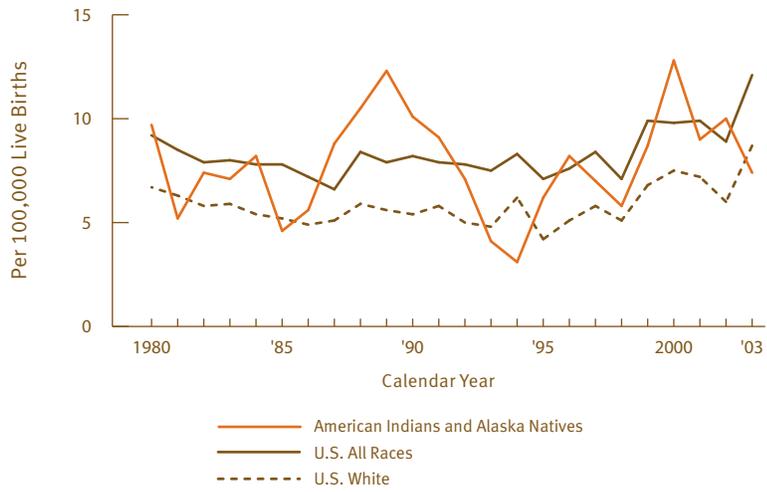
<sup>3</sup> Excludes 8,688 U.S. white births with birth order not reported.

NOTE: Percents were adjusted to sum to 100.0 due to rounding.

SOURCE: Rates for U.S. All Races and U.S. White: Martin JA, Hamilton BE, Sutton PD, et al. Births: Final data for 2003. National vital statistics reports; vol 54 no 2. Hyattsville, MD: National Center for Health Statistics. 2005.

The maternal mortality rate for AI/AN dropped from 28.5 (rate per 100,000 live births) in 1972-1974 to 11.1 in 2002-2004, a decrease of 61 percent. The AI/AN 2002-2004 rate (11.1) is 2.4 points higher than the U.S. white rate of 8.7 for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 3.7 Maternal Death Rates



**Table 3.7 Maternal Deaths and Death Rates**

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1958-2003  
(Rate per 100,000 Live Births)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2002-2004 (2003)	6	7	7.4	11.1	12.1	8.7	0.9	1.3
2001-2003 (2002)	0	0	10.0	12.7	8.9	6.0	1.4	2.1
2000-2002 (2001)	5	7	9.0	12.6	9.9	7.2	1.3	1.8
1999-2001 (2000)	5	7	12.8	16.5	9.8	7.5	1.7	2.2
1998-2000 (1999)	4	4	8.7	10.7	9.9	6.8	1.1	1.6
1997-1999 (1998)	0	0	5.8	5.8	7.1	5.1	0.8	1.1
1996-1998 (1997)	2	2	7.0	8.0	8.4	5.8	1.0	1.4
1995-1997 (1996)	5	5	8.2	9.3	7.6	5.1	1.2	1.8
1994-1996 (1995)	1	1	6.2	6.2	7.1	4.2	0.9	1.5
1993-1995 (1994)	0	0	3.1	3.1	8.3	6.2	0.4	0.5
1992-1994 (1993)	2	2	4.1	5.1	7.5	4.8	0.7	1.1
1991-1993 (1992)	2	2	7.1	9.1	7.8	5.0	1.2	1.8
1990-1992 (1991)	3	3	9.1	11.2	7.9	5.8	1.4	1.9
1989-1991 (1990)	4	4	10.1	11.2	8.2	5.4	1.4	2.1
1988-1990 (1989)	3	3	12.3	13.4	7.9	5.6	1.7	2.4
1987-1989 (1988)	5	5	10.5	11.6	8.4	5.9	1.4	2.0
1986-1988 (1987)	2	2	8.8	9.9	6.6	5.1	1.5	1.9
1985-1987 (1986)	1	1	5.6	5.6	7.2	4.9	0.8	1.1
1984-1986 (1985)	2	2	4.6	4.6	7.8	5.2	0.6	0.9
1983-1985 (1984)	1	1	8.2	9.4	7.8	5.4	1.2	1.7
1982-1984 (1983)	4	4	7.1	8.3	8.0	5.9	1.0	1.4
1981-1983 (1982)	1	1	7.4	8.6	7.9	5.8	1.1	1.5
1980-1982 (1981)	1	1	5.2	5.2	8.5	6.3	0.6	0.8
1979-1981 (1980)	2	2	9.7	9.7	9.2	6.7	1.1	1.4
1972-1974 (72-74)	14	14	28.5	28.5	15.2	10.7	1.8	2.6
1957-1959 (1958)	16	16	82.6	82.6	37.6	26.3	2.2	3.1

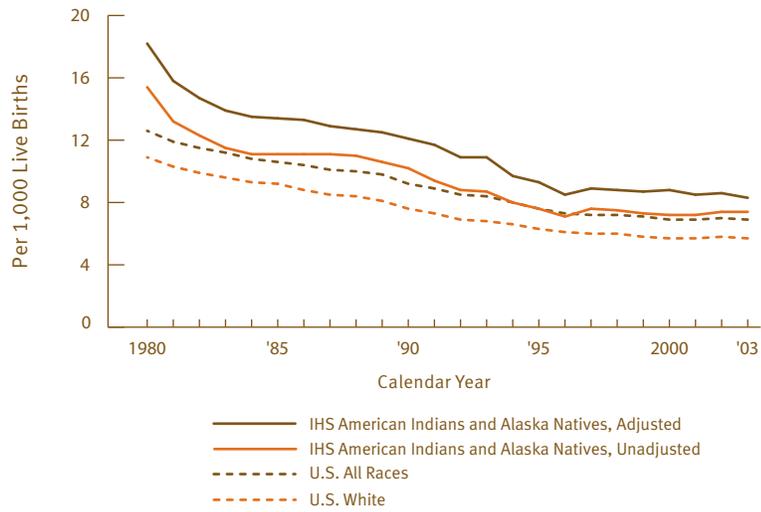
<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Data are presented above for the year in which maternal death data were first collected (1958) and as close to the year in which IHS was established (1955) as is possible. For this year Reservation State data are shown. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN maternal death rate columns present data for the three-year period specified; the U.S. all races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN maternal deaths for a one-year period, respectively. AI/AN unadjusted numbers of maternal deaths and numbers of maternal deaths adjusted for race misreporting are the same.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The infant mortality rate for AI/AN dropped from 25.0 (rate per 1,000 live births) in 1972-1974 to 8.3 in 2002-2004, a decrease of 67 percent. The 2002-2004 rate is 20 percent higher than the U.S. all-races rate of 6.9 for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 3.8 Infant Mortality Rates



**Table 3.8 Infant Mortality Rates**

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003 (Rate per 100,000 Live Births)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE		U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>				
2002-2004 (2003)	7.4	8.3	6.9	5.7	1.2	1.5
2001-2003 (2002)	7.4	8.6	7.0	5.8	1.2	1.5
2000-2002 (2001)	7.2	8.5	6.9	5.7	1.2	1.5
1999-2001 (2000)	7.2	8.8	6.9	5.7	1.3	1.5
1998-2000 (1999)	7.3	8.7	7.1	5.8	1.2	1.5
1997-1999 (1998)	7.5	8.8	7.2	6.0	1.2	1.5
1996-1998 (1997)	7.6	8.9	7.2	6.0	1.2	1.5
1995-1997 (1996)	7.1	8.5	7.3	6.1	1.2	1.4
1994-1996 (1995)	7.6	9.3	7.6	6.3	1.2	1.5
1993-1995 (1994)	8.0	9.7	8.0	6.6	1.2	1.5
1992-1994 (1993)	8.7	10.9	8.4	6.8	1.3	1.6
1991-1993 (1992)	8.8	10.9	8.5	6.9	1.3	1.6
1990-1992 (1991)	9.4	11.7	8.9	7.3	1.3	1.6
1989-1991 (1990)	10.2	12.1	9.2	7.6	1.3	1.6
1988-1990 (1989)	10.6	12.5	9.8	8.1	1.3	1.5
1987-1989 (1988)	11.0	12.7	10.0	8.4	1.3	1.5
1986-1988 (1987)	11.1	12.9	10.1	8.5	1.3	1.5
1985-1987 (1986)	11.1	13.3	10.4	8.8	1.3	1.5
1984-1986 (1985)	11.1	13.4	10.6	9.2	1.3	1.5
1983-1985 (1984)	11.1	13.5	10.8	9.3	1.3	1.5
1982-1984 (1983)	11.5	13.9	11.2	9.6	1.2	1.4
1981-1983 (1982)	12.3	14.7	11.5	9.9	1.3	1.5
1980-1982 (1981)	13.2	15.8	11.9	10.3	1.3	1.5
1979-1981 (1980)	15.4	18.2	12.6	10.9	1.4	1.7
1972-1974 (1973)	22.2	25.0	17.7	15.8	1.4	1.6
1954-1956 (1955)	62.7		26.4	23.6		

<sup>1</sup>Adjusted – specifies a rate or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. AI/AN death rate columns present data for the three-year period specified. U.S. All-Races and U.S. White columns present data for a one-year period.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The neonatal mortality rate for AI/AN in 2002-2004 (4.5 deaths per 1,000 live births) was 2 percent lower than the U.S. all-races rate (4.6) and 15 percent higher than the U.S. white rate (3.9) for 2003. AI/AN fare much worse in comparison during the postneonatal period. The postneonatal rate for AI/AN (4.2) was 1.9 and 2.3 times the U.S. all-races (2.2) and U.S. white (1.8) populations' rates, respectively. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 3.9 Infant Mortality Rates by Age**

*Per 1,000 Live Births*



Table 3.9 Infant Mortality Rates by Age

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1973-2003 (Rate per 1,000 Live Births)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE					
	Infant Mortality Rates		Neonatal Under 28 Days		Postneonatal 28 Days-11 Months	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
2002-2004	7.4	8.3	3.7	4.5	3.7	4.2
2001-2003	7.4	8.6	3.5	4.3	3.9	4.4
2000-2002	7.2	8.5	3.6	4.4	3.6	4.1
1999-2001	7.2	8.8	3.5	4.3	3.8	4.3
1998-2000	7.3	8.7	3.6	4.2	3.7	4.2
1997-1999	7.5	8.8	3.5	4.3	3.8	4.3
1996-1998	7.6	8.9	3.6	4.4	3.9	4.4
1995-1997	7.1	8.5	3.4	4.0	3.7	4.4
1994-1996	7.6	9.3	3.6	4.5	4.0	4.8
1993-1995	8.0	9.7	3.8	4.6	4.2	5.1
1992-1994	8.7	10.9	4.1	5.2	4.6	5.8
1991-1993	8.8	10.9	4.0	4.9	4.9	6.0
1990-1992	9.4	11.7	4.3	5.3	5.1	6.4
1989-1991	10.2	12.1	4.7	5.4	5.5	6.7
1988-1990	10.6	12.5	4.8	5.6	5.8	7.0
1987-1989	11.0	12.7	5.1	5.5	5.9	7.1
1986-1988	11.1	12.9	5.2		5.9	
1985-1987	11.1	13.3	5.3		5.9	
1984-1986	11.1	13.4	5.0		6.0	
1983-1985	11.1	13.5	5.1		6.0	
1982-1984	11.5	13.9	5.1		6.4	
1981-1983	12.3	14.7	5.3		7.0	
1980-1982	13.2	15.8	5.9		7.3	
1979-1981	15.4	18.2	7.2		8.1	
1972-1974	22.2	25.0	10.2		12.0	
Calendar Year(s)	U.S. ALL RACES					
	Infant Mortality Rates	Neonatal Under 28 Days	Postneonatal 28 Days-11 Months	Infant Mortality Rates	Neonatal Under 28 Days	Postneonatal 28 Days-11 Months
2003	6.9	4.6	2.2	5.7	3.9	1.8
2002	7.0	4.7	2.3	5.8	3.9	1.9
2001	6.9	4.5	2.3	5.7	3.8	1.9
2000	6.9	4.6	2.3	5.7	3.8	1.9
1999	7.1	4.7	2.3	5.8	3.8	1.9
1998	7.2	4.8	2.4	6.0	3.9	2.0
1997	7.2	4.8	2.5	6.0	4.0	2.0
1996	7.3	4.8	2.6	6.1	4.0	2.1
1995	7.6	4.9	2.7	6.3	4.1	2.2
1994	8.0	5.1	2.9	6.6	4.2	2.4
1993	8.4	5.3	3.1	6.8	4.3	2.5
1992	8.5	5.4	3.1	6.9	4.4	2.6
1991	8.9	5.6	3.4	7.3	4.5	2.8
1990	9.2	5.9	3.4	7.7	4.8	2.8
1989	9.8	6.2	3.6	8.2	5.2	2.9
1988	10.0	6.3	3.6	8.5	5.3	3.1
1987	10.1	6.5	3.6	8.6	5.4	3.1
1986	10.4	6.7	3.6	8.9	5.7	3.1
1985	10.6	7.0	3.7	9.3	6.0	3.2
1984	10.8	7.0	3.8	9.4	6.1	3.2
1983	11.2	7.3	3.9	9.7	6.3	3.3
1982	11.5	7.7	3.8	10.1	6.7	3.3
1981	11.9	8.0	3.9	10.5	7.0	3.4
1980	12.6	8.5	4.1	11.0	7.4	3.5
1973	17.7	13.0	4.7	15.8	11.8	4.0

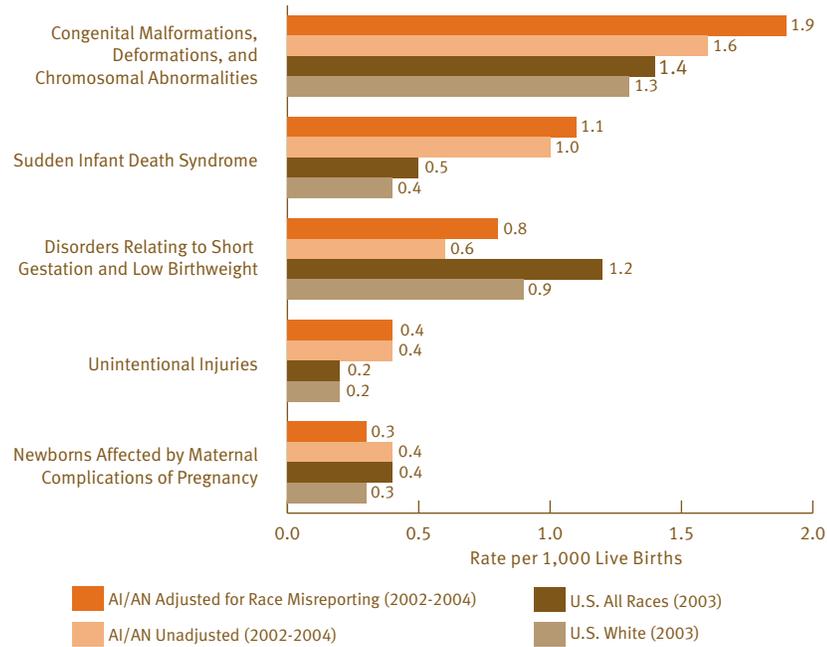
<sup>1</sup>Adjusted – specifies a rate or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Data from 1972 forward, shown above, are drawn from specific counties in the IHS service area for infant mortality by age. Adjusted rates to compensate for misreporting of AI/AN race on state death certificates are currently unavailable for AI/AN neonatal and postneonatal mortality for data years 1972-1986.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention, CDC Wonder. <http://wonder.cdc.gov/>.

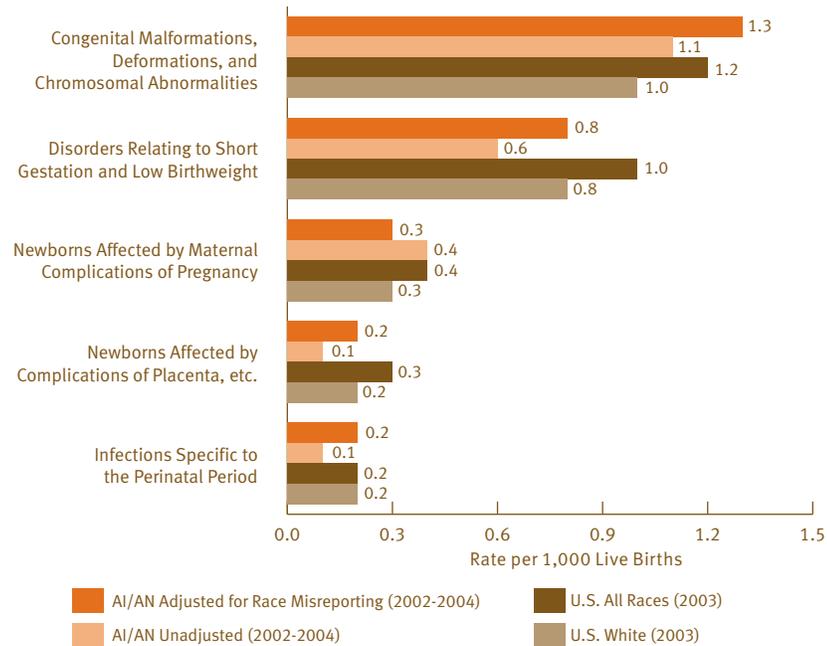
The two leading causes of AI/AN infant deaths (2002-2004) were congenital malformations, deformations, and chromosomal abnormalities and sudden infant death syndrome (SIDS). For the U.S. all-races population (2003), they were congenital malformations, deformations, and chromosomal abnormalities and disorders relating to short gestation and low birthweight and for the U.S. white population (2003) they were congenital malformations, deformations, and chromosomal abnormalities and disorders relating to short gestation and low birthweight.

Chart 3.10 Leading Causes of Infant Deaths (Birth to Under 1 Year)



The two leading causes of AI/AN neonatal deaths (2002-2004) and the U.S. all-races and white populations in 2003 were congenital malformations, deformations, and chromosomal abnormalities and disorders relating to short gestation and low birthweight. The AI/AN adjusted rates for newborns affected by complications of placenta, etc. and infections specific to the perinatal period are the same at 0.2 per 1,000 live births.

Chart 3.11 Leading Causes of Neonatal Deaths (Under 28 Days)



The two leading causes of AI/AN postneonatal deaths (2002-2004) and the U.S. all-races and white populations in 2003 were sudden infant death syndrome (SIDS) and congenital malformations, deformations, and chromosomal abnormalities.

**Chart 3.12** Leading Causes of Postneonatal Deaths (28 Days to Under 1 Year)

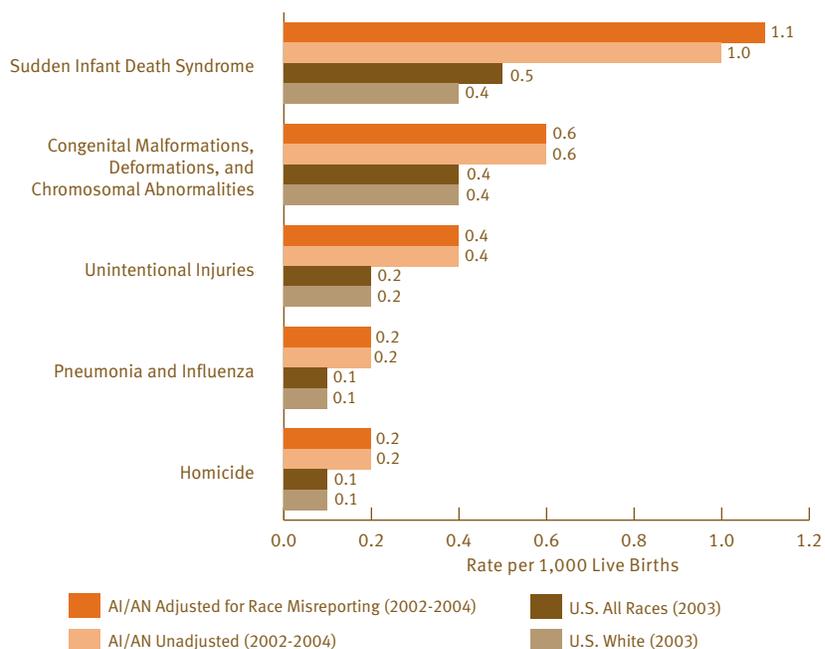


Table 3.10 Leading Causes of Infant Deaths by Age

American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003  
(Rate per 1,000 Live Births)

Cause of Death	AMERICAN INDIAN AND ALASKA NATIVE				U.S.	U.S.	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate		ALL RACES	WHITE	U.S.	U.S.
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate	All Races	White
<b>Total Infant Deaths</b>								
<i>All Causes</i>	<i>802</i>	<i>902</i>	<i>7.3</i>	<i>8.3</i>	<i>6.9</i>	<i>5.7</i>	<i>1.2</i>	<i>1.5</i>
Congenital malformations, deformations, and chromosomal abnormalities	178	207	1.6	1.9	1.4	1.3	1.4	1.5
Sudden infant death syndrome	112	122	1.0	1.1	0.5	0.4	2.2	2.8
Disorders relating to short gestation and low birthweight	70	87	0.6	0.8	1.2	0.9	0.7	0.9
Unintentional injuries	48	46	0.4	0.4	0.2	0.2	2.0	2.0
Newborns affected by maternal complications of pregnancy	40	35	0.4	0.3	0.4	0.3	0.8	1.0
Pneumonia and influenza	27	25	0.3	0.2	0.1	0.1	2.0	2.0
Newborns affected by complications of placenta, cord, and membranes	17	24	0.2	0.2	0.3	0.2	0.7	1.0
Homicide	24	23	0.2	0.2	0.1	0.1	2.0	2.0
Disease of the circulatory system	24	23	0.2	0.2	0.1	0.1	2.0	2.0
Intrauterine hypoxia and birth asphyxia	16	18	0.2	0.2	0.1	0.1	2.0	2.0
<i>All other causes</i>	<i>246</i>	<i>292</i>						
<b>Neonatal Deaths</b>								
<i>All Causes</i>	<i>400</i>	<i>449</i>	<i>3.7</i>	<i>4.1</i>	<i>4.6</i>	<i>3.9</i>	<i>0.9</i>	<i>1.1</i>
Congenital malformations, deformations, and chromosomal abnormalities	118	137	1.1	1.3	1.2	1.0	1.0	1.3
Disorders relating to short gestation and low birthweight	69	85	0.6	0.8	1.0	0.8	0.8	1.0
Newborns affected by maternal complications of pregnancy	40	35	0.4	0.3	0.4	0.3	0.8	1.1
Newborns affected by complications of placenta, cord, and membranes	16	22	0.1	0.2	0.3	0.2	0.7	1.0
Infections specific to the perinatal period	16	21	0.1	0.2	0.2	0.2	1.0	1.0
Intrauterine hypoxia and birth asphyxia	15	17	0.1	0.2	0.1	0.1	1.6	1.6
Neonatal hemorrhage	14	12	0.1	0.1	0.2	0.1	0.6	1.1
Diseases of the circulatory system	9	9	0.1	0.1	0.0	0.0	*	*
Respiratory distress syndrome	9	11	0.1	0.1	0.2	0.2	0.5	0.5
Sudden infant death syndrome	4	4	0.0	0.0	0.0	0.0	*	*
<i>All other causes</i>	<i>90</i>	<i>96</i>						
<b>Postneonatal Deaths</b>								
<i>All Causes</i>	<i>402</i>	<i>453</i>	<i>3.7</i>	<i>4.2</i>	<i>2.2</i>	<i>1.8</i>	<i>1.9</i>	<i>2.3</i>
Sudden infant death syndrome	108	118	1.0	1.1	0.5	0.4	2.2	2.7
Congenital malformations, deformations, and chromosomal abnormalities	60	70	0.6	0.6	0.4	0.4	1.6	1.6
Unintentional injuries	44	42	0.4	0.4	0.2	0.2	1.9	1.9
Pneumonia and influenza	25	23	0.2	0.2	0.1	0.1	2.1	2.1
Homicide	20	19	0.2	0.2	0.1	0.1	1.8	1.8
Disease of the circulatory system	15	14	0.1	0.1	0.1	0.1	1.3	1.3
Septicemia	10	13	0.1	0.1	0.1	0.0	1.2	*
Meningitis	3	5	0.0	0.0	0.0	0.1	*	0.5
Respiratory distress syndrome	2	2	0.0	0.0	0.0	0.0	*	*
Acute bronchitis and acute bronchiolitis	2	2	0.0	0.0	0.0	0.0	*	*
<i>All other causes</i>	<i>113</i>	<i>145</i>						

\*Figure does not meet standards of reliability or precision.

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Causes of death listed are based on the order of adjusted number of deaths.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The two leading causes of AI/AN deaths (2002-2004) for ages 1 to 4 were unintentional injuries and congenital anomalies. In 2003, unintentional injuries and congenital anomalies were the two leading causes of death for the U.S. all-races and white populations.

Chart 4.1 Death Rates, Leading Causes: Ages 1 to 4 Years

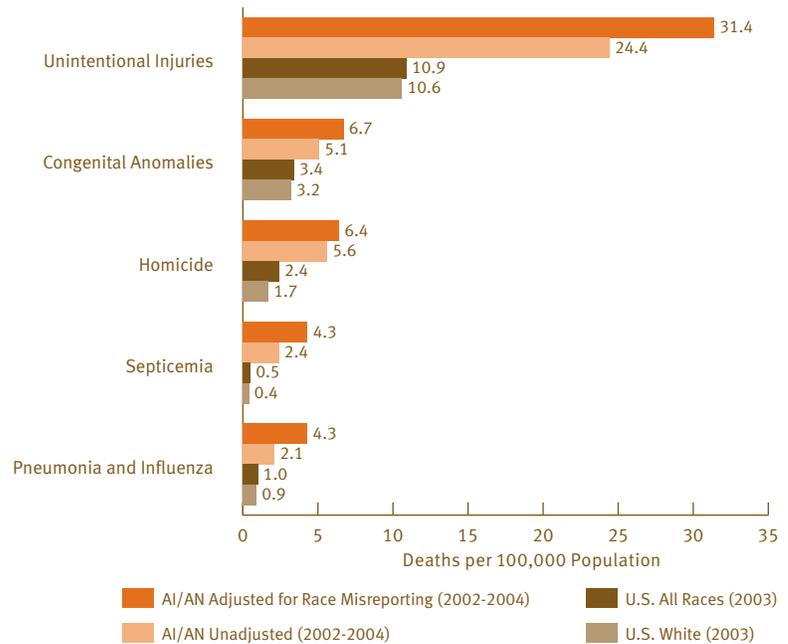


Table 4.1 Ten Leading Causes of Death for Decedents 1 to 4 Years of Age

American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)

Cause of Death	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES Rate	U.S. WHITE Rate	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>All Causes</b>	<b>225</b>	<b>303</b>	<b>60.3</b>	<b>81.2</b>	<b>31.5</b>	<b>28.5</b>	<b>2.6</b>	<b>2.8</b>
Unintentional injuries	91	117	24.4	31.4	10.9	10.6	2.9	3.0
Motor vehicle	45	58	12.1	15.5	3.9	3.8	4.0	4.1
Other unintentional injuries	46	59	12.3	15.9	7.0	6.8	2.3	2.3
Congenital anomalies	19	25	5.1	6.7	3.4	3.2	2.0	2.1
Homicide	21	24	5.6	6.4	2.4	1.7	2.7	3.8
Septicemia	9	16	2.4	4.3	0.5	0.4	8.6	10.8
Pneumonia and influenza	8	16	2.1	4.3	1.0	0.9	4.3	4.8
Malignant neoplasms	9	13	2.4	3.5	2.5	2.6	1.4	1.3
Diseases of the heart	8	11	2.1	2.9	1.2	1.0	2.4	2.9
Acute bronchitis and acute bronchiolitis	2	4	0.5	1.1	0.2	0.1	5.5	11.0
Benign neoplasms <sup>2</sup>	3	3	0.8	0.8	0.3	0.3	2.7	2.7
Meningococcal infections	1	3	0.3	0.8	0.1	0.1	8.0	8.0
<b>All other causes</b>	<b>48</b>	<b>63</b>						

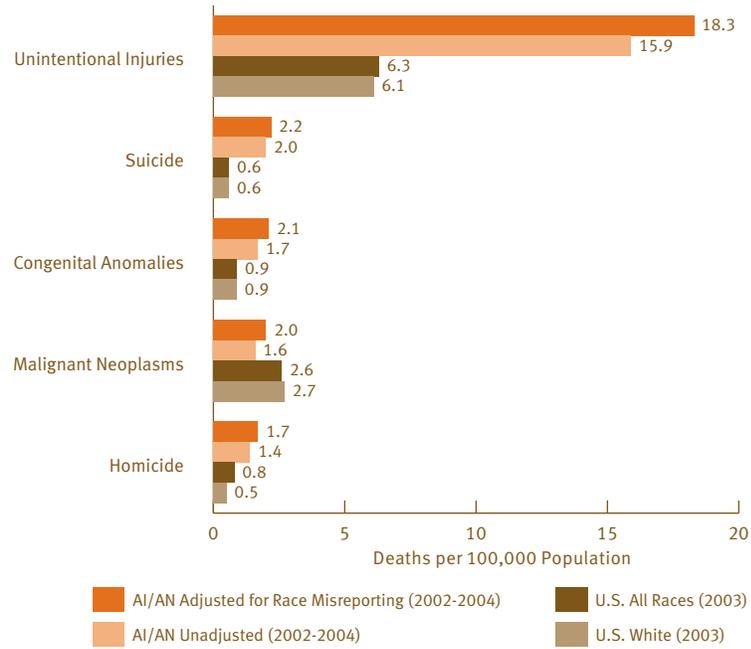
<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.  
<sup>2</sup>Benign neoplasms describes: in situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior.

NOTE: Causes of death listed are based on the order of adjusted number of deaths.  
 SOURCE: Rates for U.S. All Races and U.S. White: Heron MP, Smith BL, Deaths: Leading Causes for 2003, National Vital Statistics Reports; vol 55 no 10. Hyattsville, MD: National Center for Health Statistics. 2007.

# PART 4: GENERAL MORTALITY STATISTICS

The two leading causes of AI/AN deaths (2002-2004) for ages 5 to 14 years were unintentional injuries and suicide. For the U.S. all-races and white populations (2003) the two leading causes of death were unintentional injuries and malignant neoplasms.

**Chart 4.2 Death Rates, Leading Causes: Ages 5 to 14 Years**



**Table 4.2 Ten Leading Causes of Death for Decedents 5 to 14 Years of Age**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Cause of Death	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES Rate	U.S. WHITE Rate	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>All Causes</b>	<b>318</b>	<b>368</b>	<b>30.6</b>	<b>35.5</b>	<b>17.0</b>	<b>15.8</b>	<b>2.1</b>	<b>2.2</b>
Unintentional injuries	165	190	15.9	18.3	6.3	6.1	2.9	3.0
Motor vehicle	102	116	9.8	11.2	4.0	4.1	2.8	2.7
Other unintentional injuries	63	74	6.1	7.1	2.3	2.0	3.1	3.6
Suicide	21	23	2.0	2.2	0.6	0.6	3.7	3.7
Congenital anomalies	18	22	1.7	2.1	0.9	0.9	2.3	2.3
Malignant neoplasms	17	21	1.6	2.0	2.6	2.7	0.8	0.7
Homicide	15	18	1.4	1.7	0.8	0.5	2.1	3.4
Diseases of the heart	8	10	0.8	1.0	0.6	0.5	1.7	2.0
Septicemia	8	8	0.8	0.8	1.9	1.7	0.4	0.5
Pneumonia and influenza	2	3	0.2	0.3	0.4	0.3	0.8	1.0
Benign neoplasms	3	3	0.3	0.3	0.2	0.2	1.5	1.5
Chronic lower respiratory	2	2	0.2	0.2	0.3	0.2	2.7	4.0
<b>All other causes</b>	<b>59</b>	<b>68</b>	<b>5.7</b>	<b>6.6</b>				

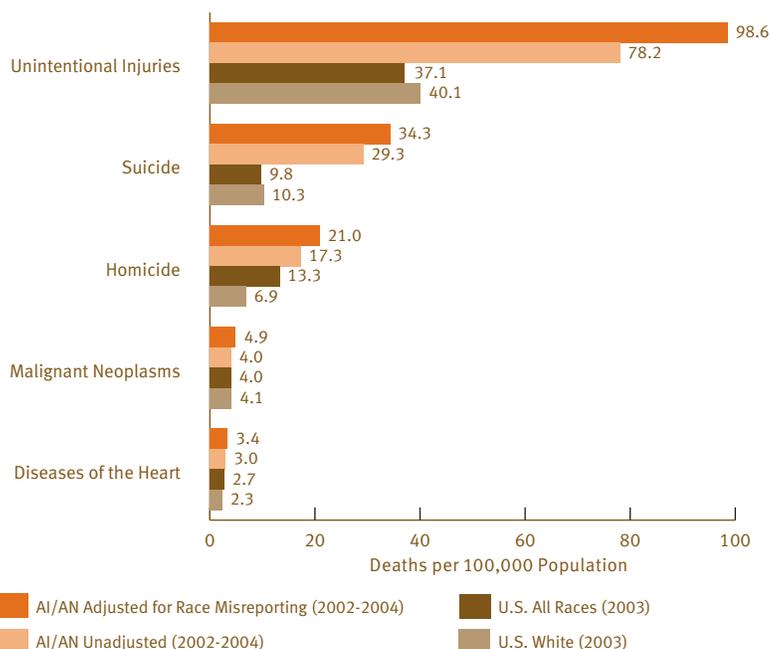
<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Causes of death listed are based on the order of adjusted number of deaths.

SOURCE: Rates for U.S. All Races and U.S. White: Heron MP, Smith BL, Deaths: Leading Causes for 2003, National Vital Statistics Reports; vol 55 no 10. Hyattsville, MD: National Center for Health Statistics. 2007.

The two leading causes of AI/AN deaths (2002-2004) and the U.S. white populations (2003) for ages 15 to 24 years were unintentional injuries and suicide. For the U.S. all-races population (2003) the two leading causes of death were unintentional injuries and homicide.

**Chart 4.3** Death Rates, Leading Causes: Ages 15 to 24 Years



**Table 4.3** Ten Leading Causes of Death for Decedents 15 to 24 Years of Age

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Cause of Death	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate		
<b>All Causes</b>	<b>1,491</b>	<b>1,831</b>	<b>150.8</b>	<b>185.2</b>	<b>81.5</b>	<b>75.8</b>	<b>2.3</b>	<b>2.4</b>
Unintentional injuries	773	975	78.2	98.6	37.1	40.1	2.7	2.5
Motor vehicle	614	785	62.1	79.4	26.7	28.6	3.0	2.8
Other unintentional injuries	159	190	16.1	19.2	10.4	11.5	1.8	1.7
Suicide	290	339	29.3	34.3	9.8	10.3	3.5	3.3
Homicide	171	208	17.3	21.0	13.3	6.9	1.6	3.0
Malignant neoplasms	40	48	4.0	4.9	4.0	4.1	1.2	1.2
Diseases of the heart	30	34	3.0	3.4	2.7	2.3	1.3	1.5
Chronic lower respiratory diseases	6	11	0.6	1.1	0.5	0.3	2.2	3.7
Chronic liver disease and cirrhosis	7	9	0.7	0.9	0.4	0.3	2.3	3.0
Congenital anomalies	9	9	0.9	0.9	1.1	1.1	0.8	0.8
Nephritis, nephrotic syndrome and nephrosis	7	9	0.7	0.9	0.2	0.2	4.5	4.5
Pneumonia and influenza	6	7	0.6	0.7	0.5	0.5	1.4	1.4
<b>All other causes</b>	<b>152</b>	<b>182</b>						

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

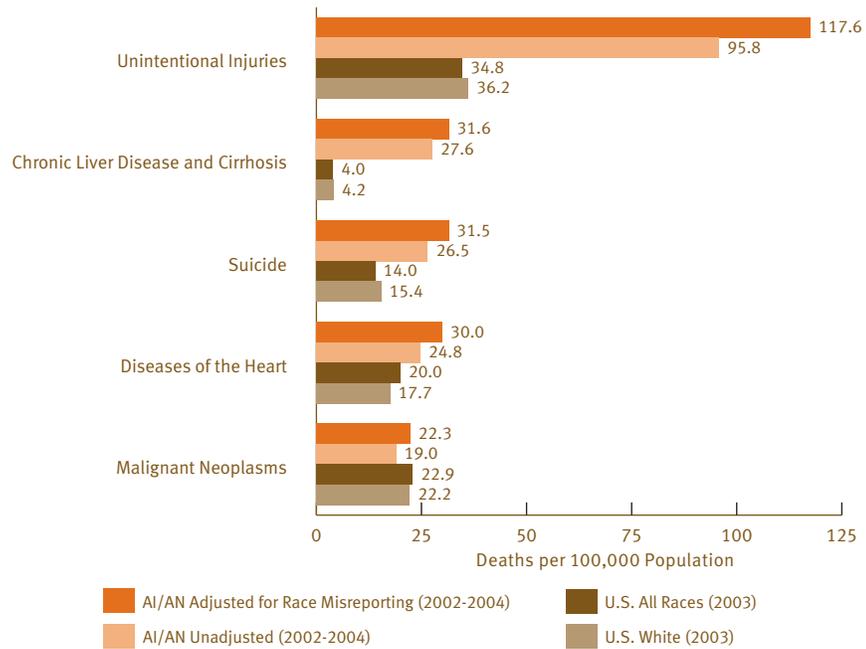
NOTE: Causes of death listed are based on the order of adjusted number of deaths.

SOURCE: Rates for U.S. All Races and U.S. White: Heron MP, Smith BL, Deaths: Leading Causes for 2003, National Vital Statistics Reports; vol 55 no 10. Hyattsville, MD: National Center for Health Statistics. 2007.

# PART 4: GENERAL MORTALITY STATISTICS

The two leading causes of AI/AN deaths (2002-2004) for ages 25 to 44 years were unintentional injuries and chronic liver disease and cirrhosis. For the U.S. all-races and U.S. white populations (2003) the two leading causes of death were unintentional injuries and malignant neoplasms.

**Chart 4.4** Death Rates, Leading Causes: Ages 25 to 44 Years



**Table 4.4** Ten Leading Causes of Death for Decedents 25 to 44 Years of Age

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

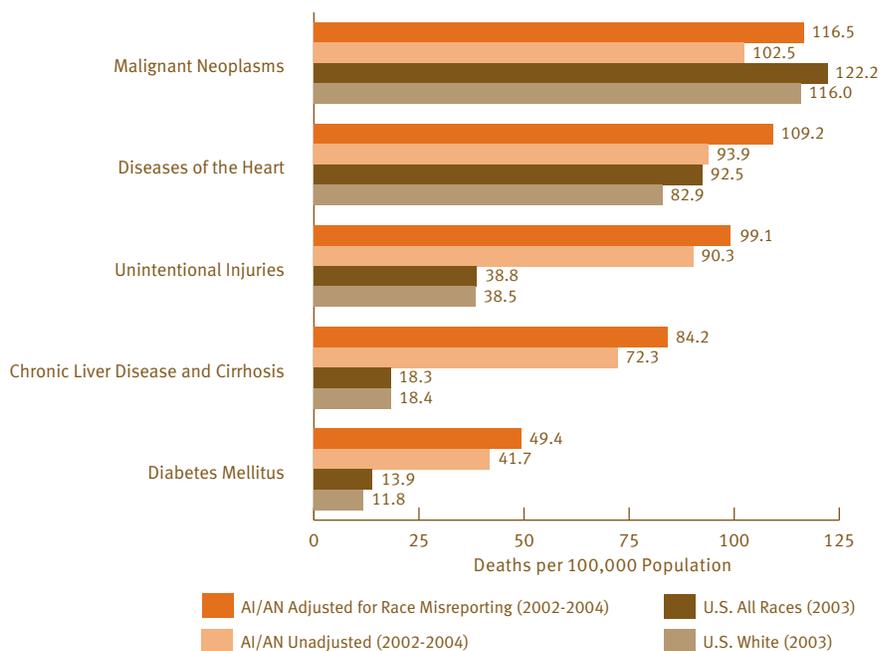
Cause of Death	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES Rate	U.S. WHITE Rate	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>All Causes</b>	<b>4,345</b>	<b>5,180</b>	<b>298.7</b>	<b>356.1</b>	<b>155.2</b>	<b>143.1</b>	<b>2.3</b>	<b>2.5</b>
Unintentional injuries	1,393	1,711	95.8	117.6	34.8	36.2	3.4	3.2
Motor vehicle	796	1,008	54.7	69.2	16.4	16.7	4.2	4.1
Other unintentional injuries	597	703	41.1	48.4	18.4	19.5	2.6	2.5
Chronic liver disease and cirrhosis	402	459	27.6	31.6	4.0	4.2	7.9	7.5
Suicide	385	458	26.5	31.5	14.0	15.4	2.3	2.0
Diseases of the heart	361	437	24.8	30.0	20.0	17.7	1.5	1.7
Malignant neoplasms	277	325	19.0	22.3	22.9	22.2	1.0	1.0
Homicide	247	284	17.0	19.5	9.4	5.5	2.1	3.5
Diabetes mellitus	108	125	7.4	8.6	3.2	2.8	2.7	3.1
Human immunodeficiency virus (HIV) infection	86	98	5.9	6.7	8.2	4.5	0.8	1.5
Cerebrovascular diseases	73	86	5.0	5.9	3.6	2.8	1.6	2.1
Septicemia	65	73	4.5	5.0	1.4	1.2	3.6	4.2
<b>All other causes</b>	<b>948</b>	<b>1,135</b>						

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Causes of death listed are based on the order of adjusted number of deaths.  
SOURCE: Rates for U.S. All Races and U.S. White: Heron MP, Smith BL, Deaths: Leading Causes for 2003, National Vital Statistics Reports; vol 55 no 10. Hyattsville, MD: National Center for Health Statistics. 2007.

The two leading causes of AI/AN deaths (2002-2004) for ages 45 to 54 years were malignant neoplasms and diseases of the heart. In 2003, the U.S. all-races and U.S. white populations had identical ranking to that of AI/AN for these two leading causes of death.

**Chart 4.5** Death Rates, Leading Causes: Ages 45 to 54 Years



**Table 4.5** Ten Leading Causes of Death for Decedents 45 to 54 Years of Age

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

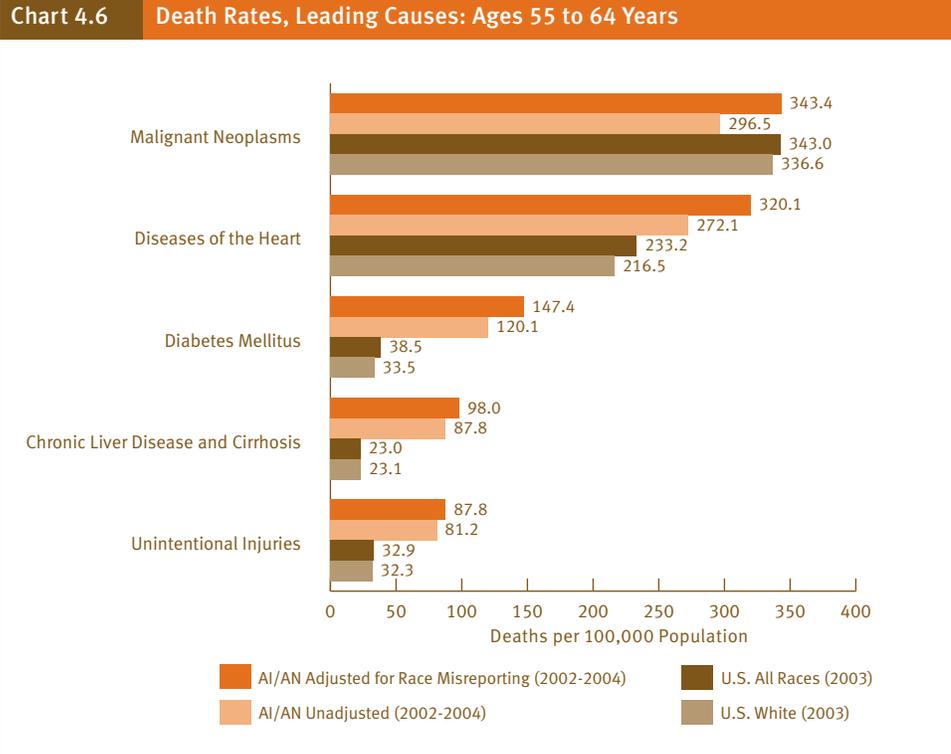
Cause of Death	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate		
<b>All Causes</b>	<b>3,798</b>	<b>4,295</b>	<b>636.0</b>	<b>719.2</b>	<b>433.2</b>	<b>397.5</b>	<b>1.7</b>	<b>1.8</b>
Malignant neoplasms	612	696	102.5	116.5	122.2	116.0	1.0	1.0
Diseases of the heart	561	652	93.9	109.2	92.5	82.9	1.2	1.3
Unintentional injuries	539	592	90.3	99.1	38.8	38.5	2.6	2.6
Motor vehicle	265	296	44.4	49.6	14.9	14.9	3.3	3.3
Other unintentional injuries	274	296	45.9	49.5	23.9	23.6	2.1	2.1
Chronic liver disease and cirrhosis	432	503	72.3	84.2	18.3	18.4	4.6	4.6
Diabetes mellitus	249	295	41.7	49.4	13.9	11.8	3.6	4.2
Cerebrovascular diseases	112	126	18.8	21.1	15.0	11.4	1.4	1.9
Suicide	91	97	15.2	16.2	15.9	18.4	1.0	0.9
Nephritis, nephrotic syndrome, and nephrosis	72	76	12.1	12.7	5.1	3.5	2.5	3.6
Homicide	70	72	11.7	12.1	4.9	3.5	2.5	3.5
Pneumonia and influenza	65	68	10.9	11.4	5.2	4.7	2.2	2.4
<b>All other causes</b>	<b>995</b>	<b>1,118</b>						

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Causes of death listed are based on the order of adjusted number of deaths.

SOURCE: Rates for U.S. All Races and U.S. White: Heron MP, Smith BL, Deaths: Leading Causes for 2003, National Vital Statistics Reports; vol 55 no 10. Hyattsville, MD: National Center for Health Statistics. 2007.

The two leading causes of AI/AN deaths (2002-2004) for ages 55 to 64 years were malignant neoplasms and diseases of the heart. In 2003, the two leading causes of death for both the U.S. all-races and U.S. white populations (2003) were malignant neoplasm and disease of the heart.



**Table 4.6 Ten Leading Causes of Death for Decedents 55 to 64 Years of Age**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

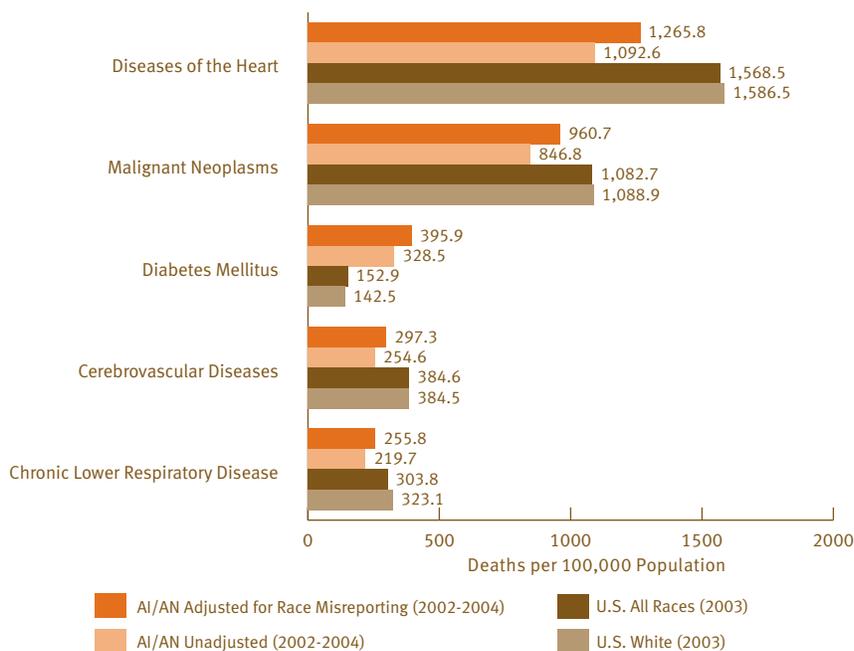
Cause of Death	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>All Causes</b>	<b>4,389</b>	<b>5,083</b>	<b>1,246.6</b>	<b>1,443.8</b>	<b>940.9</b>	<b>892.2</b>	<b>1.5</b>	<b>1.6</b>
Malignant neoplasms	1,044	1,209	296.5	343.4	343.0	336.6	1.0	1.0
Diseases of the heart	958	1,127	272.1	320.1	233.2	216.5	1.4	1.5
Diabetes mellitus	423	519	120.1	147.4	38.5	33.5	3.8	4.4
Chronic liver disease and cirrhosis	309	345	87.8	98.0	23.0	23.1	4.3	4.2
Unintentional injuries	286	309	81.2	87.8	32.9	32.3	2.7	2.7
Motor vehicle	140	155	39.8	44.1	14.3	14.0	3.1	3.2
Other unintentional injuries	146	154	41.4	43.7	18.6	18.3	2.3	2.4
Chronic lower respiratory diseases	158	191	44.9	54.3	43.3	45.2	1.3	1.2
Cerebrovascular diseases	135	161	38.3	45.7	35.6	29.4	1.3	1.6
Nephritis, nephrotic syndrome, and nephrosis	97	113	27.6	32.1	13.6	10.6	2.4	3.0
Septicemia	85	93	24.1	26.4	13.1	11.2	2.0	2.4
Pneumonia and influenza	81	89	23.0	25.3	11.2	10.3	2.3	2.5
<b>All other causes</b>	<b>813</b>	<b>927</b>						

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Causes of death listed are based on the order of adjusted number of deaths.  
SOURCE: Rates for U.S. All Races and U.S. White: Heron MP, Smith BL, Deaths: Leading Causes for 2003, National Vital Statistics Reports; vol 55 no 10. Hyattsville, MD: National Center for Health Statistics. 2007.

The two leading causes of AI/AN deaths (2002-2004) for 65 years of age and older were diseases of the heart and malignant neoplasms. For the U.S. all-races and U.S. white populations (2003) diseases of the heart and malignant neoplasms were also the two leading causes of death. Diabetes mellitus was the third leading cause of death for AI/AN but the sixth leading cause of death for both U.S. All-races and the U.S. white populations.

**Chart 4.7** Death Rates, Leading Causes: Ages 65 Years of Age and Older



**Table 4.7** Ten Leading Causes of Death for Decedents 65 Years of Age and Older

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Cause of Death	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>All Causes</b>	<b>13,258</b>	<b>15,037</b>	<b>4,144.3</b>	<b>4,700.4</b>	<b>5,023.4</b>	<b>5,081.7</b>	<b>0.9</b>	<b>0.9</b>
Diseases of the heart	3,502	4,057	1,092.6	1,265.8	1,568.5	1,586.5	0.8	0.8
Malignant neoplasms	2,714	3,079	846.8	960.7	1,082.7	1,088.9	0.9	0.9
Diabetes mellitus	1,053	1,269	328.5	395.9	152.9	142.5	2.6	2.8
Cerebrovascular diseases	816	953	254.6	297.3	384.6	384.5	0.8	0.8
Chronic lower respiratory disease	704	820	219.7	255.8	303.8	323.1	0.8	0.8
Pneumonia and influenza	525	567	163.8	176.9	160.6	164.5	1.1	1.1
Unintentional injuries	457	483	142.6	150.7	95.6	98.9	1.6	1.5
Motor vehicle	151	165	47.1	51.5	21.1	21.4	2.5	2.4
Other unintentional injuries	306	318	95.5	99.2	74.5	77.5	1.3	1.3
Nephritis, nephrotic syndrome, and nephrosis	326	356	101.7	111.1	98.1	92.5	1.1	1.2
Alzheimer's disease	223	241	69.6	75.2	174.9	185.2	0.4	0.4
Chronic liver disease and cirrhosis	221	240	69.0	74.9	28.4	29.7	2.6	2.5
<b>All other causes</b>	<b>2,717</b>	<b>2,972</b>						

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

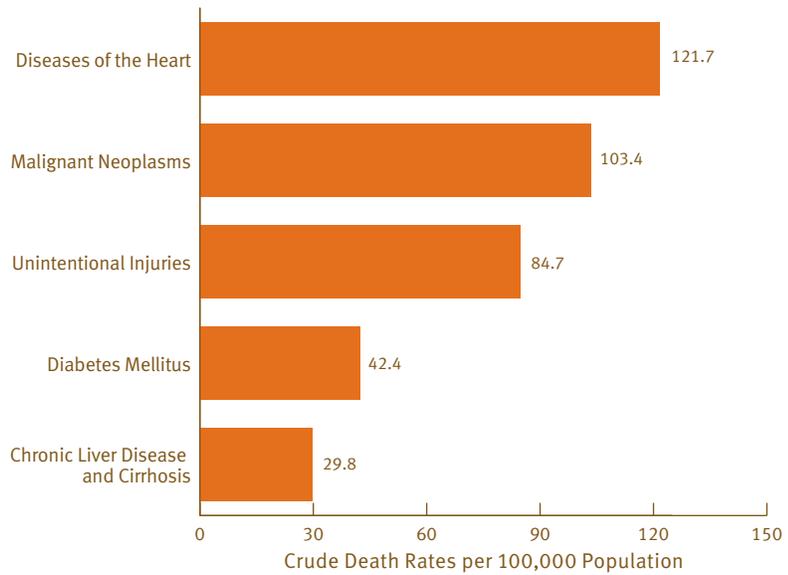
NOTE: Causes of death listed are based on the order of adjusted number of deaths.

SOURCE: Rates for U.S. All Races and U.S. White: Heron MP, Smith BL, Deaths: Leading Causes for 2003, National Vital Statistics Reports; vol 55 no 10.0 Hyattsville, MD: National Center for Health Statistics. 2007.

The two leading causes of AI/AN deaths (2002-2004) for all ages were diseases of the heart and malignant neoplasms.

**Chart 4.8** Death Rates for Leading Causes for All Ages

*American Indians and Alaska Natives (2002-2004)*



**Table 4.8** Ten Leading Causes of Death for Decedents of All Ages

*American Indians and Alaska Natives, IHS Service Area, 2002-2004  
(Crude Rate per 100,000 Population)*

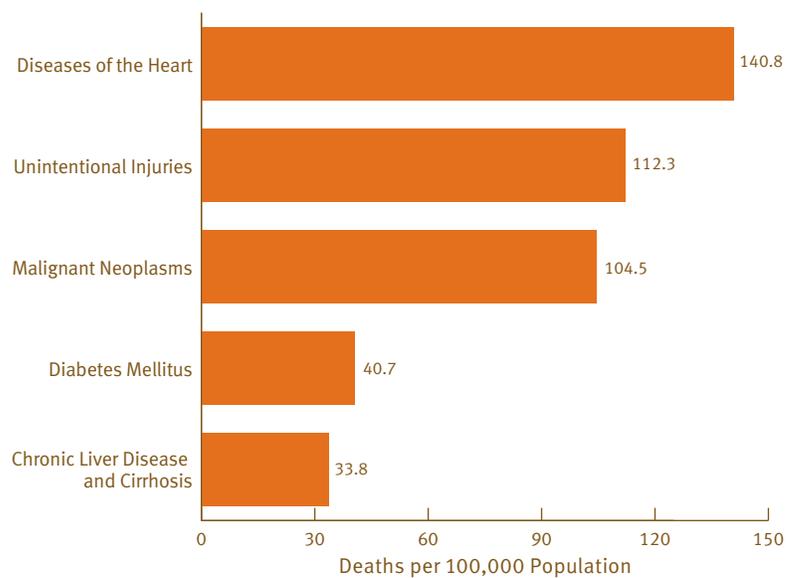
Cause of Death	Number		Rate	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<b>All Causes</b>	<b>28,625</b>	<b>33,088</b>	<b>548.7</b>	<b>632.6</b>
Diseases of the heart	5,447	6,347	104.4	121.7
Malignant neoplasms	4,714	5,392	90.4	103.4
Unintentional injuries	3,746	4,417	71.8	84.7
Motor vehicle	2,126	2,594	40.8	49.7
Other unintentional injuries	1,620	1,823	31.0	35.0
Diabetes mellitus	1,836	2,211	35.2	42.4
Chronic liver disease and cirrhosis	1,371	1,556	26.3	29.8
Cerebrovascular diseases	1,143	1,333	21.9	25.6
Chronic lower respiratory diseases	945	1,104	18.1	21.2
Suicide	831	961	15.9	18.4
Pneumonia and influenza	767	832	14.7	15.9
Homicide	561	639	10.8	12.2
<b>All other causes</b>	<b>7,264</b>	<b>8,296</b>		

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.  
NOTE: Causes of death listed are based on the order of adjusted rate of deaths.

The two leading causes of deaths for AI/AN males (2002-2004) were diseases of the heart and unintentional injuries.

**Chart 4.9** Death Rates, Leading Causes: Males

*American Indians and Alaska Natives (2002-2004)*



The two leading causes of deaths for AI/AN females (2002-2004) were diseases of the heart and malignant neoplasms.

**Chart 4.10** Death Rates, Leading Causes: Females

*American Indians and Alaska Natives (2002-2004)*

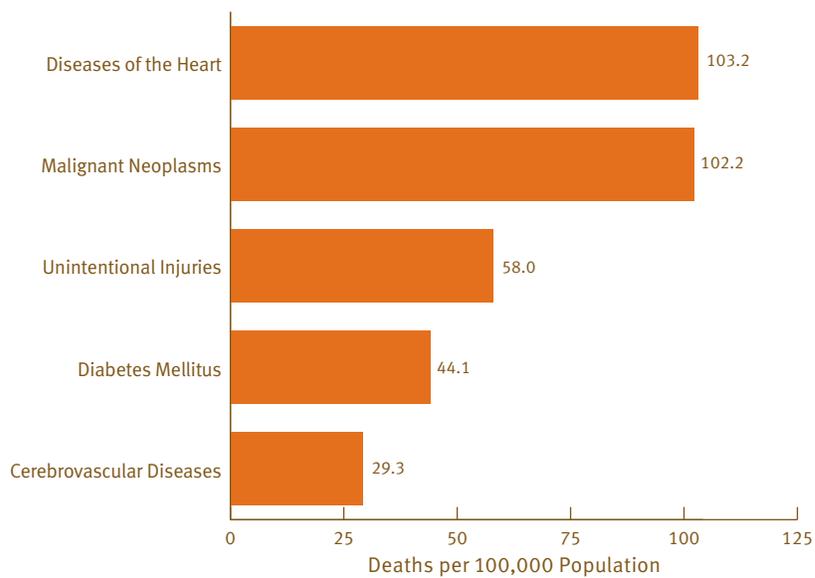


Table 4.9 Leading Causes of Death by Sex

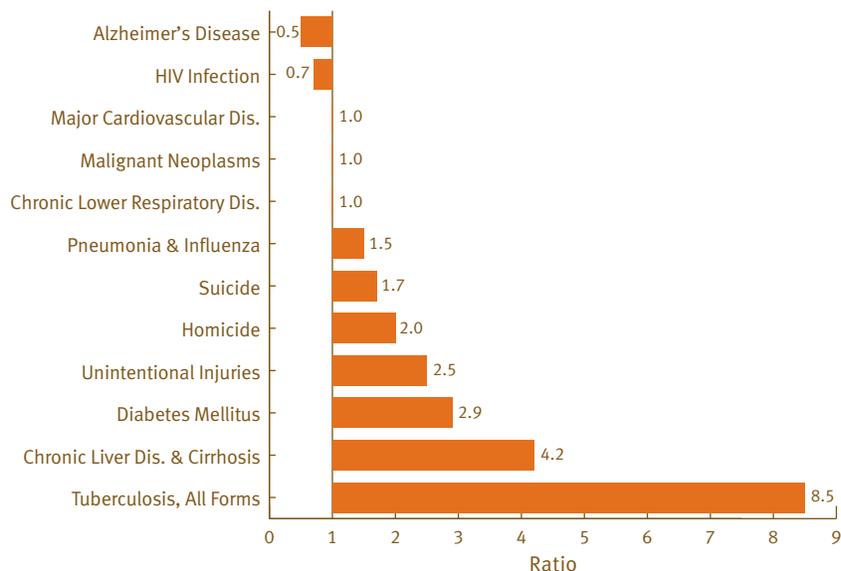
American Indians and Alaska Natives, IHS Service Area, 2002-2004  
(Rate per 100,000 Population)

Cause of Death	Number		Rate	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<b>MALE</b>				
<i>All Causes</i>	<i>15,669</i>	<i>18,014</i>	<i>608.6</i>	<i>699.7</i>
Diseases of the heart	3,072	3,624	119.3	140.8
Unintentional injuries	2,522	2,890	98.0	112.3
Motor vehicle	1,389	1,640	54.0	63.7
Other unintentional injuries	1,133	1,250	44.0	48.6
Malignant neoplasms	2,341	2,691	90.9	104.5
Diabetes mellitus	867	1,047	33.7	40.7
Chronic liver disease and cirrhosis	779	871	30.3	33.8
Suicide	659	758	25.6	29.4
Cerebrovascular diseases	481	560	18.7	21.8
Chronic lower respiratory diseases	480	568	18.6	22.1
Homicide	434	481	16.9	18.7
Pneumonia and influenza	372	408	14.4	15.8
<i>All other causes</i>	<i>3,662</i>	<i>4,116</i>		
<b>FEMALE</b>				
<i>All Causes</i>	<i>12,976</i>	<i>15,005</i>	<i>491.2</i>	<i>568.0</i>
Diseases of the heart	2,378	2,726	90.0	103.2
Malignant neoplasms	2,373	2,701	89.8	102.2
Unintentional injuries	1,230	1,533	46.6	58.0
Motor vehicle	740	957	28.0	36.2
Other unintentional injuries	490	576	18.5	21.8
Diabetes mellitus	969	1,164	36.7	44.1
Cerebrovascular diseases	662	773	25.1	29.3
Chronic liver disease and cirrhosis	592	685	22.4	25.9
Chronic lower respiratory diseases	465	536	17.6	20.3
Pneumonia and influenza	395	424	15.0	16.0
Nephritis, nephrotic syndrome, and nephrosis	288	318	10.9	12.0
Septicemia	260	283	9.8	10.7
<i>All other causes</i>	<i>3,364</i>	<i>3,862</i>		

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

The AI/AN age-adjusted death rates for all causes of death for years 2002-2004 is 1.2 times the rate for U.S. all-races (2003); tuberculosis (8.5 times), chronic liver disease and cirrhosis (4.2 times), diabetes (2.9 times), unintentional injuries (2.5) and homicide (2.0). AI/AN rates were below those of the U.S. all-races for Alzheimer's disease (0.5 times), and HIV infection (0.7 times). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.11** Selected Age-Adjusted Death Rates, Ratio of American Indians and Alaska Natives (2002-2004) to U.S. All Races (2003)



**Table 4.11**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Cause of Death	AMERICAN INDIAN AND ALASKA NATIVE		U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate		
<b>All Causes</b>	<b>900.2</b>	<b>1,027.1</b>	<b>832.7</b>	<b>817.0</b>	<b>1.2</b>	<b>1.3</b>
Major cardiovascular diseases	261.2	301.0	306.1	298.9	1.0	1.0
Diseases of the heart	199.7	231.1	232.3	228.2	1.0	1.0
Cerebrovascular diseases	43.9	50.9	53.5	51.4	1.0	1.0
Atherosclerosis	3.5	3.9	4.4	4.5	0.9	0.9
Hypertension	6.5	6.9	9.6	8.0	0.7	0.9
Malignant neoplasms	159.2	180.7	190.1	188.5	1.0	1.0
Unintentional injuries	82.1	94.8	37.3	38.2	2.5	2.5
Motor vehicle	42.6	51.2	15.3	15.7	3.3	3.3
Other unintentional injuries	39.5	43.6	22.0	22.5	2.0	1.9
Diabetes mellitus	61.9	74.2	25.3	23.0	2.9	3.2
Chronic lower respiratory diseases	36.0	41.8	43.3	45.4	1.0	0.9
Chronic liver disease and cirrhosis	34.6	39.1	9.3	9.5	4.2	4.1
Pneumonia and influenza	29.9	32.3	22.0	21.9	1.5	1.5
Suicide	15.7	17.9	10.8	11.8	1.7	1.5
Homicide	10.9	12.2	6.0	3.7	2.0	3.3
Alzheimer's disease	10.8	11.6	21.4	22.2	0.5	0.5
Human immunodeficiency virus (HIV) infection	2.1	3.1	4.7	2.5	0.7	1.2
Tuberculosis, all forms	1.7	1.7	0.2	0.2	8.5	8.5

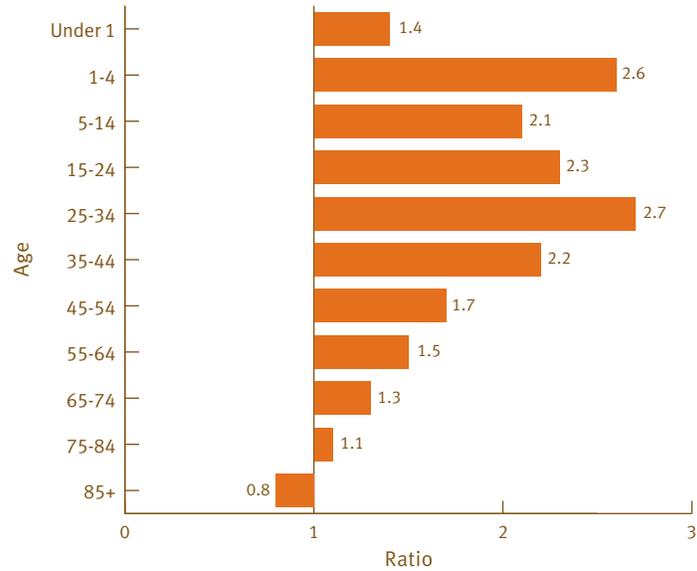
<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Causes of death listed are based on the order of adjusted number of deaths.

SOURCE: Rates for U.S. All Races and U.S. White: Heron MP, Smith BL, Deaths: Leading Causes for 2003, National Vital Statistics Reports; vol 55 no 10. Hyattsville, MD: National Center for Health Statistics. 2007.

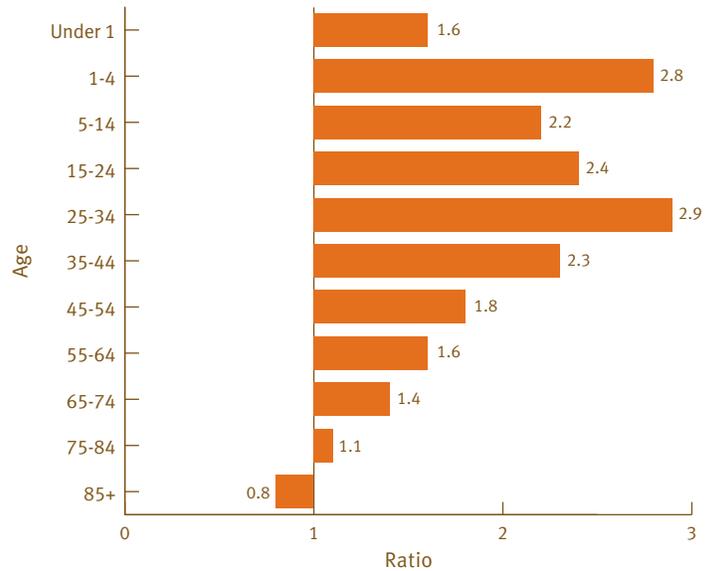
The age-specific death rate for AI/AN (2002-2004) was more than double the U.S. all-races rate (2003) for age groups 1 through 44. The AI/AN rate was less than the U.S. all-races rate for only one age group, 85 years and older. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.12** Age-Specific Death Rates, Ratio of American Indians and Alaska Natives (2002-2004) to U.S. All Races (2003)



The age-specific death rate for AI/AN (2002-2004) was more than double the U.S. white rate (2003) for age groups 1 through 44. The AI/AN rate was less than the U.S. white rate for only one age group, 85 years and older. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.13** Age-Specific Death Rates, Ratio of American Indians and Alaska Natives (2002-2004) to U.S. White (2003)



**Table 4.12** Age-Specific Death Rates

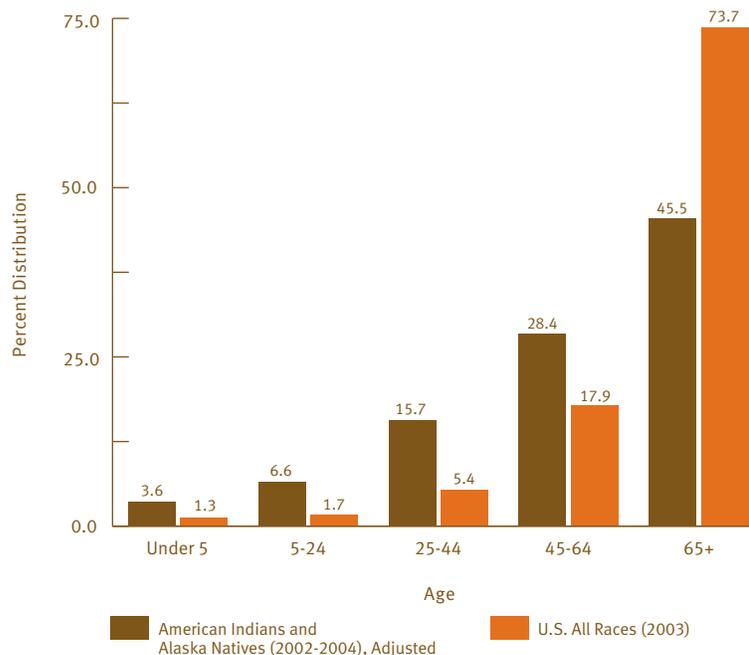
*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and Selected U.S. Populations, 2003  
(Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE				U.S. RATE			RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate		All Races	White	Black	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>					
Under 1	802	902	856.9	963.7	700.0	591.3	1,273.8	1.4	1.6
1-4	225	303	60.3	81.2	31.5	28.5	46.8	2.6	2.8
5-14	317	368	30.6	35.5	17.0	15.8	22.9	2.1	2.2
15-24	1,491	1,831	150.8	185.2	81.5	77.1	113.1	2.3	2.4
25-34	1,577	1,990	218.0	275.1	103.6	94.3	181.6	2.7	2.9
35-44	2,768	3,190	378.5	436.2	201.6	185.7	343.6	2.2	2.3
45-54	3,798	4,295	636.0	719.2	433.2	397.5	771.4	1.7	1.8
55-64	4,389	5,083	1,246.6	1,443.8	940.9	892.2	1,549.9	1.5	1.6
65-74	4,993	5,845	2,552.5	2,998.1	2,255.0	2,207.0	3,108.4	1.3	1.4
75-84	4,949	5,725	5,211.5	6,028.7	5,463.1	5,457.8	6,353.9	1.1	1.1
85+	3,316	3,467	11,077.5	11,581.8	14,593.3	14,792.3	13,976.7	0.8	0.8

<sup>1</sup>Adjusted-specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

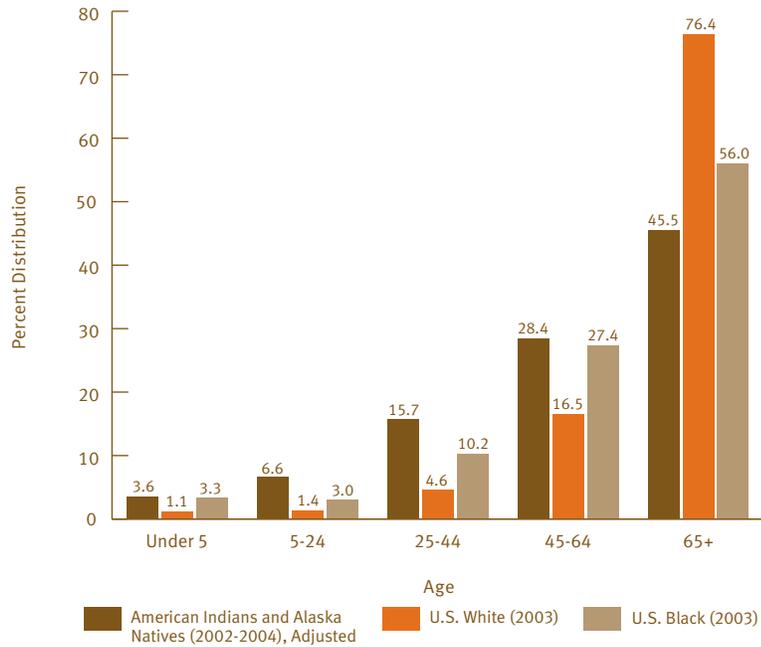
SOURCE: Rates for U.S. Rate: Hoyert DL, Heron MP, Murphy SL, Kung H. Deaths: Final Data for 2003. National vital statistics vital statistics reports; vol 54 no 13. Hyattsville, MD: National Center for Health Statistics. 2006.

Of all AI/AN people who died during 2002-2004, 26 percent were under 45 years of age. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates. This compared to 8 percent for the U.S. all-races population (2003).

**Chart 4.14** Deaths by Age

Seventeen (17) percent of black decedents and 7 percent of white decedents in 2003 were under 45 years of age.

**Chart 4.15 Deaths by Age and Race**



Thirty (30) percent of AI/AN male deaths (2002-2004) pertained to ages under 45. This compared with 21 percent for AI/AN female deaths. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.16 Deaths by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*

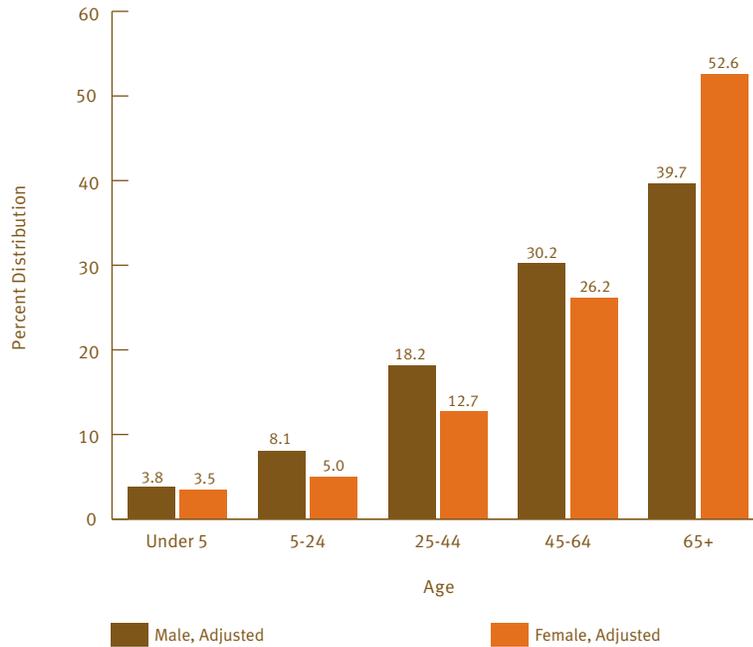


Table 4.14 Number and Percent Distribution of Deaths by Age and Sex

American Indians and Alaska Natives, IHS Service Area, 2002-2004, and Selected U.S. Populations, 2003

Age Group	AMERICAN INDIAN AND ALASKA NATIVE											
	Both Sexes				Male				Female			
	Number		Percent		Number		Percent		Number		Percent	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<b>All Ages</b>	<b>28,634</b>	<b>33,008</b>	<b>100.0</b>	<b>100.0</b>	<b>15,669</b>	<b>18,014</b>	<b>100.0</b>	<b>100.0</b>	<b>12,976</b>	<b>15,005</b>	<b>100.0</b>	<b>100.0</b>
Under 1	802	902	2.8	2.7	470	514	3.0	2.9	332	388	2.6	2.6
1 to 4	225	303	0.8	0.9	121	167	0.8	0.9	104	136	0.8	0.9
5 to 14	317	368	1.1	1.1	182	209	1.2	1.2	135	159	1.0	1.1
15 to 24	1,491	1,831	5.2	5.5	1,064	1,246	6.8	6.9	427	585	3.3	3.9
25 to 34	1,577	1,990	5.5	6.0	1,077	1,298	6.9	7.2	500	692	3.9	4.6
35 to 44	2,768	3,190	9.7	9.7	1,750	1,977	11.2	11.0	1,018	1,213	7.8	8.1
45 to 54	3,798	4,295	13.3	13.0	2,323	2,592	14.8	14.4	1,475	1,703	11.4	11.3
55 to 64	4,389	5,083	15.3	15.4	2,477	2,849	15.8	15.8	1,912	2,234	14.7	14.9
65 to 74	4,993	5,845	17.4	17.7	2,627	3,083	16.8	17.1	2,366	2,762	18.2	18.4
75 to 84	4,949	5,725	17.3	17.3	2,349	2,766	15.0	15.4	2,600	2,959	20.0	19.7
85 and over	3,316	3,467	11.6	10.5	1,212	1,296	7.7	7.2	2,104	2,171	16.2	14.5
Age Not Stated	9	9	0.0	0.0	17	17	0.1	0.1	3	3	0.0	0.0

Age Group	UNITED STATES		
	All Races	White	Black
<b>Number of Deaths, All Ages</b>	<b>2,448,288</b>	<b>2,103,714</b>	<b>291,300</b>
<b>Percent Distribution, All Ages</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Under 1	1.1	0.9	2.9
1 to 4	0.2	0.2	0.4
5 to 14	0.3	0.2	0.5
15 to 24	1.4	1.2	2.5
25 to 34	1.7	1.4	3.4
35 to 44	3.7	3.2	6.8
45 to 54	7.2	6.4	12.7
55 to 64	10.7	10.1	14.7
65 to 74	16.9	16.7	18.2
75 to 84	28.7	29.8	21.4
85 and over	28.1	29.9	16.4
Age Not Stated	0.0	0.0	0.0

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup>Adjusted – specifies a number or percent adjusted to compensate for misreporting of AI/AN race on state death certificates.

The AI/AN age-adjusted death rate due to poisoning in 2002-2004 (15.9 deaths per 100,000 population) is 1.5 times higher than what it was in 1972-1974 (10.9). The 2002-2004 rate is 1.6 times the U.S. all-races rate of 10.0 for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.17** Age-Adjusted Poisoning Death Rates

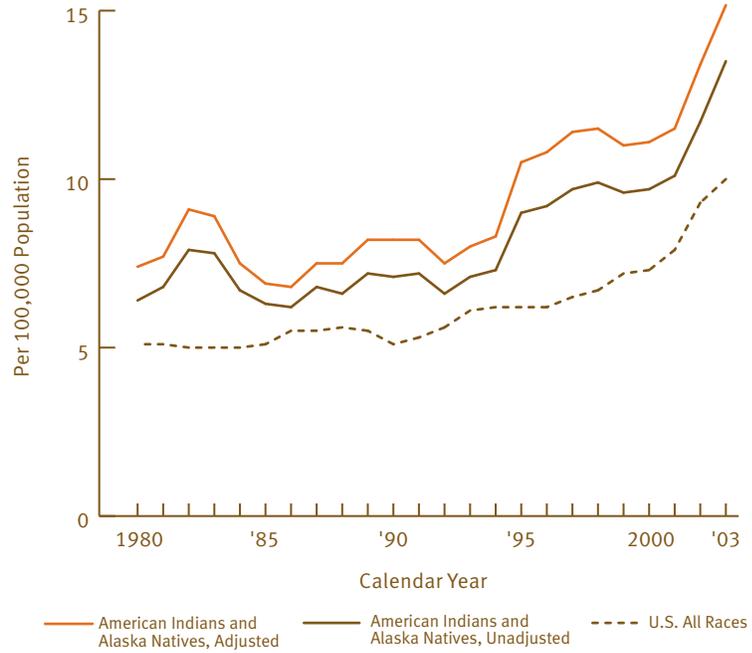


Table 4.17 Poisoning Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1972-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate		
2003-2005 (2004)	252	304						
2002-2004 (2003)	217	252	13.5	15.9	10.0	10.7	1.6	1.5
2001-2003 (2002)	178	210	11.7	13.4	9.3	9.9	1.4	1.4
2000-2002 (2001)	147	166	10.1	11.5	7.9	8.3	1.5	1.4
1999-2001 (2000)	137	154	9.7	11.1	7.3	7.6	1.5	1.5
1998-2000 (1999)	154	185	9.6	11.0	7.2	7.4	1.5	1.5
1997-1999 (1998)	135	154	9.9	10.5	6.7	6.8	1.7	1.7
1996-1998 (1997)	130	153	9.7	11.4	6.5	6.5	1.8	1.8
1995-1997 (1996)	129	162	9.2	10.8	6.2	6.2	1.7	1.7
1994-1996 (1995)	97	109	9.0	10.5	6.2	6.1	1.7	1.7
1993-1995 (1994)	96	109	7.3	8.3	6.2	6.1	1.3	1.4
1992-1994 (1993)	74	86	7.1	8.0	6.1	6.0	1.3	1.3
1991-1993 (1992)	81	94	6.6	7.5	5.6	5.6	1.3	1.3
1990-1992 (1991)	72	83	7.2	8.2	5.3	5.2	1.5	1.6
1989-1991 (1990)	83	95	7.1	8.2	5.1	5.1	1.6	1.6
1988-1990 (1989)	73	85	7.2	8.2	5.5	5.4	1.5	1.5
1987-1989 (1988)	69	79	6.6	7.5	5.6	5.5	1.3	1.4
1986-1988 (1987)	62	71	6.8	7.5	5.5	5.5	1.4	1.4
1985-1987 (1986)	72	77	6.2	6.8	5.5	5.7	1.2	1.2
1984-1986 (1985)	50	54	6.3	6.9	5.1	5.3	1.4	1.3
1983-1985 (1984)	57	66	6.7	7.5	5.0	5.1	1.5	1.5
1982-1984 (1983)	65	75	7.8	8.9	5.0	5.2	1.8	1.7
1981-1983 (1982)	61	67	7.9	9.1	5.0	5.1	1.8	1.8
1980-1982 (1981)	47	57	6.8	7.7	5.1	5.2	1.5	1.5
1979-1981 (1980)	44	47	6.4	7.4	5.1	5.2	1.5	1.4
1972-1974 (72-74)	158	174	9.8	10.9	6.1	6.2	1.8	1.8

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

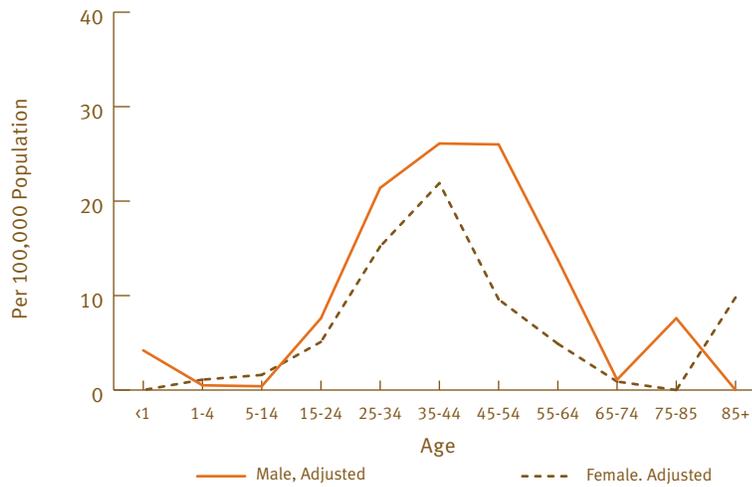
NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific death rate due to poisoning for AI/AN males (2002-2004) was higher than AI/AN females. The AI/AN male rate was higher for all age groups except those males ages 1 to 4, 5-14, and 85 years and older. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.18 Poisoning Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*



**Table 4.18 Poisoning Death Rates by Age and Sex**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	2.1	2.1	4.2	4.2	—*	—*
1-4 years	0.8	0.8	0.5	0.5	1.1	1.1
5-14 years	0.8	1.0	0.4	0.4	1.2	1.6
15-24 years	5.5	6.4	6.8	7.6	4.1	5.1
25-34 years	14.8	18.4	19.0	21.4	10.5	15.2
35-44 years	20.9	23.9	23.8	26.1	18.1	21.9
45-54 years	16.1	17.4	23.9	26.0	9.0	9.6
55-64 years	8.8	9.1	13.2	13.8	4.9	4.9
65-74 years	1.0	1.0	1.1	1.1	0.9	0.9
75-84 years	3.2	3.2	7.6	7.6	—*	—*
85 years +	6.7	6.7	—*	—*	9.8	9.8

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	0.8	0.9	0.8	0.8	0.9	0.5
1-4 years	0.4	0.4	0.4	0.3	0.3	0.3
5-14 years	0.2	0.2	0.2	0.2	0.2	0.2
15-24 years	6.6	9.6	3.4	7.8	11.4	4.0
25-34 years	12.6	17.7	7.4	13.8	19.6	8.2
35-44 years	20.8	27.2	14.3	22.0	28.9	15.4
45-54 years	19.7	25.4	14.3	20.1	25.5	15.0
55-64 years	8.4	10.1	6.8	8.5	9.8	7.3
65-74 years	4.0	4.6	3.4	3.9	4.2	3.6
75-84 years	3.9	4.7	3.4	4.2	4.9	3.7
85 years +	5.4	7.5	4.5	5.8	7.4	4.7

—\* Represents zero.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

The AI/AN age-adjusted unintentional injury death rate (156.4) was 65 percent greater for years 1979-1981 than the 2002-2004 rate (94.8). The 2002-2004 rate is 2.5 times the U.S. all-races rate (37.5) for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.19** Age-Adjusted Unintentional Injury Death Rates

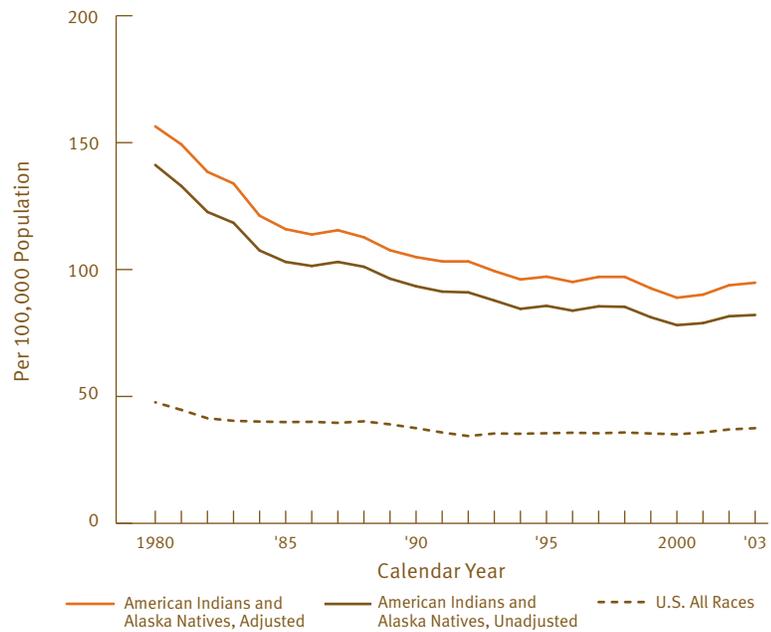


Table 4.19 Unintentional Injury Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE						U.S. ALL RACES		U.S. WHITE	
	Total Deaths		All Unintentional Injuries		Motor Vehicle		Rate		Rate	
	Number		Rate		Rate		All Unintentional Injuries	Motor Vehicle	All Unintentional Injuries	Motor Vehicle
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2003-2005 (2004)	1,223	1,440								
2002-2004 (2003)	1,287	1,515	82.1	94.8	42.4	51.0	37.5	15.4	38.3	15.7
2001-2003 (2002)	1,242	1,468	81.6	93.8	42.2	50.7	37.0	15.7	37.7	16.1
2000-2002 (2001)	1,097	1,280	78.9	90.1	41.9	49.9	35.8	15.4	36.1	15.7
1999-2001 (2000)	1,101	1,274	78.1	88.9	40.5	48.1	35.1	15.4	35.2	15.6
1998-2000 (1999)	1,091	1,287	81.2	92.6	40.3	47.5	35.4	15.2	35.3	15.4
1997-1999 (1998)	1,087	1,272	85.3	97.1	38.4	45.1	35.8	15.8	35.6	15.8
1996-1998 (1997)	1,103	1,277	85.5	97.1	37.2	43.2	35.5	15.9	35.0	16.0
1995-1997 (1996)	1,055	1,212	83.8	95.1	37.0	43.0	35.7	16.2	35.3	16.3
1994-1996 (1995)	1,016	1,180	85.7	97.2	37.8	44.0	35.5	16.3	34.9	16.3
1993-1995 (1994)	1,022	1,173	84.5	96.1	36.9	42.9	35.3	16.1	34.5	16.2
1992-1994 (1993)	1,007	1,168	87.8	99.4	37.9	43.8	35.4	16.0	34.6	16.1
1991-1993 (1992)	977	1,126	91.0	103.2	39.7	46.2	34.4	15.8	33.6	15.9
1990-1992 (1991)	988	1,154	91.3	103.2	39.9	46.3	35.8	17.0	35.0	17.1
1989-1991 (1990)	970	1,101	93.4	104.9	40.4	46.5	37.5	18.4	36.7	18.5
1988-1990 (1989)	969	1,097	96.4	107.6	41.2	47.1	39.0	18.8	37.9	19.0
1987-1989 (1988)	1,012	1,148	101.1	112.7	43.3	49.5	40.2	19.5	39.1	19.7
1986-1988 (1987)	1,000	1,135	103.0	115.5	45.3	52.0	39.6	19.2	38.7	19.5
1985-1987 (1986)	983	1,120	101.4	113.8	44.8	51.5	40.0	19.1	39.1	19.3
1984-1986 (1985)	913	1,034	103.0	115.9	44.5	51.2	39.9	18.6	39.0	18.8
1983-1985 (1984)	921	1,049	107.5	121.2	45.2	52.5	40.1	18.8	39.4	19.2
1982-1984 (1983)	907	1,038	118.4	133.9	48.9	56.7	40.4	18.2	39.5	18.5
1981-1983 (1982)	999	1,136	122.7	138.5	52.7	60.9	41.4	18.9	40.7	19.2
1980-1982 (1981)	975	1,101	132.9	149.3	58.9	67.4	44.7	21.3	44.0	21.8
1979-1981 (1980)	1,058	1,195	141.2	156.4	63.4	71.5	47.7	22.3	46.5	22.6
1972-1974 (72-74)	3,001	3,292	204.1	223.2	90.6	100.4	59.5	26.7	57.5	26.2
1954-1956 (1955)	714		184.0		97.6		54.3	24.6	52.2	24.3

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific death rate for unintentional injuries for AI/AN males (2002-2004) was higher for all age groups in comparison with AI/AN females. The AI/AN male rate was 2.6 times the AI/AN female rate for age group 45-54 years. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.20 Unintentional Injury Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*

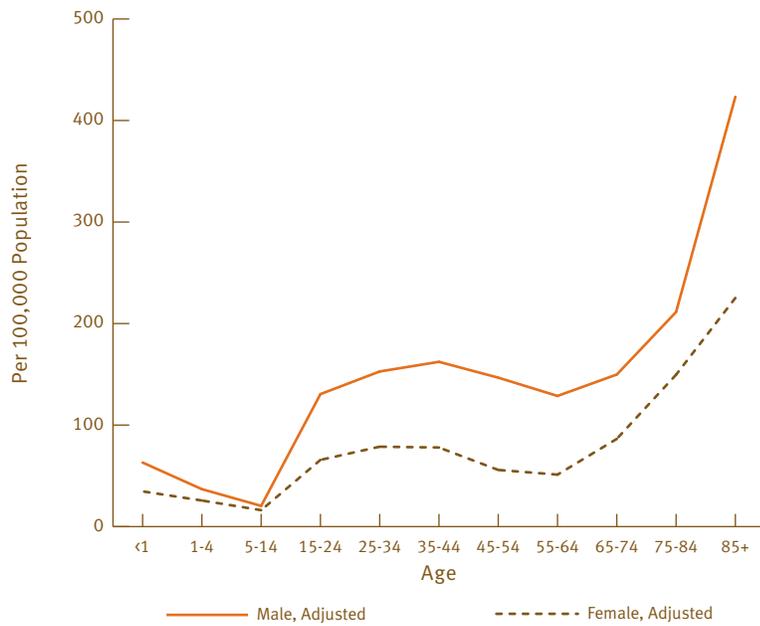


Table 4.20 Unintentional Injury Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	51.3 <sup>2</sup>	49.1 <sup>2</sup>	63.1 <sup>2</sup>	63.1 <sup>2</sup>	39.0 <sup>2</sup>	34.7 <sup>2</sup>
1-4 years	24.4	31.4	28.4	36.9	20.2	25.7
5-14 years	15.9	18.3	18.5	20.4	13.3	16.2
15-24 years	78.2	98.7	109.2	130.5	46.1	65.7
25-34 years	88.7	115.9	123.4	152.8	53.8	78.7
35-44 years	102.5	119.0	143.8	162.3	63.2	77.9
45-54 years	90.3	99.2	134.0	146.7	50.3	55.8
55-64 years	81.3	87.9	120.3	128.7	46.4	51.2
65-74 years	108.0	115.2	144.2	149.8	77.9	86.4
75-84 years	162.5	175.2	193.5	211.4	140.6	149.6
85 years +	287.9	287.9	423.3	423.3	225.2	225.2

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	23.6	26.4	20.7	20.0	22.5	17.4
1-4 years	10.9	13.0	8.7	10.6	12.8	8.3
5-14 years	6.4	7.9	4.8	6.1	7.6	4.7
15-24 years	37.1	53.3	19.9	40.1	57.4	21.7
25-34 years	31.5	47.1	15.3	33.0	49.3	15.9
35-44 years	37.8	54.2	21.4	39.0	55.6	22.1
45-54 years	38.8	55.9	22.4	38.5	54.9	22.3
55-64 years	32.9	47.1	19.7	32.3	45.8	19.5
65-74 years	44.1	58.9	31.6	43.8	58.3	31.4
75-84 years	101.9	132.9	81.1	104.0	134.4	83.6
85 years +	278.9	352.5	246.4	291.1	365.7	258.0

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

<sup>2</sup>The adjusted rate for age less than one year is lower than the unadjusted rate because the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) had fewer deaths for this cause than did the unadjusted mortality file (2002-2004 data).

Source: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The AI/AN age-adjusted suicide death rate (18.5) was 7.6 percent greater for 1979-1981 as compared to 17.1 in 2001-2003. In 2002-2004 the suicide rate increased to 17.9 from 17.1 for 2001-2003. The 2002-2004 rate (17.9) is 1.7 times greater than the U.S. all-races rate (10.8) for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.21 Age-Adjusted Suicide Death Rates**

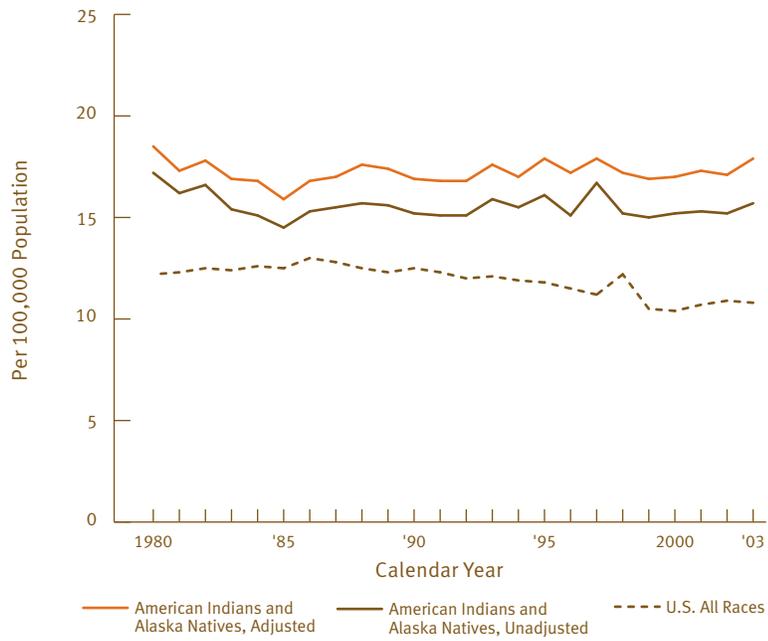


Table 4.21 Suicide Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES Rate	U.S. WHITE Rate	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2003-2005 (2004)	314	368						
2002-2004 (2003)	255	289	15.7	17.9	10.8	11.8	1.7	1.5
2001-2003 (2002)	261	303	15.2	17.1	10.9	12.0	1.6	1.4
2000-2002 (2001)	258	286	15.3	17.3	10.7	11.7	1.6	1.5
1999-2001 (2000)	238	273	15.2	17.0	10.4	11.3	1.6	1.5
1998-2000 (1999)	235	265	15.0	16.9	10.5	11.3	1.6	1.5
1997-1999 (1998)	252	283	15.2	17.2	12.2	11.1	1.4	1.5
1996-1998 (1997)	234	273	16.7	17.9	11.2	12.1	1.6	1.5
1995-1997 (1996)	225	262	15.1	17.2	11.5	12.4	1.5	1.4
1994-1996 (1995)	205	228	16.1	17.9	11.8	12.7	1.5	1.4
1993-1995 (1994)	242	263	15.5	17.0	11.9	12.7	1.4	1.3
1992-1994 (1993)	204	226	15.9	17.6	12.1	12.9	1.5	1.4
1991-1993 (1992)	193	219	15.1	16.8	12.0	12.8	1.4	1.3
1990-1992 (1991)	184	200	15.1	16.8	12.3	13.2	1.4	1.3
1989-1991 (1990)	195	218	15.2	16.9	12.5	13.3	1.4	1.3
1988-1990 (1989)	192	217	15.6	17.4	12.3	13.1	1.4	1.3
1987-1989 (1988)	185	206	15.7	17.6	12.5	13.3	1.4	1.3
1986-1988 (1987)	187	206	15.5	17.0	12.8	13.7	1.3	1.2
1985-1987 (1986)	158	168	15.3	16.8	13.0	13.9	1.3	1.2
1984-1986 (1985)	172	193	14.5	15.9	12.5	13.4	1.3	1.2
1983-1985 (1984)	148	165	15.1	16.8	12.6	13.5	1.3	1.2
1982-1984 (1983)	161	177	15.4	16.9	12.4	13.2	1.4	1.3
1981-1983 (1982)	154	164	16.6	17.8	12.5	13.3	1.4	1.3
1980-1982 (1981)	157	166	16.2	17.3	12.3	13.1	1.4	1.3
1979-1981 (1980)	146	156	17.2	18.5	12.2	13.0	1.5	1.4
1972-1974 (72-74)	351	374	27.6	29.4	13.2	13.9	2.2	2.1
1954-1956 (1955)	39		11.9		9.9	10.4		

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific suicide death rate (2002-2004) for AI/AN males was higher for all age groups in comparison with AI/AN females. The AI/AN male rate peaked at (61.0 deaths per 100,000 population) for age group 25 to 34 years which is 4.4 times that of the AI/AN female rate (13.9). The greatest disparity between males and females was for age group 35 to 44 years whereas males were 4.9 times more likely to die from suicide than females. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.22 Suicide Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*

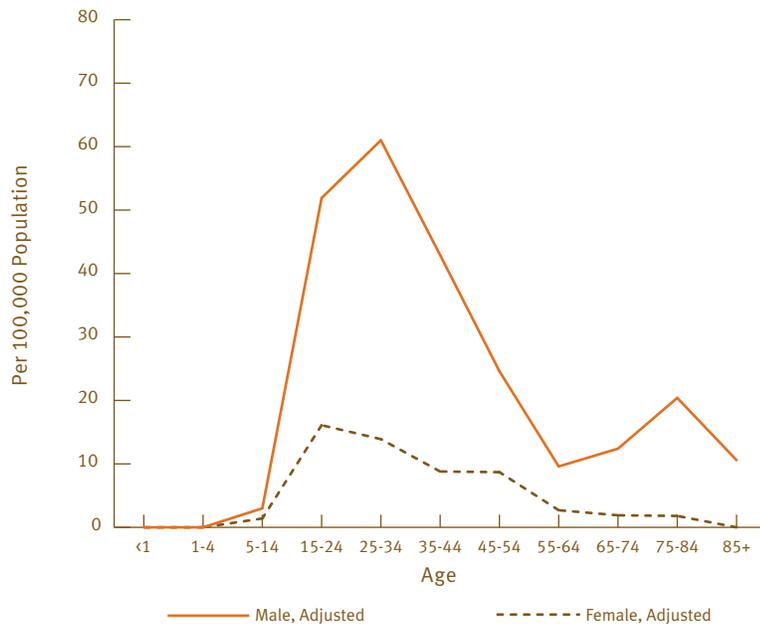


Table 4.22 Suicide Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	2.0	2.2	2.7	3.0	1.4	1.4
15-24 years	29.2	34.2	44.8	51.9	13.4	16.1
25-34 years	30.1	37.5	49.7	61.0	10.3	13.9
35-44 years	22.8	25.4	38.4	42.9	8.0	8.8
45-54 years	15.2	16.2	23.2	24.6	8.0	8.7
55-64 years	6.0	7.7	9.6	9.6	2.7	2.7
65-74 years	6.7	6.7	12.4	12.4	1.9	1.9
75-84 years	9.5	9.5	20.4	20.4	1.8	1.8
85 years +	3.3	3.3	10.6	10.6	—*	—*

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	0.6	0.9	0.3	0.6	0.9	0.3
15-24 years	9.7	16.0	3.0	10.2	17.0	3.1
25-34 years	12.7	20.6	4.6	13.7	21.8	5.1
35-44 years	14.9	13.2	6.6	16.6	25.7	7.5
45-54 years	15.9	24.4	7.7	17.9	27.3	8.7
55-64 years	13.8	22.3	5.9	15.2	24.3	6.5
65-74 years	12.7	23.4	3.8	13.8	25.2	4.1
75-84 years	16.4	35.1	4.0	17.6	37.5	4.2
85 years +	16.9	47.8	3.3	18.1	51.4	3.3

—\*Represents zero.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

Source: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The AI/AN age-adjusted homicide death rate (23.5) was 99.2 percent greater for 1979-1981 than the 11.8 rate for 2002-2004. The 2002-2004 rate of 11.8 is two times higher than the U.S. all-races rate of 6.0 for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN races on state death certificates.

**Chart 4.23 Age-Adjusted Homicide Death Rates**

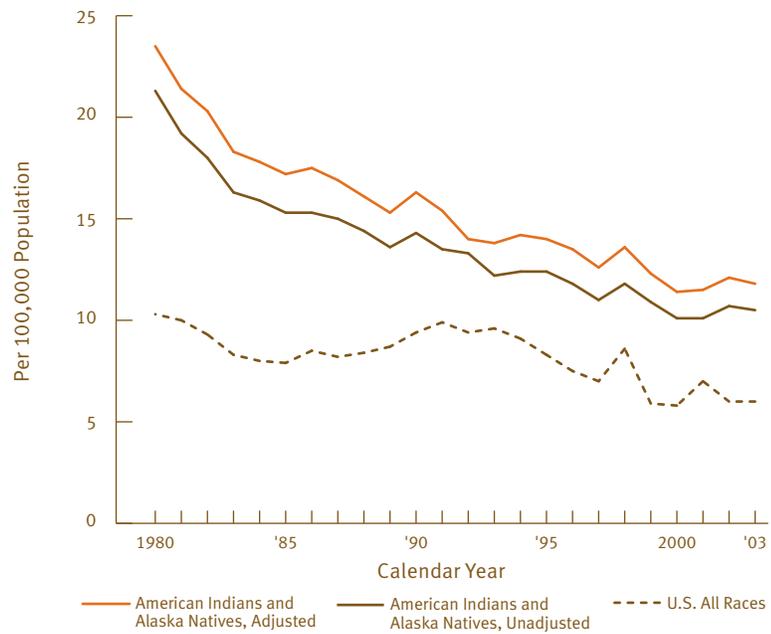


Table 4.23 Homicide Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES Rate	U.S. WHITE Rate	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2003-2005 (2004)	165	185						
2002-2004 (2003)	194	218	10.5	11.8	6.0	3.6	2.0	3.3
2001-2003 (2002)	202	236	10.7	12.1	6.0	3.7	2.0	3.3
2000-2002 (2001)	160	186	10.1	11.5	7.0	4.8	1.6	2.4
1999-2001 (2000)	143	162	10.1	11.4	5.8	3.6	2.0	3.2
1998-2000 (1999)	181	206	10.9	12.3	5.9	3.7	2.1	3.3
1997-1999 (1998)	172	199	11.8	13.6	8.6	6.4	1.6	2.1
1996-1998 (1997)	181	217	11.0	12.6	7.0	4.3	1.8	2.9
1995-1997 (1996)	161	178	11.8	13.5	7.5	4.5	1.8	3.0
1994-1996 (1995)	198	231	12.4	14.0	8.3	5.0	1.7	2.8
1993-1995 (1994)	176	201	12.4	14.2	9.1	5.3	1.6	2.7
1992-1994 (1993)	168	190	12.2	13.8	9.6	5.5	1.4	2.5
1991-1993 (1992)	168	185	13.3	15.0	9.4	5.6	1.6	2.7
1990-1992 (1991)	199	229	13.5	15.4	9.9	5.8	1.6	2.7
1989-1991 (1990)	153	180	14.3	16.3	9.4	5.5	1.7	3.0
1988-1990 (1989)	177	205	13.6	15.3	8.7	5.2	1.8	2.9
1987-1989 (1988)	160	178	14.4	16.1	8.4	5.1	1.9	3.2
1986-1988 (1987)	162	185	15.0	16.9	8.2	5.1	2.1	3.3
1985-1987 (1986)	184	213	15.3	17.5	8.5	5.4	2.1	3.2
1984-1986 (1985)	151	174	15.3	17.2	7.9	5.3	2.2	3.2
1983-1985 (1984)	146	156	15.9	17.8	8.0	5.3	2.2	3.4
1982-1984 (1983)	172	198	16.3	18.3	8.3	5.4	2.2	3.4
1981-1983 (1982)	146	166	18.0	20.3	9.3	6.1	2.2	3.3
1980-1982 (1981)	166	178	19.2	21.4	10.0	6.5	2.1	3.3
1979-1981 (1980)	174	198	21.3	23.5	10.3	6.7	2.3	3.5
1972-1974 (72-74)	368	398	24.7	26.6	10.3	5.7	2.6	4.7
1954-1956 (1955)	77		23.8		4.8	2.4		

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific homicide death rate (2002-2004) for AI/AN males was generally higher for most age groups. Males in age group 65 to 74 years were 5.9 times more likely to die from homicide than females in the same age group. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.24 Homicide Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*

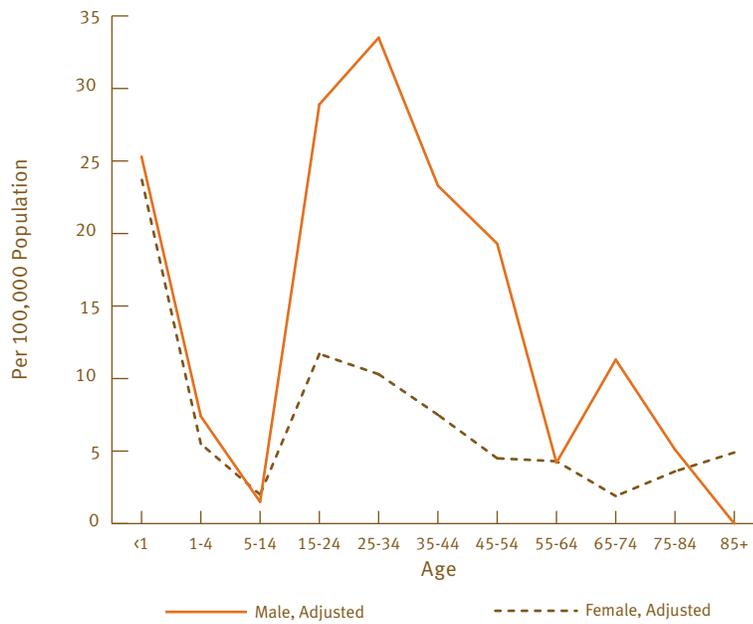


Table 4.24 Homicide Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	25.6 <sup>2</sup>	24.6 <sup>2</sup>	29.5 <sup>2</sup>	25.3 <sup>2</sup>	21.7	23.8
1-4 years	5.6	6.4	5.8	7.4	5.5	5.5
5-14 years	1.4	1.7	1.3	1.5	1.6	2.0
15-24 years	17.3	21.0	25.3	28.9	7.8	11.7
25-34 years	18.8	23.0	28.0	33.5	8.0	10.3
35-44 years	15.2	16.0	22.4	23.3	6.7	7.5
45-54 years	11.7	12.1	18.9	19.3	4.2	4.5
55-64 years	4.3	4.3	4.2	4.2	4.3	4.3
65-74 years	6.1	6.1	11.3	11.3	1.9	1.9
75-84 years	4.2	4.2	5.1	5.1	3.6	3.6
85 years +	3.3	3.3	—*	—*	4.9	4.9

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	8.5	10.0	6.9	6.9	8.1	5.7
1-4 years	2.3	2.5	2.2	1.6	1.5	1.8
5-14 years	0.8	1.0	0.5	0.5	0.6	0.3
15-24 years	13.0	21.7	3.7	6.7	10.6	2.5
25-34 years	11.2	18.3	3.9	6.0	9.1	2.8
35-44 years	6.9	10.2	3.6	4.5	6.2	2.8
45-54 years	4.9	7.3	2.5	3.5	4.9	2.1
55-64 years	2.7	4.1	1.5	2.2	3.0	1.3
65-74 years	2.3	3.3	1.5	1.9	2.5	1.3
75-84 years	2.4	3.2	1.9	2.1	2.7	1.7
85 years +	2.2	3.2	1.7	2.0	3.0	1.6

—\*Represents zero.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

<sup>2</sup>The adjusted rate for age less than one year is lower than the unadjusted rate because the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) had fewer deaths for this cause than did the unadjusted mortality file (2002-2004 data).

Source: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The AI/AN age-adjusted firearm injury death rate decreased from 26.2 for the three year period 1979-1981 to 13.2 in 2002-2004. The rate (13.2) for 2002-2004 is 1.3 times greater than the U.S. all-races rate of 10.3 for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.25** Age-Adjusted Firearm Injury Death Rates

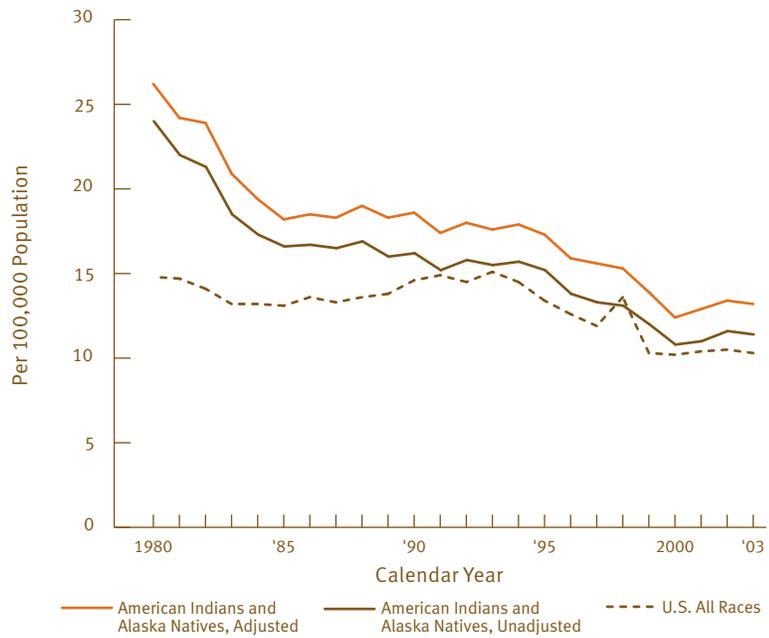


Table 4.25 Firearm Injury<sup>1</sup> Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1979-2003  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES Rate	U.S. WHITE Rate	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>2</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>				
2003-2005 (2004)	192	231						
2002-2004 (2003)	207	235	11.4	13.2	10.3	9.0	1.3	1.5
2001-2003 (2002)	221	266	11.6	13.4	10.5	9.2	1.3	1.5
2000-2002 (2001)	188	222	11.0	12.9	10.4	9.2	1.2	1.4
1999-2001 (2000)	167	199	10.8	12.4	10.2	9.0	1.2	1.4
1998-2000 (1999)	192	220	12.0	13.9	10.3	9.1	1.3	1.5
1997-1999 (1998)	213	251	13.1	15.3	13.6	11.1	1.1	1.4
1996-1998 (1997)	202	244	13.3	15.6	11.9	12.3	1.3	1.3
1995-1997 (1996)	188	214	13.8	15.9	12.6	10.8	1.3	1.5
1994-1996 (1995)	227	261	15.2	17.3	13.4	11.4	1.3	1.5
1993-1995 (1994)	230	264	15.7	17.9	14.5	12.0	1.2	1.5
1992-1994 (1993)	204	232	15.5	17.6	15.1	12.3	1.2	1.4
1991-1993 (1992)	181	204	15.8	18.0	14.5	12.1	1.2	1.5
1990-1992 (1991)	221	253	15.2	17.4	14.9	12.3	1.2	1.4
1989-1991 (1990)	172	200	16.2	18.6	14.6	12.4	1.3	1.5
1988-1990 (1989)	215	252	16.0	18.3	13.8	11.8	1.3	1.6
1987-1989 (1988)	205	227	16.9	19.0	13.6	11.8	1.4	1.6
1986-1988 (1987)	182	203	16.5	18.3	13.3	11.9	1.4	1.5
1985-1987 (1986)	186	206	16.7	18.5	13.6	12.2	1.4	1.5
1984-1986 (1985)	186	208	16.6	18.2	13.1	12.0	1.4	1.5
1983-1985 (1984)	169	183	17.3	19.4	13.2	12.0	1.5	1.6
1982-1984 (1983)	185	216	18.5	20.9	13.2	11.9	1.6	1.8
1981-1983 (1982)	210	232	21.3	23.9	14.1	12.6	1.7	1.9
1980-1982 (1981)	210	226	22.0	24.2	14.7	12.7	1.6	1.9
1979-1981 (1980)	195	211	24.0	26.2	14.8	12.7	1.5	2.1
(1979)	229	250						

<sup>1</sup>Includes deaths with ICD-10 codes: U01.4, terrorism involving firearms (homicide); W32-W34, accidental discharge of firearms; X72-X74, intentional self-harm (suicide) by discharge of firearms; X93-X95, assault (homicide) by discharge of firearms; Y22-Y24, discharge of firearms, undetermined intent; and Y35.0, legal intervention involving firearm discharge.

<sup>2</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Firearm death data are introduced in 1978 for the IHS service area. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. All-Races and U.S. White columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Hoyert DL, Heron MP, Murphy SL, Kung H. Deaths: Final Data for 2003. National vital statistics reports; vol 54 no 13. Hyattsville, MD: National Center for Health Statistics, 2006. Rates for U.S. All-Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific firearm injury death rate (2002-2004) for AI/AN males are higher for all ages except under 5 years in comparison with AI/AN females. The AI/AN male rate peaked at 47.0 deaths per 100,000 population for the 25 to 34 year age group. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.26 Firearm Injury Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*

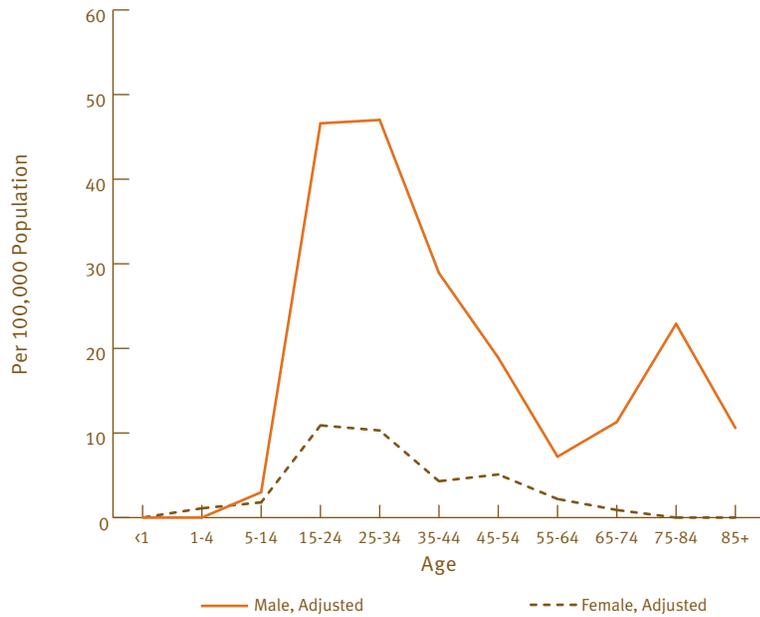


Table 4.26 Firearm Injury<sup>1</sup> Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	0.5	0.5	—*	—*	1.1	1.1
5-14 years	2.0	2.3	2.7	3.0	1.6	1.8
15-24 years	23.4	28.6	39.4	46.6	7.6	10.9
25-34 years	21.5	27.7	37.4	47.0	7.5	10.3
35-44 years	14.6	15.9	26.9	28.9	3.7	4.3
45-54 years	11.2	11.7	18.6	18.9	4.5	5.1
55-64 years	4.3	4.3	7.2	7.2	2.2	2.2
65-74 years	5.6	5.6	11.3	11.3	0.9	0.9
75-84 years	9.5	9.5	22.9	22.9	—*	—*
85 years +	3.3	3.3	10.6	10.6	—*	—*

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	0.2	0.3	0.1	0.1	0.1	0.1
1-4 years	0.3	0.3	0.3	0.2	0.2	0.2
5-14 years	0.8	1.2	0.3	0.6	1.0	0.2
15-24 years	16.6	29.2	3.3	11.1	19.2	2.5
25-34 years	15.6	27.2	3.6	11.2	18.9	3.1
35-44 years	11.6	19.2	4.0	10.9	17.6	4.0
45-54 years	11.2	18.8	3.8	11.6	19.2	4.0
55-64 years	10.1	17.8	2.9	10.8	18.9	3.2
65-74 years	10.4	20.3	2.2	11.3	21.9	2.3
75-84 years	13.5	30.2	2.2	14.4	32.3	2.3
85 years +	12.5	37.8	1.3	13.5	41.0	1.3

—\* Represents zero.

<sup>1</sup>Includes deaths with ICD-10 codes: U01.4, terrorism involving firearms (homicide); W32-W34, accidental discharge of firearms; X72-X74, intentional self-harm (suicide) by discharge of firearms; X93-X95, assault (homicide) by discharge of firearms; Y22-Y24, discharge of firearms, undetermined intent; and Y35.0, legal intervention involving firearm discharge.

<sup>2</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

SOURCE: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The 2002-2004 AI/AN age-adjusted death rate due to other injuries (undetermined injury and war injury) has decreased 70 percent since 1972-1974 from 9.2 to 2.8. The 2002-2004 rate (2.8 deaths per 100,000 population) is 1.6 times the U.S. all-races rate of 1.7 for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.27 Age-Adjusted Other Injury Death Rates**

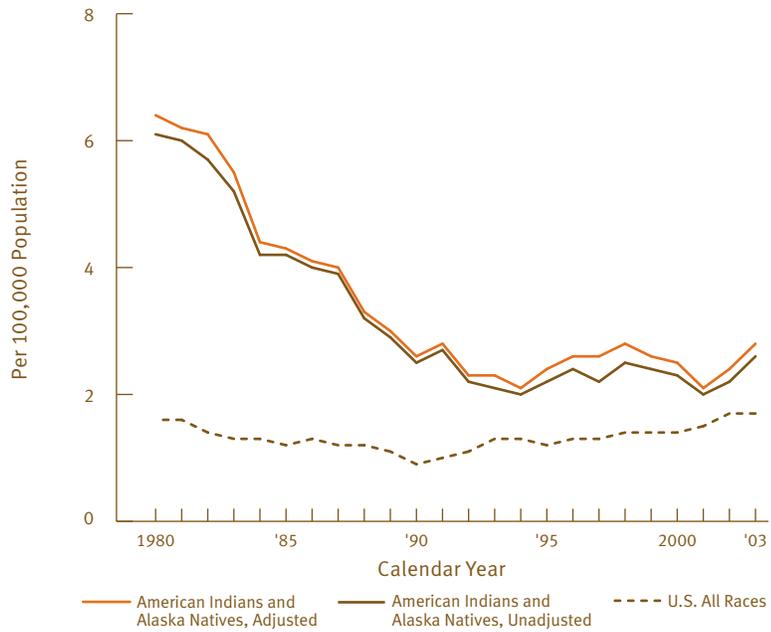


Table 4.27 Other Injury<sup>1,2</sup> Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1973-2003  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>3</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>4</sup>	Unadjusted	Adjusted <sup>4</sup>				
2002-2004 (2003)	46	52	2.6	2.8	1.7	1.8	1.6	1.6
2001-2003 (2002)	30	30	2.2	2.4	1.7	1.7	1.4	1.4
2000-2002 (2001)	28	31	2.0	2.1	1.5	1.5	1.4	1.4
1999-2001 (2000)	34	37	2.3	2.5	1.4	1.3	1.8	1.9
1998-2000 (1999)	41	46	2.4	2.6	1.4	1.4	1.9	1.9
1997-1999 (1998)	30	36	2.5	2.8	1.4	1.3	2.0	2.2
1996-1998 (1997)	31	34	2.2	2.6	1.3	1.3	2.0	2.0
1995-1997 (1996)	29	34	2.4	2.6	1.3	1.2	2.0	2.2
1994-1996 (1995)	30	31	2.2	2.4	1.2	1.1	2.0	2.2
1993-1995 (1994)	24	28	2.0	2.1	1.3	1.2	1.6	1.8
1992-1994 (1993)	24	25	2.1	2.3	1.3	1.2	1.8	1.9
1991-1993 (1992)	31	34	2.2	2.3	1.1	1.0	2.1	2.3
1990-1992 (1991)	26	27	2.7	2.8	1.0	0.9	2.8	3.1
1989-1991 (1990)	31	33	2.5	2.6	0.9	0.9	2.9	2.9
1988-1990 (1989)	28	29	2.9	3.0	1.1	0.9	2.7	3.3
1987-1989 (1988)	34	35	3.2	3.3	1.2	1.1	2.8	3.0
1986-1988 (1987)	41	42	3.9	4.0	1.2	1.0	3.3	4.0
1985-1987 (1986)	50	50	4.0	4.1	1.3	1.1	3.2	3.7
1984-1986 (1985)	39	39	4.2	4.3	1.2	1.1	3.6	3.9
1983-1985 (1984)	39	41	4.2	4.4	1.3	1.1	3.4	4.0
1982-1984 (1983)	40	42	5.2	5.5	1.3	1.2	4.2	4.6
1981-1983 (1982)	52	54	5.7	6.1	1.4	1.2	4.4	5.1
1980-1982 (1981)	46	49	6.0	6.2	1.6	1.4	3.9	4.4
1979-1981 (1980)	39	39	6.1	6.4	1.6	1.4	4.0	4.6
1972-1974 (72-74)	131 <sup>3</sup>	138 <sup>3</sup>	8.8	9.2	2.4	2.0	3.8	4.6

<sup>1</sup>Includes deaths with ICD-10 codes Y10-Y34, Y87.2, Y89.9 injury undetermined intent.

<sup>2</sup>Includes deaths with ICD-10 codes Y36, Y89.1; injury death resulting from operations of war and their sequelae.

<sup>3</sup>In 1973 there was one AI/AN injury death resulting from operations of war. For each of the other years shown above there were no AI/AN injury deaths due to this cause.

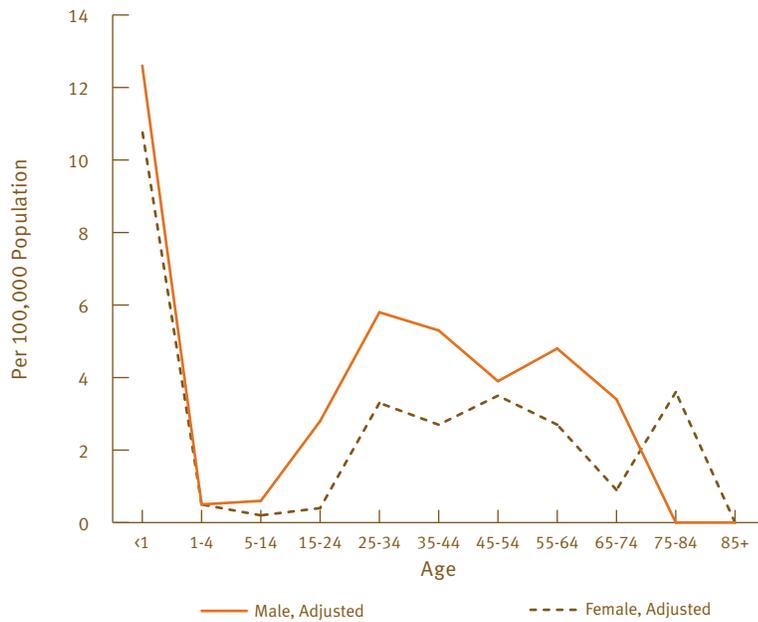
<sup>4</sup>Adjusted - specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Starting in 1972 data are first available and are shown above for the specific counties in the IHS service area. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

The age-specific death rate due to other injuries (2002-2004) for AI/AN males was higher or identical for all age groups except 75 to 84 years in comparison with AI/AN females (for 85 years and older, there were no other injury deaths). The highest age-specific and sex-specific rates occurred for males in age group under 1 year (12.6 deaths per 100,000 population). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.28 Other Injury Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*



**Table 4.28 Other Injury Death Rates by Age and Sex**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	7.5	11.7	8.4	12.6	6.5	10.8
1-4 years	0.5	0.5	0.5	0.5	0.5	0.5
5-14 years	0.2	0.2	0.6	0.6	0.2	0.2
15-24 years	1.1	1.1	2.8	2.8	0.4	0.4
25-34 years	2.8	3.2	4.9	5.8	3.0	3.3
35-44 years	3.3	3.6	5.0	5.3	2.4	2.7
45-54 years	3.4	3.7	3.9	3.9	2.9	3.5
55-64 years	3.4	3.4	4.8	4.8	2.7	2.7
65-74 years	2.0	2.0	3.4	3.4	0.9	0.9
75-84 years	2.1	2.1	—*	—*	3.6	3.6
85 years +	0.0	0.0	—*	—*	—*	—*

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	1.9	2.4	1.3	0.1	0.1	0.1
1-4 years	0.2	0.2	0.2	0.2	0.2	0.2
5-14 years	0.1	0.1	0.1	0.1	0.1	0.1
15-24 years	1.2	1.7	0.7	1.4	1.9	0.8
25-34 years	2.0	2.7	1.3	2.2	2.9	1.5
35-44 years	3.5	4.5	2.5	3.6	4.6	2.6
45-54 years	3.0	3.9	2.2	3.0	3.8	2.3
55-64 years	1.3	1.6	1.0	1.2	1.4	1.0
65-74 years	0.7	0.7	0.7	0.6	0.6	0.6
75-84 years	0.7	0.9	0.6	0.7	0.9	0.6
85 years +	1.1	1.4	0.9	1.2	1.5	1.0

—\* Represents zero.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

The age-adjusted alcohol-related death rate for AI/AN decreased from 77.5 (1979-1981) to 43.7 (2002-2004). The 2002-2004 rate of 43.7 is over six times the U.S. all races rate of 7.0 for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.29** Age-Adjusted Alcohol-Related Death Rates

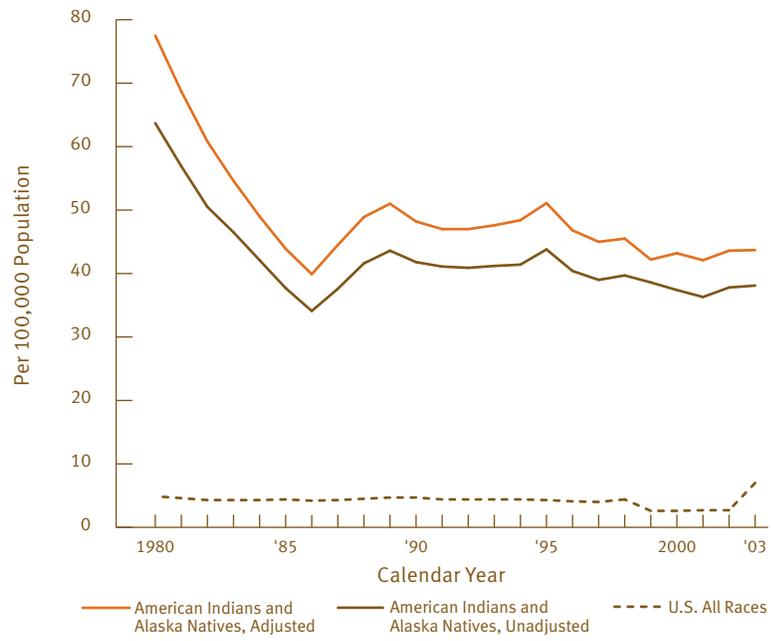


Table 4.29 Alcohol-Related Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1980-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>2</sup> TO:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2002-2004 (2003)	557	630	38.1	43.7	7.0 <sup>2</sup>	7.0 <sup>2</sup>	6.2	6.2
2001-2003 (2002)	499	578	37.8	43.6	2.7	2.6	16.1	16.8
2000-2002 (2001)	483	573	36.3	42.1	2.7	2.5	15.6	16.8
1999-2001 (2000)	441	504	37.4	43.2	2.6	2.4	16.6	18.0
1998-2000 (1999)	497	570	38.6	42.2	2.6	2.4	16.2	17.6
1997-1999 (1998)	465	536	39.7	45.5	4.4	3.9	10.3	11.7
1996-1998 (1997)	435	500	39.0	45.0	4.0	3.6	11.3	12.5
1995-1997 (1996)	456	527	40.4	46.8	4.1	3.7	11.4	12.6
1994-1996 (1995)	460	543	43.8	51.1	4.3	3.8	11.9	13.4
1993-1995 (1994)	427	494	41.4	48.4	4.4	3.8	11.0	12.7
1992-1994 (1993)	395	458	41.2	47.6	4.4	3.8	10.8	12.5
1991-1993 (1992)	402	458	40.9	47.0	4.4	3.7	10.7	12.7
1990-1992 (1991)	367	417	41.1	47.0	4.4	3.7	10.7	12.7
1989-1991 (1990)	350	403	41.8	48.2	4.7	3.8	10.3	12.7
1988-1990 (1989)	376	436	43.6	51.0	4.7	3.7	10.9	13.8
1987-1989 (1988)	375	441	41.6	48.9	4.5	3.5	10.9	14.0
1986-1988 (1987)	264	310	37.6	44.5	4.3	3.3	10.3	13.5
1985-1987 (1986)	264	310	34.1	39.9	4.2	3.3	9.5	12.1
1984-1986 (1985)	274	315	37.7	43.9	4.4	3.4	10.0	12.9
1983-1985 (1984)	302	348	42.1	49.0	4.3	3.4	11.4	14.4
1982-1984 (1983)	295	345	46.5	54.6	4.3	3.4	12.7	16.1
1981-1983 (1982)	293	343	50.5	60.8	4.3	3.4	14.1	17.9
1980-1982 (1981)	344	424	56.9	68.7	4.6	3.5	14.9	19.6
1979-1981 (1980)	369	436	63.7	77.5	4.9	3.7	15.8	20.9
(1979)	377	454						

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

<sup>2</sup>Alcohol-related ICD-10 codes were expanded in 2003 which accounts for the dramatic increase between 2002 and 2003.

NOTE: For all years 1979-1998 the causes of death (ICD-9 codes) that define alcohol-related deaths were expanded to include alcoholic polyneuropathy and the entire code group for unintentional poisoning by alcohol, as defined by the National Center for Health Statistics, Centers for Disease Control and Prevention. Years 1999-2004 used ICD-10 codes—these codes were expanded in 2003. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all races and the U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

Drinking has taken a great toll on AI/AN males compared to AI/AN females as evidenced by alcohol-related death rates. The age-specific alcohol-related death rate (2002-2004) for AI/AN males was higher for all age groups in comparison with AI/AN females. However, the AI/AN female rate is much higher than the rate of females in the U.S. all-races and white populations. The U.S. female rate never reached 9.0 for any age group in 2003, whereas the AI/AN female rate for years 2002-2004 ranged from 15.2 to 65.4 for age groups 25 through 74 years. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.30 Alcohol-Related Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*

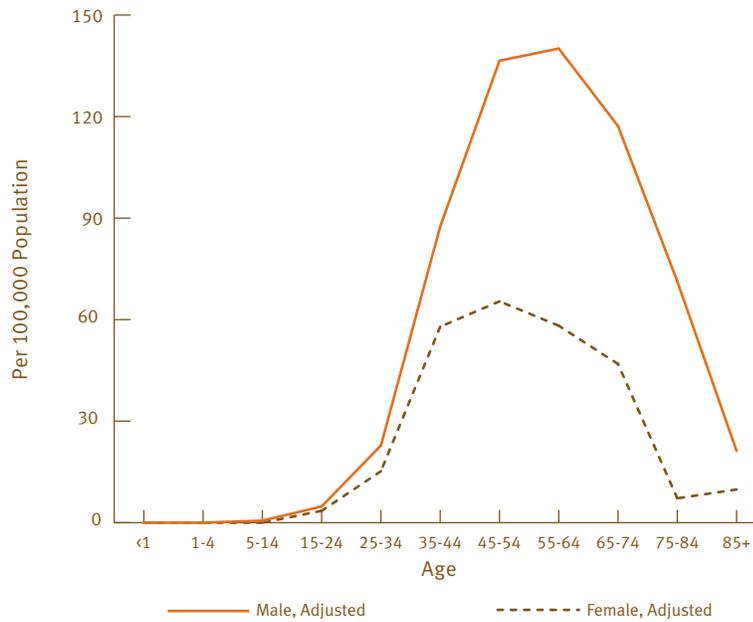


Table 4.30 Alcohol-Related Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	0.3	0.3	0.6	0.6	—*	—*
15-24 years	3.7	4.0	4.6	4.8	3.1	3.5
25-34 years	16.7	18.8	21.4	22.8	12.5	15.2
35-44 years	61.6	71.9	75.4	87.5	49.1	57.9
45-54 years	84.6	99.2	117.6	136.5	54.8	65.4
55-64 years	84.2	96.7	123.9	140.1	49.1	58.2
65-74 years	71.7	78.9	107.0	117.2	42.2	46.9
75-84 years	32.7	33.8	68.8	71.3	7.2	7.2
85 years +	13.4	13.4	21.2	21.2	9.8	9.8

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	0.0	0.0	0.0	0.0	0.0	0.0
15-24 years	0.3	0.5	0.1	0.3	0.5	0.1
25-34 years	1.5	2.3	0.6	1.5	2.4	0.7
35-44 years	8.1	11.4	4.7	8.2	11.8	4.7
45-54 years	17.3	27.0	7.9	17.4	26.8	8.0
55-64 years	18.5	29.8	8.1	18.2	29.0	8.0
65-74 years	15.1	25.4	6.5	15.2	25.4	6.5
75-84 years	9.2	16.8	4.1	9.3	16.8	4.3
85 years +	4.1	7.8	2.5	4.2	7.8	2.5

\*Represents zero.

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

Source: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The AIAN age-adjusted chronic liver disease and cirrhosis death rate (72.4) for years 1979-1981 has decreased to 39.1 for years 2002-2004. The 2002-2004 rate of 39.1 is 4.2 times higher than the U.S. all-races population rate of 9.3 for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.31 Age-Adjusted Chronic Liver Disease and Cirrhosis Death Rates**

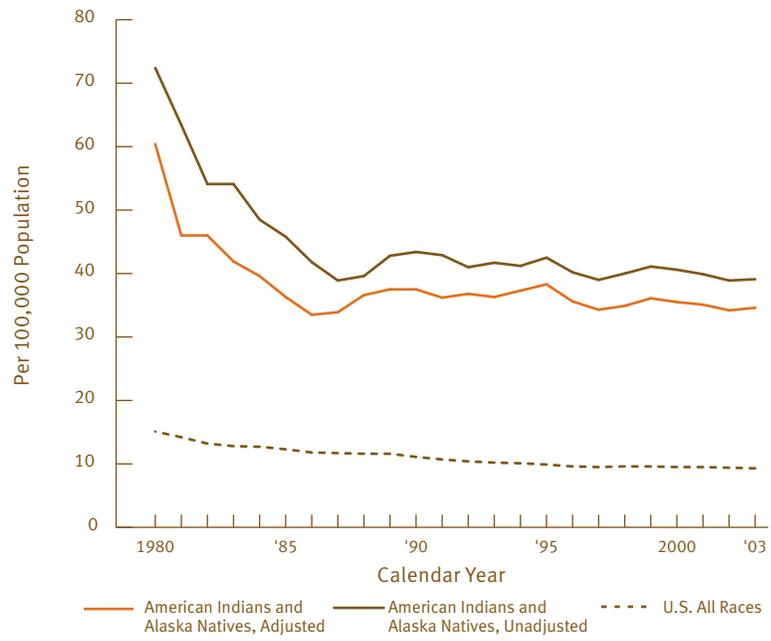


Table 4.31 Chronic Liver Disease and Cirrhosis Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2003-2005 (2004)	470	534						
2002-2004 (2003)	454	511	34.6	39.1	9.3	9.6	4.2	4.1
2001-2003 (2002)	447	511	34.2	38.9	9.4	9.6	4.1	4.1
2000-2002 (2001)	418	487	35.1	39.9	9.5	9.6	4.2	4.2
1999-2001 (2000)	428	484	35.5	40.6	9.5	9.6	4.3	4.2
1998-2000 (1999)	423	491	36.1	41.1	9.6	9.6	4.3	4.3
1997-1999 (1998)	375	433	34.9	40.0	9.6	9.3	4.2	4.3
1996-1998 (1997)	339	390	34.3	39.0	9.5	9.5	4.1	4.1
1995-1997 (1996)	339	386	35.6	40.2	9.6	9.5	4.2	4.2
1994-1996 (1995)	372	420	38.3	42.5	9.9	9.6	4.3	4.4
1993-1995 (1994)	329	377	37.3	41.2	10.1	9.8	4.1	4.2
1992-1994 (1993)	312	358	36.3	41.7	10.2	9.9	4.1	4.2
1991-1993 (1992)	299	336	36.8	41.0	10.4	10.0	3.9	4.1
1990-1992 (1991)	288	326	36.2	42.9	10.7	10.2	4.0	4.2
1989-1991 (1990)	267	307	37.5	43.4	11.1	10.5	3.9	4.1
1988-1990 (1989)	299	344	37.5	42.8	11.6	10.9	3.7	3.9
1987-1989 (1988)	267	314	36.6	39.6	11.6	10.9	3.4	3.6
1986-1988 (1987)	224	264	33.9	38.9	11.7	11.0	3.3	3.5
1985-1987 (1986)	224	256	33.5	41.8	11.8	11.1	3.5	3.8
1984-1986 (1985)	237	276	36.3	45.8	12.3	11.4	3.7	4.0
1983-1985 (1984)	243	279	39.6	48.5	12.7	11.9	3.8	4.1
1982-1984 (1983)	236	273	41.9	54.1	12.8	12.1	4.2	4.5
1981-1983 (1982)	230	267	46.0	54.1	13.2	12.5	4.1	4.3
1980-1982 (1981)	284	341	46.0	63.4	14.2	13.2	4.5	4.8
1979-1981 (1980)	324	380	60.4	72.4	15.1	13.9	4.8	5.2
1972-1974 (72-74)	717	810	69.6	79.0	18.4	16.9	4.3	4.7
1954-1956 (1955)			26.9		9.4	9.4		

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

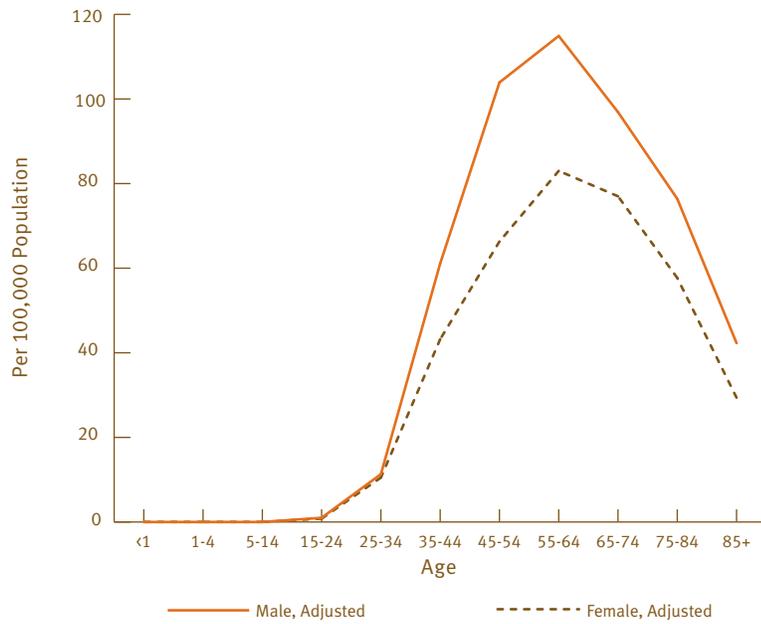
NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

Other than for age groups under 15 years, the age-specific chronic liver disease and cirrhosis death rate (2002-2004) for AI/AN males was higher for all age groups in comparison with AI/AN females. The AI/AN male rate exceeded 103.0 deaths per 100,000 population for age groups 45 to 64 years. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.32** Chronic Liver Disease and Cirrhosis Death Rates by Age and Sex

*American Indians and Alaska Natives (2002-2004)*



**Table 4.32** Chronic Liver Disease and Cirrhosis Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	0.7	0.9	0.8	1.0	0.6	0.8
25-34 years	9.7	10.9	10.4	11.3	8.9	10.5
35-44 years	45.4	51.9	53.8	61.1	37.3	43.2
45-54 years	72.4	84.3	90.5	103.9	55.8	66.3
55-64 years	87.9	98.1	105.2	114.9	72.3	83.0
65-74 years	78.9	86.0	89.0	96.9	70.4	77.0
75-84 years	60.2	65.4	73.8	76.4	50.5	57.7
85 years +	33.5	33.5	42.3	42.3	29.4	29.4

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	0.0	0.1	—*	0.0	0.1	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	0.0	0.0	0.0	0.0	0.0	0.0
25-34 years	0.9	1.2	0.5	0.9	1.3	0.5
35-44 years	6.8	9.2	4.4	7.1	9.6	4.4
45-54 years	18.3	27.5	9.4	18.4	27.8	9.2
55-64 years	23.0	33.8	13.1	23.1	33.8	13.1
65-74 years	29.5	39.1	21.4	30.7	40.5	22.4
75-84 years	30.0	36.9	25.4	31.6	38.5	27.0
85 years +	20.1	27.5	16.8	20.9	28.4	17.5

—\*Represents zero.

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

Source: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The AI/AN age-adjusted malignant neoplasm death rate (147.8) for 1979-1981 has increased to 180.7 for years 2002-2004. The U.S. all-races rate (190.1) for 2003 is 1.1 times higher than the comparable AI/AN rate (180.7) for 2002-2004. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.33 Age-Adjusted Malignant Neoplasm Death Rates**

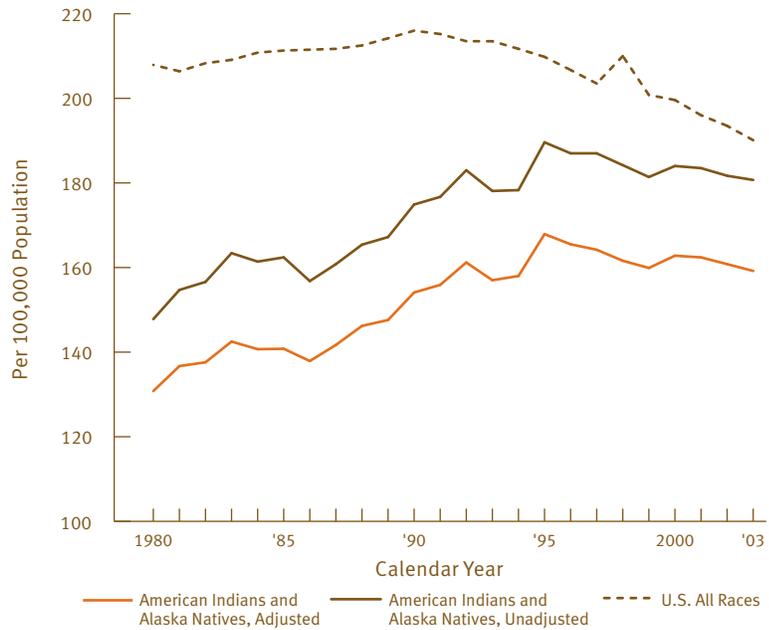


Table 4.33 Malignant Neoplasm Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES Rate	U.S. WHITE Rate	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2003-2005 (2004)	1,691	1,947						
2002-2004 (2003)	1,500	1,708	159.2	180.7	190.1	188.5	1.0	1.0
2001-2003 (2002)	1,523	1,737	160.8	181.7	193.5	191.7	0.9	0.9
2000-2002 (2001)	1,513	1,717	162.4	183.5	196.0	193.9	0.9	0.9
1999-2001 (2000)	1,325	1,506	162.8	184.0	199.6	197.2	0.9	0.9
1998-2000 (1999)	1,299	1,484	159.9	181.4	200.8	198.0	0.9	0.9
1997-1999 (1998)	1,255	1,451	161.6	184.2	210.0	200.7	0.9	0.9
1996-1998 (1997)	1,256	1,439	164.2	187.0	203.5	200.0	0.9	0.9
1995-1997 (1996)	1,226	1,400	165.5	187.0	206.7	203.3	0.9	0.9
1994-1996 (1995)	1,141	1,278	167.9	189.6	209.8	206.2	0.9	0.9
1993-1995 (1994)	1,046	1,201	158.0	178.3	211.7	208.0	0.8	0.9
1992-1994 (1993)	1,025	1,169	157.0	178.1	213.5	209.3	0.8	0.9
1991-1993 (1992)	1,026	1,174	161.2	183.0	213.5	209.5	0.9	0.9
1990-1992 (1991)	1,021	1,175	155.9	176.7	215.2	210.9	0.8	0.8
1989-1991 (1990)	859	969	154.1	174.9	216.0	211.6	0.8	0.8
1988-1990 (1989)	913	1,049	147.6	167.2	214.2	209.9	0.8	0.8
1987-1989 (1988)	831	954	146.2	165.4	212.5	208.4	0.8	0.8
1986-1988 (1987)	768	863	141.7	160.8	211.7	207.7	0.8	0.8
1985-1987 (1986)	756	881	137.9	156.8	211.5	207.6	0.7	0.8
1984-1986 (1985)	714	820	140.8	162.4	211.3	207.3	0.8	0.8
1983-1985 (1984)	713	836	140.7	161.4	210.8	206.7	0.8	0.8
1982-1984 (1983)	662	757	142.5	163.4	209.1	205.2	0.8	0.8
1981-1983 (1982)	617	706	137.6	156.6	208.3	204.7	0.8	0.8
1980-1982 (1981)	578	661	136.7	154.7	206.4	202.7	0.7	0.8
1979-1981 (1980)	567	635	130.8	147.8	207.9	204.2	0.7	0.7
1972-1974 (72-74)	1,142	1,293	132.2	150.0	202.2	199.3	0.7	0.8
1954-1956 (1955)	296		95.0		125.8	125.8		

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

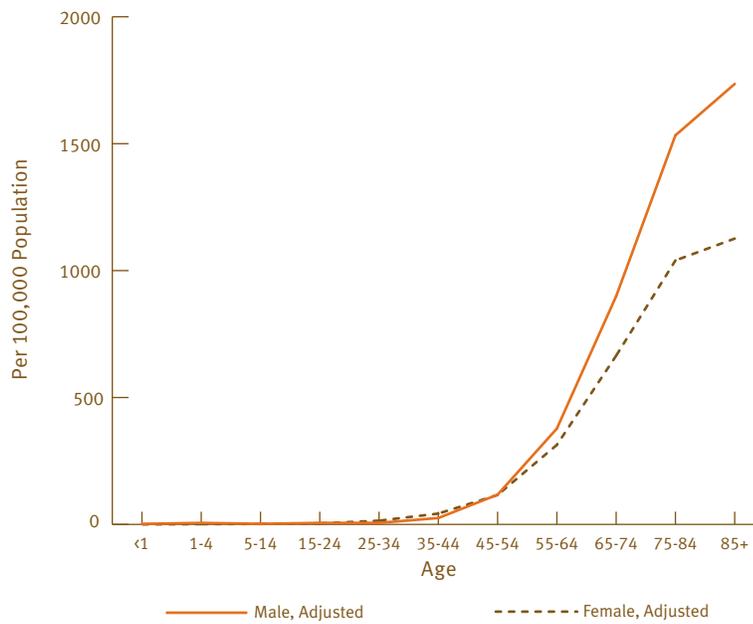
NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific malignant neoplasm death rate (2002-2004) for AI/AN males was 54 percent greater than AI/AN females in age group 85 years and over. However, for the age group 35 to 44 years, the female rate was 69 percent greater than the male rate. The rate for AI/AN females increased with age, but the onset of a rate increase for AI/AN males began at age 15. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.34 Malignant Neoplasm Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*



**Table 4.34 Malignant Neoplasm Death Rates by Age and Sex**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and  
U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	1.1	1.1	2.1	2.1	—*	—*
1-4 years	2.4	3.5	3.7	5.8	1.1	1.1
5-14 years	1.6	2.0	1.7	2.3	1.6	1.8
15-24 years	4.0	4.9	5.0	5.8	3.1	3.9
25-34 years	7.7	10.3	5.5	6.0	10.0	14.7
35-44 years	30.2	34.2	23.6	25.2	36.5	42.7
45-54 years	102.5	116.6	104.9	117.2	100.3	116.0
55-64 years	296.8	343.7	324.7	377.7	271.8	313.3
65-74 years	659.5	771.2	764.9	898.9	571.8	664.7
75-84 years	1,094.5	1,244.4	1,319.1	1,533.0	935.5	1,040.0
85 years +	1,302.1	1,318.8	1,682.5	1,735.4	1,126.1	1,126.1

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	1.9	1.7	2.1	2.1	1.8	2.3
1-4 years	2.5	2.8	2.1	2.6	2.9	2.3
5-14 years	2.6	2.8	2.4	2.7	2.9	2.5
15-24 years	4.0	4.6	3.4	4.1	4.7	3.4
25-34 years	9.4	8.9	9.9	9.1	8.9	9.4
35-44 years	35.0	30.8	39.1	33.6	29.9	37.3
45-54 years	122.2	127.4	117.1	116.0	119.9	112.1
55-64 years	343.0	386.8	302.3	336.6	375.6	299.8
65-74 years	770.3	931.7	635.3	769.5	922.7	638.9
75-84 years	1,302.5	1,695.4	1,040.1	1,303.4	1,683.6	1,046.3
85 years +	1,698.2	2,413.8	1,381.9	1,701.4	2,412.1	1,386.5

—\*Represents zero.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

Source: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The AI/AN age-adjusted lung cancer death rate (49.8) for 2002-2004 was 82 percent higher than the 1979-1981 rate (27.3). The U.S. all-races rate (54.1) for 2003 is 1.1 times higher than the 2002-2004 AI/AN rate (49.8). AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 4.35 Age-Adjusted Lung Cancer Death Rates

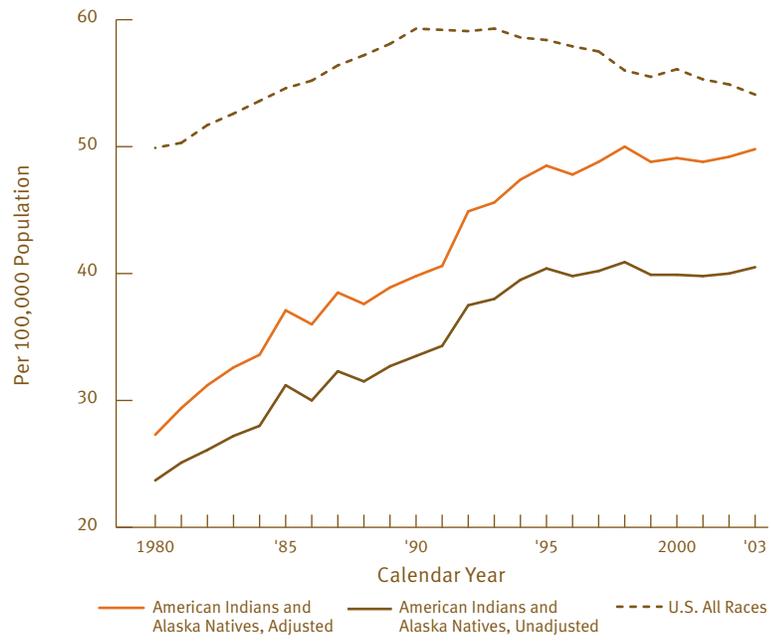


Table 4.35 Lung Cancer<sup>1</sup> Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1973-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>2</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>	Rate	Rate		
2003-2005 (2004)	443	548						
2002-2004 (2003)	369	458	40.5	49.8	54.1	54.5	0.9	0.9
2001-2003 (2002)	375	462	40.0	49.2	54.9	55.2	0.9	0.9
2000-2002 (2001)	362	451	39.8	48.8	55.3	55.6	0.9	0.9
1999-2001 (2000)	309	378	39.9	49.1	56.1	56.2	0.9	0.9
1998-2000 (1999)	330	411	39.9	48.8	55.5	55.4	0.9	0.9
1997-1999 (1998)	325	399	40.9	50.0	56.0	57.1	0.9	0.9
1996-1998 (1997)	305	370	40.2	48.8	57.5	57.4	0.8	0.9
1995-1997 (1996)	290	351	39.8	47.8	57.9	57.7	0.8	0.8
1994-1996 (1995)	286	342	40.4	48.5	58.4	58.2	0.8	0.8
1993-1995 (1994)	264	321	39.5	47.4	58.6	58.3	0.8	0.8
1992-1994 (1993)	260	316	38.0	45.6	59.3	58.9	0.8	0.8
1991-1993 (1992)	233	278	37.5	44.9	59.1	58.5	0.8	0.8
1990-1992 (1991)	235	284	34.3	40.6	59.2	58.7	0.7	0.7
1989-1991 (1990)	188	220	33.5	39.8	59.3	58.6	0.7	0.7
1988-1990 (1989)	207	251	32.7	38.9	58.1	57.4	0.7	0.7
1987-1989 (1988)	209	253	31.5	37.6	57.2	56.6	0.7	0.7
1986-1988 (1987)	152	181	32.3	38.5	56.4	55.8	0.7	0.7
1985-1987 (1986)	194	235	30.0	36.0	55.2	54.5	0.7	0.7
1984-1986 (1985)	155	184	31.2	37.1	54.6	53.9	0.7	0.7
1983-1985 (1984)	146	173	28.0	33.6	53.6	52.9	0.6	0.6
1982-1984 (1983)	134	165	27.2	32.6	52.6	52.0	0.6	0.6
1981-1983 (1982)	124	147	26.1	31.2	51.7	51.1	0.6	0.6
1980-1982 (1981)	113	134	25.1	29.4	50.3	49.6	0.6	0.6
1979-1981 (1980)	103	120	23.7	27.3	49.9	49.2	0.5	0.6
1972-1974 (72-74)	136	152	15.2	16.9	40.9	40.3	0.4	0.4

<sup>1</sup>Lung cancer deaths includes deaths due to cancers of the trachea, bronchus and lung.

<sup>2</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Starting in 1972 data are first available and are shown above for the specific counties in the IHS service area. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific lung cancer death rate (2002-2004) for AI/AN males and females was fairly similar for age groups 1 to 44 years. For age group 75 to 84, the rate for AI/AN males (453.3) is 81 percent greater than the AI/AN rate (250.5) for females. The rate decreased for AI/AN males (317.5) and (176.3) for AI/AN females for ages 85 and older but the percent difference between AI/AN males and females dropped to only 80 percent. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.36 Lung Cancer Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*

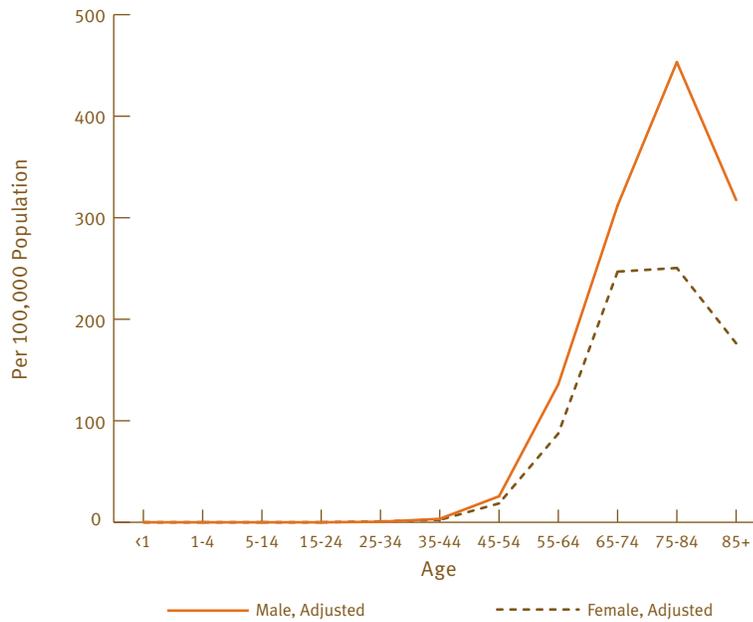


Table 4.36 Lung Cancer<sup>1</sup> Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	—*	—*	—*	—*	—*	—*
25-34 years	0.3	0.7	0.3	0.5	0.3	0.8
35-44 years	2.7	2.9	3.1	3.4	2.4	2.4
45-54 years	17.8	21.9	21.8	25.6	14.1	18.6
55-64 years	87.0	110.3	108.8	135.9	67.4	87.4
65-74 years	219.7	276.5	245.6	312.0	198.1	246.9
75-84 years	275.5	334.6	364.2	453.3	212.7	250.5
85 years +	210.9	220.9	285.7	317.5	176.3	176.3

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	0.0	0.0	0.0	0.0	0.0	0.0
5-14 years	0.0	0.0	0.0	0.0	—*	0.0
15-24 years	0.1	0.1	0.1	0.1	0.1	0.1
25-34 years	0.4	0.4	0.4	0.4	0.4	0.4
35-44 years	5.6	6.1	5.1	5.4	5.7	5.1
45-54 years	30.3	36.5	24.4	28.9	34.1	23.8
55-64 years	111.0	136.7	87.1	110.8	133.1	89.8
65-74 years	269.3	346.6	204.8	274.2	347.1	212.2
75-84 years	377.8	525.1	279.4	382.6	524.6	286.6
85 years +	298.9	475.1	221.0	302.4	478.5	224.4

—\*Represents zero.

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup>Lung cancer deaths includes deaths due to cancers of the trachea, bronchus and lung, ICD-10 codes C33 to C34.9.

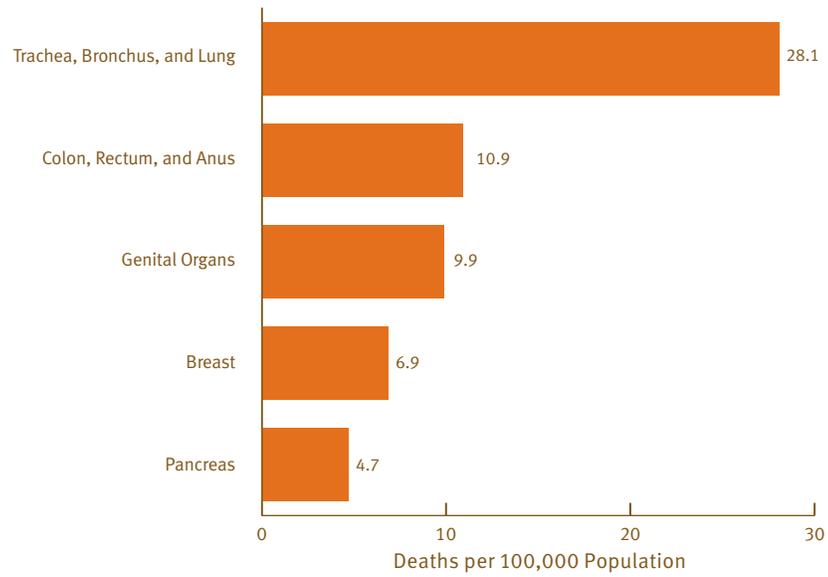
<sup>2</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

Source: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The leading site for cancer deaths among AI/AN in 2002-2004 was trachea, bronchus, and lung. Over 2.5 times as many AI/AN people died of this type of cancer than the next leading site, colon, rectum and anus. The third and fourth leading sites were genital organs and breast, respectively. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.37** Death Rates for Leading Cancer Sites

*American Indians and Alaska Natives (2002-2004)*



**Table 4.37** Leading Sites for Cancer Deaths for Decedents of All Ages

*American Indians and Alaska Natives, IHS Service Area, 2002-2004  
(Crude Rate per 100,000 Population)*

Site of Cancer Death	Number		Rate	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<b>All Sites</b>	<b>4,626</b>	<b>5,290</b>	<b>88.7</b>	<b>101.4</b>
Trachea, bronchus, and lung	1,187	1,468	22.8	28.1
Colon, rectum, and anus	493	566	9.5	10.9
Genital organs	451	514	8.6	9.9
Breast	307	359	5.9	6.9
Pancreas	226	245	4.3	4.7
Kidney, renal pelvis	207	228	4.0	4.4
Stomach	210	220	4.0	4.2
Liver and intraepithelial bile duct	186	208	3.6	4.0
Leukemia	153	172	2.9	3.3
Non-Hodgkin lymphoma	146	160	2.8	3.1
Esophagus	113	120	2.2	2.3
Multiple myeloma	111	117	2.1	2.2
Brain, meninges, central nervous system	77	83	1.5	1.6
Lip, oral cavity, and pharynx	76	82	1.5	1.6
Gallbladder	53	57	1.0	1.1
Urinary bladder	51	52	1.0	1.0
Soft tissue including heart	39	40	0.7	0.8
Melanoma of skin	33	34	0.6	0.7
Larynx	30	32	0.6	0.6
Bones	22	23	0.4	0.4
Thyroid/endocrine	14	15	0.3	0.3
Hodgkin lymphoma	11	11	0.2	0.2
Mesothelioma	10	11	0.2	0.2
Hematopoietic and related tissue	1	1	0.0	0.0
<b>All other sites</b>	<b>419</b>	<b>472</b>		

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: See appendix titled "Method Used to Rank Leading Sites of Cancer Deaths." Causes of death listed are based on the order of adjusted number of deaths.

The leading site for cancer deaths among AI/AN males for 2002-2004 was trachea, bronchus, and lung. Over two and a half times as many AI/AN males died of this type of cancer than the next leading site, colon, rectum, and anus. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.38** Death Rates, Leading Cancer Sites: Males

*American Indians and Alaska Natives (2002-2004)*

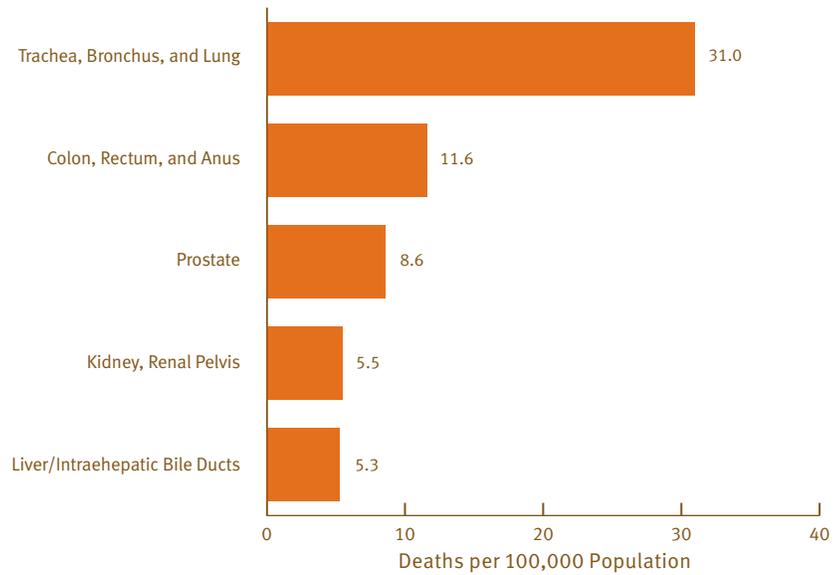


Table 4.38 Leading Sites for Cancer Deaths for Males

*American Indians and Alaska Natives, IHS Service Area, 2002-2004  
(Rate per 100,000 Population)*

Site of Cancer Death	NUMBER		RATE	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<b>All Sites</b>	<b>2,298</b>	<b>2,645</b>	<b>89.3</b>	<b>102.7</b>
Trachea, bronchus, and lung	643	798	25.0	31.0
Colon, rectum, and anus	260	299	10.1	11.6
Prostate	193	221	7.5	8.6
Kidney and renal pelvis	128	141	5.0	5.5
Liver/intrahepatic bile ducts	115	136	4.5	5.3
Stomach	120	126	4.5	4.9
Pancreas	110	121	4.3	4.7
Esophagus	88	95	3.4	3.7
Leukemia	81	93	3.1	3.6
Non-Hodgkin lymphoma	77	87	3.0	3.4
Multiple myeloma	54	58	2.1	2.3
Brain, meninges, central nervous system	50	55	1.9	2.1
Lip, oral cavity, and pharynx	48	52	1.9	2.0
Urinary bladder	30	31	1.2	1.2
Larynx	22	24	0.9	0.9
Gallbladder	17	17	0.7	0.7
Melanoma of skin	17	18	0.7	0.7
Soft tissue including heart	15	16	0.6	0.6
Bone and joints	9	10	0.3	0.4
Mesothelioma	5	5	0.2	0.2
Testis	5	5	0.2	0.2
Hodgkin lymphoma	4	4	0.2	0.2
Thyroid/endocrine	3	3	0.1	0.1
Ureter	1	2	0.0	0.1
Breast	1	1	0.0	0.0
<b>All other sites</b>	<b>202</b>	<b>227</b>	<b>7.8</b>	<b>8.8</b>

0.0 Quantity more than zero but less than 0.05.

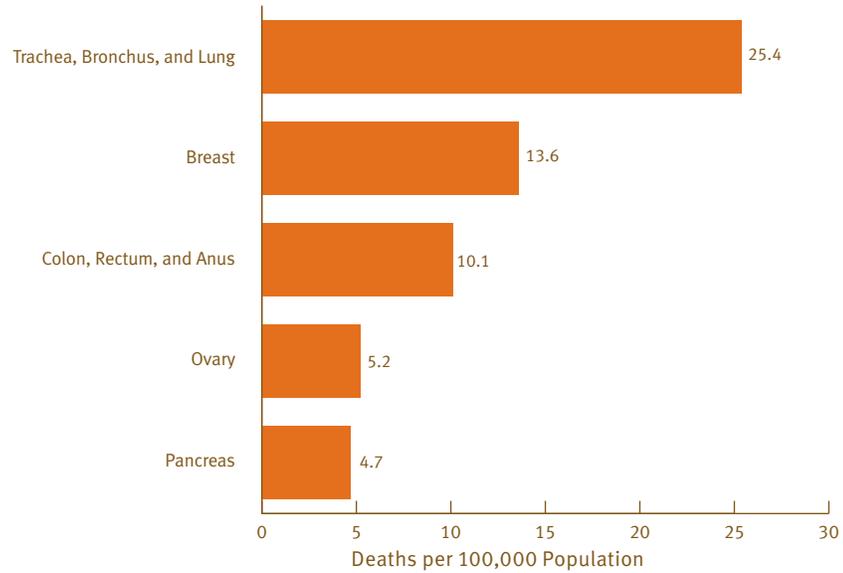
<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: See appendix titled "Method Used to Rank Leading Sites of Cancer Deaths." Causes of death listed are based on the order of adjusted number of deaths.

The leading site for cancer deaths among AI/AN females for 2002-2004 was trachea, bronchus, and lung. About 11.8 percent more AI/AN females died of this type of cancer than the next leading site, breast. In turn, the likelihood of dying from breast cancer was about 35 percent greater than the next leading type of cancer (colon, rectum, and anus). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.39** Death Rates, Leading Cancer Sites: Females

*American Indians and Alaska Natives (2002-2004)*



**Table 4.39 Leading Sites for Cancer Deaths for Females**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004  
(Rate per 100,000 Population)*

Site of Cancer Death	Number		Rate	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<b>All Sites</b>	<b>2,328</b>	<b>2,646</b>	<b>88.1</b>	<b>100.2</b>
Trachea, bronchus, and lung	544	670	20.6	25.4
Breast	306	358	11.6	13.6
Colon, rectum, and anus	233	267	8.8	10.1
Ovary	121	137	4.6	5.2
Pancreas	116	124	4.4	4.7
Stomach	90	94	3.4	3.6
Cervical	77	91	2.9	3.4
Kidney and renal pelvis	79	87	3.0	3.3
Leukemia	72	79	2.7	3.0
Non-Hodgkin lymphoma	69	73	2.6	2.8
Liver/intrahepatic bile ducts	71	72	2.7	2.7
Multiple myeloma	57	59	2.2	2.2
Uterus	49	54	1.9	2.0
Gallbladder	36	40	1.4	1.5
Lip, oral cavity, and pharynx	28	30	1.1	1.1
Brain, meninges, central nervous system	27	28	1.0	1.1
Esophagus	25	25	0.9	0.9
Soft tissue including heart	24	24	0.8	0.9
Urinary bladder	21	21	0.8	0.8
Melanoma of skin	16	16	0.6	0.6
Bone and joints	13	13	0.3	0.5
Thyroid/endocrine	11	12	0.4	0.5
Larynx	8	8	0.3	0.3
Hodgkin lymphoma	7	7	0.3	0.3
Mesothelioma	5	6	0.2	0.2
Vulva	6	6	0.2	0.2
<b>All other sites</b>	<b>217</b>	<b>245</b>	<b>8.2</b>	<b>9.3</b>

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: See appendix titled "Method Used to Rank Leading Sites of Cancer Deaths." Causes of death listed are based on the order of adjusted number of deaths.

The leading site for cancer deaths among American Indians and Alaska Natives (AI/AN), 55 years of age and older for the 2002-2004 three-year period was trachea, bronchus, and lung. Nearly three times as many AI/AN people in this age group died of this type of cancer than the next leading site, colon, rectum, and anus. The third and fourth leading sites were breast and pancreas, respectively. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.40 Death Rates, Leading Cancer Sites: 55 Years of Age and Older**



Table 4.40 Leading Sites for Cancer Deaths for Decedents 55 Years of Age and Older

American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003  
(Rate per 100,000 Population)

Site of Cancer Death	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate		
<b>All Sites</b>	<b>3,410</b>	<b>3,900</b>	<b>507.7</b>	<b>580.7</b>	<b>759.3</b>	<b>765.5</b>	<b>0.8</b>	<b>0.8</b>
Trachea, bronchus, and lung	1,059	1,311	157.5	195.2	224.1	228.6	0.9	0.9
Colon, rectum, and anus	402	461	59.9	68.6	78.7	78.3	0.9	0.9
Breast	199	227	29.6	33.8	50.9	50.9	0.7	0.7
Pancreas	184	200	27.4	29.8	43.3	43.2	0.7	0.7
Kidney, renal pelvis	166	181	24.7	26.9	16.7	17.2	1.6	1.6
Stomach	154	162	22.9	24.1	16.1	14.5	1.5	1.7
Liver and intraepithelial bile duct	138	153	20.5	22.8	18.7	17.6	1.2	1.3
Non-Hodgkin lymphoma	112	124	16.7	18.5	29.5	31.5	0.6	0.6
Leukemia	95	102	14.4	15.2	28.5	30.0	0.5	0.5
Esophagus	94	100	14.0	14.9	17.4	17.5	0.9	0.9
Multiple myeloma	93	97	13.8	14.4	15.7	14.9	0.9	1.0
Genital organs	77	81	11.5	12.1	80.3	77.7	0.2	0.2
Lip, oral cavity, pharynx	63	68	9.4	10.1	9.8	9.6	1.0	1.1
Gallbladder	45	49	6.7	7.3	2.7	2.7	2.7	2.7
Urinary bladder	44	45	6.6	6.7	18.6	19.6	0.4	0.3
Brain, meninges, central nervous system	36	37	5.4	5.5	13.7	14.7	0.4	0.4
Larynx	24	28	3.6	4.2	5.2	4.9	0.8	0.9
Melanoma of the skin	26	27	3.9	4.0	9.2	10.3	0.4	0.4
Soft tissue including the heart	18	19	2.7	2.8	3.9	4.0	0.7	0.7
Thyroid, endocrine	11	12	1.6	1.8	1.8	1.8	1.0	1.0
Bones and joints	9	11	1.3	1.6	1.0	1.1	1.6	1.5
Mesothelioma	9	10	1.3	1.5	3.6	3.9	0.4	0.4
Hodgkin lymphoma	9	9	1.3	1.3	1.3	1.3	1.0	1.0
Hematopoietic and related tissue	1	1	0.1	0.1	0.1	0.1	1.0	1.0
<b>All other sites</b>	<b>342</b>	<b>385</b>						

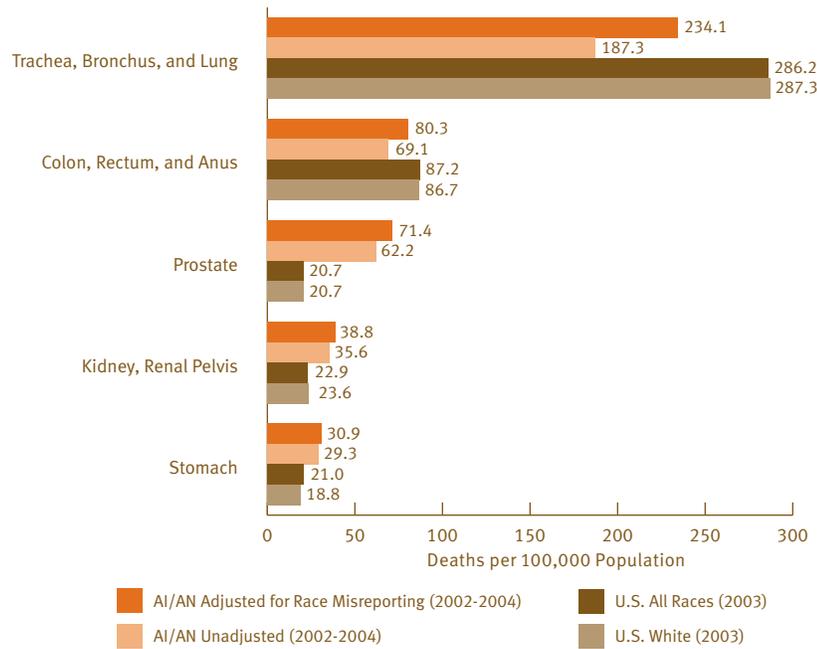
<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates to compensate for misreporting of AI/AN race on state death certificates.

NOTE: See appendix titled "Method Used to Rank Leading Sites of Cancer Deaths." Causes of death listed are based on the order of adjusted number of deaths.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The leading site for cancer deaths among AI/AN males, 55 years and older, in 2002-2004 was trachea, bronchus, and lung, in 2002-2004 was trachea, bronchus, and lung. About 2.9 times as many AI/AN males in this age group died of this type of cancer than the next leading site of colon, rectum, and anus. These AI/AN rates have been adjusted for misreporting of AI/AN race on state death certificate.

**Chart 4.41 Death Rates, Leading Cancer Sites: Males, 55 Years of Age and Older**



The leading site for cancer deaths among American Indian and Alaska Native (AI/AN) females, 55 years and older, in 2002-2004 was trachea, bronchus, and lung. Nearly 3 times as many AI/AN females in this age group died of this type of cancer than the next leading site, breast. These AI/AN rates have been adjusted for misreporting of AI/AN race on state death certificates.

**Chart 4.42 Death Rates, Leading Cancer Sites: Females, 55 Years of Age and Older**

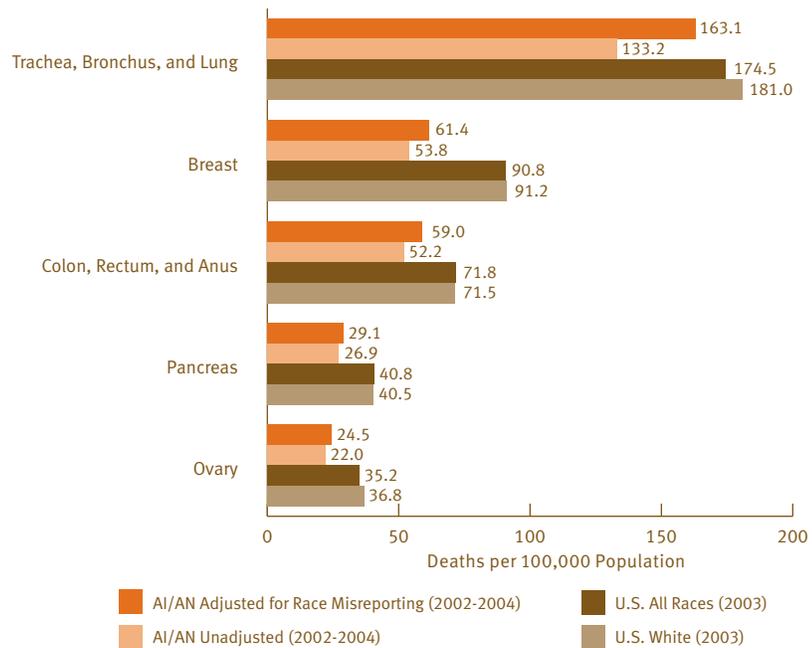


Table 4.41 Leading Sites for Cancer Deaths by Sex 55 Years of Age and Older

American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003  
(Rate per 100,000 Population)

Site of Cancer Death	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>MALE</b>								
<i>All Sites</i>	<i>1,853</i>	<i>2,145</i>	<i>556.7</i>	<i>715.7</i>	<i>888.1</i>	<i>887.8</i>	<i>0.8</i>	<i>0.8</i>
Trachea, bronchus, and lung	569	711	187.3	234.1	286.2	287.3	0.8	0.8
Colon, rectum, and anus	210	244	69.1	80.3	87.2	86.7	0.9	0.9
Prostate	189	217	62.2	71.4	20.7	20.7	3.4	3.4
Kidney, renal pelvis	108	118	35.6	38.8	22.9	23.6	1.7	1.6
Stomach	89	94	29.3	30.9	21.0	18.8	1.5	1.6
Pancreas	85	93	28.0	30.6	46.3	46.4	0.7	0.7
Liver and intraepithelial bile duct	77	91	25.3	30.0	25.8	24.2	1.2	1.2
Esophagus	73	79	24.0	26.0	29.8	29.9	0.9	0.9
Non-Hodgkin lymphoma	58	66	19.1	21.7	34.3	36.6	0.6	0.6
Leukemia	45	50	14.8	16.5	35.6	37.5	0.5	0.4
Multiple myeloma	40	42	13.2	13.8	18.0	17.3	0.8	0.8
Lip, oral cavity, and pharynx	38	41	12.5	13.5	14.5	13.7	0.9	1.0
Urinary bladder	27	28	8.9	9.2	28.6	30.5	0.3	0.3
Brain, meninges, central nervous system	19	20	6.3	6.6	16.4	17.5	0.4	0.4
Larynx	18	20	5.9	6.6	9.2	8.5	0.7	0.8
Gallbladder	14	14	4.6	4.6	1.9	1.9	2.4	2.4
Melanoma of the skin	13	14	4.3	4.6	13.1	14.8	0.4	0.3
Bones and joints	5	6	1.6	2.0	1.2	1.3	1.7	1.5
Mesothelioma	4	4	1.3	1.3	6.6	7.2	0.2	0.2
Hodgkin lymphoma	3	3	1.0	1.0	1.5	1.5	0.7	0.7
Thyroid, endocrine	2	2	0.7	0.7	1.5	1.6	0.5	0.4
Breast	1	1	0.3	0.3	1.1	1.1	0.3	0.3
<i>All other sites</i>	<i>166</i>	<i>187</i>						
<b>FEMALE</b>								
<i>All Sites</i>	<i>1,818</i>	<i>2,052</i>	<i>494.2</i>	<i>557.6</i>	<i>656.3</i>	<i>666.4</i>	<i>0.8</i>	<i>0.8</i>
Trachea, bronchus, and lung	490	600	133.2	163.1	174.5	181.0	0.9	0.9
Breast	198	226	53.8	61.4	90.8	91.2	0.7	0.7
Colon, rectum, and anus	192	217	52.2	59.0	71.8	71.5	0.8	0.8
Pancreas	99	107	26.9	29.1	40.8	40.5	0.7	0.7
Ovary	81	90	22.0	24.5	35.2	36.8	0.7	0.7
Stomach	65	68	17.7	18.5	12.2	11.0	1.5	1.7
Kidney, renal pelvis	58	63	15.8	17.1	11.6	12.1	1.5	1.4
Liver and intraepithelial bile duct	61	62	16.6	16.9	13.0	12.2	1.3	1.4
Non-Hodgkin lymphoma	54	58	14.7	15.8	25.7	27.4	0.6	0.6
Multiple Myeloma	53	55	14.4	14.7	13.9	12.9	1.1	1.1
Leukemia	50	52	13.6	14.1	22.8	23.8	0.6	0.6
Cervix	36	38	9.8	10.3	6.1	5.4	1.7	1.9
Uterus	33	35	9.0	9.5	17.4	16.6	0.5	0.6
Gallbladder	31	35	8.4	9.5	3.4	3.4	2.8	2.8
Lip, oral cavity, and pharynx	25	27	6.8	7.3	6.1	6.2	1.2	1.2
Esophagus	21	21	5.7	5.7	7.6	7.4	0.8	0.8
Brain, meninges, central nervous system	17	17	4.6	4.6	11.6	12.5	0.4	0.4
Urinary bladder	17	17	4.6	4.6	10.6	10.9	0.4	0.4
Melanoma of the skin	13	13	3.5	3.5	6.0	6.7	0.6	0.5
Soft tissue including the heart	10	10	2.7	2.7	3.7	3.7	0.7	0.7
Thyroid, endocrine	9	10	2.4	2.7	2.0	2.0	1.4	1.4
Larynx	6	8	1.6	2.2	1.9	1.9	1.2	1.2
Hodgkin lymphoma	6	6	1.6	1.6	1.1	1.2	1.5	1.3
Vulva	6	6	1.6	1.6	2.0	2.2	0.8	0.7
Mesothelioma	5	6	1.4	1.6	1.2	1.3	1.3	1.2
Bones and joints	4	5	1.1	1.4	0.9	0.9	1.6	1.6
Other and unspecified malignant neoplasms of lymphoid, hematopoietic, related tissue	1	1	0.3	0.3	0.1	0.1	3.0	3.0
<i>All other sites</i>	<i>177</i>	<i>199</i>						

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates to compensate for misreporting of AI/AN race on state death certificates.

NOTE: See appendix titled "Method Used to Rank Leading Sites of Cancer Deaths." Causes of death listed are based on the order of adjusted number of deaths.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The AI/AN age-adjusted pneumonia and influenza death rate varied between 38.7 and 32.4 between 1979-1981 and 2002-2004. The 2002-2004 rate (32.4) is 1.5 times greater than the U.S. all-races rate (22.0) for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.43 Age-Adjusted Pneumonia and Influenza Death Rates**

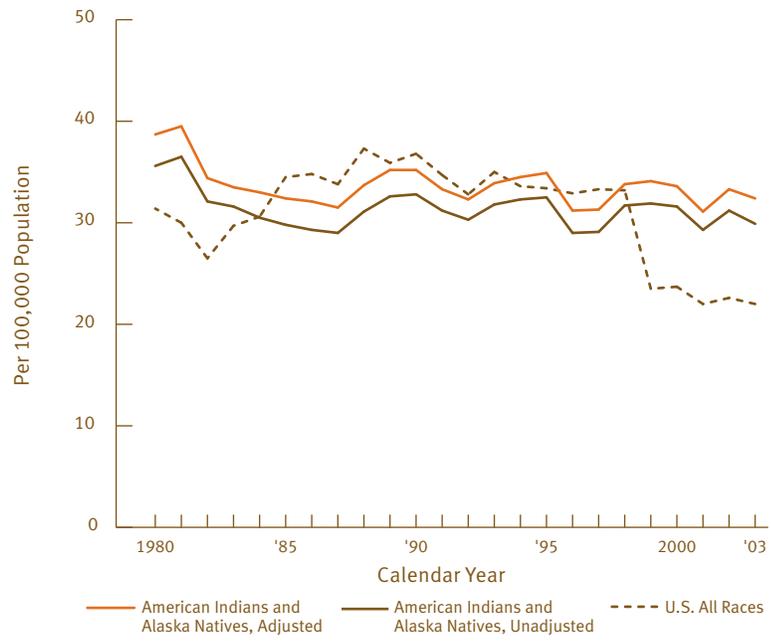


Table 4.43 Pneumonia and Influenza Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate		
2003-2005 (2004)	230	250						
2002-2004 (2003)	304	333	29.9	32.4	22.0	21.9	1.5	1.5
2001-2003 (2002)	233	249	31.2	33.3	22.6	22.6	1.5	1.5
2000-2002 (2001)	232	244	29.3	31.1	22.0	21.7	1.4	1.4
1999-2001 (2000)	218	234	31.6	33.6	23.7	23.5	1.4	1.4
1998-2000 (1999)	254	273	31.9	34.1	23.5	23.3	1.5	1.5
1997-1999 (1998)	301	319	31.7	33.8	33.2	34.6	1.0	1.0
1996-1998 (1997)	266	287	29.1	31.3	33.3	33.0	0.9	0.9
1995-1997 (1996)	278	309	29.0	31.2	32.9	32.5	0.9	1.0
1994-1996 (1995)	265	282	32.5	34.9	33.4	33.0	1.0	1.1
1993-1995 (1994)	297	321	32.3	34.5	33.6	33.3	1.0	1.0
1992-1994 (1993)	265	286	31.8	33.9	35.0	34.6	1.0	1.0
1991-1993 (1992)	241	256	30.3	32.3	32.8	32.5	1.0	1.0
1990-1992 (1991)	237	257	31.2	33.3	34.7	34.3	1.0	1.0
1989-1991 (1990)	259	286	32.8	35.2	36.8	36.4	1.0	1.0
1988-1990 (1989)	248	242	32.6	35.2	35.9	35.4	1.0	1.0
1987-1989 (1988)	221	238	31.1	33.7	37.3	37.1	0.9	0.9
1986-1988 (1987)	220	238	29.0	31.5	33.8	33.5	0.9	0.9
1985-1987 (1986)	174	189	29.3	32.1	34.8	34.5	0.9	0.9
1984-1986 (1985)	206	232	29.8	32.4	34.5	34.3	0.9	0.9
1983-1985 (1984)	200	215	30.5	33.0	30.6	30.3	1.1	1.1
1982-1984 (1983)	170	182	31.6	33.5	29.7	29.6	1.1	1.1
1981-1983 (1982)	202	217	32.1	34.4	26.5	26.2	1.3	1.3
1980-1982 (1981)	181	198	36.5	39.5	30.0	29.7	1.3	1.3
1979-1981 (1980)	215	233	35.6	38.7	31.4	30.9	1.2	1.3
1972-1974 (72-74)	690	743	47.4	50.5	38.4	37.3	1.3	1.4
1954-1956 (1955)	384		64.4		21.0	18.4		

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

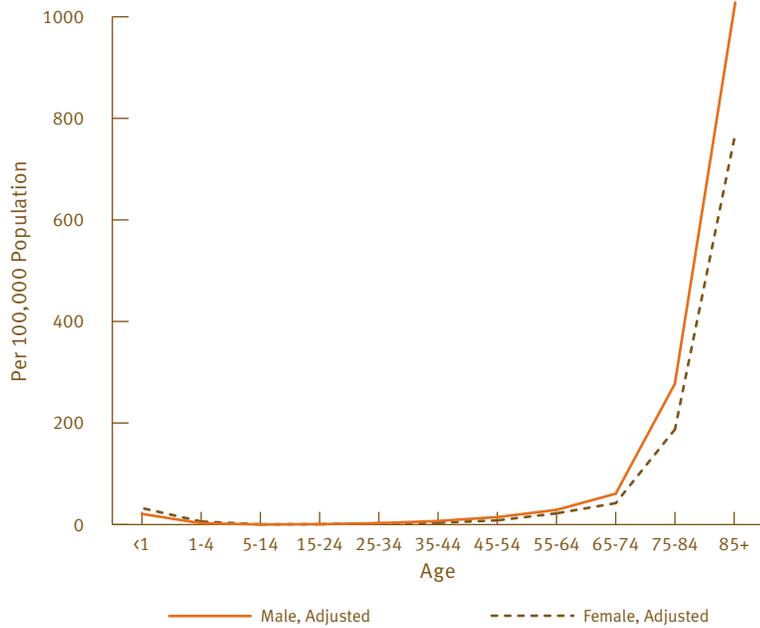
NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific pneumonia and influenza death rate (2002-2004) for AI/AN males and females increased sharply starting at age 85 years as it did for U.S. all-races males and females. The AI/AN male rates were greater than the AI/AN female rates for all ages greater than 14 years. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.44** Pneumonia and Influenza Death Rates by Age and Sex

*American Indians and Alaska Natives (2002-2004)*



**Table 4.44 Pneumonia and Influenza Death Rates by Age and Sex**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	28.8 <sup>2</sup>	26.7 <sup>2</sup>	29.5 <sup>2</sup>	21.0 <sup>2</sup>	28.2	32.5
1-4 years	2.1	4.3	1.1	2.6	3.3	6.0
5-14 years	0.2	0.3	0.2	0.2	0.2	0.4
15-24 years	0.6	0.7	0.6	0.8	0.6	0.6
25-34 years	2.2	2.6	2.5	2.7	1.9	2.5
35-44 years	5.1	5.2	6.7	7.0	3.5	3.5
45-54 years	10.9	11.4	13.7	14.7	8.3	8.3
55-64 years	23.0	25.3	25.9	28.9	20.5	22.1
65-74 years	48.1	50.7	57.4	60.8	40.4	42.2
75-84 years	200.5	224.8	239.4	277.6	173.0	187.5
85 years +	806.7	853.6	973.5	1,058.2	729.5	758.9

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	8.0	9.4	6.6	6.7	8.0	5.4
1-4 years	1.0	1.1	0.9	0.9	1.1	0.8
5-14 years	0.4	0.3	0.4	0.3	0.3	0.4
15-24 years	0.5	0.6	0.5	0.5	0.6	0.5
25-34 years	0.9	1.1	0.7	0.8	1.0	0.6
35-44 years	2.2	2.5	1.9	2.0	2.2	1.8
45-54 years	5.2	6.4	4.1	4.7	5.6	3.7
55-64 years	11.2	13.2	9.4	10.3	11.6	9.0
65-74 years	37.3	46.5	29.5	35.9	44.0	29.0
75-84 years	151.1	186.8	127.2	151.5	184.9	129.0
85 years +	666.1	757.8	625.6	679.3	767.1	640.1

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

<sup>2</sup>The adjusted rate for age less than one year is *lower* than the unadjusted rate because the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) had *fewer* deaths for this cause than did the unadjusted mortality file (2002-2004 data).

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The AI/AN age-adjusted tuberculosis death rate has dropped from 6.8 deaths in 1979-1981 to 1.7 for years 2002-2004. The 2002-2004 rate (1.7) is 8.5 times the U.S. all-races rate (0.2) for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.45 Age-Adjusted Tuberculosis Death Rates**

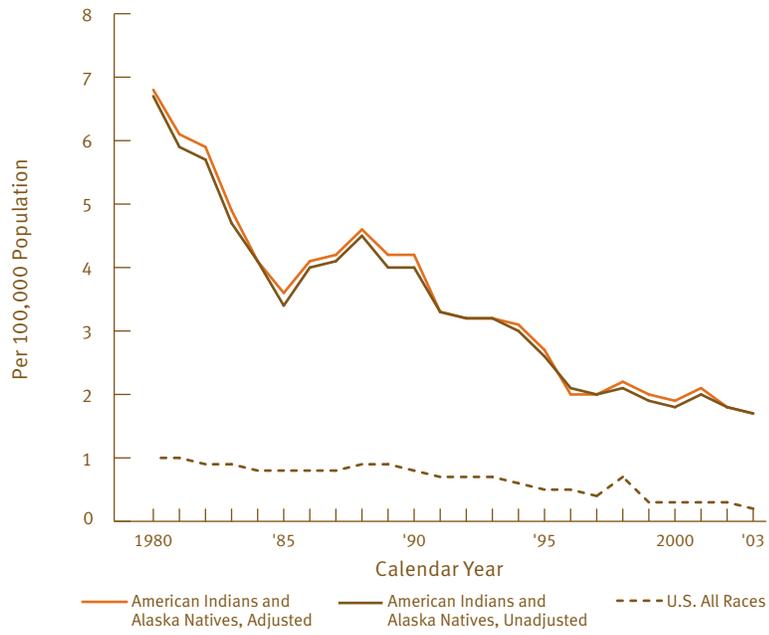


Table 4.45 Tuberculosis Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate		
2003-2005 (2004)	12	12						
2002-2004 (2003)	11	11	1.7	1.7	0.2	0.2	8.5	8.5
2001-2003 (2002)	24	25	1.8	1.8	0.3	0.2	6.0	9.0
2000-2002 (2001)	12	13	2.0	2.1	0.3	0.2	7.0	10.5
1999-2001 (2000)	14	15	1.8	1.9	0.3	0.2	6.3	9.5
1998-2000 (1999)	17	18	1.9	2.0	0.3	0.2	6.7	10.0
1997-1999 (1998)	17	18	2.1	2.2	0.7	0.4	3.1	5.5
1996-1998 (1997)	20	21	2.0	2.0	0.4	0.3	5.0	6.7
1995-1997 (1996)	14	14	2.1	2.0	0.5	0.3	4.0	6.7
1994-1996 (1995)	18	19	2.6	2.7	0.5	0.4	5.4	6.8
1993-1995 (1994)	30	30	3.0	3.1	0.6	0.4	5.2	7.8
1992-1994 (1993)	24	24	3.2	3.2	0.7	0.4	4.6	8.0
1991-1993 (1992)	19	19	3.2	3.2	0.7	0.5	4.6	6.4
1990-1992 (1991)	25	25	3.3	3.3	0.7	0.5	4.7	6.6
1989-1991 (1990)	24	25	4.0	4.2	0.8	0.5	5.3	8.4
1988-1990 (1989)	33	36	4.0	4.2	0.9	0.6	4.7	7.0
1987-1989 (1988)	25	25	4.5	4.6	0.9	0.6	5.1	7.7
1986-1988 (1987)	28	28	4.1	4.2	0.8	0.5	5.3	8.4
1985-1987 (1986)	24	26	4.0	4.1	0.8	0.6	5.1	6.8
1984-1986 (1985)	18	18	3.4	3.6	0.8	0.6	4.5	6.0
1983-1985 (1984)	17	18	4.1	4.1	0.8	0.6	5.1	6.8
1982-1984 (1983)	31	31	4.7	4.9	0.9	0.6	5.4	8.2
1981-1983 (1982)	22	23	5.7	5.9	0.9	0.6	6.6	9.8
1980-1982 (1981)	30	30	5.9	6.1	1.0	0.7	6.1	8.7
1979-1981 (1980)	31	33	6.7	6.8	1.0	0.7	6.8	9.7
1972-1974 (72-74)	143	147	10.5	10.8	1.7	1.3	6.4	8.3
1954-1956 (1955)	253		57.9		8.4	6.2		

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The AI/AN age-adjusted diabetes mellitus death rate for 2002-2004 was 74.2 which is 63.1 percent higher than the earlier rate of 45.5 for the 1979-1981 three year period. This latest rate of 74.2 is 2.9 times higher than the U.S. all-races rate of 25.3 for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.46 Age-Adjusted Diabetes Mellitus Death Rates**

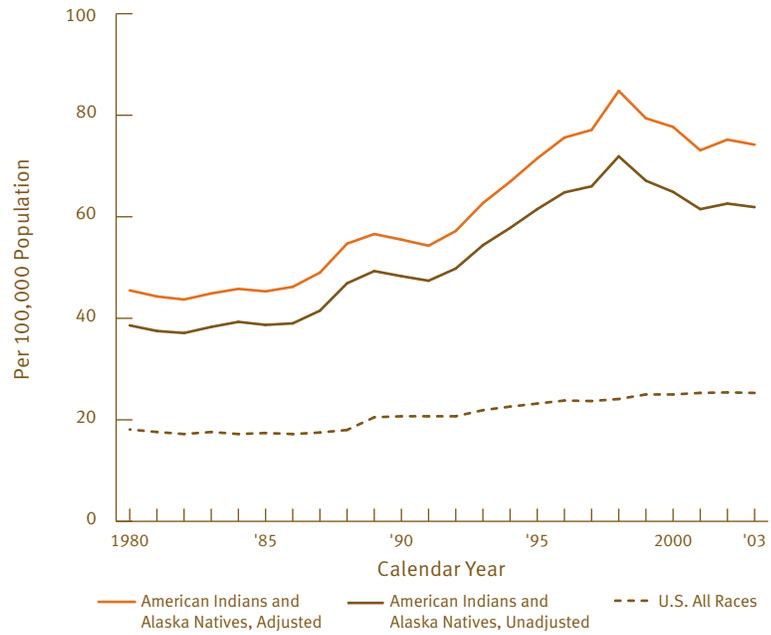


Table 4.46 Diabetes Mellitus Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate		
2003-2005 (2004)	602	722						
2002-2004 (2003)	627	771	61.9	74.2	25.3	23.0	2.9	3.2
2001-2003 (2002)	607	718	62.6	75.2	25.4	23.1	3.0	3.3
2000-2002 (2001)	521	631	61.5	73.1	25.3	23.0	2.9	3.2
1999-2001 (2000)	499	598	64.9	77.7	25.0	22.8	3.1	3.4
1998-2000 (1999)	595	720	67.1	79.4	25.0	22.6	3.2	3.5
1997-1999 (1998)	516	604	71.9	84.8	24.1	21.7	3.5	3.9
1996-1998 (1997)	546	649	66.0	77.1	23.7	21.3	3.3	3.6
1995-1997 (1996)	449	527	64.8	75.6	23.8	21.5	3.2	3.5
1994-1996 (1995)	426	497	61.5	71.5	23.2	20.9	3.1	3.4
1993-1995 (1994)	399	467	57.8	66.9	22.6	20.4	3.0	3.3
1992-1994 (1993)	354	412	54.4	62.7	21.9	19.8	2.9	3.2
1991-1993 (1992)	324	373	49.8	57.2	20.7	18.7	2.8	3.1
1990-1992 (1991)	275	320	47.4	54.3	20.7	18.7	2.6	2.9
1989-1991 (1990)	285	330	48.3	55.5	20.7	18.8	2.7	3.0
1988-1990 (1989)	301	349	49.3	56.6	20.5	18.6	2.8	3.0
1987-1989 (1988)	260	303	46.9	54.7	18.0	16.3	3.0	3.4
1986-1988 (1987)	227	274	41.5	49.0	17.5	15.9	2.8	3.1
1985-1987 (1986)	195	234	39.0	46.2	17.2	15.6	2.7	3.0
1984-1986 (1985)	208	245	38.7	45.3	17.4	15.9	2.6	2.8
1983-1985 (1984)	189	222	39.3	45.8	17.2	15.8	2.7	2.9
1982-1984 (1983)	180	212	38.3	44.9	17.6	16.3	2.6	2.8
1981-1983 (1982)	164	197	37.1	43.7	17.2	16.0	2.5	2.7
1980-1982 (1981)	156	185	37.5	44.3	17.6	16.2	2.5	2.7
1979-1981 (1980)	173	206	38.6	45.5	18.1	16.7	2.5	2.7
1972-1974 (72-74)	356	418	40.3	47.2	23.2	21.6	2.0	2.2
1954-1956 (1955)	64		17.0		13.0	12.6		

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

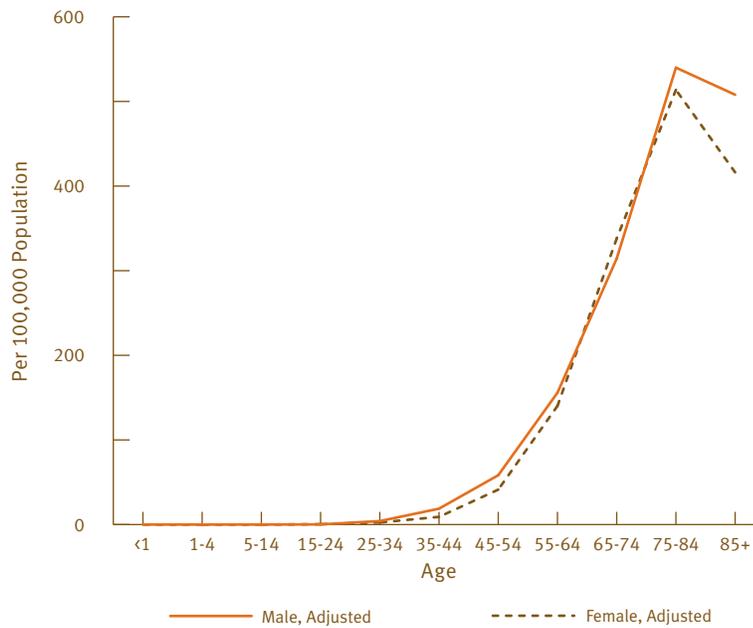
NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific diabetes mellitus death rate (2002-2004) for AI/AN increased sharply with age. Starting with age group 85 years and over the diabetes rate declined for both AI/AN males and females; whereas the diabetes rates increased for this same age group for U.S. all-races and U.S. white. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.47 Diabetes Mellitus Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*



**Table 4.47** Diabetes Mellitus Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and  
U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	0.3	0.3	0.2	0.2	0.4	0.4
25-34 years	2.6	3.3	3.3	4.1	1.9	2.5
35-44 years	12.2	13.8	16.5	18.8	8.0	9.1
45-54 years	41.7	49.4	50.2	58.3	34.0	41.3
55-64 years	120.3	147.6	128.1	155.8	113.2	140.2
65-74 years	262.7	327.2	252.3	314.3	271.3	338.0
75-84 years	433.8	524.5	430.4	539.9	436.2	513.7
85 years +	431.8	445.2	486.8	507.9	406.4	416.2

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	0.1	—*	0.2	0.1	—*	0.1
1-4 years	0.1	0.1	0.0	0.0	0.1	0.0
5-14 years	0.1	0.1	0.1	0.1	0.1	0.1
15-24 years	0.4	0.5	0.3	0.3	0.4	0.3
25-34 years	1.6	1.9	1.4	1.4	1.5	1.2
35-44 years	4.6	5.7	3.5	4.0	5.1	2.9
45-54 years	13.9	16.7	11.2	11.8	14.7	9.0
55-64 years	38.5	45.0	32.4	33.5	40.2	27.2
65-74 years	90.8	104.0	79.8	81.4	95.8	69.2
75-84 years	181.1	207.2	163.6	168.4	198.6	148.0
85 years +	317.5	340.7	307.2	300.8	333.4	286.3

—\* Represents zero.

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder.  
<http://wonder.cdc.gov/>. April 1995.

The AI/AN age-adjusted heart disease death rate has been decreasing since 1979-1981. The AI/AN rate (318.8) for the three-year period of 1979-1981 was 22.6 percent lower than then U.S. all-races rate (412.1) for 1980. The AI/AN rate (231.1) for 2002-2004 was only .5 percent lower than the U.S. all-races rate (232.3) for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.48 Age-Adjusted Heart Disease Death Rates**

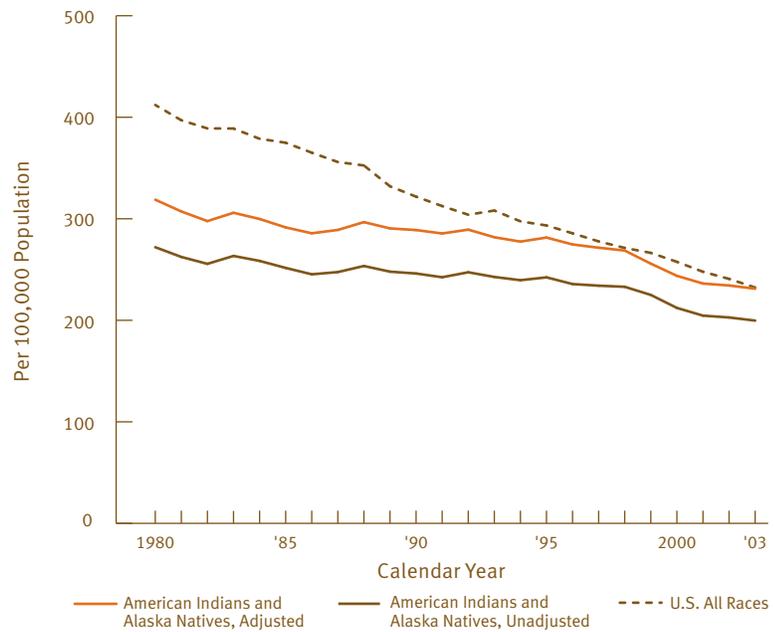


Table 4.48 Heart Disease Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate		
2003-2005 (2004)	1,823	2,127						
2002-2004 (2003)	1,859	2,157	199.7	231.1	232.3	228.2	1.0	1.0
2001-2003 (2002)	1,768	2,066	202.8	234.3	240.8	236.7	1.0	1.0
2000-2002 (2001)	1,667	1,936	204.6	236.2	247.8	243.5	1.0	1.0
1999-2001 (2000)	1,607	1,861	212.2	243.8	257.6	253.4	0.9	1.0
1998-2000 (1999)	1,678	1,940	225.0	255.8	266.4	261.9	1.0	1.0
1997-1999 (1998)	1,684	1,964	233.0	268.7	271.3	266.8	1.0	1.0
1996-1998 (1997)	1,683	1,970	234.1	271.5	277.7	273.4	1.0	1.0
1995-1997 (1996)	1,600	1,877	235.7	274.7	285.7	281.4	1.0	1.0
1994-1996 (1995)	1,573	1,852	242.3	281.5	293.4	288.6	1.0	1.0
1993-1995 (1994)	1,515	1,754	239.5	277.5	297.5	292.9	0.9	0.9
1992-1994 (1993)	1,524	1,779	242.7	281.8	308.1	302.9	0.9	0.9
1991-1993 (1992)	1,484	1,764	247.3	289.3	304.0	299.0	1.0	1.0
1990-1992 (1991)	1,416	1,682	242.4	285.5	312.5	307.4	0.9	0.9
1989-1991 (1990)	1,349	1,599	246.1	288.9	321.8	317.0	0.9	0.9
1988-1990 (1989)	1,408	1,661	247.9	290.5	332.0	326.6	0.9	0.9
1987-1989 (1988)	1,359	1,600	253.5	296.7	352.5	347.6	0.8	0.9
1986-1988 (1987)	1,312	1,553	247.5	289.0	355.9	351.5	0.8	0.8
1985-1987 (1986)	1,190	1,389	245.3	285.7	365.1	360.9	0.8	0.8
1984-1986 (1985)	1,223	1,422	251.6	291.5	374.9	371.4	0.8	0.8
1983-1985 (1984)	1,206	1,405	258.5	299.8	378.8	376.0	0.8	0.8
1982-1984 (1983)	1,117	1,306	263.4	305.9	388.9	386.1	0.8	0.8
1981-1983 (1982)	1,102	1,285	255.6	297.7	389.0	387.4	0.8	0.8
1980-1982 (1981)	1,000	1,162	262.4	307.2	397.0	395.1	0.8	0.8
1979-1981 (1980)	1,096	1,300	272.0	318.8	412.1	409.4	0.8	0.8
1972-1974 (72-74)	2,275	2,689	283.2	335.1	491.5	490.0	0.7	0.7
1954-1956 (1955)			223.0		291.3	285.6		

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

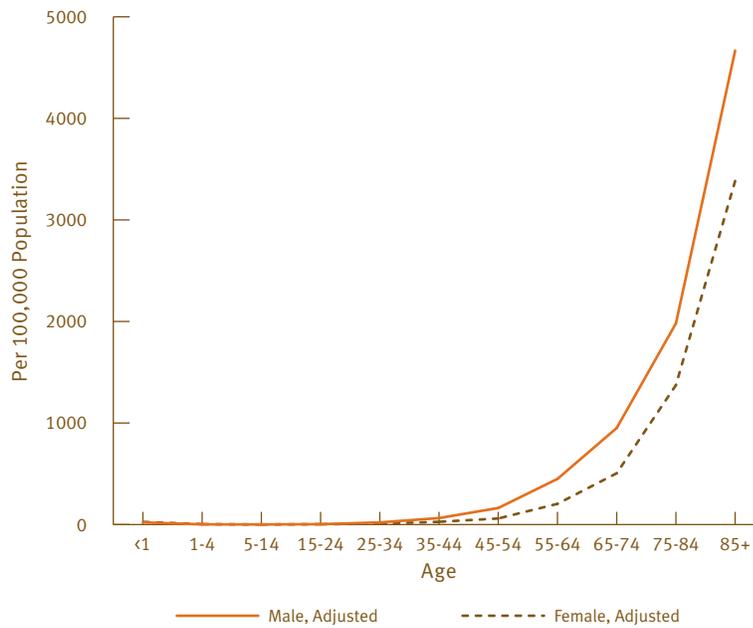
NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific heart disease death rate (2002-2004) for AI/AN males for age groups 5 and older was higher in comparison to AI/AN females. U.S. all-races rate (5,278.4) for both sexes was 39 percent higher than the AI/AN rate (3,789.1) and the U.S. white rate (5,363.5) was 42 percent higher than the AI/AN rate for 85 years and over. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.49 Heart Disease Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*



**Table 4.49 Heart Disease Death Rates by Age and Sex**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	23.5 <sup>2</sup>	23.5 <sup>2</sup>	25.3 <sup>2</sup>	21.0 <sup>2</sup>	21.7	26.0
1-4 years	2.1	2.9	1.6	2.1	2.7	3.8
5-14 years	0.8	1.0	0.8	1.1	0.8	0.8
15-24 years	3.0	3.4	3.8	4.0	2.3	2.9
25-34 years	12.7	14.8	19.2	21.2	6.1	8.3
35-44 years	36.8	45.1	53.6	63.9	20.8	27.2
45-54 years	94.0	109.2	141.8	163.2	50.3	59.9
55-64 years	272.4	320.4	380.7	449.8	175.3	204.4
65-74 years	587.3	707.7	781.8	950.7	425.3	505.1
75-84 years	1,368.9	1,625.4	1,632.3	1,981.2	1,182.4	1,373.5
85 years +	3,531.4	3,789.1	4,211.6	4,666.7	3,216.6	3,383.1

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	11.0	12.1	9.8	8.8	9.4	8.1
1-4 years	1.2	1.1	1.3	1.0	0.8	1.1
5-14 years	0.6	0.7	0.2	0.5	0.6	0.4
15-24 years	2.7	3.4	2.1	0.2	0.3	0.2
25-34 years	8.2	10.5	5.7	3.7	9.0	4.4
35-44 years	30.7	42.8	18.6	27.2	39.1	15.1
45-54 years	92.5	136.2	50.2	82.9	125.3	41.1
55-64 years	233.2	331.7	141.9	216.5	313.2	125.2
65-74 years	585.0	785.3	417.5	561.8	761.1	3,923.0
75-84 years	1,611.1	2,030.3	1,331.1	1,603.6	2,030.1	1,315.2
85 years +	5,278.4	5,621.5	5,126.7	5,363.5	5,747.2	5,193.6

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

<sup>2</sup>The adjusted rate for age less than one year is the same or lower than the unadjusted rate because the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) had the same or fewer deaths for this cause than did the unadjusted mortality file (2002-2004 data).

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The AI/AN age-adjusted cerebrovascular death rate has been decreasing during the last few years. The AI/AN rate (81.1) for 1979-1981 when compared to the AI/AN rate (50.9) 2002-2004 was 59.3 percent higher. The U.S. all-races rate (53.5) for 2003 is 1.1 times greater than the comparable AI/AN 2002-2004 rate (50.9). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.50 Age-Adjusted Cerebrovascular Diseases Death Rates**

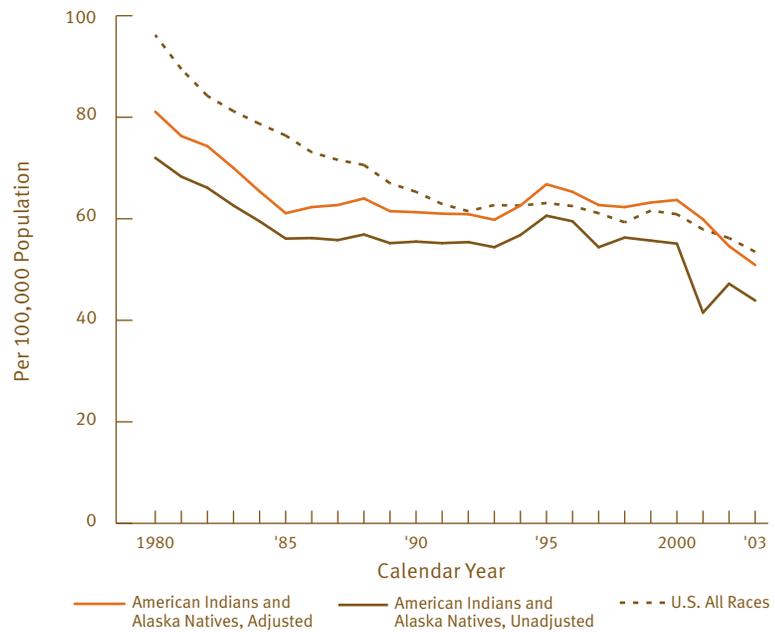


Table 4.50 Cerebrovascular Diseases Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1973-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate		
2003-2005 (2004)	389	455						
2002-2004 (2003)	368	429	43.9	50.9	53.5	51.4	1.0	1.0
2001-2003 (2002)	386	449	47.2	54.6	56.2	54.2	1.0	1.0
2000-2002 (2001)	416	482	51.5	59.9	57.9	55.8	1.0	1.1
1999-2001 (2000)	406	481	55.1	63.7	60.9	58.8	1.0	1.1
1998-2000 (1999)	387	442	55.7	63.2	61.6	59.6	1.0	1.1
1997-1999 (1998)	347	380	56.3	62.3	59.3	57.2	1.1	1.1
1996-1998 (1997)	348	380	54.4	62.7	61.1	59.0	1.0	1.1
1995-1997 (1996)	366	404	59.5	65.3	62.5	60.2	1.0	1.1
1994-1996 (1995)	358	402	60.6	66.8	63.1	60.7	1.1	1.1
1993-1995 (1994)	305	337	56.8	62.6	62.6	60.3	1.0	1.0
1992-1994 (1993)	305	335	54.4	59.8	62.7	60.4	1.0	1.0
1991-1993 (1992)	288	320	55.4	60.9	61.5	59.2	1.0	1.0
1990-1992 (1991)	294	329	55.2	61.0	62.9	60.3	1.0	1.0
1989-1991 (1990)	275	307	55.5	61.3	65.3	62.8	0.9	1.0
1988-1990 (1989)	270	301	55.2	61.5	67.0	64.2	0.9	1.0
1987-1989 (1988)	275	310	56.9	64.0	70.6	67.8	0.9	0.9
1986-1988 (1987)	282	327	55.8	62.7	71.6	69.1	0.9	0.9
1985-1987 (1986)	232	253	56.2	62.3	73.1	70.5	0.9	0.9
1984-1986 (1985)	254	276	56.1	61.1	76.4	73.7	0.8	0.8
1983-1985 (1984)	245	268	59.5	65.4	78.7	76.1	0.8	0.9
1982-1984 (1983)	236	268	62.6	70.0	81.2	78.5	0.9	0.9
1981-1983 (1982)	237	269	66.1	74.3	84.2	81.5	0.9	0.9
1980-1982 (1981)	241	268	68.3	76.3	89.5	86.7	0.9	0.9
1979-1981 (1980)	225	252	72.0	81.1	96.2	93.2	0.8	0.9
1972-1974 (72-74)	682	770	95.5	107.2	136.2	132.8	0.8	0.8

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

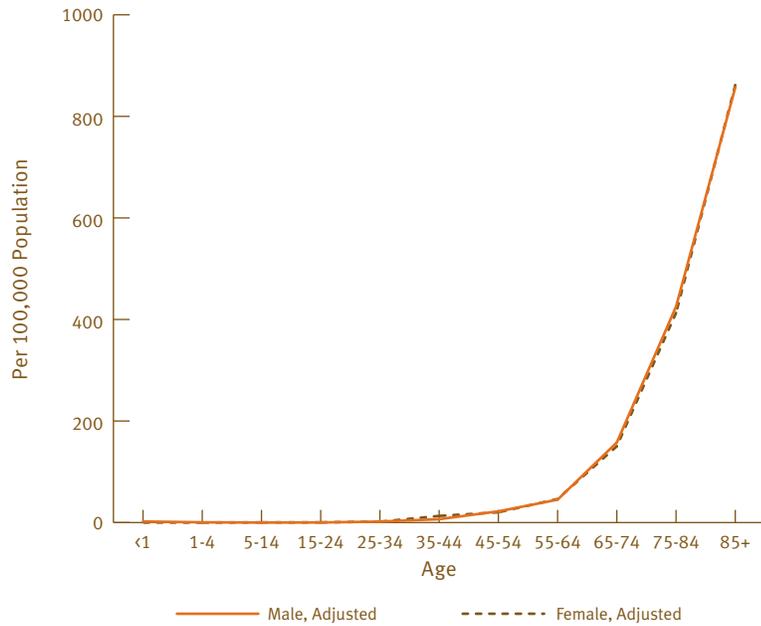
NOTE: The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific cerebrovascular diseases death rate (2002-2004) was relatively close for AI/AN males and females for each age group. The rate for both AI/AN genders increased with age beginning with the 15 to 24 year age group. U.S. all-races rate (1,370.1) for both sexes was 59 percent higher than the AI/AN (860.3) and the U.S. white rate (1,382.2) was 61 percent higher than the AI/AN rate for 85 years and over. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.51 Cerebrovascular Diseases Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*



**Table 4.51 Cerebrovascular Disease Death Rates by Age and Sex**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	2.1 <sup>2</sup>	1.1 <sup>2</sup>	2.1 <sup>2</sup>	2.1 <sup>2</sup>	2.2 <sup>2</sup>	—*
1-4 years	0.3	0.3	0.5	0.5	0.0	—*
5-14 years	0.2	0.2	—*	—*	—*	0.4
15-24 years	0.2	0.3	0.2	0.2	0.2	0.4
25-34 years	1.5	1.8	1.9	1.9	1.1	1.7
35-44 years	8.5	10.0	6.2	6.7	10.7	13.1
45-54 years	18.8	21.1	20.4	22.1	17.3	20.2
55-64 years	38.4	45.8	39.7	45.1	37.2	46.4
65-74 years	126.0	153.6	127.3	157.7	124.9	150.2
75-84 years	346.2	418.0	348.9	425.3	344.3	412.8
85 years +	810.0	860.3	793.7	857.1	817.6	861.7

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	2.5	2.8	2.2	2.0	2.0	2.0
1-4 years	0.3	0.3	0.3	0.2	—*	—*
5-14 years	0.2	0.2	0.1	0.2	0.2	0.1
15-24 years	0.5	0.5	0.5	0.5	0.5	0.4
25-34 years	1.5	1.6	1.4	1.2	1.3	1.2
35-44 years	5.5	5.8	5.3	4.2	4.4	4.0
45-54 years	15.0	16.7	13.4	11.4	12.9	10.0
55-64 years	35.6	40.8	30.9	29.4	33.3	25.8
65-74 years	112.9	127.8	100.5	103.7	117.3	92.1
75-84 years	410.7	431.4	396.8	403.0	422.4	389.9
85 years +	1,370.1	1,236.0	1,429.4	1,382.2	1,247.0	1,442.1

—\* Represents zero.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

<sup>2</sup>The adjusted rate for age less than one year is the same or *lower* than the unadjusted rate because the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) had the same or *fewer* deaths for this cause than did the unadjusted mortality file (2002-2004 data).

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The AI/AN age-adjusted Alzheimer's disease rate (1.0) for years 1979-1981 increased to 11.6 for 2002-2004. The U.S. all-races rate (21.4) for 2003 is 1.8 times the 2002-2004 rate (11.6). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.52 Age-Adjusted Alzheimer's Disease Death Rates**

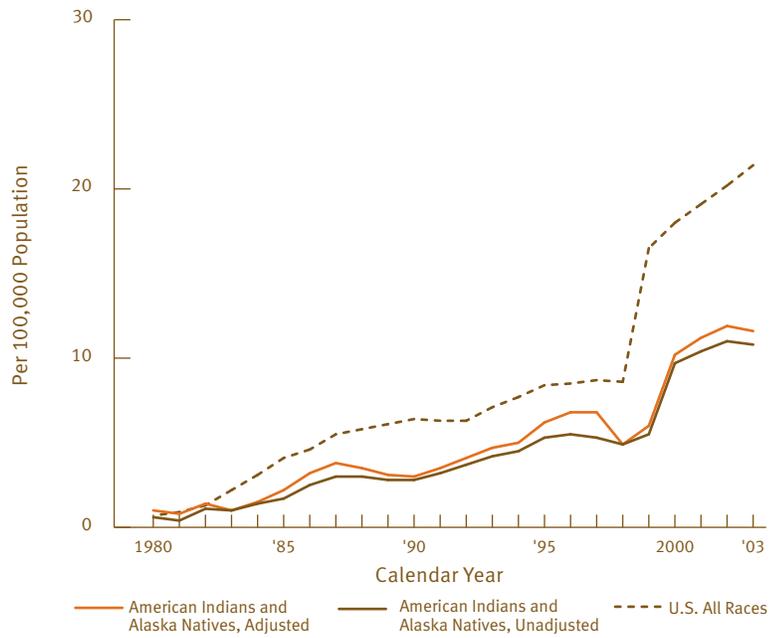


Table 4.52 Alzheimer's Disease Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1980-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate		
2003-2005 (2004)	67	71						
2002-2004 (2003)	82	89	10.8	11.6	21.4	22.2	0.5	0.5
2001-2003 (2002)	76	83	11.0	11.9	20.2	21.1	0.6	0.6
2000-2002 (2001)	61	64	10.4	11.2	19.1	19.8	0.6	0.6
1999-2001 (2000)	58	63	9.7	10.2	18.0	18.8	0.6	0.5
1998-2000 (1999)	54	55	5.5	6.0	16.5	17.2	0.4	0.3
1997-1999 (1998)	17	20	4.9	4.9	8.6	8.9	0.6	0.6
1996-1998 (1997)	18	24	5.3	6.8	8.7	9.1	0.8	0.7
1995-1997 (1996)	18	24	5.5	6.8	8.5	8.8	0.8	0.8
1994-1996 (1995)	18	19	5.3	6.2	8.4	8.7	0.7	0.7
1993-1995 (1994)	13	15	4.5	5.0	7.7	8.0	0.6	0.6
1992-1994 (1993)	12	14	4.2	4.7	7.1	7.4	0.7	0.6
1991-1993 (1992)	12	13	3.7	4.1	6.3	6.6	0.7	0.6
1990-1992 (1991)	8	9	3.2	3.5	6.3	6.6	0.6	0.5
1989-1991 (1990)	8	9	2.8	3.0	6.4	6.6	0.5	0.5
1988-1990 (1989)	8	8	2.8	3.1	6.1	6.4	0.5	0.5
1987-1989 (1988)	7	9	3.0	3.5	5.8	6.1	0.6	0.6
1986-1988 (1987)	10	13	3.0	3.8	5.5	5.7	0.7	0.7
1985-1987 (1986)	9	12	2.5	3.2	4.6	4.9	0.7	0.7
1984-1986 (1985)	3	4	1.7	2.2	4.1	4.3	0.5	0.5
1983-1985 (1984)	2	2	1.4	1.5	3.1	3.3	0.5	0.5
1982-1984 (1983)	4	4	1.0	1.0	2.2	2.4	0.5	0.4
1981-1983 (1982)	—*	—*	1.1	1.4	1.3	1.4	1.1	1.0
1980-1982 (1981)	2	4	0.4	0.8	0.9	0.9	0.9	0.9
1979-1981 (1980)	1	1	0.6	1.0	0.7	0.7	1.4	1.4
(1979)	2	2						

—\*Represents zero.

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

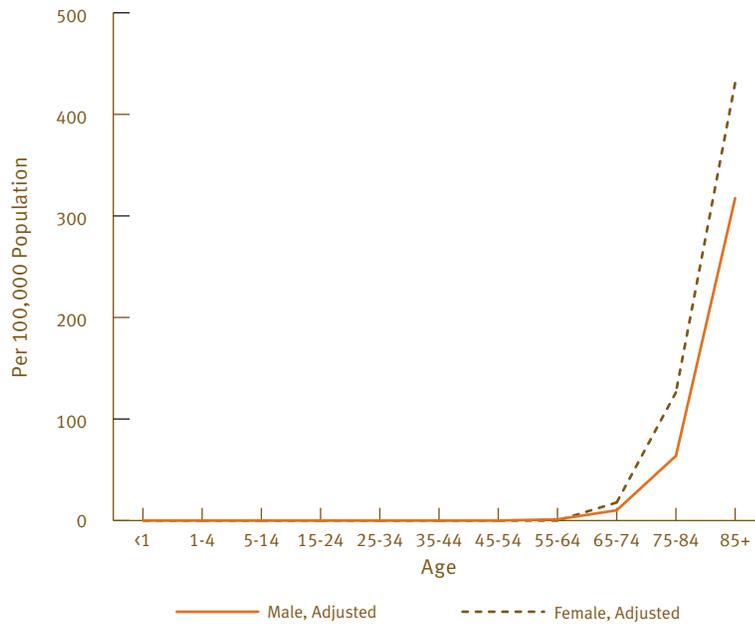
NOTE: Alzheimer's death data are introduced in 1979 for the IHS service area. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific Alzheimer's death rate (2002-2004) for AI/AN females was higher than AI/AN males beginning in age group 65 to 74 years. In age group 85 years and over, the AI/AN female rate (430.8) was 106.4 percent lower than the U.S. all-races female rate (889.0) and over 114.6 percent lower than U.S. white female rate (924.3). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 4.53 Alzheimer's Diseases Death Rates by Age and Sex

*American Indians and Alaska Natives (2002-2004)*



**Table 4.53 Alzheimer's Disease Death Rates by Age and Sex**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	—*	—*	—*	—*	—*	—*
25-34 years	—*	—*	—*	—*	—*	—*
35-44 years	—*	—*	—*	—*	—*	—*
45-54 years	—*	—*	—*	—*	—*	—*
55-64 years	0.6	0.6	1.2	1.2	—*	—*
65-74 years	13.3	14.3	10.1	10.1	16.0	17.8
75-84 years	86.5	100.3	56.0	63.7	108.1	126.2
85 years +	384.9	395.0	306.9	317.5	421.1	430.8

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	—*	—*	—*	—*	—*	—*
25-34 years	—*	—*	—*	—*	—*	—*
35-44 years	—*	—*	—*	—*	—*	—*
45-54 years	0.2	0.2	0.2	0.2	0.2	0.2
55-64 years	2.0	1.8	2.1	2.2	1.9	2.4
65-74 years	20.9	20.2	21.5	21.7	20.8	22.5
75-84 years	164.4	147.6	175.7	170.7	152.4	183.1
85 years +	802.4	606.5	889.0	834.0	630.3	924.3

—\* Represents zero.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The 2002-2004 AI/AN age-adjusted gastrointestinal disease death rate (0.8) has decreased 91 percent since the 1972-1974 rate of 9.3 deaths per 100,000 population. The 2002-2004 rate (0.8 deaths per 100,000 population) is 38 percent lower than the U.S. all-races rate of 1.3 for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.54** Age-Adjusted Gastrointestinal Disease Death Rates

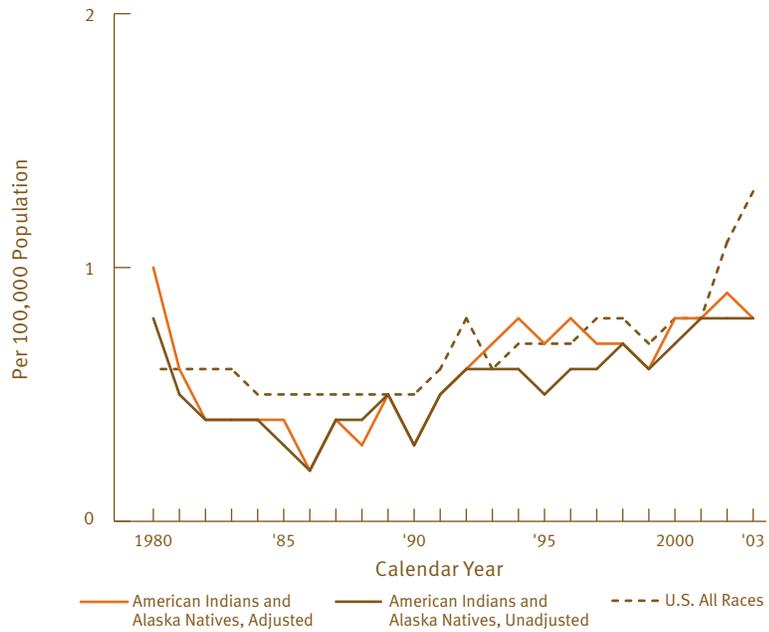


Table 4.54 Gastrointestinal Disease Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2002-2004 (2003)	7	7	0.8	0.8	1.3	1.4	0.6	0.6
2001-2003 (2002)	7	8	0.8	0.9	1.1	1.2	0.8	0.8
2000-2002 (2001)	7	8	0.8	0.8	0.8	0.9	1.0	0.9
1999-2001 (2000)	5	5	0.7	0.8	0.8	0.8	1.0	1.0
1998-2000 (1999)	4	5	0.6	0.6	0.7	0.7	0.9	0.9
1997-1999 (1998)	6	5	0.7	0.7	0.8	0.8	0.9	0.9
1996-1998 (1997)	7	9	0.6	0.7	0.8	0.8	0.9	0.9
1995-1997 (1996)	4	5	0.6	0.8	0.7	0.7	1.1	1.1
1994-1996 (1995)	6	8	0.5	0.7	0.7	0.7	1.0	1.0
1993-1995 (1994)	4	6	0.6	0.8	0.7	0.6	1.1	1.3
1992-1994 (1993)	4	5	0.6	0.7	0.6	0.6	1.2	1.2
1991-1993 (1992)	5	5	0.6	0.6	0.8	0.6	0.8	1.0
1990-1992 (1991)	3	3	0.5	0.5	0.6	0.5	0.8	1.0
1989-1991 (1990)	4	4	0.3	0.3	0.5	0.5	0.6	0.6
1988-1990 (1989)	1	1	0.5	0.5	0.5	0.5	1.0	1.0
1987-1989 (1988)	5	5	0.4	0.3	0.5	0.5	0.6	0.6
1986-1988 (1987)	1	1	0.4	0.4	0.5	0.5	0.8	0.8
1985-1987 (1986)	4	5	0.2	0.2	0.5	0.5	0.4	0.4
1984-1986 (1985)	4	4	0.3	0.4	0.5	0.5	0.8	0.8
1983-1985 (1984)	2	2	0.4	0.4	0.5	0.5	0.8	0.8
1982-1984 (1983)	3	3	0.4	0.4	0.6	0.6	0.7	0.7
1981-1983 (1982)	4	4	0.4	0.4	0.6	0.5	0.7	0.8
1980-1982 (1981)	3	3	0.5	0.6	0.6	0.6	1.0	1.0
1979-1981 (1980)	5	7	0.8	1.0	0.6	0.6	1.7	1.7
1972-1974 (72-74)	123	131	8.6	9.3	2.7	2.5	3.4	3.7
1954-1956 (1955)	165		15.4		3.6	3.1		

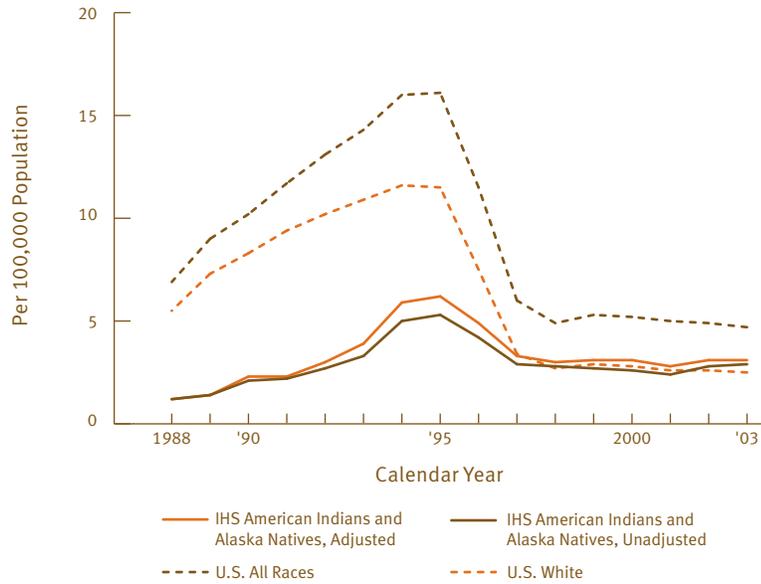
<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Reservation State data for 1955, the year IHS was established, are presented above. Data from 1972 forward are drawn from specific counties in the IHS service area. Reservation State data and county data are not directly comparable. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The AI/AN age-adjusted HIV disease death rate (1.2) for years 1987-1989 increased to 3.1 for 2002-2004. The U.S. all-races rate (4.7) for 2003 is 1.5 times greater than the 2002-2004 rate (3.1). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.55 Human Immunodeficiency Virus (HIV) Disease Death Rates**



**Table 4.55 Human Immunodeficiency Virus (HIV) Disease Deaths and Death Rates**

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1988-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES Rate	U.S. WHITE Rate	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>				
(2004)	45	50						
2002-2004 (2003)	46	51	2.9	3.1	4.7	2.5	0.7	1.2
2001-2003 (2002)	39	41	2.8	3.1	4.9	2.6	0.6	1.2
2000-2002 (2001)	40	48	2.4	2.8	5.0	2.6	0.6	1.1
1999-2001 (2000)	30	37	2.6	3.1	5.2	2.8	0.6	1.1
1998-2000 (1999)	49	55	2.7	3.0	5.3	2.9	0.6	1.0
1997-1999 (1998)	33	41	2.8	3.1	4.9	2.7	0.6	1.1
1996-1998 (1997)	27	30	2.9	3.3	6.0	3.4	0.6	1.0
1995-1997 (1996)	52	59	4.2	4.9	11.5	7.5	0.4	0.7
1994-1996 (1995)	84	100	5.3	6.2	16.1	11.5	0.4	0.5
1993-1995 (1994)	62	75	5.0	5.9	16.0	11.6	0.4	0.5
1992-1994 (1993)	39	45	3.3	3.9	14.3	10.9	0.3	0.4
1991-1993 (1992)	20	21	2.7	3.0	13.1	10.2	0.2	0.3
1990-1992 (1991)	38	42	2.2	2.3	11.7	9.4	0.2	0.2
1989-1991 (1990)	16	17	2.1	2.3	10.2	8.3	0.2	0.3
1988-1990 (1989)	16	16	1.4	1.4	9.0	7.3	0.2	0.2
1987-1989 (1988)	13	13	1.2	1.2	6.9	5.5	0.2	0.2
(1987)	8	10						

<sup>1</sup>Adjustment factors are only available for the AI/AN population residing in the IHS service area, for that reason, AI/AN numbers and rates for the entire United States (shown above) are based on unadjusted numbers of deaths.

<sup>2</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

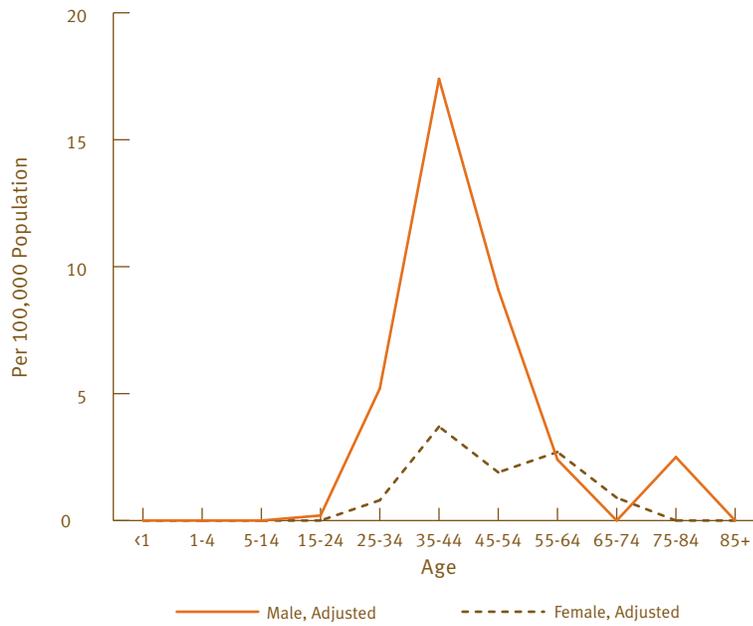
NOTE: Includes cause of death with ICD-9 codes 042-044, first classified in 1987 and ICD10 codes B20-B24 beginning in 1999. For all years portrayed above the AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-specific HIV death rate for the three-year period 2002-2004 for AI/AN males was greater for age group 35-44 years when reporting deaths in comparison to AI/AN females. In this age group, the HIV rate for AI/AN males (17.4) was 370 percent higher than the AI/AN female rate (3.7). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 4.56 Human Immunodeficiency Virus (HIV) Disease Death Rates by Age and Sex

*American Indians and Alaska Natives (2002-2004)*



**Table 4.56 Human Immunodeficiency Virus (HIV) Disease Death Rates by Age and Sex**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	0.1	0.1	0.2	0.2	—*	—*
25-34 years	2.5	3.0	4.4	5.2	0.6	0.8
35-44 years	9.3	10.4	15.1	17.4	3.7	3.7
45-54 years	5.4	5.4	9.1	9.1	1.9	1.9
55-64 years	2.6	2.6	2.4	2.4	2.7	2.7
65-74 years	0.5	0.5	—*	—*	0.9	0.9
75-84 years	1.1	1.1	2.5	2.5	—*	—*
85 years +	—*	—*	—*	—*	—*	—*

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	0.1	0.1	0.2	0.0	0.1	—*
1-4 years	0.0	0.0	—*	0.0	0.0	—*
5-14 years	0.1	0.1	0.1	0.0	0.0	0.0
15-24 years	0.4	0.4	0.4	0.2	0.2	0.1
25-34 years	4.0	5.1	2.8	2.0	3.0	0.9
35-44 years	12.0	17.5	6.5	6.8	11.0	2.5
45-54 years	10.9	17.2	4.0	5.8	10.0	1.7
55-64 years	5.4	9.1	2.1	2.9	5.0	0.9
65-74 years	2.4	4.4	1.0	1.2	2.1	0.4
75-84 years	0.7	1.5	0.3	0.4	0.9	0.1
85 years +	0.3	0.8	0.1	0.2	0.5	0.1

—\* Represents zero.

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

The AI/AN age-adjusted asthma death rate has increased steadily from 1979-1981 to 2001-2003 (0.9 to 2.3 respectively). The 2002-2004 rate (1.8) is 1.3 times lower than the 2001-2003 rate (2.3) and 1.3 times higher than the U.S. all-races rate (1.4). The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

**Chart 4.57** Age-Adjusted Asthma Death Rates

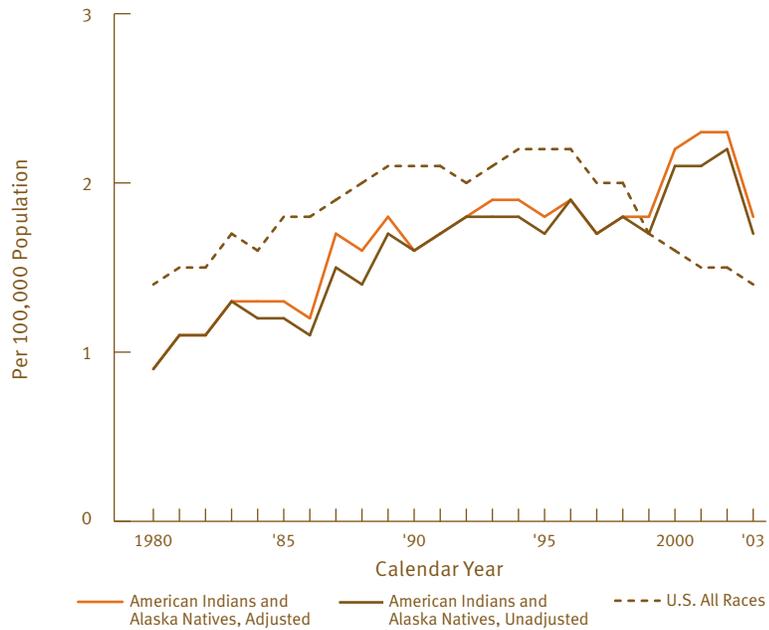


Table 4.57 Asthma Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1973-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES Rate	U.S. WHITE Rate	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2003-2005 (2004)	12	14						
2002-2004 (2003)	26	27	1.7	1.8	1.4	1.1	1.3	1.6
2001-2003 (2002)	22	25	2.2	2.3	1.5	1.2	1.5	1.9
2000-2002 (2001)	24	25	2.1	2.3	1.5	1.2	1.5	1.9
1999-2001 (2000)	22	26	2.1	2.2	1.6	1.3	1.4	1.7
1998-2000 (1999)	18	18	1.7	1.8	1.7	1.4	1.1	1.3
1997-1999 (1998)	13	13	1.8	1.8	2.0	1.7	0.9	1.1
1996-1998 (1997)	22	23	1.7	1.7	2.0	1.7	0.9	1.0
1995-1997 (1996)	17	19	1.9	1.9	2.2	1.8	0.9	1.1
1994-1996 (1995)	18	18	1.7	1.8	2.2	1.9	0.8	0.9
1993-1995 (1994)	14	14	1.8	1.9	2.2	1.9	0.9	1.0
1992-1994 (1993)	18	21	1.8	1.9	2.1	1.8	0.9	1.1
1991-1993 (1992)	12	12	1.8	1.8	2.0	1.8	0.9	1.0
1990-1992 (1991)	12	12	1.7	1.7	2.1	1.9	0.8	0.9
1989-1991 (1990)	14	14	1.6	1.6	2.1	1.8	0.8	0.9
1988-1990 (1989)	10	14	1.7	1.8	2.1	1.8	0.9	1.0
1987-1989 (1988)	16	18	1.4	1.6	2.0	1.7	0.8	0.9
1986-1988 (1987)	8	9	1.5	1.7	1.9	1.7	0.9	1.0
1985-1987 (1986)	10	12	1.1	1.2	1.8	1.5	0.7	0.8
1984-1986 (1985)	5	5	1.2	1.3	1.8	1.6	0.7	0.8
1983-1985 (1984)	9	10	1.2	1.3	1.6	1.4	0.8	0.9
1982-1984 (1983)	7	7	1.3	1.3	1.7	1.5	0.8	0.9
1981-1983 (1982)	5	5	1.1	1.1	1.5	1.3	0.7	0.8
1980-1982 (1981)	4	4	1.1	1.1	1.5	1.3	0.7	0.8
1979-1981 (1980)	6	6	0.9	0.9	1.4	1.3	0.6	0.7
1972-1974 (72-72)	11	11	1.2	1.2	1.4	1.2	0.9	1.0

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Data from 1972 and forward are drawn from specific counties in the IHS service area. The AI/AN death rate columns present data for the three-year period specified and age-adjusted to the 2000 standard population; the U.S. all races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The AI/AN age-adjusted mortality rate (1,216.7) for all causes of death was 1.2 times higher for years 1979-1981 as compared to the 2002-2004 three year rate (1,027.1). The AI/AN for 2002-2004 (1,027.1) was 1.2 times greater than the comparable U.S. all-races rate (832.7) for 2003. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

**Chart 4.58 Age-Adjusted Mortality for All Causes Death Rates**

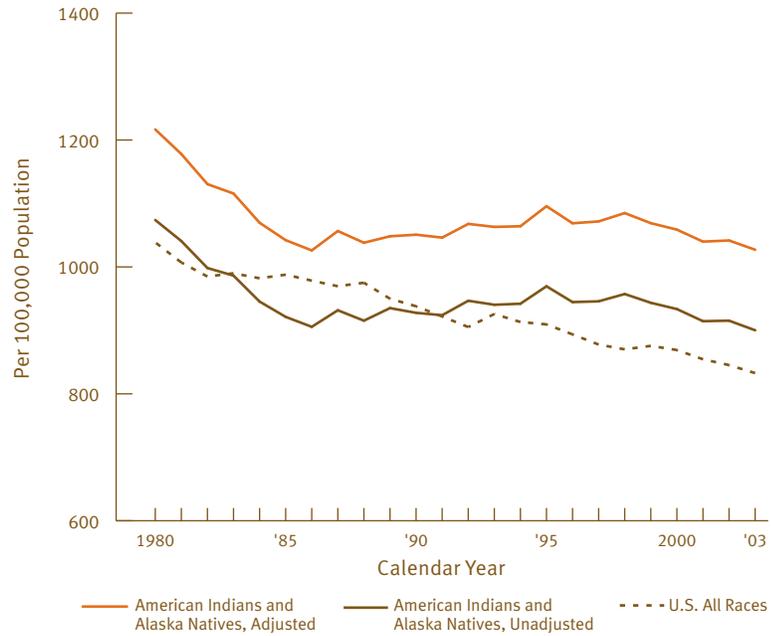


Table 4.58 Mortality for All Causes Deaths and Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1973-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES Rate	U.S. WHITE Rate	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2003-2005 (2004)	9,688	11,203						
2002-2004 (2003)	9,673	11,114	900.2	1,027.1	832.7	817.1	1.2	1.3
2001-2003 (2002)	9,284	10,702	915.3	1,041.7	845.3	829.0	1.2	1.3
2000-2002 (2001)	8,837	10,170	914.5	1,039.9	854.5	836.5	1.2	1.2
1999-2001 (2000)	8,314	9,547	933.6	1,058.8	869.0	849.8	1.2	1.2
1998-2000 (1999)	8,458	9,714	943.5	1,069.0	875.6	854.6	1.2	1.3
1997-1999 (1998)	8,055	9,245	957.3	1,084.9	870.1	848.9	1.2	1.3
1996-1998 (1997)	7,891	9,057	945.8	1,071.7	877.7	855.4	1.2	1.3
1995-1997 (1996)	7,562	8,662	944.6	1,068.8	893.7	868.7	1.2	1.2
1994-1996 (1995)	7,430	8,462	969.5	1,095.7	909.5	882.0	1.2	1.2
1993-1995 (1994)	7,151	8,180	942.0	1,064.1	913.2	885.3	1.2	1.2
1992-1994 (1993)	7,011	8,017	940.4	1,063.1	925.8	896.8	1.1	1.2
1991-1993 (1992)	6,731	7,720	946.7	1,067.8	905.3	877.5	1.2	1.2
1990-1992 (1991)	6,487	7,434	923.9	1,046.2	921.9	893.0	1.1	1.2
1989-1991 (1990)	6,211	7,109	927.7	1,050.8	938.0	909.2	1.1	1.2
1988-1990 (1989)	6,386	7,297	935.1	1,048.3	949.9	919.8	1.1	1.1
1987-1989 (1988)	6,072	6,938	915.3	1,038.1	975.1	947.2	1.1	1.1
1986-1988 (1987)	5,878	6,720	931.7	1,056.6	969.6	943.2	1.1	1.1
1985-1987 (1986)	5,563	6,366	905.6	1,026.0	978.4	952.8	1.0	1.1
1984-1986 (1985)	5,448	6,218	921.3	1,042.2	987.8	963.4	1.1	1.1
1983-1985 (1984)	5,346	6,101	945.4	1,069.6	982.1	959.4	1.1	1.1
1982-1984 (1983)	5,247	5,994	986.3	1,115.7	990.0	967.4	1.1	1.2
1981-1983 (1982)	5,291	6,014	998.3	1,130.5	984.9	963.5	1.1	1.2
1980-1982 (1981)	5,181	5,889	1,040.8	1,177.9	1,007.0	984.0	1.2	1.2
1979-1981 (1980)	5,407	6,151	1,073.9	1,216.7	1,038.7	1,012.5	1.2	1.2
1972-1974 (72-72)	13,472	15,035	1,281.1	1,433.8	1,209.9	1,180.8	1.2	1.2

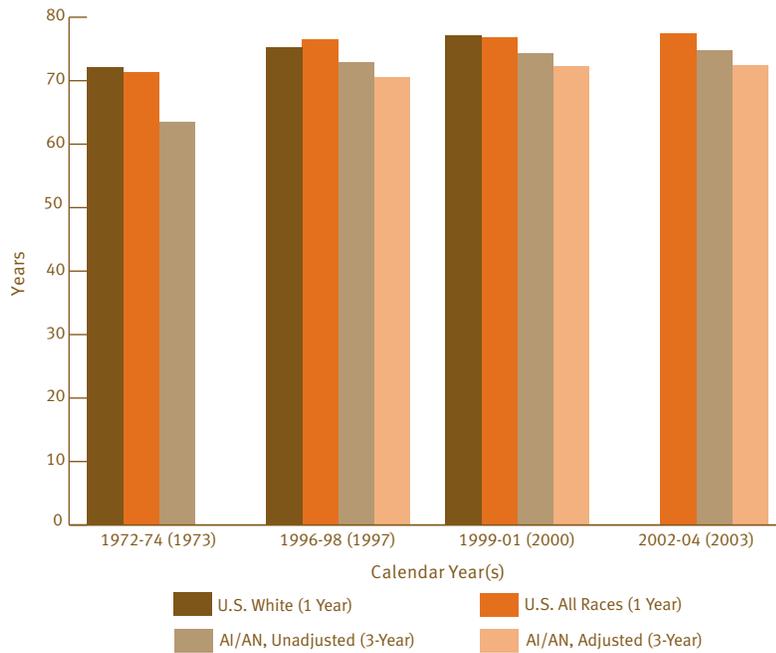
<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Data from 1972 and forward are drawn from specific counties in the IHS service area. The AI/AN death rate columns present data for the three-year period specified and age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

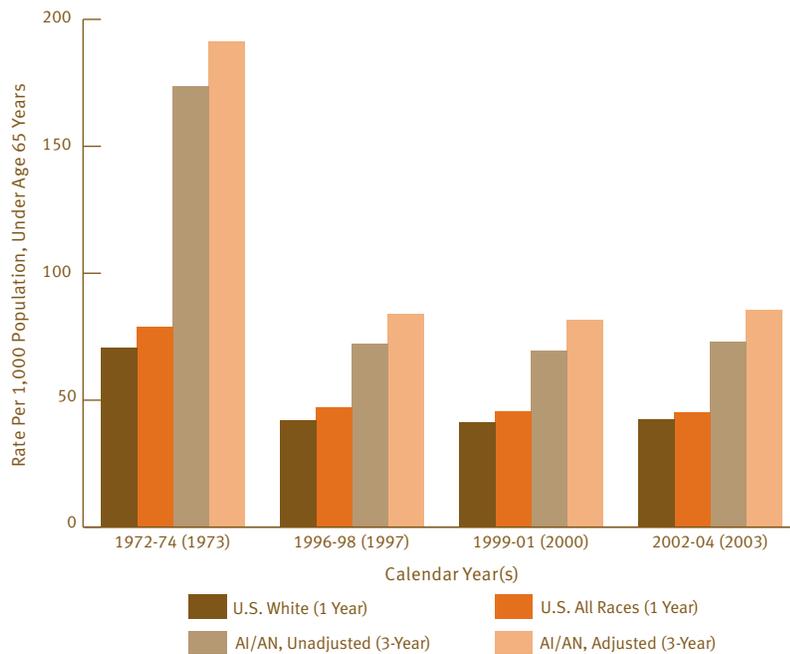
Life expectancy at birth for American Indians and Alaska Natives (AI/AN) for the three-year period of 1972-1974 was 63.6 years. By 2002-2004 life expectancy increased to 72.5 years; 5 years less than the U.S. all-races life expectancy of 77.5 years for 2003. The 2002-2004 AI/AN life expectancy of 72.5 years is 5.5 years less than for the U.S. whites life expectancy of 78.0 years for 2003. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

**Chart 4.59 Life Expectancy at Birth**



The years of potential life lost (YPLL) rate for American Indians and Alaska Natives (AI/AN) for the three-year period 2002-2004 is 85.5; less than half of the YPLL rate (191.3) was for 1972-1974. The 2002-2004 AI/AN YPLL rate is 90 percent greater than the U.S. all-races YPLL rate of 45.1 for 2003 and 102 percent greater than the 2003 YPLL rate of 42.3 for U.S. whites. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

**Chart 4.60 Years of Potential Life Lost (YPLL)**



The AI/AN age-adjusted death rate for all causes of death decreased 28 percent from the rate of 1,433.7 for the three-year period 1972-1974 to the rate of 1,027.1 for years 2002-2004. U.S. all-races rate decreased 31 percent from 1973 to 2003, whereas U.S. white rate decreased 32 percent for the same time period. The AI/AN 2002-2004 rate (1,027.1) is 23 percent higher than the 2003 U.S. all-races rate (832.7) and 26 percent higher than U.S. white rate (817.0). The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

**Chart 4.61** Age-Adjusted Death Rate

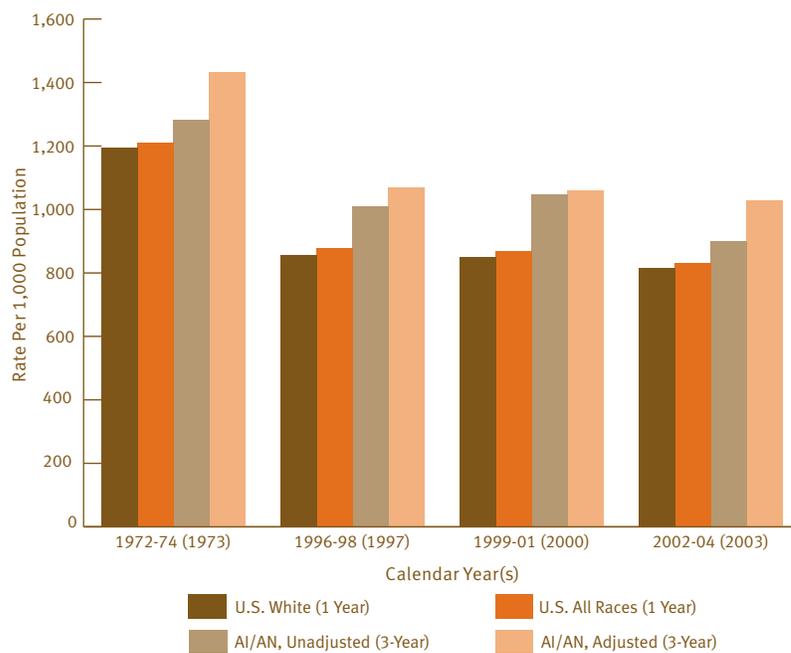


Table 4.59 Overall Measures of Indian Health

*IHS Service Area Population Compared with the U.S. All-Races and U.S. White Populations*

	Life Expectancy At Birth (Years)		Years of Potential Life Lost (Rate per 1,000 Population <sup>4</sup> )		Age-Adjusted Death Rate (per 100,000 Population)	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<b><i>IHS Service Area:</i></b>						
2002-2004	74.8	72.5	73.0	85.5 <sup>2</sup>	900.2	1,027.1
1999-2001	74.4	72.3	69.4	81.8 <sup>2</sup>	1,046.9	1,059.8
1996-1998	72.9	70.6	72.1	84.0 <sup>2</sup>	1,010.3	1,070.8
1972-1974	63.6	—	173.7 <sup>3</sup>	191.3 <sup>3</sup>	1,281.1	1,433.7
<b><i>U.S. All Races:</i></b>						
2003	77.5		45.1		832.7	
2000	76.9		45.7		869.0	
1997	76.5		47.1		878.1	
1973	71.4		78.9		1,209.9	
<b><i>U.S. White:</i></b>						
2003	78.0		42.3		817.0	
2000	77.4		41.4		849.8	
1997	77.2		42.2		855.7	
1973	72.2		70.8		1,193.3 <sup>5</sup>	
<b><i>RATIO: IHS to U.S. All Races:</i></b>						
2002-2004 (2003)	0.97	0.94	1.62	1.89	1.08	1.23
1999-2001 (2000)	0.97	0.94	1.52	1.79	1.20	1.22
1996-1998 (1997)	0.95	0.92	1.53	1.78	1.15	1.22
1972-1974 (1973)	0.89		2.20	2.42	1.06	1.18
<b><i>RATIO: IHS to U.S. White:</i></b>						
2002-2004 (2003)	0.96	0.93	1.73	2.02	1.10	1.26
1999-2001 (2000)	0.96	0.93	1.68	1.98	1.23	1.25
1996-1998 (1997)	0.94	0.91	1.71	1.99	1.18	1.25
1972-1974 (1973)	0.88	—	2.45	2.70	1.07	1.20

— Data not available. Adjusted data for Life Expectancy for the IHS Service Area population is unavailable for 1972-1974.

<sup>1</sup>Adjusted – specifies rate or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

<sup>2</sup>Years of Potential Life Lost (YPLL) is a mortality indicator which measures the burden of premature deaths. YPLL is presented for persons under 65 years of age because the average life expectancy for AI/AN is over 65 years. The number of deaths for each age group is multiplied by the years of life lost, calculated as the difference between age 65 years and the midpoint of the age group. This calculation was performed through the use of age groups under one, one to four, and five-year age groups through 55 to 64 years. Years of potential life lost is derived by summing years of life lost over all age groups.

<sup>3</sup>Years of Potential Life Lost (YPLL) is a mortality indicator which measures the burden of premature deaths. YPLL is presented for persons under 65 years of age because the average life expectancy for AI/AN is over 65 years. The number of deaths for each age group is multiplied by the years of life lost, calculated as the difference between age 65 years and the midpoint of the age group. This calculation was performed through the use of age groups under one, one to four, and 10-year age groups through 55 to 64 years. Years of potential life lost is derived by summing years of life lost over all age groups.

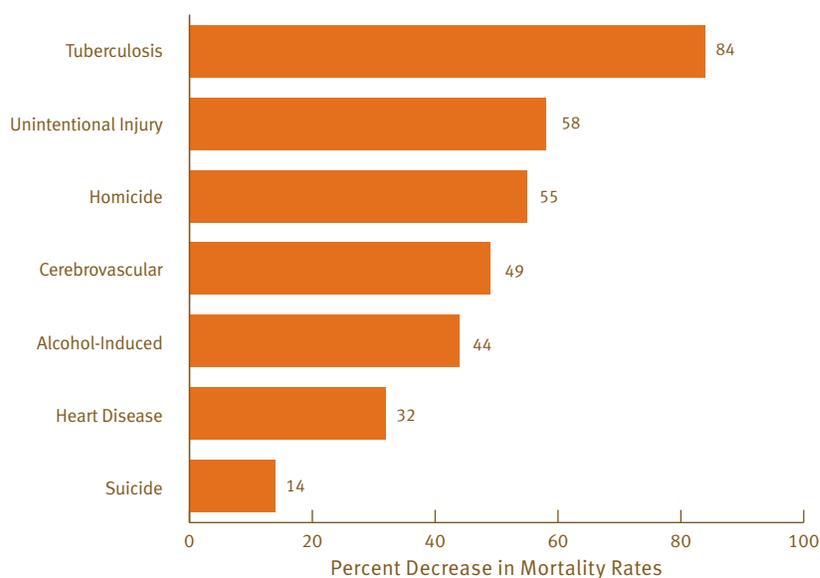
<sup>4</sup>Rate per 1,000 population under 65 years of age.

<sup>5</sup>US white rate is based on the year 1970 not 1973.

The health status of AI/AN has experienced major improvements since 1972-1974. Some of the positive changes are evident from the lower mortality rates. For example, tuberculosis mortality has declined 84 percent and deaths due to unintentional injuries have declined 58 percent. Additional reduced age-adjusted mortality rates include: homicide (55 percent), cerebrovascular (49 percent), alcohol-induced (44 percent), and heart disease (32 percent).

**Chart 4.62 IHS Program Accomplishments Since 1973 (Adjusted Mortality Data)**

*Selected Mortality Rates*



**Table 4.62 IHS Program Accomplishments, IHS Service Area**

Health Improvements	Rate Adjusted <sup>1</sup> (1972-1974)	Rate Adjusted <sup>1</sup> (1996-1998)	2002-2004 RATE		PERCENT DECREASE TO 2002-2004	
			Unadjusted	Adjusted <sup>1</sup>	Adjusted <sup>1</sup> (from 1972-1974)	Adjusted <sup>1</sup> (from 1996-1998)
<i>Death Rates</i>						
Alcohol-Induced <sup>2</sup>	77.5	45.0	38.0	43.6	-43.7	-3.1
Cerebrovascular	99.4	62.7	43.9	50.9	-48.8	-18.8
Diabetes	47.2	77.1	61.9	74.2	57.2 <sup>4</sup>	-3.8
Heart disease	339.4	271.5	199.7	231.1	-31.9	-14.9
Human immunodeficiency virus (HIV) disease <sup>3</sup>	1.2	3.3	2.9	3.1	158.3	-6.1
Homicide	26.8	12.6	10.5	12.1	-54.9	-4.0
Malignant neoplasm <sup>3</sup>	149.6	187.0	159.2	180.7	20.8 <sup>4</sup>	-3.4
Suicide	20.8	17.9	15.7	17.9	-13.9	0.0
Tuberculosis	10.5	2.0	1.7	1.7	-83.8	-15.0
Unintentional injuries	223.2	97.1	82.1	94.8	-57.5	-2.4

<sup>1</sup>Adjusted – specifies a rate or percent adjusted to compensate for misreporting of AI/AN race on state death certificates.

<sup>2</sup>Rate of alcohol-induced deaths represents the 1979-1981 three year period. The percent change represents change from 1979-1981 to 1968-1998 and change to 2002-2004.

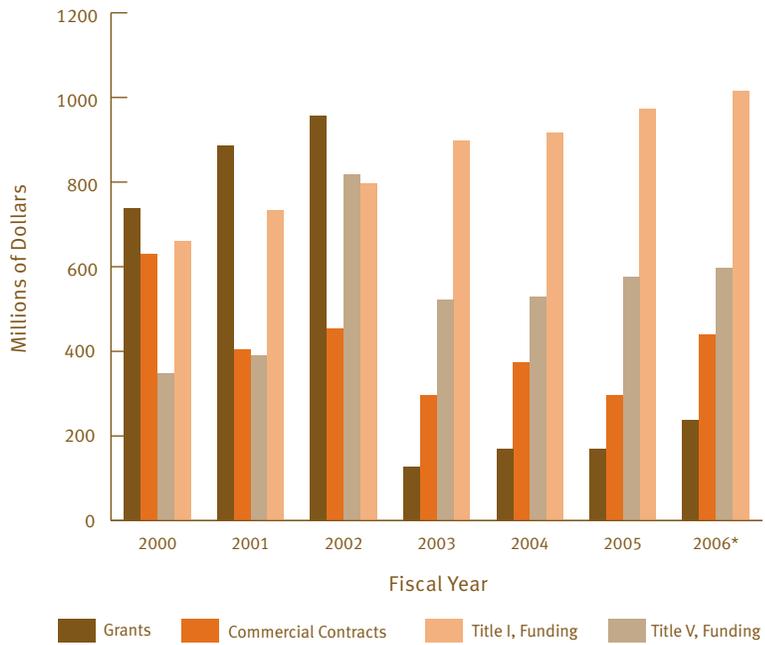
<sup>3</sup>Rate of HIV deaths represents the 1987-1989 three year period. The percent change represents an increased AI/AN death rate from 1987-1989 to 1996-1998. This death rate then decreased from 1996-1998 to 2002-2004 for AI/ANs.

<sup>4</sup>Diabetes and malignant neoplasm deaths increased for AI/ANs from 1972-1974 to 1996-1998 but then decreased from 1996-1998 to the 2002-2004 three year period.

NOTE: ICD-10 codes were introduced in 1999. Comparability ratios have been applied to the 1996-1998 age-adjusted data. ICD-9 codes were introduced in 1979. Comparability ratios have been applied to the 1972-1974 age-adjusted rate. All rates have been adjusted to the 2000 standard population.

During FY 2006, Indian Health Service contract awards were \$440.1 million dollars. Grants awards for FY 2006 were \$237.7 million dollars.

**Chart 5.1 IHS Tribal Health Contract, Grant, and Compact Awards**



\* Data henceforth for commercial contracts includes small business contracts.

**Table 5.1 IHS Tribal Health Contract, Grant, and Compact Awards, FY 1990-2006 (Millions of Dollars)**

Fiscal Year	Commercial Contracts <sup>1</sup>	Grants <sup>3</sup>	P.L. 93-638 PROGRAM	
			Title 1 Contract Funding	Title V Compact Funding
2006	440.1	237.7	596.4	1,014.4
2005	295.6	168.7	575.1	974.1
2004	374.6	169.6	529.3	917.8
2003	296.1	126.8	522.6	898.5
2002	453.3	956.9	818.4	796.9
2001	404.3	886.4	390.1	734.3
2000	629.9 <sup>2</sup>	738.8	348.9	659.8
1995	297.5	335.0		
1990	320.7	27.4		

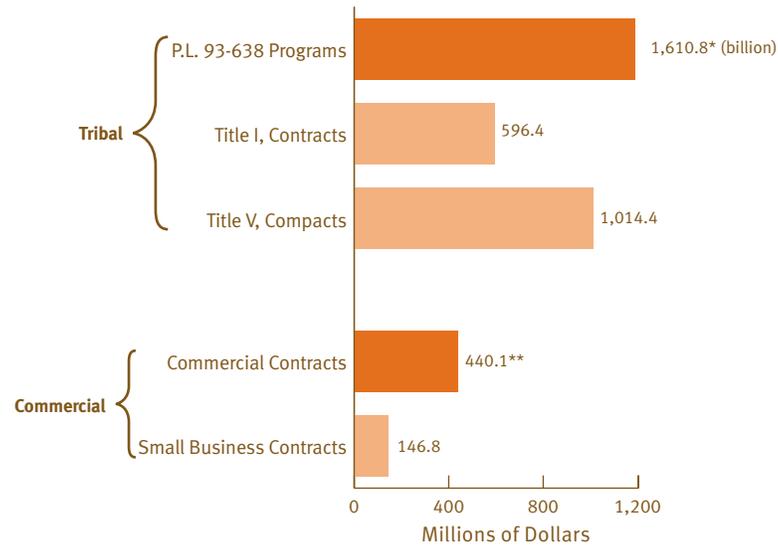
<sup>1</sup> Contract awards data includes those of IHS Area Offices, IHS Headquarters and the Office of Engineering Services. The total acquisition dollars include small business awards, new contracts and contract modifications, purchase orders below \$25,000, and exclude purchases below \$2,500 when the government-wide commercial purchase card is used.

<sup>2</sup> Data henceforth does not include 638 contracts.

<sup>3</sup> Project grant obligations shown for first time in FY 1981. During 1987 and 1988, IHS Scholarship Program funding was reported under contracts rather than grants. The IHS Loan Repayment Program was initiated as a contract program starting in 1988. Both the IHS Scholarship and the IHS Loan Repayment programs were converted to grant programs in 1989. Includes Urban Indian Health Program grants that were first awarded in 1991. Diabetes grants to Tribal organizations, Urban Indian health programs, and IHS facilities were funded beginning in 1998. Beginning in 2000 the White House Mental Health Initiative was initiated but no new funding was provided. Also, in 2000 the Injury Prevention Cooperative Agreements were funded. In 2001, the Native American Research Centers for Health (NARCH) hybrid grant program was initiated in collaboration with the National Institutes of Health (NIH) utilizing transferred funds from NIH issued as IHS awards. In 2002 legislation was passed increasing the Special Diabetes funding.

IHS health contracts are awarded through P.L. 93-638 and commercial contracts. In FY 2006, P.L. 93-638 contracts had \$1,610.8 billion dollars awarded to Title I (Contracts) and Title V (Compacts). IHS reported \$440.1 million dollars in total commercial contracts and \$146.8 million dollars to small business or 33.4 percent.

Chart 5.2 IHS Tribal Health Contract and Compact Awards by Type, FY 2006



\* P.L. 93-638 Programs include Title I Contracts and Title V Compacts.  
 \*\* Commercial contract data includes small business contracts.

IHS grants administers various grant categories for statutorily mandated discretionary grant programs in three main program areas; Tribal, research, and recruitment grants. The grant types used to administer and support these grant programs are; demonstration, project, training, and research grants. The highest is the Other Tribal Program Grants with \$170.1 million dollars. The lowest was P.L. 93-638 projects grants with \$2.7 million dollars. The Office of Urban Indian Health Programs provides contracts and grants to the Urban Indian health programs under Title V of the IHCA. Contracts for FY 2006 totaled \$29.5 million and grants totaled \$7.3 million.

Chart 5.3 IHS Tribal Health Grant and Compact Awards by Type, FY 2006

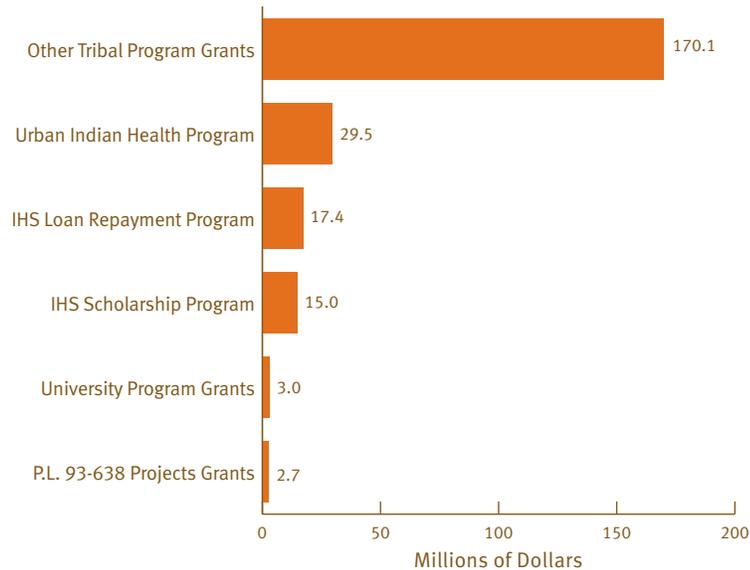


Table 5.2 IHS Tribal Health Contract and Grant Awards by Type, FY 2006

Type of Contract or Grant	Total \$ Awarded (Millions)	Percent Distribution
<b>Commercial Contracts Total<sup>1</sup></b>	<b>440.1</b>	<b>100.0</b>
Small Business Contracts <sup>2</sup>	146.8	33.4
<b>P.L. 93-638 Programs</b>	<b>1,610.8</b>	<b>100.0</b>
Title I, Contracts	596.4	37.0
Title V, Compacts	1,014.4	63.0
<b>Grant and Compact, Total</b>	<b>237.7</b>	<b>100.0</b>
Other Tribal Program Grants <sup>3</sup>	170.1	71.6
Urban Indian Health Programs <sup>4</sup>	29.5	12.4
Title V, IHClA Contract	22.2	9.3
Title V, IHClA Grant	7.3	3.1
IHS Loan Repayment Program	17.4	7.3
Section 108 Funding	17.4	7.3
IHS Scholarship Program	15.0	6.3
Section 103 and 104 Funding	13.8	5.8
Section 105 Funding	1.2	0.5
University Program Grants <sup>5</sup>	3.0	1.3
P.L. 93-638 Project Grants <sup>6</sup>	2.7	1.1

<sup>1</sup> Contract awards data includes those of IHS Area Offices, IHS Headquarters and the Office of Engineering Services. The total acquisition dollars include small business awards, new contracts and contract modifications, purchase orders below \$25,000, and exclude purchases below \$2,500 when the government-wide commercial purchase card is used.

<sup>2</sup> Includes awards to Buy Indian small business, HUBZone business concerns, 8(a) program participants, small disadvantaged business, women-owned small business, veteran and service-disabled veteran-owned small businesses.

<sup>3</sup> IHS grants administers various grant categories for statutorily mandated discretionary grant programs in three main program areas; Tribal, research, and recruitment grants. The grant types used to administer and support these grant programs are; demonstration, project, training, and research grants.

<sup>4</sup> Urban Indian Health program grants for alcohol/substance abuse, mental health, HP/DP, immunization, and diabetes prevention and treatment.

<sup>5</sup> Includes grants to universities that conduct recruitment and training program.

<sup>6</sup> Includes Tribal management grants, health service delivery grants, self-governance cooperative agreements, self-governance grants/compacts, and injury prevention.

The appropriation for the Urban Indian Health Program has increased 48 percent since FY 1996. The workload reported increased 68 percent during this time period. In FY 2007, the appropriation for the program was \$34.5 million, and there were 929,788 patient encounters.

Chart 5.4 Urban Indian Health Program Workload and Appropriation

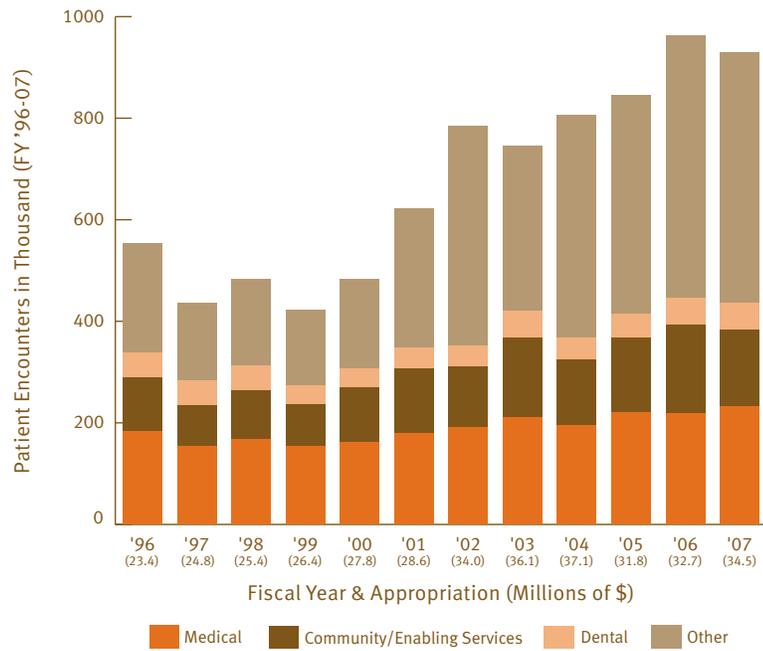


Table 5.4 Urban Indian Health Program Workload and Appropriation, FY 1985-2007

Fiscal Year	Total Workload	Medical	Community and Enabling Services	Dental	Other <sup>1</sup>	Appropriation (\$ Thousands)
2007	929,788	233,052	148,809	53,496	494,431	34,546
2006	963,164	218,314	175,799	51,371	517,680	32,744
2005	846,616	220,253	148,017	46,325	432,021	31,816
2004	805,782	195,016	129,374	43,605	437,787	37,112
2003	745,949	210,056	157,671	53,215	325,007	36,149
2002	784,234	190,425	119,663	42,251	431,895	33,976
2001	621,512	178,807	129,081	40,539	273,085	28,621
2000	483,441	161,573	107,804	36,653	177,411	27,813
1999	423,049	153,876	82,777	36,291	150,105	26,382
1998	482,919	166,649	96,387	48,823	171,060	25,379
1997	435,019	153,616	80,056	50,455	150,892	24,800
1996	553,029	182,552	106,680	47,624	216,173	23,360
1995	649,611	271,397	134,828	55,128	188,258	16,450
1994	657,150	277,984	135,952	60,748	182,466	14,112
1993 <sup>2</sup>	784,581	229,737	151,139	88,845	314,860	20,965
1992	757,606	192,921	142,658	82,076	339,951	17,195
1991	802,335	172,297	138,204	76,028	415,806	15,687
1990	530,228	181,974	137,200	72,470	138,584	13,049
1989	459,684	150,472	106,940	102,886	99,386	9,962
1988	370,943	128,000	102,481	64,609	75,853	9,624
1987 <sup>3</sup>	451,988	146,228	116,898	62,377	126,485	9,000
1986	471,757	163,004	124,783	57,663	126,307	9,644
1985	504,799	170,913	153,761	60,956	119,169	9,800

<sup>1</sup> The Other category includes the following types of services: nutrition education, health education, mental health, optometric services, and other allied health services, which includes substance abuse counseling.

<sup>2</sup> Includes \$2.0 million in urban alcohol programs transferred to the IHS Urban Program Branch from the IHS Alcohol and Substance Abuse Program Branch.

<sup>3</sup> Beginning in Fiscal Year 1987 and thereafter, the Tulsa and Oklahoma City Urban Programs are excluded since they were funded as demonstration projects under the IHS hospitals and clinics activity.

As shown on the chart, total hospital admissions peaked in FY 1978 at about 112,000. In FY 2006, there were 76,054 total admissions.

**Chart 5.5** Number of Hospital Admissions

*IHS and Tribal Direct and Contract General Hospitals*

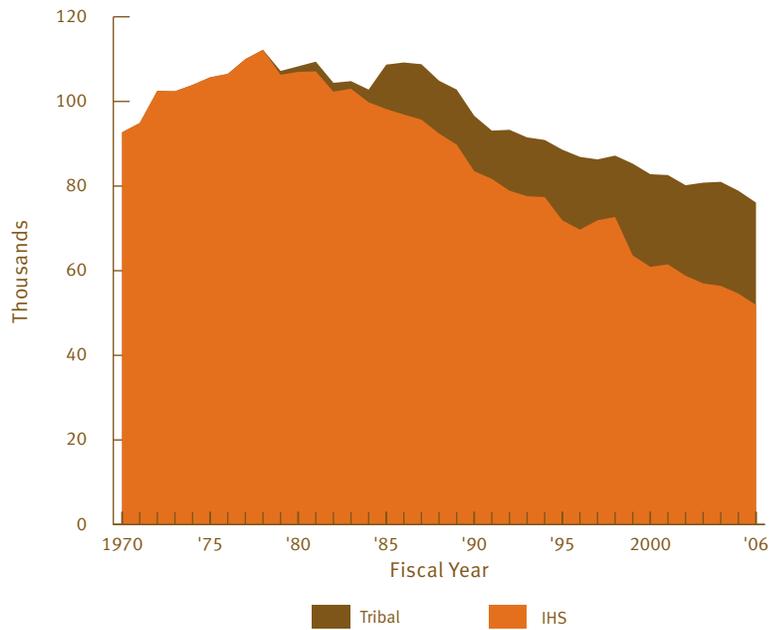


Table 5.5 Number of Hospital Admissions

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Years 1955-2006*

Fiscal Year	Total IHS and Tribal Admissions	INDIAN HEALTH SERVICE			TRIBAL		
		Total	Direct	Contract <sup>1</sup>	Total	Direct	Contract
2006	76,054	51,868	39,625	12,243	24,186	17,587	6,599
2005	78,958	54,615	41,990	12,625	24,343	16,460	7,883
2004	80,925	56,417	42,790	13,627	24,508	16,982	7,526
2003	80,833	57,038	42,288	14,750	23,795	16,894	6,901
2002	80,218	58,769	43,859	14,910	21,449	15,964	5,485
2001	82,595	61,542	45,913	15,629	21,053	15,853	5,200
2000	82,806	60,929	47,079	13,850	21,877	17,758	4,119
1999	85,328	63,602	49,753	13,849	21,726	17,255	4,471
1998	87,129	72,651	57,114	15,537	14,478	11,539	2,939
1997	86,231	71,879	56,219	15,660	14,352	12,188	2,164
1996	86,898	69,725	55,656	14,069	17,173	11,908	5,265
1995	88,549	71,898	56,796	15,102	16,651	11,034	5,617
1994	90,921	77,408	60,950	16,458	13,513	8,411	5,102
1993	91,542	77,646	60,575	17,071	13,896	8,443	5,453
1992	93,271	78,897	61,992	16,905	14,374	9,017	5,357
1991	93,180	81,746	64,312	17,434	11,434	6,924	4,510
1990	96,539	83,462	65,972	17,490	13,077	7,022	6,055
1985	108,777	98,245	78,423	19,822	10,532	3,678	6,854 <sup>2</sup>
1980	108,242	106,992	77,798	29,194	1,250	1,250	
1975	105,735	105,735	74,594	31,141			
1970	92,710	92,710	67,877	24,833			
1965	91,744	91,744	67,744	24,000			
1960	76,674	76,674	56,874	19,800			
1955	50,143	50,143	42,762	7,381			

<sup>1</sup>Number of discharges used as estimate for number of admissions (1955-1996).<sup>2</sup>Comparable Tribal contract health services data not available prior to FY 1985.

SOURCE: IHS National Data Warehouse

The average daily hospital patient load in Indian Health Service and Tribal direct and contract general hospitals has decreased 63.6 percent since FY 1970. In FY 2006, the average daily patient load was 856.

**Chart 5.6 Average Daily Hospital Patient Load**

*IHS and Tribal Direct and Contract General Hospitals*

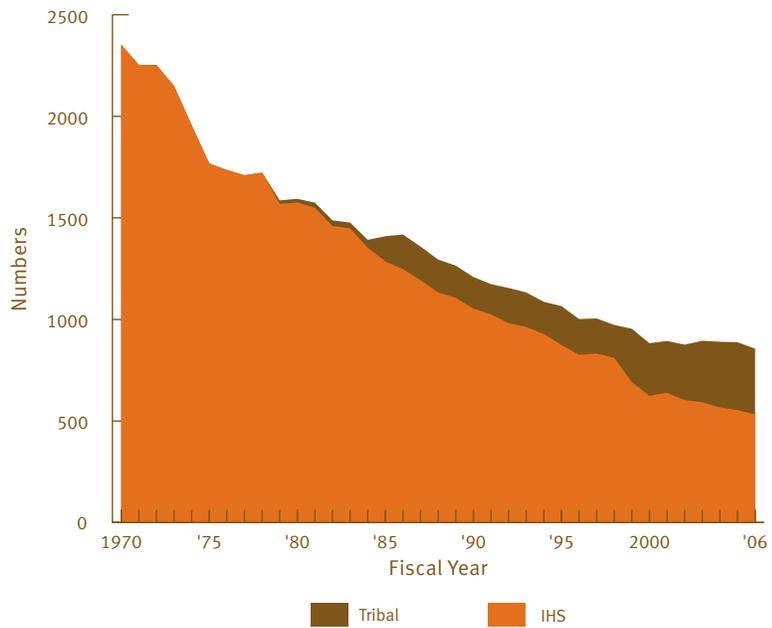


Table 5.6 Average Daily Hospital Patient Load

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Years 1955-2006*

Fiscal Year	Total IHS and Tribal Admissions	INDIAN HEALTH SERVICE			TRIBAL		
		Total	Direct	Contract	Total	Direct	Contract
2006	856	533	379	154	323	224	99
2005	888	554	394	160	334	221	113
2004	890	567	398	169	323	223	100
2003	895	592	410	182	303	220	83
2002	876	603	427	176	273	214	59
2001	894	639	449	190	255	198	57
2000	883	624	474	150	259	230	29
1999	954	691	520	171	263	221	42
1998	973	811	619	192	162	119	43
1997	1,009	836	623	213	173	129	44
1996	1,002	826	636	190	176	121	55
1995	1,066	874	672	202	192	127	65
1994	1,087	929	709	220	158	100	58
1993	1,133	963	735	228	170	108	62
1992	1,155	982	758	224	173	112	61
1991	1,174	1,025	794	231	149	96	53
1990	1,209	1,053	825	228	156	90	66
1985	1,410	1,286	1,052	234	124	47	77 <sup>1</sup>
1980	1,594	1,576	1,178	398	18	18	
1975	1,768	1,768	1,330	438			
1970	2,353	2,353	1,729	624			
1965	3,127	3,127	2,244	883			
1960	3,142	3,142	2,232	910			
1955	3,711	3,711	2,531	1,180			

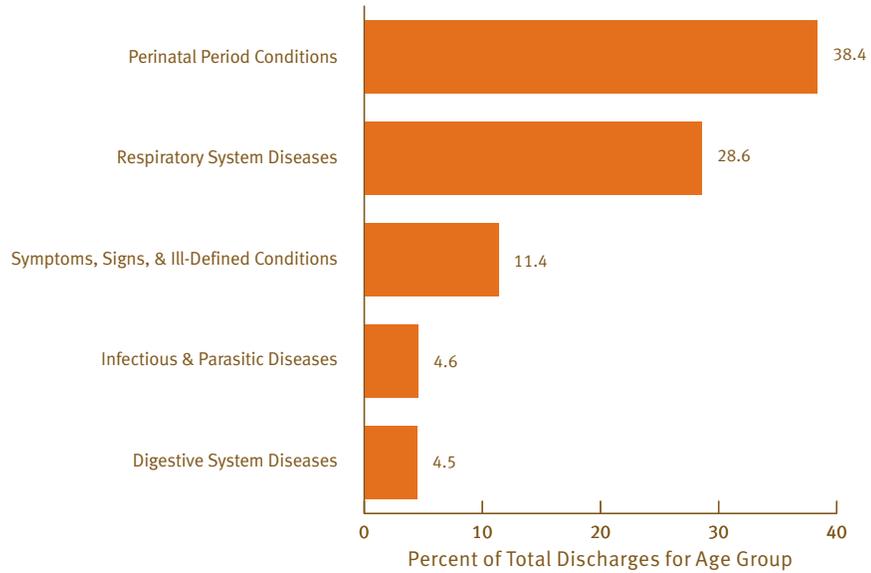
<sup>1</sup>Tribal contract data not available prior to FY 1985.

SOURCE: IHS National Data Warehouse

In FY 2006, 38.4 percent of all discharges for patients under 1 year of age from Indian Health Service and Tribal direct and contract general hospitals pertained to perinatal period conditions, followed by respiratory system diseases at 28.6 percent.

**Chart 5.7 Leading Causes of Hospitalization: Ages Under 1 Year**

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*



**Table 5.7 Ten Leading Causes of Hospitalization for GM&S\* Patients Under 1 Year of Age**

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*

Diagnostic Category	NUMBER OF DISCHARGES			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>1,829</i>	<i>1,001</i>	<i>828</i>	<i>100.0</i>	<i>54.7</i>	<i>45.3</i>
Perinatal period conditions	702	366	336	38.4	36.6	40.6
Respiratory system diseases	523	310	213	28.6	31.0	25.7
Symptoms, signs, & ill-defined conditions	208	111	97	11.4	11.1	11.7
Infectious & parasitic diseases	84	39	45	4.6	3.9	5.4
Digestive system diseases	83	45	38	4.5	4.5	4.6
Genitourinary system diseases	56	27	29	3.1	2.7	3.5
Endocrine, nutritional, & metabolic diseases	48	27	21	2.6	2.7	2.5
Congenital anomalies	33	24	9	1.8	2.4	1.1
Nervous system & sense organ diseases	32	17	15	1.7	1.7	1.8
Supplementary classification	23	18	5	1.3	1.8	0.6
<i>All other</i>	<i>37</i>	<i>17</i>	<i>20</i>	<i>2.0</i>	<i>1.7</i>	<i>2.4</i>

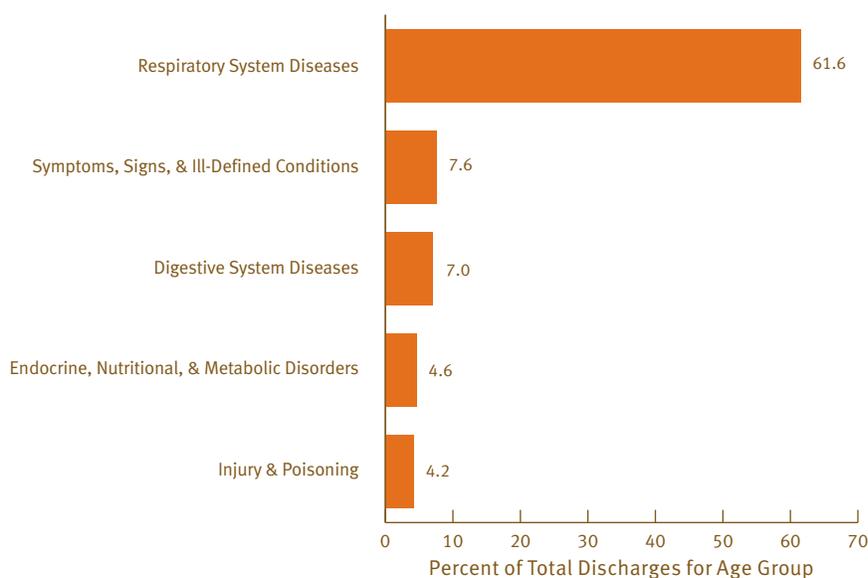
\*General Medical and Surgical

SOURCE: IHS National Data Warehouse

In FY 2006, 61.6 percent of all discharges for patients 1 to 4 years of age from Indian Health Service and Tribal direct and contract general hospitals pertained to respiratory system diseases, followed by symptoms, signs, and ill-defined conditions at 7.6 percent.

**Chart 5.8** Leading Causes of Hospitalization: Ages 1 to 4 Years

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*



**Table 5.8** Ten Leading Causes of Hospitalization for GM&S\* Patients 1 to 4 Years of Age

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*

Diagnostic Category	NUMBER OF DISCHARGES			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>4,083</i>	<i>2,284</i>	<i>1,799</i>	<i>100.0</i>	<i>55.9</i>	<i>44.1</i>
Respiratory system diseases	2,517	1,427	1,090	61.6	62.5	60.6
Symptoms, signs, & ill-defined conditions	311	174	137	7.6	7.6	7.6
Digestive system diseases	284	167	117	7.0	7.3	6.5
Endocrine, nutritional, & metabolic disorders	188	103	85	4.6	4.5	4.7
Injury & poisoning	173	104	69	4.2	4.6	3.8
Skin & subcutaneous tissue diseases	170	82	88	4.2	3.6	4.9
Infectious & parasitic diseases	151	94	57	3.7	4.1	3.2
Genitourinary system diseases	81	17	64	2.0	0.7	3.6
Nervous system & sense organ diseases	71	50	21	1.7	2.2	1.2
Congenital anomalies	32	18	14	0.8	0.8	0.8
<i>All other</i>	<i>105</i>	<i>48</i>	<i>57</i>	<i>2.6</i>	<i>2.1</i>	<i>3.2</i>

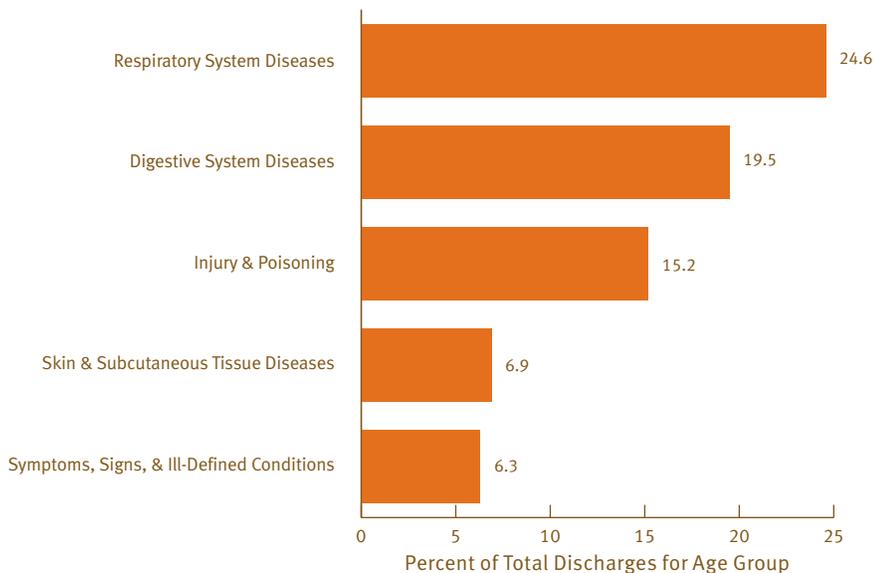
\*General Medical and Surgical

SOURCE: IHS National Data Warehouse

In FY 2006, 24.6 percent of all discharges for patients 5 to 14 years of age from Indian Health Service and Tribal direct and contract general hospitals pertained to respiratory system diseases, followed by digestive system diseases at 19.5 percent.

**Chart 5.9** Leading Causes of Hospitalization: Ages 5 to 14 Years

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*



**Table 5.9** Ten Leading Causes of Hospitalization for GM&S\* Patients 5 to 14 Years of Age

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*

Diagnostic Category	NUMBER OF DISCHARGES			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>2,588</i>	<i>1,419</i>	<i>1,169</i>	<i>100.0</i>	<i>54.8</i>	<i>45.2</i>
Respiratory system diseases	636	342	294	24.6	24.1	25.1
Digestive system diseases	504	282	222	19.5	19.9	19.0
Injury & poisoning	394	254	140	15.2	17.9	12.0
Skin & subcutaneous tissue diseases	178	107	71	6.9	7.5	6.1
Symptoms, signs, & ill-defined conditions	162	89	73	6.3	6.3	6.2
Mental disorders	127	80	47	4.9	5.6	4.0
Infectious & parasitic diseases	123	64	59	4.8	4.5	5.0
Endocrine, nutritional, & metabolic disorders	107	46	61	4.1	3.2	5.2
Genitourinary system diseases	87	13	74	3.4	0.9	6.3
Musculoskeletal system & connective tissue diseases	68	41	27	2.6	2.9	2.3
<i>All other</i>	<i>202</i>	<i>101</i>	<i>101</i>	<i>7.8</i>	<i>7.1</i>	<i>8.6</i>

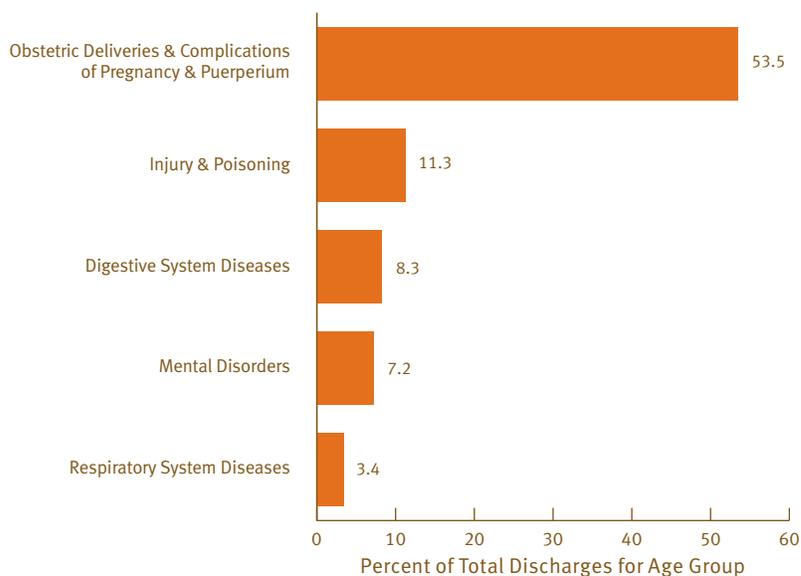
\*General Medical and Surgical

SOURCE: IHS National Data Warehouse

In FY 2006, 53.5 percent of all discharges for patients 15 to 24 years of age from Indian Health Service and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy and the puerperium, followed by injury and poisoning at 11.3 percent.

**Chart 5.10** Leading Causes of Hospitalization: Ages 15 to 24 Years

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*



**Table 5.10** Ten Leading Causes of Hospitalization for GM&S\* Patients 15 to 24 Years of Age

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*

Diagnostic Category	NUMBER OF DISCHARGES			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>11,421</i>	<i>2,607</i>	<i>8,814</i>	<i>100.0</i>	<i>22.8</i>	<i>77.2</i>
Obstetric deliveries & complications of pregnancy & puerperium	6,113	0	6,113	53.5	0.0	69.4
Injury & poisoning	1,294	829	465	11.3	31.8	5.3
Digestive system diseases	951	363	588	8.3	13.9	6.7
Mental disorders	819	463	356	7.2	17.8	4.0
Respiratory system diseases	391	166	225	3.4	6.4	2.6
Genitourinary system diseases	371	43	328	3.2	1.6	3.7
Skin & subcutaneous tissue diseases	326	203	123	2.9	7.8	1.4
Symptoms, signs, & ill-defined conditions	248	112	136	2.2	4.3	1.5
Endocrine, nutritional, & metabolic disorders	224	111	113	2.0	4.3	1.3
Supplementary classification	171	77	94	1.5	3.0	1.1
<i>All other</i>	<i>513</i>	<i>240</i>	<i>273</i>	<i>4.5</i>	<i>9.2</i>	<i>3.1</i>

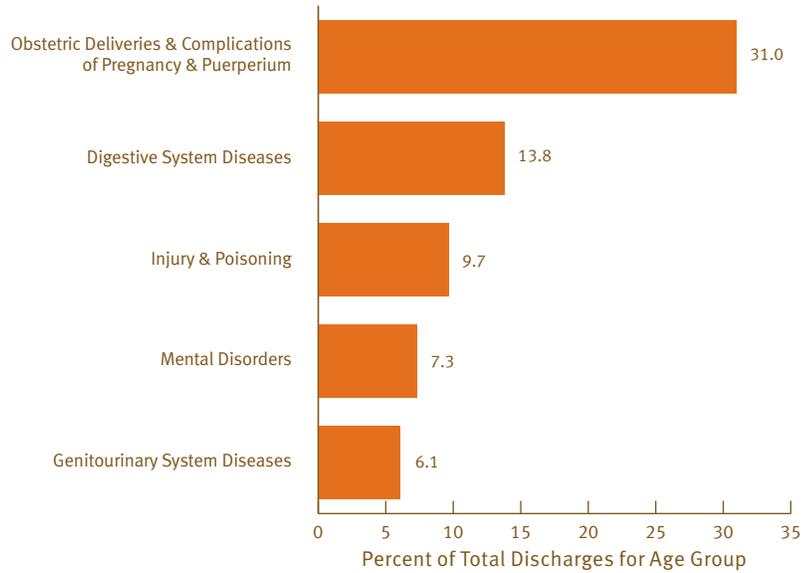
\*General Medical and Surgical

SOURCE: IHS National Data Warehouse

In FY 2006, 31.0 percent of all discharges for patients 25 to 44 years of age from Indian Health Service and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy and the puerperium, followed by digestive system diseases at 13.8 percent.

**Chart 5.11** Leading Causes of Hospitalization: Ages 25 to 44 Years

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*



**Table 5.11** Ten Leading Causes of Hospitalization for GM&S\* Patients 25 to 44 Years of Age

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*

Diagnostic Category	NUMBER OF DISCHARGES			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>22,110</i>	<i>7,712</i>	<i>14,398</i>	<i>100.0</i>	<i>34.9</i>	<i>65.1</i>
Obstetric deliveries & complications of pregnancy & puerperium	6,849	0	6,849	31.0	0.0	47.6
Digestive system diseases	3,053	1,405	1,648	13.8	18.2	11.4
Injury & poisoning	2,152	1,337	815	9.7	17.3	5.7
Mental disorders	1,615	989	626	7.3	12.8	4.3
Genitourinary system diseases	1,344	208	1,136	6.1	2.7	7.9
Skin & subcutaneous tissue diseases	1,197	767	430	5.4	9.9	3.0
Symptoms, signs, & ill-defined conditions	1,163	571	592	5.3	7.4	4.1
Respiratory system diseases	1,012	481	531	4.6	6.2	3.7
Endocrine, nutritional, & metabolic disorders	917	550	367	4.1	7.1	2.5
Circulatory system diseases	686	447	239	3.1	5.8	1.7
<i>All other</i>	<i>2,122</i>	<i>957</i>	<i>1,165</i>	<i>9.6</i>	<i>12.4</i>	<i>8.1</i>

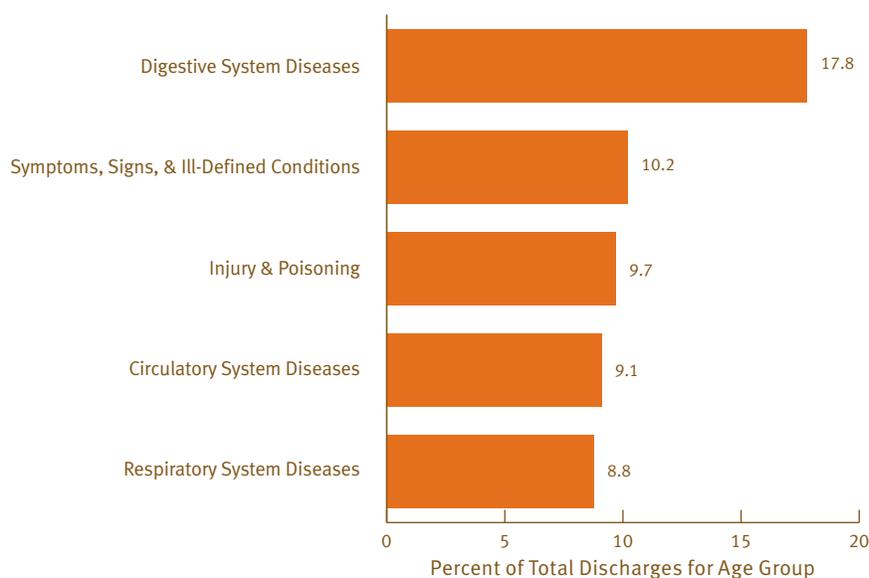
\*General Medical and Surgical

SOURCE: IHS National Data Warehouse

In FY 2006, 17.8 percent of all discharges for patients 45 to 54 years of age from Indian Health Service and Tribal direct and contract general hospitals pertained to digestive system diseases, followed by symptoms, signs, and ill-defined conditions at 10.2 percent.

**Chart 5.12** Leading Causes of Hospitalization: Ages 45 to 54 Years

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*



**Table 5.12** Ten Leading Causes of Hospitalization for GM&S\* Patients 45 to 54 Years of Age

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*

Diagnostic Category	NUMBER OF DISCHARGES			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>10,574</i>	<i>5,128</i>	<i>5,446</i>	<i>100.0</i>	<i>48.5</i>	<i>51.5</i>
Digestive system diseases	1,877	922	955	17.8	18.0	17.5
Symptoms, signs, & ill-defined conditions	1,080	479	601	10.2	9.3	11.0
Injury & poisoning	1,026	599	427	9.7	11.7	7.8
Circulatory system diseases	961	592	369	9.1	11.5	6.8
Respiratory system diseases	935	421	514	8.8	8.2	9.4
Genitourinary system diseases	829	174	655	7.8	3.4	12.0
Skin & subcutaneous tissue diseases	794	447	347	7.5	8.7	6.4
Endocrine, nutritional, & metabolic disorders	750	405	345	7.1	7.9	6.3
Mental disorders	601	378	223	5.7	7.4	4.1
Musculoskeletal system & connective tissue diseases	535	286	249	5.1	5.6	4.6
<i>All other</i>	<i>1,186</i>	<i>425</i>	<i>761</i>	<i>11.2</i>	<i>8.3</i>	<i>14.0</i>

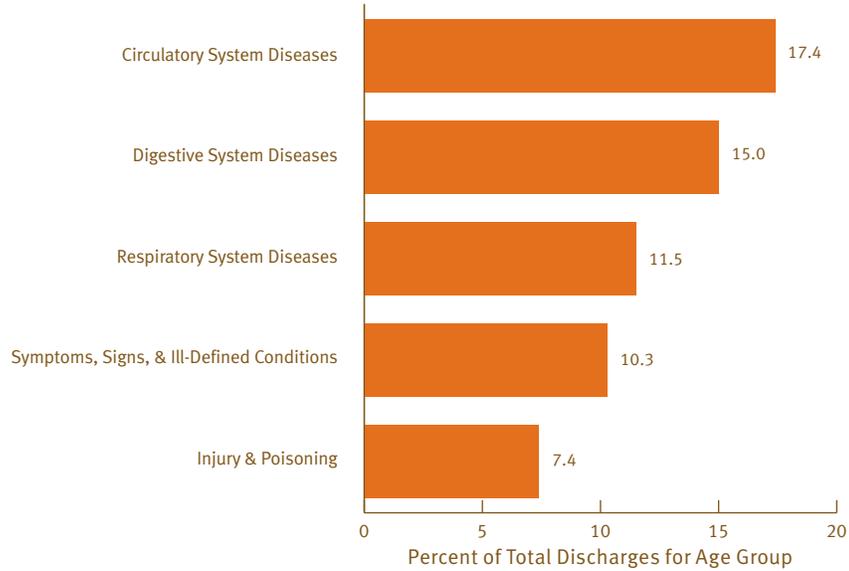
\*General Medical and Surgical

SOURCE: IHS National Data Warehouse

In FY 2006, 17.4 percent of all discharges for patients 55 to 64 years of age from Indian Health Service and Tribal direct and contract general hospitals pertained to circulatory system diseases, followed by digestive system diseases at 15.0 percent.

**Chart 5.13 Leading Causes of Hospitalization: Ages 55 to 64 Years**

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*



**Table 5.13 Ten Leading Causes of Hospitalization for GM&S\* Patients 55 to 64 Years of Age**

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*

Diagnostic Category	NUMBER OF DISCHARGES			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>8,875</i>	<i>4,156</i>	<i>4,719</i>	<i>100.0</i>	<i>46.8</i>	<i>53.2</i>
Circulatory system diseases	1,545	886	659	17.4	21.3	14.0
Digestive system diseases	1,334	621	713	15.0	14.9	15.1
Respiratory system diseases	1,021	427	594	11.5	10.3	12.6
Symptoms, signs, & ill-defined conditions	912	377	535	10.3	9.1	11.3
Injury & poisoning	655	300	355	7.4	7.2	7.5
Endocrine, nutritional, & metabolic disorders	635	326	309	7.2	7.8	6.5
Genitourinary system diseases	559	153	406	6.3	3.7	8.6
Skin & subcutaneous tissue diseases	485	240	245	5.5	5.8	5.2
Musculoskeletal system & connective tissue diseases	428	211	217	4.8	5.1	4.6
Neoplasms	426	181	245	4.8	4.4	5.2
<i>All other</i>	<i>875</i>	<i>434</i>	<i>441</i>	<i>9.9</i>	<i>10.4</i>	<i>9.3</i>

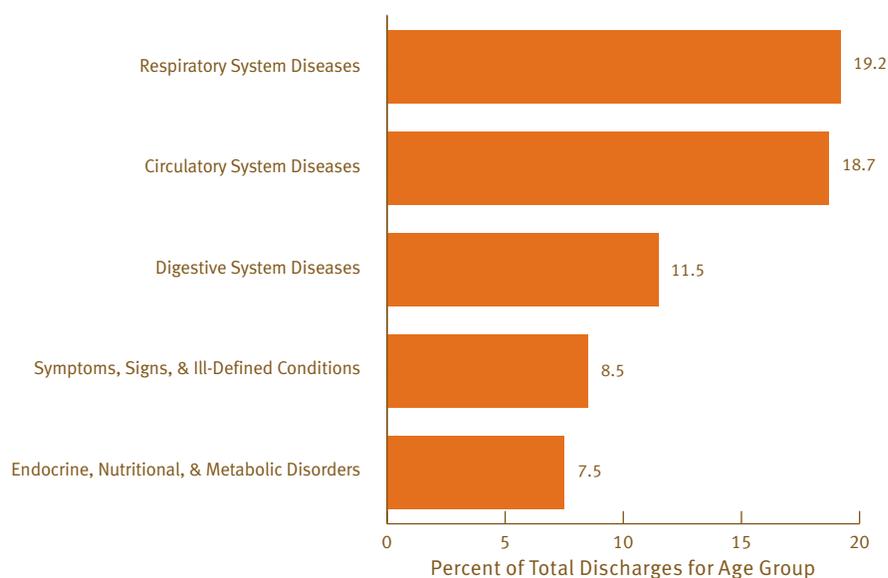
\*General Medical and Surgical

SOURCE: IHS National Data Warehouse

In FY 2006, 19.2 percent of all discharges for patients 65 years and older from Indian Health Service and Tribal direct and contract general hospitals pertained to respiratory system diseases, followed by circulatory system diseases at 18.7 percent.

**Chart 5.14** Leading Causes of Hospitalization: Ages 65 Years of Age and Older

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*



**Table 5.14** Ten Leading Causes of Hospitalization for GM&S\* Patients 65 Years of Age and Older

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*

Diagnostic Category	NUMBER OF DISCHARGES			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>14,194</i>	<i>6,024</i>	<i>8,170</i>	<i>100.0</i>	<i>42.4</i>	<i>57.6</i>
Respiratory system diseases	2,726	1,193	1,533	19.2	19.8	18.8
Circulatory system diseases	2,650	1,307	1,343	18.7	21.7	16.4
Digestive system diseases	1,630	616	1,014	11.5	10.2	12.4
Symptoms, signs, & ill-defined conditions	1,212	533	679	8.5	8.8	8.3
Endocrine, nutritional, & metabolic disorders	1,063	405	658	7.5	6.7	8.1
Injury & poisoning	1,031	407	624	7.3	6.8	7.6
Genitourinary system diseases	1,029	349	680	7.2	5.8	8.3
Neoplasms	598	258	340	4.2	4.3	4.2
Skin & subcutaneous tissue diseases	574	246	328	4.0	4.1	4.0
Musculoskeletal system & connective tissue diseases	536	205	331	3.8	3.4	4.1
<i>All other</i>	<i>1,145</i>	<i>505</i>	<i>640</i>	<i>8.1</i>	<i>8.4</i>	<i>7.8</i>

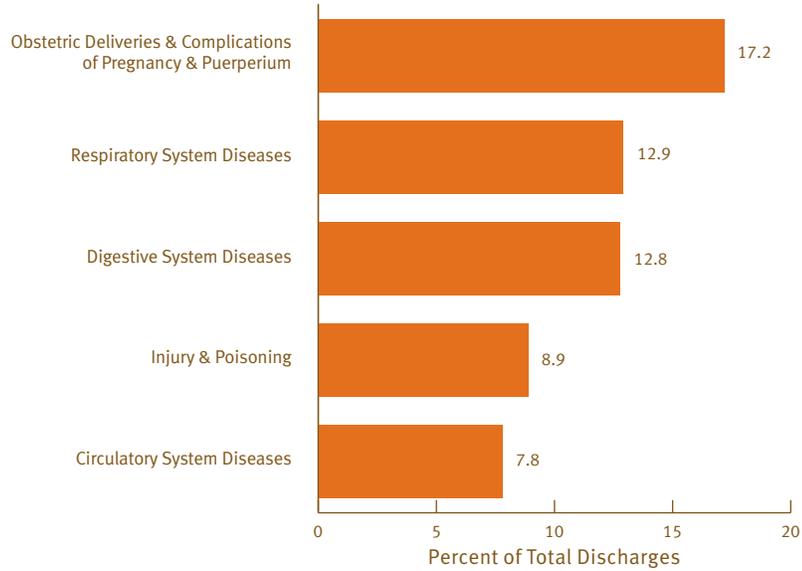
\*General Medical and Surgical

SOURCE: IHS National Data Warehouse

In FY 2006, 17.2 percent of all discharges from Indian Health Service and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy and the puerperium, followed by respiratory system diseases (12.9 percent), and digestive system diseases (12.8 percent).

**Chart 5.15 Leading Causes of Hospitalization for GM&S\* Patients by Sex**

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*



**Table 5.15 Ten Leading Causes of Hospitalization for GM&S\* Patients by Sex**

*Indian Health Service and Tribal Direct and Contract General Hospitals, FY 2006*

Diagnostic Category	NUMBER OF DISCHARGES			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>75,674</i>	<i>30,331</i>	<i>45,343</i>	<i>100.0</i>	<i>40.1</i>	<i>59.9</i>
Obstetric deliveries & complications of pregnancy & puerperium	12,993	0	12,993	17.2	0.0	28.7
Respiratory system diseases	9,761	4,767	4,994	12.9	15.7	11.0
Digestive system diseases	9,716	4,421	5,295	12.8	14.6	11.7
Injury & poisoning	6,742	3,837	2,905	8.9	12.7	6.4
Circulatory system diseases	5,930	3,279	2,651	7.8	10.8	5.8
Symptoms, signs, & ill-defined conditions	5,296	2,446	2,850	7.0	8.1	6.3
Genitourinary system diseases	4,356	984	3,372	5.8	3.2	7.4
Endocrine, nutritional, & metabolic disorders	3,932	1,973	1,959	5.2	6.5	4.3
Skin & subcutaneous tissue diseases	3,740	2,101	1,639	4.9	6.9	3.6
Mental disorders	3,570	2,148	1,422	4.7	7.1	3.1
<i>All other</i>	<i>9,638</i>	<i>4,375</i>	<i>5,263</i>	<i>12.7</i>	<i>14.4</i>	<i>11.6</i>

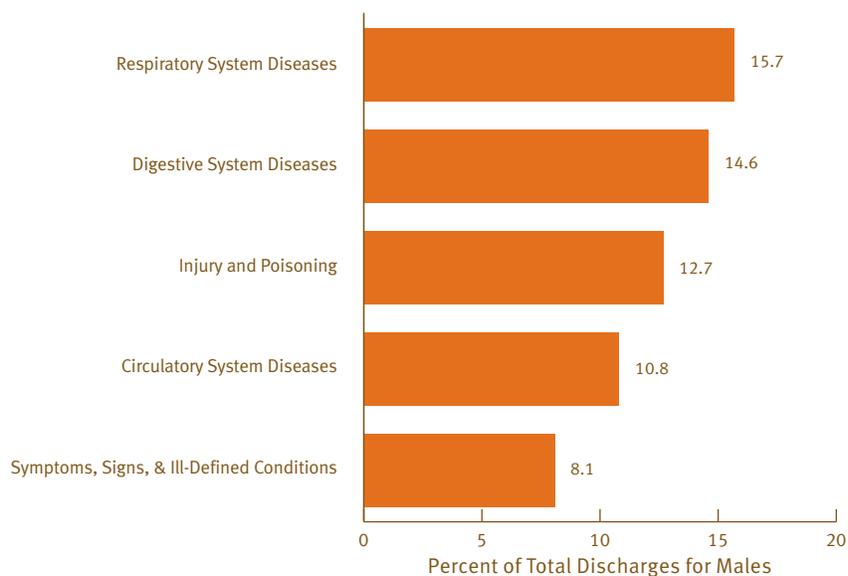
\*General Medical and Surgical

SOURCE: IHS National Data Warehouse

For males, 15.7 percent of all discharges (FY 2006) from Indian Health Service and Tribal direct and contract general hospitals pertained to respiratory system diseases, followed by digestive system diseases (14.6 percent), and injury and poisoning (12.7 percent).

**Chart 5.16** Leading Causes of Hospitalization for Males

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*



For females, 28.7 percent of all discharges (FY 2006) from Indian Health Service and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy and the puerperium, followed by digestive system diseases (11.7 percent) and respiratory system diseases (11.0 percent).

**Chart 5.17** Leading Causes of Hospitalization for Females

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*

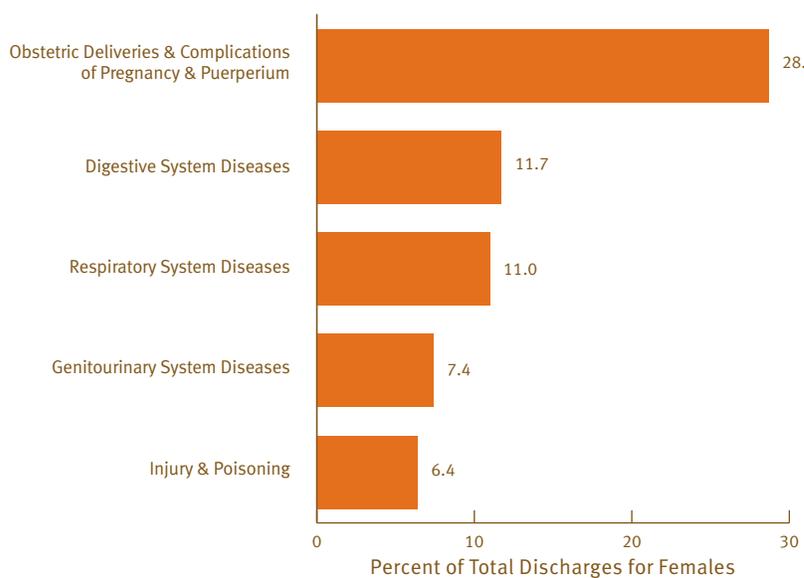


Table 5.16 Ten Leading Causes of Hospitalization by Sex

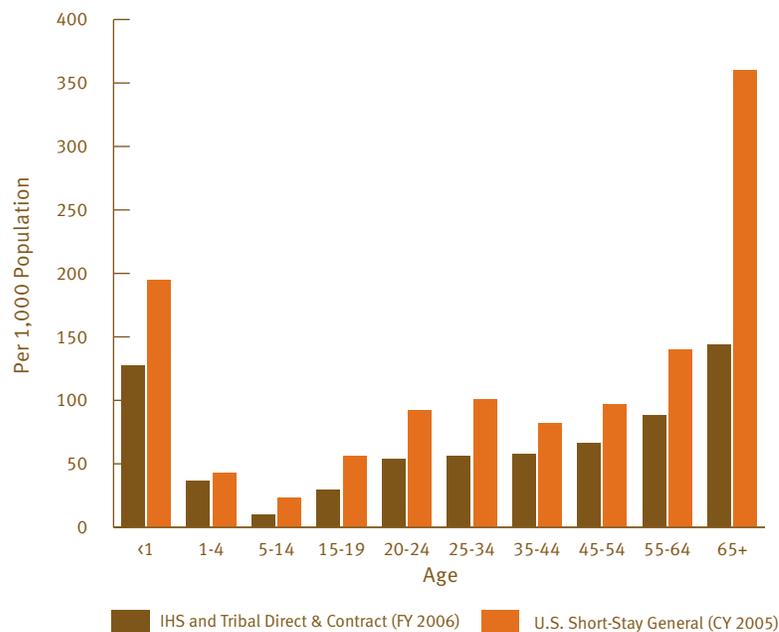
*Indian Health Service and Tribal Direct and Contract General Hospitals, FY 2006*

Diagnostic Category	Number of Discharges	Percent of Total
<b>MALE</b>		
<i>All categories</i>	<b>30,331</b>	<b>100.0</b>
Respiratory system diseases	4,767	15.7
Digestive system diseases	4,421	14.6
Injury & poisoning	3,837	12.7
Circulatory system diseases	3,279	10.8
Symptoms, signs, & ill-defined conditions	2,446	8.1
Mental disorders	2,148	7.1
Skin & subcutaneous tissue diseases	2,101	6.9
Endocrine, nutritional, & metabolic disorders	1,973	6.5
Musculoskeletal system & connective tissue diseases	1,193	3.9
Genitourinary system diseases	984	3.2
<i>All other</i>	<b>3,182</b>	<b>10.5</b>
<b>FEMALE</b>		
<i>All categories</i>	<b>45,343</b>	<b>100.0</b>
Obstetric deliveries & complications of pregnancy & puerperium	12,993	28.7
Digestive system diseases	5,295	11.7
Respiratory system diseases	4,994	11.0
Genitourinary system diseases	3,372	7.4
Injury & poisoning	2,905	6.4
Symptoms, signs, & ill-defined conditions	2,850	6.3
Circulatory system diseases	2,651	5.8
Endocrine, nutritional, & metabolic disorders	1,959	4.3
Skin & subcutaneous tissue diseases	1,639	3.6
Mental disorders	1,422	3.1
<i>All other</i>	<b>5,263</b>	<b>11.6</b>

SOURCES: IHS National Data Warehouse

For Indian Health Service (FY 2006) and U.S. (CY 2005), discharge rates were highest for the age groups under 1 year and over 65 years. The U.S. rate was greater than the AI/AN rate for all age groups.

**Chart 5.18** Hospital Discharge Rates by Age



**Table 5.18** Comparison of IHS and U.S. Hospital Discharge Rates by Age

*IHS and Tribal Direct and Contract General Hospitals, FY 2006*  
*U.S. General Short-Stay Hospitals, CY 2005*

Age of Admission	DISCHARGES PER 1,000 POPULATION		Percent Difference IHS (FY 2006) Rate to U.S. Rate
	IHS FY 2006	U.S. CY 2005	
<i>All Ages</i>	<i>53.2</i>	<i>114.0</i>	<i>-53.3</i>
Under 1 year	127.5	194.9	-34.6
1-4 years	36.8	43.0	-14.4
5-14 years	10.0	23.1	-56.7
15-19 years	29.5	55.9	-47.2
20-24 years	53.8	92.2	-41.6
25-34 years	56.3	100.8	-44.1
35-44 years	57.5	82.2	-30.0
45-54 years	66.1	96.4	-31.4
55-64 years	88.5	140.2	-36.8
65 years and over	143.4	359.6	-60.1

NOTE: IHS discharge rates were calculated using the IHS FY 2006 user populations; excludes newborn infants.

SOURCE: IHS National Data Warehouse  
 U.S.: National Hospital Discharge Survey: 2005 Annual Summary,  
 National Center for Health Statistics, Vital Health Stat 13(165) 2007, Table 2.

Eighty-three (83.3) percent of Indian Health Service hospitals (FY 2006) had fewer than 50 beds, as compared to 29.2 percent of U.S. short-stay hospitals (CY 2006).

Chart 5.19 Beds per Hospital, IHS (FY 2006) versus U.S. Short Stay (CY 2006)

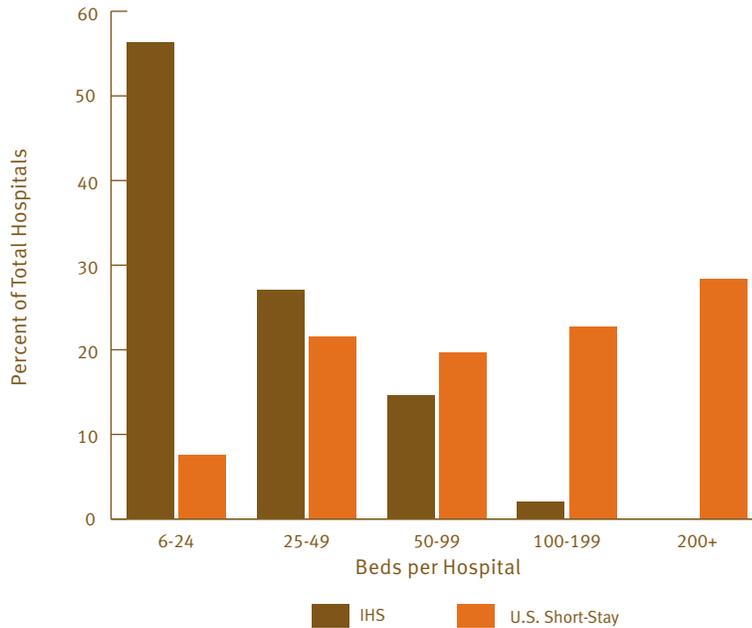


Table 5.19 Comparison of IHS and U.S. Hospitals by Bed Size

*Indian Health Service and Tribal Hospital, FY 2006 and U.S. General Short-Stay Hospitals, CY 2006*

Bed Size	NUMBER OF HOSPITALS		PERCENT OF TOTAL	
	IHS <sup>1</sup>	U.S.	IHS	U.S.
<b>All</b>	<b>48</b>	<b>4,927</b>	<b>100.0</b>	<b>100.0</b>
6-24	27	375	56.3	7.6
25-49	13	1,066	27.1	21.6
50-99	7	969	14.6	19.7
100-199	1	1,117	2.0	22.7
200+	—	1,400	—	28.4

<sup>1</sup>Operated by IHS or the Tribes on September 30, 2006.

SOURCE: IHS: Staffed Beds Table, FY 2006  
U.S.: Hospital Statistics, 2008 Edition, American Hospital Association, Table 3.

Ambulatory medical visits to Indian Health Service and Tribal direct and contract facilities have increased 488 percent since FY 1970. In FY 2006, there were over 10.5 million visits.

**Chart 5.20** Number of Ambulatory Medical Visits

*IHS and Tribal Direct and Contract Facilities*

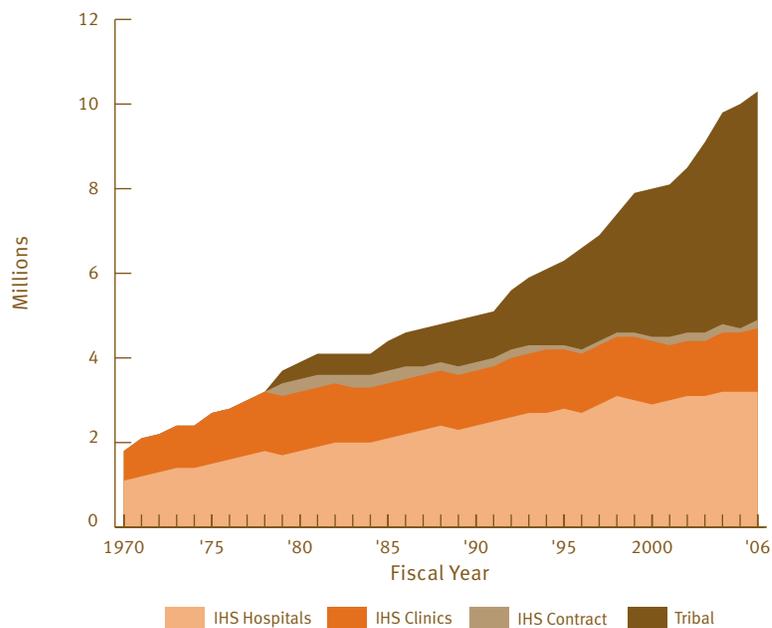


Table 5.20 Number of Ambulatory Medical Visits

Indian Health Service and Tribal Direct and Contract Facilities, Fiscal Years 1955-2006

Fiscal Year	Grand Total	INDIAN HEALTH SERVICE				TRIBAL		
		Total	Hospitals	Health Centers and Other Field Clinics	Contract	Total	Direct	Contract
2006	10,508,097	4,874,819	3,224,719	1,488,432	161,668	5,633,278	5,435,752	197,526
2005	10,298,430	4,779,516	3,193,129	1,440,580	145,807	5,518,914	5,295,197	223,717
2004	9,975,652	4,765,963	3,224,989	1,365,152	175,822	5,209,689	4,962,001	247,688
2003	9,361,538	4,621,264	3,103,727	1,327,293	190,244	4,740,274	4,491,946	248,328
2002	8,731,122	4,625,020	3,094,136	1,333,830	197,054	4,106,102	3,907,309	198,793
2001	8,244,706	4,483,854	2,976,906	1,303,563	203,385	3,760,852	3,577,666	183,186
2000	8,143,356	4,497,610	2,891,425	1,475,098	131,087	3,645,746	3,485,514	160,232
1999	8,097,227	4,572,332	2,965,256	1,481,157	125,919	3,524,895	3,342,755	182,140
1998	7,610,976	4,687,117	3,120,298	1,443,753	123,066	2,923,859	2,806,170	117,689
1997	7,062,360	4,466,763	2,923,409	1,417,478	125,876	2,595,597	2,520,412	75,185
1996	7,050,151	4,264,885	2,734,825	1,392,678	137,382	2,785,266	2,438,351	346,915
1995	6,546,028	4,306,109	2,750,617	1,405,529	149,963	2,239,919	1,975,136	264,783
1994	6,339,270	4,329,936	2,718,482	1,466,159	145,295	2,009,334	1,764,625	244,709
1993	5,976,290	4,253,743	2,672,476	1,411,642	169,625	1,722,547	1,582,748	139,799
1992	5,659,820	4,092,181	2,561,024	1,363,460	167,697	1,567,639	1,407,421	160,218
1991	5,211,351	3,917,068	2,481,726	1,280,854	154,488	1,294,283	1,126,685	167,598
1990	5,031,262	3,790,953	2,363,459	1,266,493	161,001	1,240,309	1,084,923	155,386
1985	4,432,054	3,665,075	2,088,973	1,300,645	275,457	766,979	667,651	99,328 <sup>2</sup>
1980	3,869,936	3,469,936	1,795,607	1,399,329	275,000 <sup>1</sup>	400,000	400,000 <sup>1</sup>	
1975	2,501,050	2,501,050	1,465,816	1,035,234				
1970	1,786,920	1,786,920	1,068,820	718,100				
1965	1,325,400	1,325,400	757,700	567,700				
1960	989,500	989,500	585,100	404,400				
1955	455,000	455,000	355,000	100,000				

<sup>1</sup>Estimate; comparable data not available prior to FY 1980.

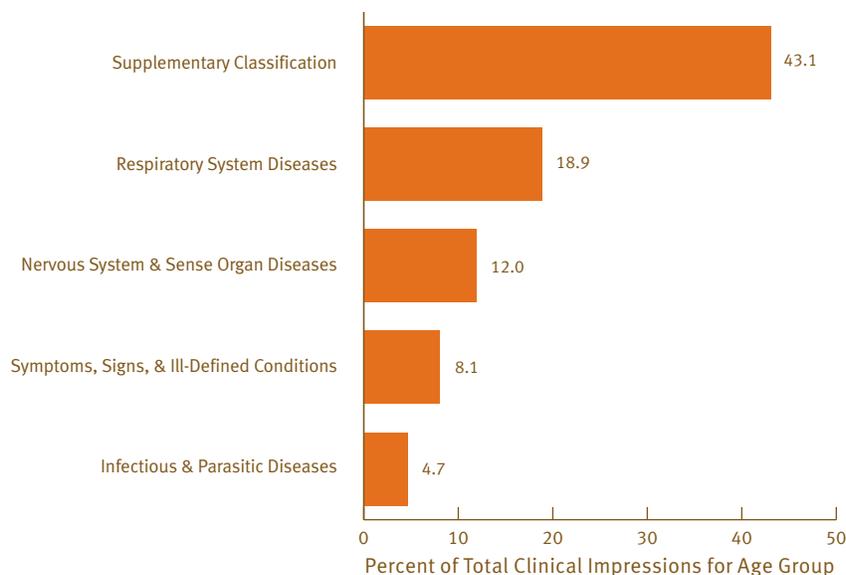
<sup>2</sup>Comparable Tribal contract health services data not available prior to FY 1985.

SOURCE: IHS National Data Warehouse

In FY 2006, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages under 1 year was supplementary classification conditions, followed by respiratory system diseases.

**Chart 5.21** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages Under 1 Year

*IHS and Tribal Direct and Contract Facilities, FY 2006*



**Table 5.21** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients Under 1 Year of Age

*IHS and Tribal Direct and Contract Facilities, FY 2006*

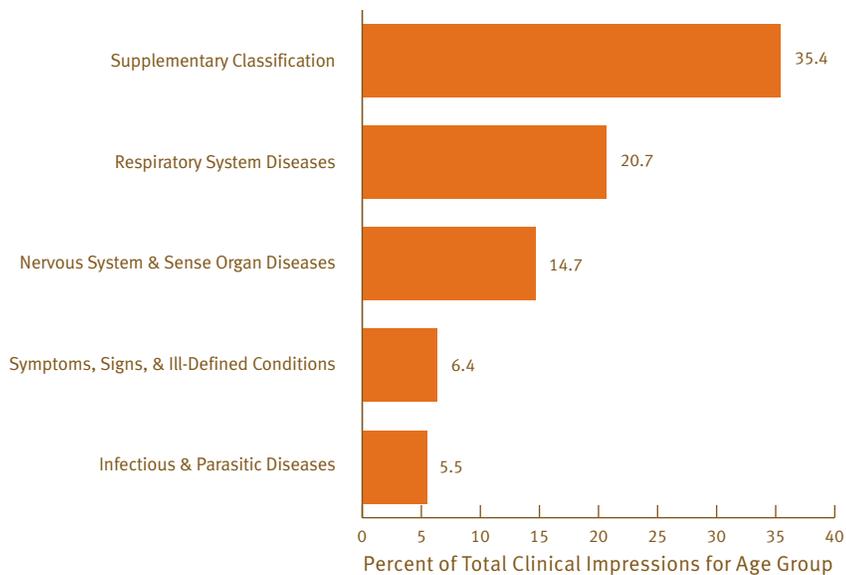
Diagnostic Category	NUMBER OF CLINICAL IMPRESSIONS			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>256,720</i>	<i>135,429</i>	<i>121,291</i>	<i>100.0</i>	<i>52.8</i>	<i>47.2</i>
Supplementary classification	110,700	56,844	53,856	43.1	42.0	44.4
Respiratory system diseases	48,437	26,518	21,919	18.9	19.6	18.1
Nervous system & sense organ diseases	30,771	16,510	14,261	12.0	12.2	11.8
Symptoms, signs, & ill-defined conditions	20,749	11,050	9,699	8.1	8.2	8.0
Infectious & parasitic diseases	12,166	6,328	5,838	4.7	4.7	4.8
Digestive system diseases	9,752	5,325	4,427	3.8	3.9	3.6
Skin & subcutaneous tissue diseases	8,240	4,357	3,883	3.2	3.2	3.2
Perinatal period conditions	7,747	4,163	3,584	3.0	3.1	3.0
Injury & poisoning	2,733	1,496	1,237	1.1	1.1	1.0
Genitourinary system diseases	1,669	758	911	0.7	0.6	0.8
<i>All other</i>	<i>3,756</i>	<i>2,080</i>	<i>1,676</i>	<i>1.5</i>	<i>1.5</i>	<i>1.4</i>

SOURCE: IHS National Data Warehouse

In FY 2006, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 1 to 4 years was supplementary classification conditions, followed by respiratory system diseases.

**Chart 5.22 Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 1 to 4 Years**

*IHS and Tribal Direct and Contract Facilities, FY 2006*



**Table 5.22 Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 1 to 4 Years of Age**

*IHS and Tribal Direct and Contract Facilities, FY 2006*

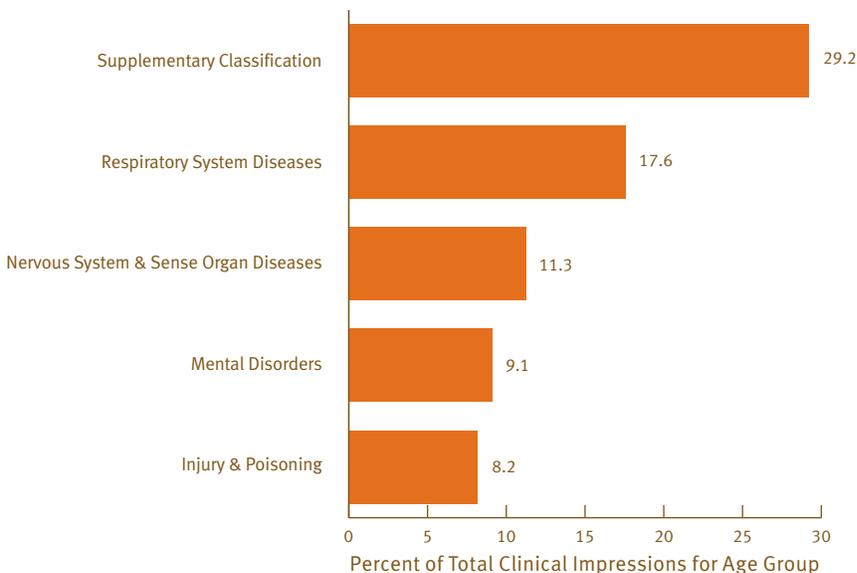
Diagnostic Category	NUMBER OF CLINICAL IMPRESSIONS			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>515,095</i>	<i>267,146</i>	<i>247,949</i>	<i>100.0</i>	<i>51.9</i>	<i>48.1</i>
Supplementary classification	182,586	93,880	88,706	35.4	35.1	35.8
Respiratory system diseases	106,659	55,942	50,717	20.7	20.9	20.5
Nervous system & sense organ diseases	75,622	40,218	35,404	14.7	15.1	14.3
Symptoms, signs, & ill-defined conditions	33,187	16,992	16,195	6.4	6.4	6.5
Infectious & parasitic diseases	28,315	13,880	14,435	5.5	5.2	5.8
Injury & poisoning	25,308	14,167	11,141	4.9	5.3	4.5
Skin & subcutaneous tissue diseases	24,947	12,353	12,594	4.8	4.6	5.1
Digestive system diseases	17,360	9,034	8,326	3.4	3.4	3.4
Mental disorders	6,227	3,911	2,316	1.2	1.5	0.9
Genitourinary system diseases	5,123	1,624	3,499	1.0	0.6	1.4
<i>All other</i>	<i>9,761</i>	<i>5,145</i>	<i>4,616</i>	<i>1.9</i>	<i>1.9</i>	<i>1.9</i>

SOURCE: IHS National Data Warehouse

In FY 2006, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 5 to 14 years was supplementary classification conditions, followed by respiratory system diseases.

**Chart 5.23** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 5 to 14 Years

*IHS and Tribal Direct and Contract Facilities, FY 2006*



**Table 5.23** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 5 to 14 Years of Age

*IHS and Tribal Direct and Contract Facilities, FY 2006*

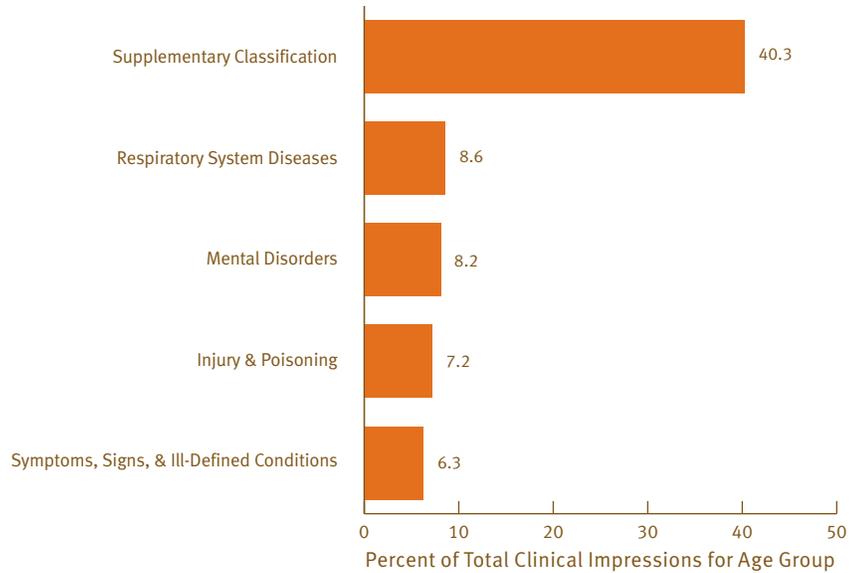
Diagnostic Category	NUMBER OF CLINICAL IMPRESSIONS			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>879,464</i>	<i>447,211</i>	<i>432,253</i>	<i>100.0</i>	<i>50.9</i>	<i>49.1</i>
Supplementary classification	256,663	132,779	123,884	29.2	29.7	28.7
Respiratory system diseases	154,440	76,028	78,412	17.6	17.0	18.1
Nervous system & sense organ diseases	99,248	46,695	52,553	11.3	10.4	12.2
Mental disorders	79,740	50,665	29,075	9.1	11.3	6.7
Injury & poisoning	72,124	40,429	31,695	8.2	9.0	7.3
Infectious & parasitic diseases	53,649	23,580	30,069	6.1	5.3	7.0
Symptoms, signs, & ill-defined conditions	53,433	26,076	27,357	6.1	5.8	6.3
Skin & subcutaneous tissue diseases	43,781	21,685	22,096	5.0	4.8	5.1
Digestive system diseases	21,285	10,370	10,915	2.4	2.3	2.5
Musculoskeletal system & connective tissue diseases	19,104	9,190	9,914	2.2	2.1	2.3
<i>All other</i>	<i>25,997</i>	<i>9,714</i>	<i>16,283</i>	<i>3.0</i>	<i>2.2</i>	<i>3.8</i>

SOURCE: IHS National Data Warehouse

In FY 2006, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 15 to 24 years was supplementary classification conditions, followed by respiratory system diseases.

**Chart 5.24** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 15 to 24 Years

*IHS and Tribal Direct and Contract Facilities, FY 2006*



**Table 5.24** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 15 to 24 Years of Age

*IHS and Tribal Direct and Contract Facilities, FY 2006*

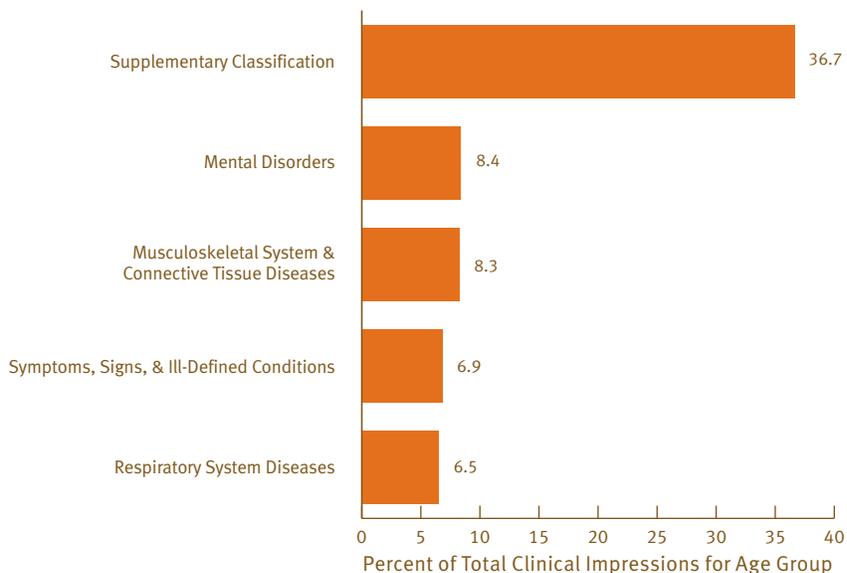
Diagnostic Category	NUMBER OF CLINICAL IMPRESSIONS			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>1,308,725</b>	<b>421,502</b>	<b>887,223</b>	<b>100.0</b>	<b>32.2</b>	<b>67.8</b>
Supplementary classification	527,184	125,041	402,143	40.3	29.7	45.3
Respiratory system diseases	113,123	42,509	70,614	8.6	10.1	8.0
Mental disorders	107,900	52,553	55,347	8.2	12.5	6.2
Injury & poisoning	94,347	56,023	38,324	7.2	13.3	4.3
Symptoms, signs, & ill-defined conditions	81,879	26,501	55,378	6.3	6.3	6.2
Nervous system & sense organ diseases	70,738	26,872	43,866	5.4	6.4	4.9
Musculoskeletal system & connective tissue diseases	57,012	24,427	32,585	4.4	5.8	3.7
Obstetric deliveries & complications of pregnancy & puerperium	52,854	0	52,854	4.0	0.0	6.0
Skin & subcutaneous tissue diseases	50,822	24,479	26,343	3.9	5.8	3.0
Genitourinary system diseases	45,725	3,432	42,293	3.5	0.8	4.8
<b>All other</b>	<b>107,141</b>	<b>39,665</b>	<b>67,476</b>	<b>8.2</b>	<b>9.4</b>	<b>7.6</b>

SOURCE: IHS National Data Warehouse

In FY 2006, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 25 to 44 years was supplementary classification conditions, followed by mental disorders.

**Chart 5.25** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 25 to 44 Years

*IHS and Tribal Direct and Contract Facilities, FY 2006*



**Table 5.25** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 25 to 44 Years of Age

*IHS and Tribal Direct and Contract Facilities, FY 2006*

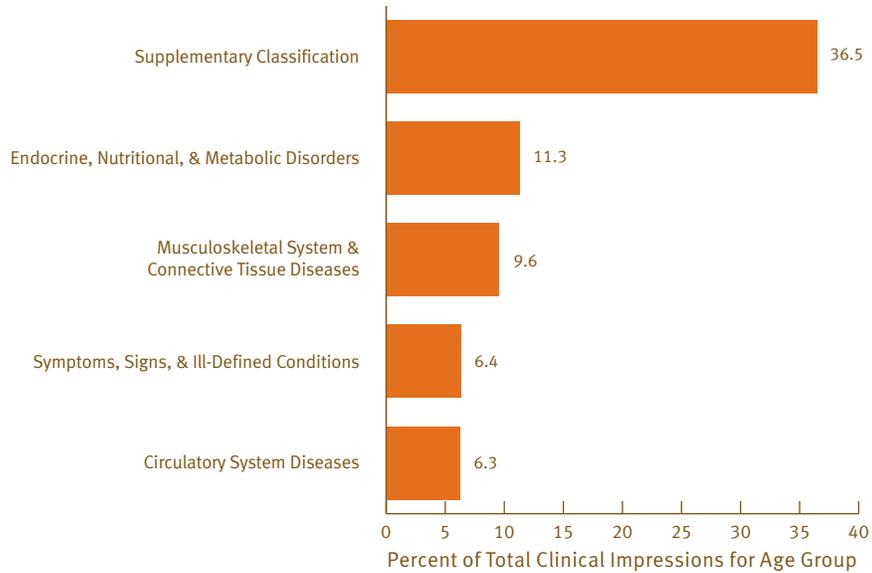
Diagnostic Category	NUMBER OF CLINICAL IMPRESSIONS			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>2,765,122</i>	<i>932,819</i>	<i>1,832,303</i>	<i>100.0</i>	<i>33.7</i>	<i>66.3</i>
Supplementary classification	1,014,151	292,828	721,323	36.7	31.4	39.4
Mental disorders	233,042	93,814	139,228	8.4	10.1	7.6
Musculoskeletal system & connective tissue diseases	230,060	85,870	144,190	8.3	9.2	7.9
Symptoms, signs, & ill-defined conditions	189,637	64,538	125,099	6.9	6.9	6.8
Respiratory system diseases	180,741	56,014	124,727	6.5	6.0	6.8
Endocrine, nutritional, & metabolic disorders	167,838	70,897	96,941	6.1	7.6	5.3
Injury & poisoning	136,536	70,857	65,679	4.9	7.6	3.6
Nervous system & sense organ diseases	131,429	43,845	87,584	4.8	4.7	4.8
Genitourinary system diseases	93,158	11,264	81,894	3.4	1.2	4.5
Circulatory system diseases	87,909	48,513	39,396	3.2	5.2	2.2
<i>All other</i>	<i>300,621</i>	<i>94,379</i>	<i>206,242</i>	<i>10.9</i>	<i>10.1</i>	<i>11.3</i>

SOURCE: IHS National Data Warehouse

In FY 2006, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 45 to 54 years was supplementary classification conditions, followed by endocrine, nutritional, and metabolic disorders.

**Chart 5.26** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 45 to 54 Years

*IHS and Tribal Direct and Contract Facilities, FY 2006*



**Table 5.26** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 45 to 54 Years of Age

*IHS and Tribal Direct and Contract Facilities, FY 2006*

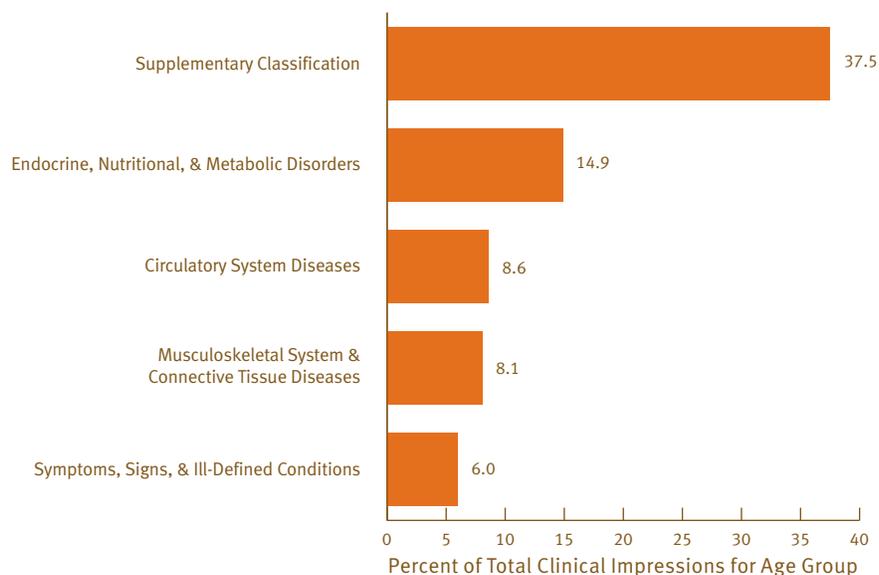
Diagnostic Category	NUMBER OF CLINICAL IMPRESSIONS			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>1,775,406</i>	<i>663,488</i>	<i>1,111,918</i>	<i>100.0</i>	<i>37.4</i>	<i>62.6</i>
Supplementary classification	647,878	231,868	416,010	36.5	34.9	37.4
Endocrine, nutritional, & metabolic disorders	200,980	85,114	115,866	11.3	12.8	10.4
Musculoskeletal system & connective tissue diseases	171,000	59,845	111,155	9.6	9.0	10.0
Symptoms, signs, & ill-defined conditions	114,305	40,919	73,386	6.4	6.2	6.6
Circulatory system diseases	112,362	56,490	55,872	6.3	8.5	5.0
Mental disorders	107,693	41,884	65,809	6.1	6.3	5.9
Respiratory system diseases	92,092	27,469	64,623	5.2	4.1	5.8
Nervous system & sense organ diseases	80,167	28,344	51,823	4.5	4.3	4.7
Injury & poisoning	56,523	25,571	30,952	3.2	3.9	2.8
Digestive system diseases	49,704	19,159	30,545	2.8	2.9	2.7
<i>All other</i>	<i>142,702</i>	<i>46,825</i>	<i>95,877</i>	<i>8.0</i>	<i>7.1</i>	<i>8.6</i>

SOURCE: IHS National Data Warehouse

In FY 2006, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 55 to 64 years was supplementary classification conditions, followed by endocrine, nutritional, and metabolic disorders.

**Chart 5.27** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 55 to 64 Years

*IHS and Tribal Direct and Contract Facilities, FY 2006*



**Table 5.27** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 55 to 64 Years of Age

*IHS and Tribal Direct and Contract Facilities, FY 2006*

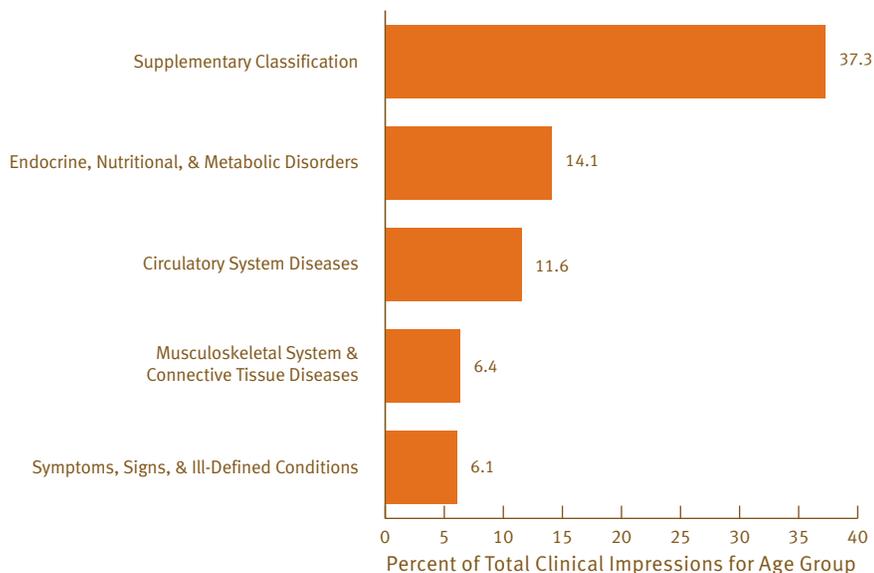
Diagnostic Category	NUMBER OF CLINICAL IMPRESSIONS			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>1,423,729</i>	<i>555,452</i>	<i>868,277</i>	<i>100.0</i>	<i>39.0</i>	<i>61.0</i>
Supplementary classification	533,531	203,692	329,839	37.5	36.7	38.0
Endocrine, nutritional, & metabolic disorders	212,054	89,784	122,270	14.9	16.2	14.1
Circulatory system diseases	122,549	59,666	62,883	8.6	10.7	7.2
Musculoskeletal system & connective tissue diseases	115,281	38,202	77,079	8.1	6.9	8.9
Symptoms, signs, & ill-defined conditions	85,579	31,940	53,639	6.0	5.8	6.2
Respiratory system diseases	66,008	21,582	44,426	4.6	3.9	5.1
Nervous system & sense organ diseases	63,963	24,795	39,168	4.5	4.5	4.5
Mental disorders	46,976	17,014	29,962	3.3	3.1	3.5
Genitourinary system diseases	38,394	12,573	25,821	2.7	2.3	3.0
Digestive system diseases	35,426	13,367	22,059	2.5	2.4	2.5
<i>All other</i>	<i>103,968</i>	<i>42,837</i>	<i>61,131</i>	<i>7.3</i>	<i>7.7</i>	<i>7.0</i>

SOURCE: IHS National Data Warehouse

In FY 2006, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 65 years and over was supplementary classification conditions, followed by endocrine, nutritional, and metabolic disorders.

**Chart 5.28** Leading Causes of Ambulatory Medical Clinical Impressions Visits: 65 Years of Age and Older

*IHS and Tribal Direct and Contract Facilities, FY 2006*



**Table 5.28** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 65 Years of Age and Older

*IHS and Tribal Direct and Contract Facilities, FY 2006*

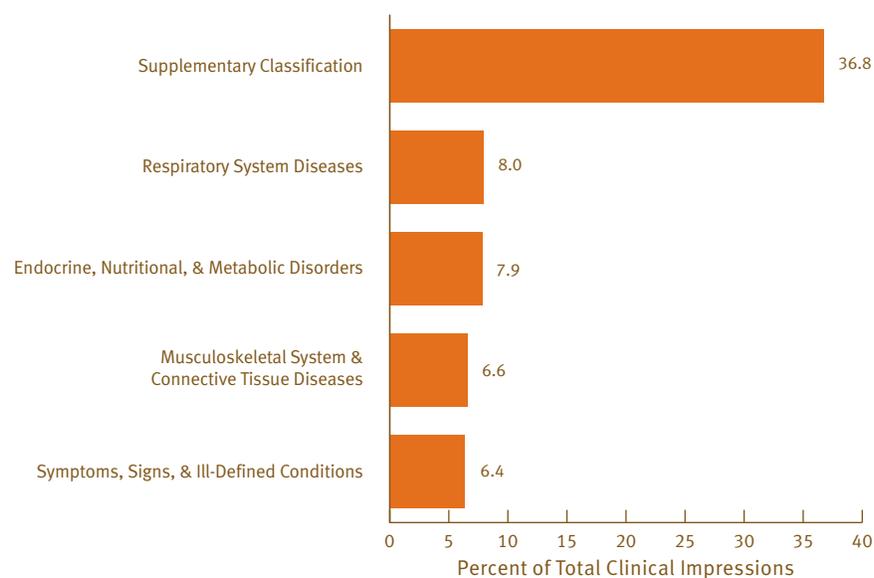
Diagnostic Category	NUMBER OF CLINICAL IMPRESSIONS			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>1,504,025</i>	<i>590,081</i>	<i>913,944</i>	<i>100.0</i>	<i>39.2</i>	<i>60.8</i>
Supplementary classification	561,683	217,301	344,382	37.3	36.8	37.7
Endocrine, nutritional, & metabolic disorders	212,476	85,626	126,850	14.1	14.5	13.9
Circulatory system diseases	175,065	76,765	98,300	11.6	13.0	10.8
Musculoskeletal system & connective tissue diseases	95,975	29,722	66,253	6.4	5.0	7.2
Symptoms, signs, & ill-defined conditions	92,081	35,472	56,609	6.1	6.0	6.2
Nervous system & sense organ diseases	80,224	32,476	47,748	5.3	5.5	5.2
Respiratory system diseases	69,064	26,954	42,110	4.6	4.6	4.6
Genitourinary system diseases	45,938	17,222	28,716	3.1	2.9	3.1
Digestive system diseases	33,793	12,837	20,956	2.2	2.2	2.3
Skin & subcutaneous tissue diseases	31,596	13,300	18,296	2.1	2.3	2.0
<i>All other</i>	<i>106,130</i>	<i>42,406</i>	<i>63,724</i>	<i>7.1</i>	<i>7.2</i>	<i>7.0</i>

SOURCE: IHS National Data Warehouse

In FY 2006, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities was supplementary classification conditions, followed by respiratory system diseases.

**Chart 5.29** Leading Causes of Ambulatory Medical Clinical Impressions Visits

*IHS and Tribal Direct and Contract Facilities, FY 2006*



**Table 5.29** Ten Leading Causes of Ambulatory Medical Visits for All Sexes

*Indian Health Service and Tribal Direct and Contract Facilities, FY 2006*

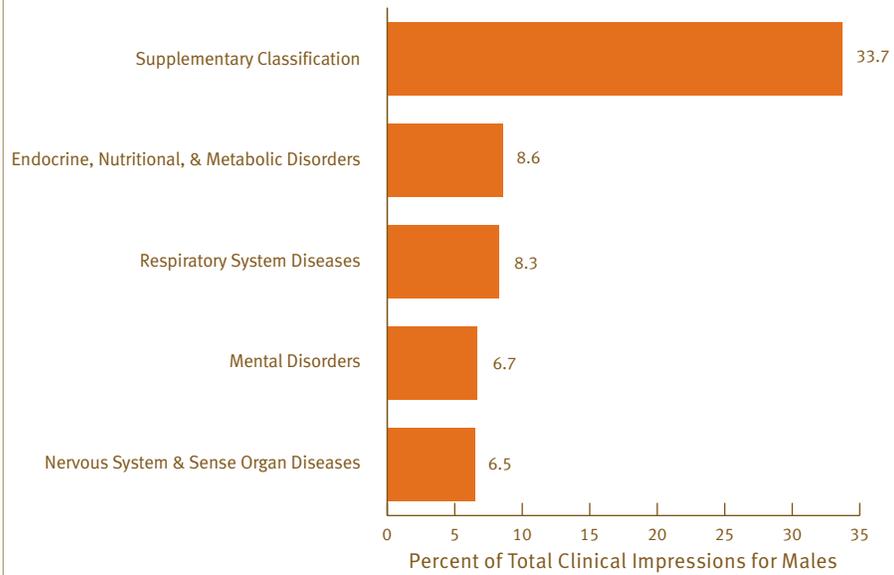
Diagnostic Category	NUMBER OF CLINICAL IMPRESSIONS			PERCENT DISTRIBUTION		
	Combined	Male	Female	Combined	Male	Female
<i>All categories</i>	<i>10,428,286</i>	<i>4,013,131</i>	<i>6,415,155</i>	<i>100.0</i>	<i>38.5</i>	<i>61.5</i>
Supplementary classification	3,834,376	1,354,233	2,480,143	36.8	33.7	38.7
Respiratory system diseases	830,564	333,016	497,548	8.0	8.3	7.8
Endocrine, nutritional, & metabolic disorders	824,475	343,498	480,977	7.9	8.6	7.5
Musculoskeletal system & connective tissue diseases	691,355	248,719	442,636	6.6	6.2	6.9
Symptoms, signs, & ill-defined conditions	670,850	253,488	417,362	6.4	6.3	6.5
Nervous system & sense organ diseases	632,162	259,755	372,407	6.1	6.5	5.8
Mental disorders	604,541	267,743	336,798	5.8	6.7	5.3
Circulatory system diseases	508,258	247,500	260,758	4.9	6.2	4.1
Injury & poisoning	449,110	232,685	216,425	4.3	5.8	3.4
Skin & subcutaneous tissue diseases	317,847	144,824	173,023	3.0	3.6	2.7
<i>All other</i>	<i>1,064,748</i>	<i>327,670</i>	<i>737,078</i>	<i>10.2</i>	<i>8.2</i>	<i>11.5</i>

SOURCE: IHS National Data Warehouse

For AI/AN males, the leading cause of ambulatory medical clinical impressions visits (FY 2006) in Indian Health Service and Tribal direct and contract facilities was supplementary classification conditions, followed by endocrine, nutritional, and metabolic disorders.

**Chart 5.30 Leading Causes of Ambulatory Medical Clinical Impressions Visits for Males**

*IHS and Tribal Direct and Contract Facilities, FY 2006*



For AI/AN females, the leading cause of ambulatory medical clinical impressions visits (FY 2006) in Indian Health Service and Tribal direct and contract facilities was supplementary classification conditions, followed by respiratory system diseases.

**Chart 5.31 Leading Causes of Ambulatory Medical Clinical Impressions Visits for Females**

*IHS and Tribal Direct and Contract Facilities, FY 2006*

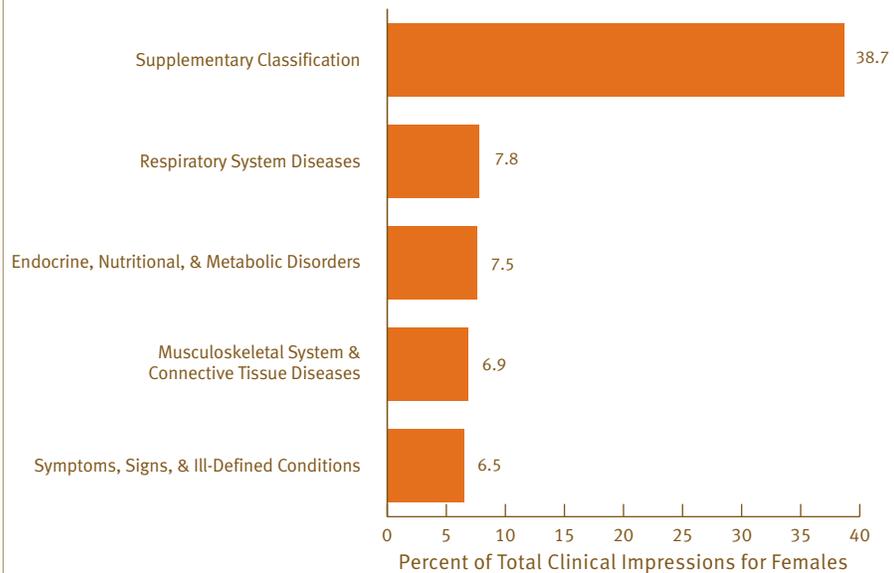


Table 5.30 Ten Leading Causes of Ambulatory Medical Clinical Impressions Visits by Sex

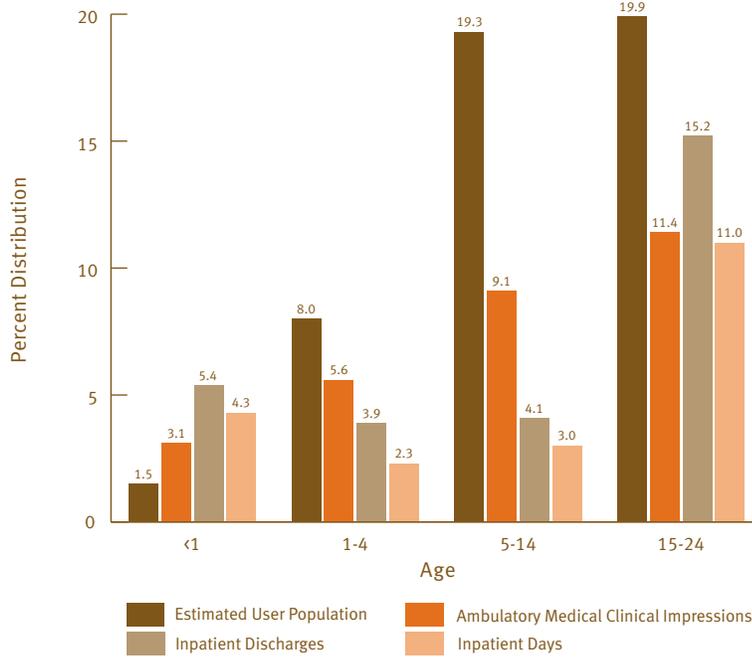
*Indian Health Service and Tribal Direct and Contract Facilities, FY 2006*

Diagnostic Category	Number of Clinical Impressions	Percent of Total
<b>MALE</b>		
<i>All categories</i>	<i>4,013,131</i>	<i>100.0</i>
Supplementary classification	1,354,233	33.7
Endocrine, nutritional, & metabolic disorders	343,498	8.6
Respiratory system diseases	333,016	8.3
Mental disorders	267,743	6.7
Nervous system & sense organ diseases	259,755	6.5
Symptoms, signs, & ill-defined conditions	253,488	6.3
Musculoskeletal system & connective tissue diseases	248,719	6.2
Circulatory system diseases	247,500	6.2
Injury & poisoning	232,685	5.8
Skin & subcutaneous tissue diseases	144,824	3.6
<i>All other</i>	<i>327,670</i>	<i>8.2</i>
<b>FEMALE</b>		
<i>All categories</i>	<i>6,415,155</i>	<i>100.0</i>
Supplementary classification	2,480,143	38.7
Respiratory system diseases	497,548	7.8
Endocrine, nutritional, & metabolic disorders	480,977	7.5
Musculoskeletal system & connective tissue diseases	442,636	6.9
Symptoms, signs, & ill-defined conditions	417,362	6.5
Nervous system & sense organ diseases	372,407	5.8
Mental disorders	336,798	5.3
Circulatory system diseases	260,758	4.1
Genitourinary system diseases	229,274	3.6
Injury & poisoning	216,425	3.4
<i>All other</i>	<i>680,827</i>	<i>10.6</i>

SOURCES: IHS National Data Warehouse

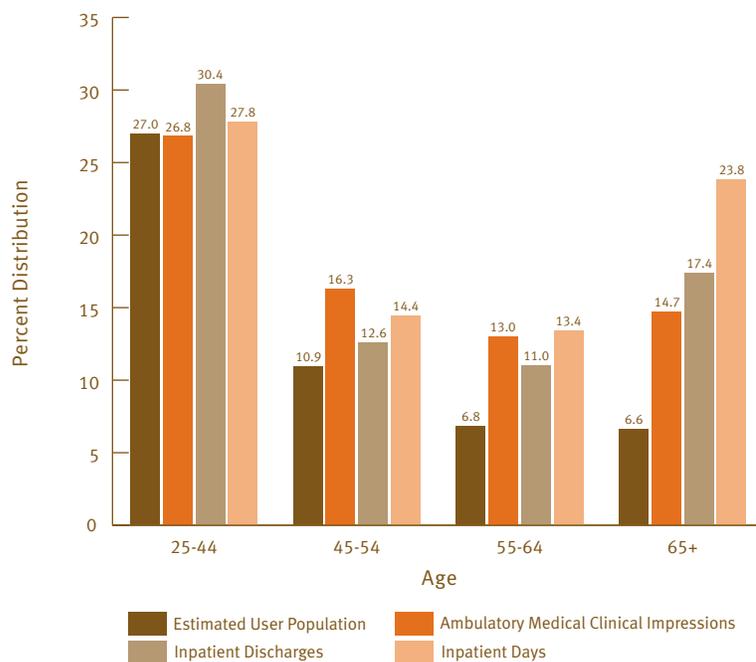
AI/AN children under 1 year of age comprise 1.5 percent of the Indian Health Service user population but have 3.1 percent of the ambulatory medical clinical impressions, 5.4 percent of the inpatient discharges, and 4.3 percent of the inpatient days.

**Chart 5.32** Percent Distribution for Population and Patient Care Workloads, Ages Under 25, FY 2006



AI/AN adults over age 64 use IHS services more than any other age group over 25 years. They comprised 6.6 percent of the Indian Health Service user population, but have 14.7 percent of the ambulatory medical clinical impressions, 17.4 percent of the inpatient discharges, and 23.8 percent of the inpatient days.

**Chart 5.33** Percent Distribution for Population and Patient Care Workloads, Ages 25 and Over, FY 2006



**Table 5.32** Percent Distributions for Estimated Population, Ambulatory Medical Clinical Impressions, and Inpatient Discharges and Days, FY 2006

Distribution	AGE								
	All Ages	Under 1 year	1-4 years	5-14 years	15-24 years	25-44 years	45-54 years	55-64 years	65 years & over
Estimated user population	100.0	1.5	8.0	19.3	19.9	27.0	10.9	6.8	6.6
Ambulatory medical clinical impressions	100.0	3.1	5.6	9.1	11.4	26.8	16.3	13.0	14.7
Inpatient discharges*	100.0	5.4	3.9	4.1	15.2	30.4	12.6	11.0	17.4
Inpatient days*	100.0	4.3	2.3	3.0	11.0	27.8	14.4	13.4	23.8

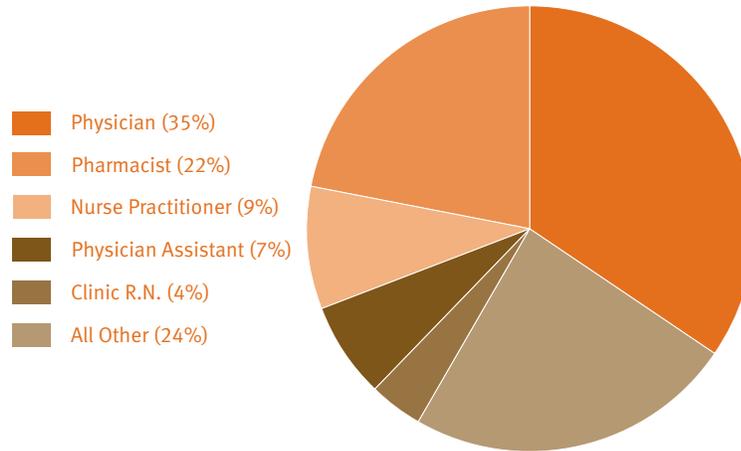
\*Newborns not included.

SOURCE: IHS National Data Warehouse

Patients were seen by a physician for 35 percent of ambulatory medical visits to Indian Health Service and Tribal facilities in FY 2006. For 22 percent of patient visits, the primary provider was a pharmacist.

**Chart 5.34** Percent Distributions of Ambulatory Medical Visits by Type of Provider

*IHS and Tribal Direct Facilities, FY 2006*



**Table 5.34** Number of Ambulatory Medical Visits by Type of Provider

*Indian Health Service and Tribal Direct Facilities, FY 2006*

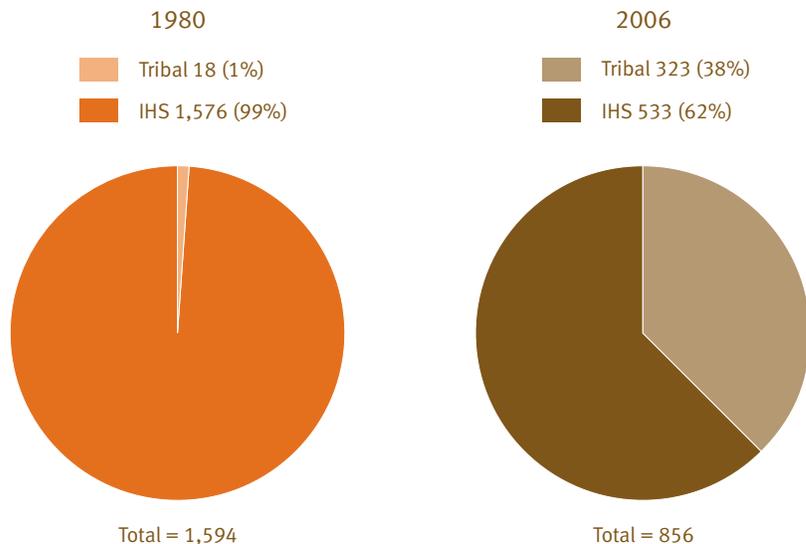
Type of Provider	Number of Ambulatory Medical Visits	Percent of Total
<b>Total, All Providers</b>	<b>10,134,494</b>	<b>100.0</b>
<b>Primary Care Providers</b>		
Physician	3,532,442	34.9
Nurse Practitioner	864,738	8.5
Physician Assistant	716,149	7.1
Contract Physician	145,286	1.4
Tribal Physician	72,475	0.7
Nurse Midwife	106,381	1.0
All Other	520,199	5.1
<b>Other Providers</b>		
Pharmacist	2,240,289	22.1
Clinic R.N.	350,673	3.5
Optometrist	286,856	2.8
Licensed Practical Nurse	107,025	1.1
Physical Therapist	148,444	1.5
Public Health Nurse	60,155	0.6
All Other	983,382	9.7

SOURCES: IHS National Data Warehouse

IHS services shifted away from inpatient care as demonstrated by the decline of 46 percent in average daily patient load (ADPL) between 1980 and 2006. However, the Tribal total ADPL increased 1,694 percent during this time period.

**Chart 5.35** Trend in Average Daily Patient Load

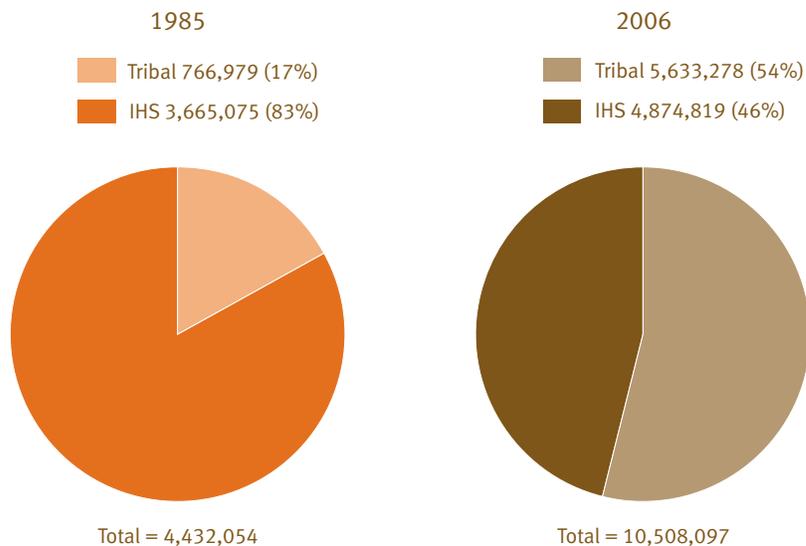
*IHS and Tribal Direct and Contract Hospitals*



While inpatient services declined, ambulatory medical services increased 137 percent between 1985 and 2006. Also, the Tribal total ambulatory medical visits increased 634 percent during that time period.

**Chart 5.36** Trend in Number of Ambulatory Medical Visits

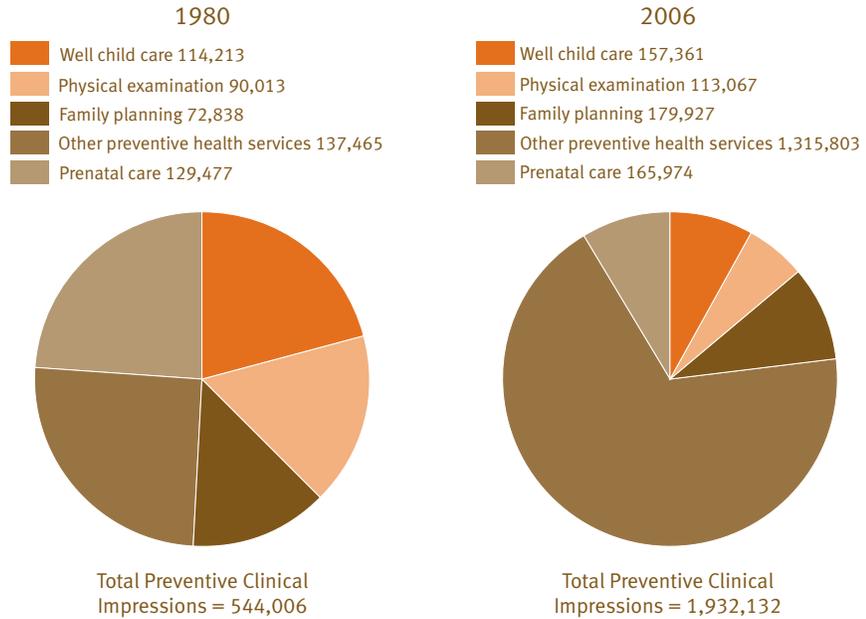
*IHS and Tribal Direct and Contract Facilities*



IHS services related to preventive care have increased 255 percent since 1980. In 2006, the largest single category of preventive clinical impressions was family planning, nine percent of the preventive total. These are conservative estimates since preventive activities also occur during visits reported for other causes.

Chart 5.37 Trend in Preventive Ambulatory Medical Clinical Impressions Visits

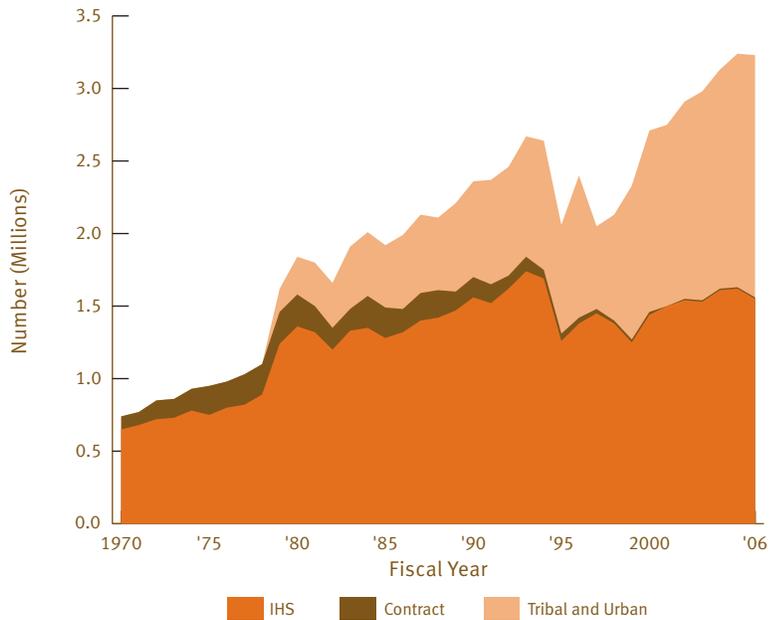
IHS and Tribal Direct and Contract Facilities



SOURCE: Special NPIRS Table

The number of direct and contract dental services provided by Indian Health Service, Tribal, and Urban Programs, as reported to the IHS central database, has increased 338 percent since FY 1970. In FY 2006, over 3.2 million dental services were provided.

Chart 5.38 Dental Services Provided



The number of dental services provided by Tribal and Urban Programs, as reported to the IHS central database, has increased over 925 percent since FY 1979. In FY 2006, they comprised 52 percent of the total dental services provided, as compared to 10 percent in FY 1979.

**Chart 5.39 Dental Services Provided by Tribal/Urban Programs**

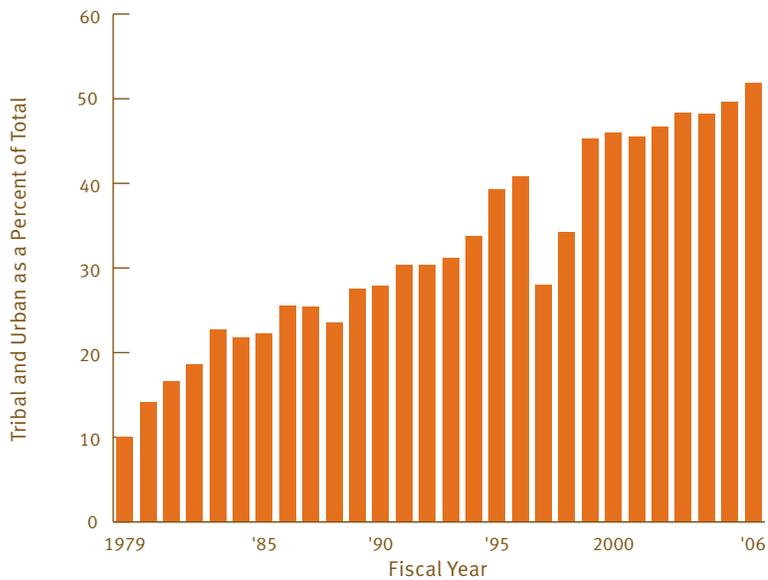


Table 5.38 Number of Dental Services Provided

IHS, Contract, and Tribal and Urban Programs, FY 1955-2006

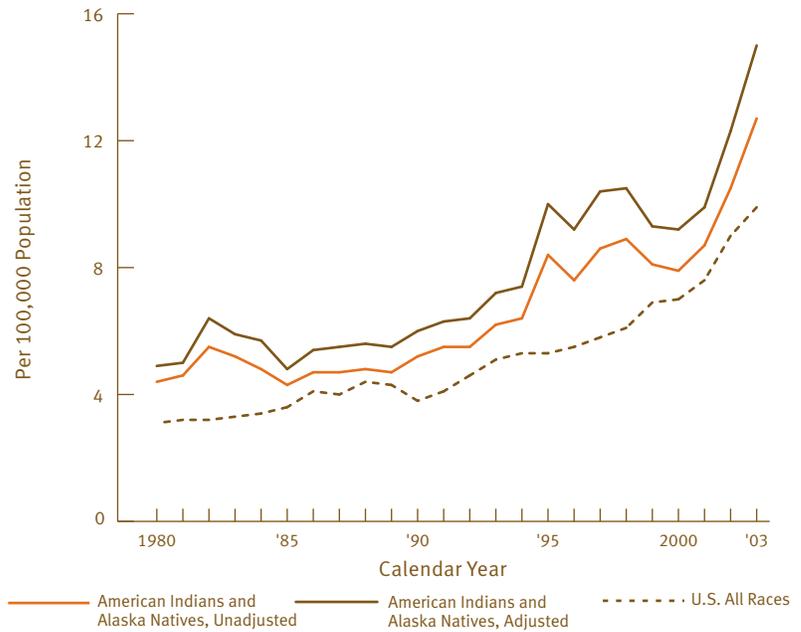
Fiscal Year	Number of Services Provided			Percent Contract of Total	Percent Tribal & Urban of Total	Percent Increase of Total since 1955	
	Total	IHS	Tribal & Urban				
		Direct	Contract <sup>1</sup>				
2006	3,226,509	1,546,657	6,429	1,673,423	0.0	51.9	1,692.5
2005	3,239,491	1,620,142	8,497	1,610,852	0.0	49.7	1,699.7
2004	3,133,000	1,611,049	10,791	1,511,160	0.0	48.2	1,640.6
2003	2,984,887	1,531,988	11,160	1,441,739	0.0	48.3	1,558.3
2002	2,911,348	1,537,016	13,562	1,360,770	0.0	46.7	1,517.4
2001	2,745,002	1,495,304	777	1,248,921	0.0	45.5	1,425.0
2000	2,710,806	1,441,173	23,910	1,245,723	0.9	46.0	1,406.0
1999	2,331,398	1,251,038	23,899	1,056,461	1.0	45.3	1,195.2
1998	2,123,895	1,382,583	15,773	725,539	0.7	34.2	1,079.9
1997	2,052,076	1,451,797	26,134	574,145	1.3	28.0	1,040.0
1996	2,400,646	1,383,870	36,171	980,605	1.5	40.8	1,233.7
1995	2,058,032	1,261,787	49,827	746,418	2.4	39.3	1,043.4
1994	2,643,757	1,686,892	64,483	892,382	2.4	33.8	1,368.8
1993	2,675,525	1,742,936	97,897	834,692	3.7	31.2	1,386.4
1992	2,458,811	1,618,679	92,447	747,685	3.8	30.4	1,266.0
1991	2,369,484	1,516,233	133,253	719,998	5.6	30.4	1,216.4
1990	2,362,228	1,563,934	139,425	658,869	5.9	27.9	1,212.3
1989	2,207,082	1,466,812	132,918	607,352	6.0	27.5	1,126.2
1988	2,106,741	1,415,815	194,784	496,142	9.2	23.6	1,070.4
1987	2,130,690	1,397,262	191,639	541,789	9.0	25.4	1,083.7
1986	1,984,522	1,322,794	155,939	505,789	7.9	25.5	1,002.5
1985	1,914,820	1,276,623	210,508	427,689	11.0	22.3	963.8
1984	2,011,326	1,348,599	224,918	437,809	11.2	21.8	1,017.4
1983	1,907,336	1,325,187	149,741	432,408	7.9	22.7	959.6
1982	1,666,793	1,202,422	153,030	311,341	9.2	18.6	825.7
1981	1,801,982	1,319,913	182,880	299,189	10.1	16.6	901.1
1980	1,833,206	1,357,809	216,574	258,823	11.8	14.1	918.4
1979 <sup>2</sup>	1,618,383	1,239,108	215,997	163,278	13.3	10.1	799.1
1978 <sup>2</sup>	1,099,019	885,019	214,000		19.5		510.6
1977	1,037,640	823,328	214,312		20.7		476.5
1976	975,647	798,709	176,938		18.1		442.0
1975	946,722	745,831	200,891		21.2		426.0
1974	927,701	775,747	151,954		16.4		415.4
1973	863,057	728,909	134,148		15.5		379.5
1972	844,724	718,176	126,548		15.0		369.3
1971	776,168	684,612	91,556		11.8		331.2
1970	737,206	646,580	90,626		12.3		309.6
1969	703,232	634,479	68,753		9.8		290.7
1968	681,745	613,084	68,661		10.1		278.7
1967	626,458	545,509	80,949		12.9		248.0
1966 <sup>2</sup>	570,779	502,710	60,069		11.9		217.1
1965	572,079	495,006	77,073		13.5		217.8
1964	525,010	462,981	62,029		11.8		191.7
1963	453,906	398,452	55,454		12.2		152.2
1962	421,597	364,988	56,609		13.4		134.2
1961	403,528	348,776	54,752		13.6		124.2
1960 <sup>2</sup>	364,423	307,248	57,175		15.7		102.5
1959	328,613	283,206	45,407		13.8		82.6
1958	282,372	282,372					56.9
1957	249,048	249,048					38.4
1956	219,353	219,353					21.9
1955	180,000	180,000					

<sup>1</sup>Beginning with FY 1979, this category excludes contract services purchased from the private sector by Tribes.

<sup>2</sup>Data systems were modified in 1960, 1966, and 1978. In 1978 the IHS began to use the dental services coding list adopted by the American Dental Association (ADA). The ADA list identifies individual clinical services. Previously the IHS had reported specified clinical services combined into major dental service groupings. Excluded from the 1978 count are diagnostic and adjunctive services. Excluded from the clinical counts since 1979 are diagnostic services other than examinations, revisits and non-clinical adjunctive services.

The age-adjusted AI/AN drug-related death rate is 4.9 deaths per 100,000 population for the three-year period 1979-1981, as compared to the AI/AN death rate of 15.0 in 2002-2004. This is an increase of 206 percent since drug-related death rates were first introduced for AI/AN in 1979. The 2002-2004 AI/AN rate is 1.5 times greater than the U.S. all-races rate of 9.9 for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 6.1 Age-Adjusted Drug-Related Death Rates



**Table 6.1 Drug-Related Deaths and Death Rates**

*American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1980-2003  
(Age-Adjusted Rate per 100,000 Population)*

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES	U.S. WHITE	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2002-2004 (2003)	201	237	12.7	15.0	9.9	10.4	1.5	1.4
2001-2003 (2002)	158	184	10.5	12.3	9.0	9.4	1.4	1.3
2000-2002 (2001)	126	147	8.7	9.9	7.6	7.8	1.3	1.3
1999-2001 (2000)	105	115	7.9	9.2	7.0	7.1	1.3	1.3
1998-2000 (1999)	113	140	8.1	9.3	6.9	6.8	1.3	1.4
1997-1999 (1998)	107	124	8.9	10.5	6.1	6.0	1.7	1.8
1996-1998 (1997)	105	126	8.6	10.4	5.8	5.7	1.8	1.8
1995-1997 (1996)	110	141	7.6	9.2	5.5	5.3	1.7	1.7
1994-1996 (1995)	69	80	8.4	10.0	5.3	5.0	1.9	2.0
1993-1995 (1994)	75	85	6.4	7.4	5.3	4.9	1.4	1.5
1992-1994 (1993)	52	62	6.2	7.2	5.1	4.8	1.4	1.5
1991-1993 (1992)	57	67	5.5	6.4	4.6	4.3	1.4	1.5
1990-1992 (1991)	50	59	5.5	6.3	4.1	3.8	1.5	1.7
1989-1991 (1990)	48	55	5.2	6.0	3.8	3.6	1.6	1.7
1988-1990 (1989)	45	52	4.7	5.5	4.3	3.9	1.3	1.4
1987-1989 (1988)	36	43	4.8	5.6	4.4	4.0	1.3	1.4
1986-1988 (1987)	45	52	4.7	5.5	4.0	3.6	1.4	1.5
1985-1987 (1986)	39	46	4.7	5.4	4.1	3.8	1.3	1.4
1984-1986 (1985)	34	38	4.3	4.8	3.6	3.4	1.3	1.4
1983-1985 (1984)	27	31	4.8	5.7	3.4	3.1	1.7	1.8
1982-1984 (1983)	40	49	5.2	5.9	3.3	3.1	1.8	1.9
1981-1983 (1982)	30	32	5.5	6.4	3.2	3.0	2.0	2.1
1980-1982 (1981)	28	33	4.6	5.0	3.2	3.0	1.6	1.7
1979-1981 (1980)	25	26	4.4	4.9	3.1	3.0	1.6	1.6
(1979)	27	32			3.2	3.2		

<sup>1</sup>Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Drug-related death data are introduced in 1979 for the IHS service area. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

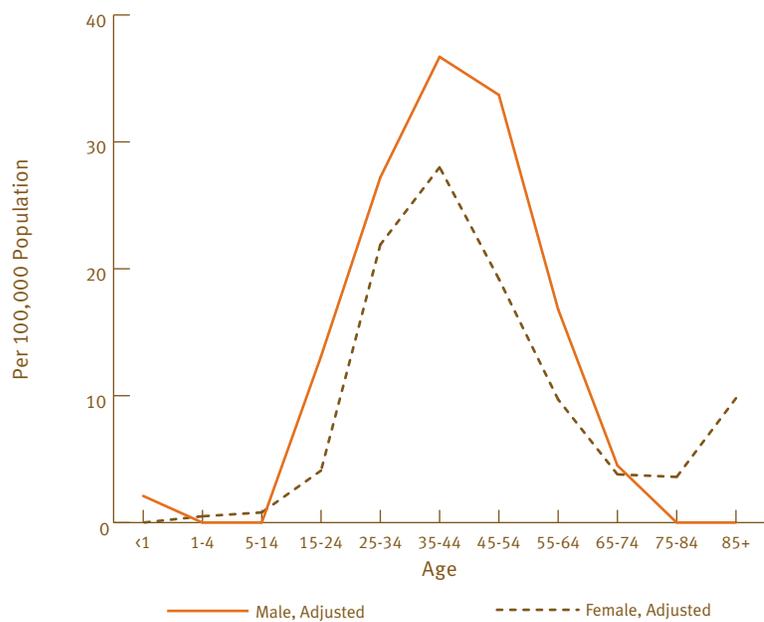
SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.



The age-specific drug-related death rate (36.7) for AI/AN males peaked for age group 35 to 44 years. The highest age-specific rate (28.0) for AI/AN females occurred in the same age group. However, the peak male rate (36.7) was 31.1 percent greater than the peak female rate. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 6.2 Drug-Related Death Rates by Age and Sex**

*American Indians and Alaska Natives (2002-2004)*



**Table 6.2 Drug-Related Death Rates by Age and Sex**

*American Indians and Alaska Natives, IHS Service Area, 2002-2004, and U.S. All-Races and White Populations, 2003 (Rate per 100,000 Population)*

Age Group	AMERICAN INDIAN AND ALASKA NATIVE					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	1.1	1.1	2.1	2.1	—*	—*
1-4 years	0.3	0.3	—*	—*	0.5	0.5
5-14 years	0.4	0.4	—*	—*	0.8	0.8
15-24 years	7.2	8.7	10.7	13.1	3.5	4.1
25-34 years	18.5	24.6	21.2	27.2	15.8	21.9
35-44 years	27.9	32.3	32.8	36.7	23.2	28.0
45-54 years	22.9	26.1	30.2	33.7	16.3	19.2
55-64 years	12.5	13.1	15.6	16.8	9.7	9.7
65-74 years	3.6	4.1	3.4	4.5	3.8	3.8
75-84 years	2.1	2.1	—*	—*	3.6	3.6
85 years +	6.7	6.7	—*	—*	9.8	9.8

Age Group	U.S. ALL RACES			U.S. WHITE		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	0.6	0.8	0.4	0.5	0.9	0.1
1-4 years	0.2	0.3	0.2	0.2	0.2	0.1
5-14 years	0.1	0.1	0.1	0.1	0.1	0.1
15-24 years	6.4	9.2	3.3	7.6	11.0	3.9
25-34 years	12.2	16.6	7.6	13.6	18.6	8.3
35-44 years	20.6	26.5	14.8	21.7	27.8	15.6
45-54 years	20.0	25.7	14.6	20.0	25.1	15.0
55-64 years	8.0	9.4	6.7	7.8	8.7	7.0
65-74 years	4.1	4.6	3.7	4.1	4.3	3.9
75-84 years	4.2	4.9	3.7	4.5	5.2	4.0
85 years +	6.0	7.8	5.2	6.3	7.8	5.6

—\* Represents zero.

<sup>1</sup>Adjusted to compensate for misreporting of AI/AN race on state death certificates.

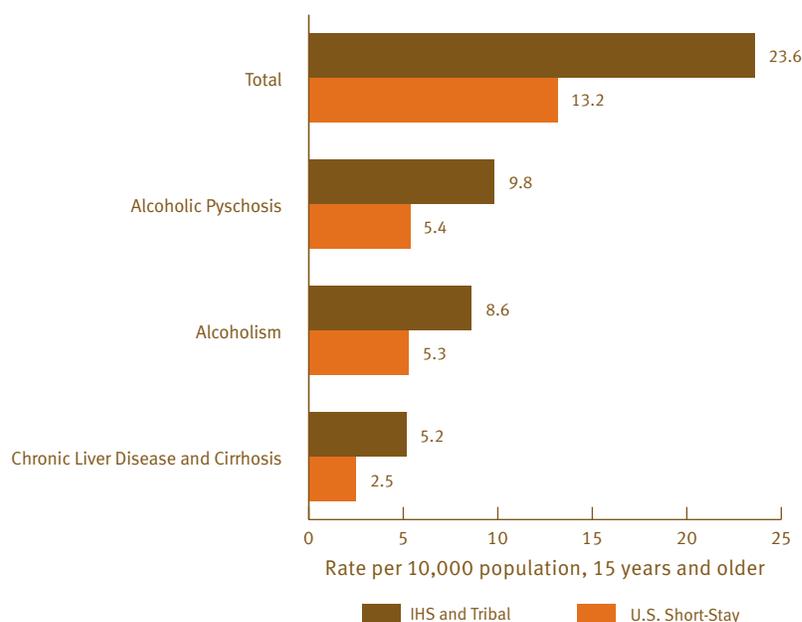
NOTE: ICD-10 codes included in drug-induced causes of death were expanded in the 2003 data year to be more comprehensive.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. April 1995.

In FY 2006, the total alcohol-related discharge rate (first diagnosis) for IHS and Tribal direct and contract general hospitals was 23.6 per 10,000 user population aged 15 years and older. This is 78 percent higher than the CY 2005 rate of 13.2 for U.S. Short-Stay hospitals.

**Chart 6.3 Alcohol-Related Discharge Rates (First-Listed Diagnosis)**

*IHS and Tribal Direct and Contract General Hospitals, FY 2006  
and U.S. Federal Short-Stay Hospitals, CY 2005*



**Table 6.3 Number and Rate for Discharges with a First-Listed Alcohol-Related Diagnosis for Persons 15 Years Old and Older**

*Indian Health Service and Tribal Direct and Contract General Hospitals, FY 2006  
U.S. General Short-Stay Hospitals, CY 2005*

First Listed Diagnosis	IHS AND TRIBAL HOSPITALS		U.S. NON-FEDERAL SHORT-STAY HOSPITALS	
	Number	Rate	Number (thousands)	Rate
<b>Total</b>	<b>2,280</b>	<b>23.6</b>	<b>392</b>	<b>13.2</b>
Alcoholism (ICD-9-CM 303, 305.0)	945	9.8	160	5.4
Alcoholic psychosis (ICD-9-CM 291)	832	8.6	158	5.3
Chronic liver disease and cirrhosis, specified as alcoholic (ICD-9-CM 571.0-571.3)	503	5.2	74	2.5

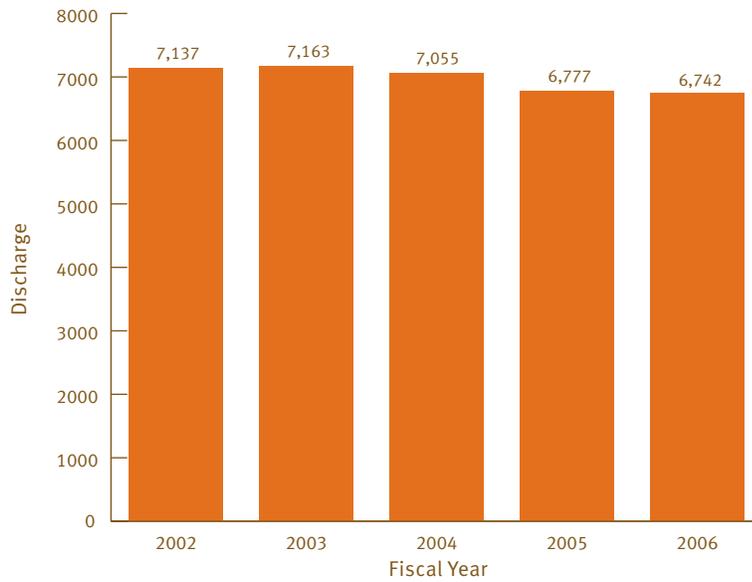
NOTE: Rate is number of discharges per 10,000 user population aged 15 years and older. CY 2005 U.S. Non-Federal Short-Stay hospital data was used because CY 2006 was not available at time of going to press.

SOURCE: IHS and Tribal Hospitals: IHS National Data Warehouse  
U.S.: Non-Federal Short-Stay Hospitals, National Hospital Discharge Survey, NCHS, 2005

Since FY 2002, the number of discharges for injuries and poisonings from IHS and Tribal direct and contract general hospitals has decreased 6 percent. In FY 2006, there were 6,742 discharges.

**Chart 6.4 Hospitalizations for Injuries and Poisonings**

*IHS and Tribal Direct and Contract General Hospitals, FY 2002-2006*



The age-adjusted motor vehicle death rate for AI/AN males has decreased 62 percent since the three-year period 1972-1974. The 2002-2004 rate (66.3 deaths per 100,000 population) is 3.1 times the U.S. all-races rate (21.7) for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 6.5 Age-Adjusted Motor Vehicle Death Rates for Males**

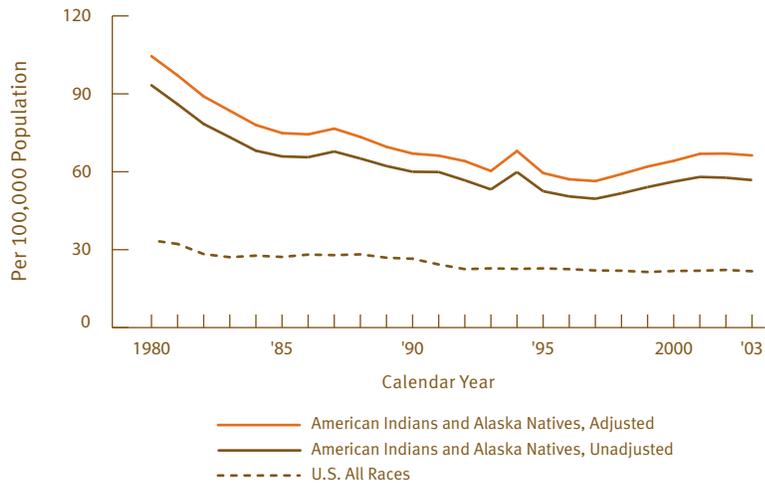


Table 6.5 Motor Vehicle Deaths and Death Rates for Males

American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES Rate	U.S. WHITE Rate	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2002-2004 (2003)	475	556	56.8	66.3	21.7	22.0	3.1	3.0
2001-2003 (2002)	491	581	57.7	67.0	22.2	22.5	3.0	3.0
2000-2002 (2001)	424	496	58.0	66.9	21.9	22.1	3.1	3.0
1999-2001 (2000)	424	490	56.2	64.2	21.8	21.8	2.9	2.9
1998-2000 (1999)	410	479	54.1	62.0	21.4	21.4	2.9	2.9
1997-1999 (1998)	396	466	51.7	59.1	21.9	21.8	2.7	2.7
1996-1998 (1997)	407	462	49.6	56.4	22.0	21.9	2.6	2.6
1995-1997 (1996)	417	481	50.5	57.1	22.5	22.4	2.5	2.5
1994-1996 (1995)	396	456	52.5	59.5	22.8	22.6	2.6	2.6
1993-1995 (1994)	373	424	59.9	68.0	22.6	22.6	3.0	3.0
1992-1994 (1993)	367	423	53.2	60.3	22.8	22.7	2.6	2.7
1991-1993 (1992)	382	443	56.7	64.1	22.5	22.4	2.8	2.9
1990-1992 (1991)	393	449	59.9	66.2	24.3	24.2	2.7	2.7
1989-1991 (1990)	399	451	60.0	67.0	26.5	26.3	2.5	2.5
1988-1990 (1989)	381	432	62.2	69.6	26.9	26.7	2.6	2.6
1987-1989 (1988)	410	467	65.1	73.4	28.2	28.1	2.6	2.6
1986-1988 (1987)	423	481	67.8	76.6	27.9	28.0	2.7	2.7
1985-1987 (1986)	395	447	65.6	74.4	28.1	28.0	2.6	2.7
1984-1986 (1985)	354	403	65.9	74.9	27.2	27.2	2.8	2.8
1983-1985 (1984)	351	404	68.1	78.0	27.7	27.9	2.8	2.8
1982-1984 (1983)	358	413	73.3	83.5	27.1	27.3	3.1	3.1
1981-1983 (1982)	362	408	78.4	89.0	28.3	28.6	3.1	3.1
1980-1982 (1981)	405	462	86.0	97.1	32.2	32.6	3.0	3.0
1979-1981 (1980)	429	488	93.3	104.5	33.6	33.8	3.1	3.1
(1979)	448	488						
1972-1974 (1973)	1,199	1,330	157.7	175.5	39.3	38.4	4.5	4.6
1954-1956 (1955)	-		-		38.4	37.8		

- Data not available.

<sup>1</sup>Adjusted - specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Data from 1972 forward are drawn from specific counties in the IHS service area. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. All-Races and U.S. White columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

The age-adjusted motor vehicle death rate for AI/AN females has decreased 42 percent since the three-year period 1972-1974. The 2002-2004 rate (37.1 deaths per 100,000 population) is 3.9 times the U.S. all-races rate (9.4) for 2003. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 6.6 Age-Adjusted Motor Vehicle Death Rates for Females**

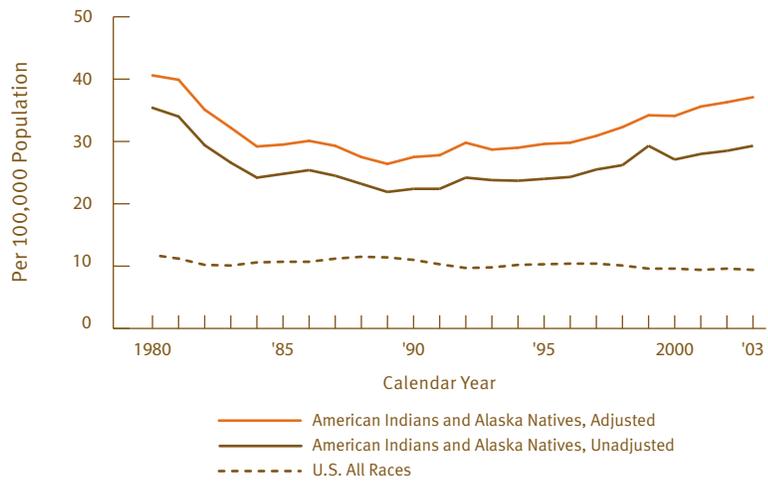


Table 6.6 Motor Vehicle Deaths and Death Rates for Females

American Indians and Alaska Natives, IHS Service Area, and U.S. All-Races and White Populations, 1955-2003  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	AMERICAN INDIAN AND ALASKA NATIVE				U.S. ALL RACES Rate	U.S. WHITE Rate	RATIO OF AMERICAN INDIAN AND ALASKA NATIVE <sup>1</sup> TO:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2002-2004 (2003)	253	331	29.3	37.1	9.4	9.6	3.9	3.9
2001-2003 (2002)	252	327	28.5	36.3	9.6	9.9	3.8	3.7
2000-2002 (2001)	200	261	28.0	35.6	9.4	9.5	3.8	3.7
1999-2001 (2000)	233	295	27.1	34.1	9.6	9.8	3.6	3.5
1998-2000 (1999)	206	273	29.3	34.2	9.6	9.7	3.6	3.5
1997-1999 (1998)	223	278	26.2	32.3	10.1	10.3	3.2	3.1
1996-1998 (1997)	204	253	25.5	30.9	10.4	10.5	3.0	2.9
1995-1997 (1996)	208	257	24.3	29.8	10.4	10.6	2.9	2.8
1994-1996 (1995)	194	247	24.0	29.6	10.3	10.4	2.9	2.8
1993-1995 (1994)	179	218	23.7	29.0	10.2	10.2	2.8	2.8
1992-1994 (1993)	201	249	23.8	28.7	9.8	10.0	2.9	2.9
1991-1993 (1992)	156	197	24.2	29.8	9.7	9.8	3.1	3.0
1990-1992 (1991)	165	218	22.4	27.8	10.3	10.5	2.7	2.6
1989-1991 (1990)	149	186	22.4	27.5	11.0	11.2	2.5	2.5
1988-1990 (1989)	155	186	21.9	26.4	11.4	11.7	2.3	2.3
1987-1989 (1988)	155	188	23.2	27.5	11.5	11.7	2.4	2.4
1986-1988 (1987)	151	185	24.5	29.3	11.2	11.5	2.6	2.5
1985-1987 (1986)	171	202	25.4	30.1	10.7	11.0	2.8	2.7
1984-1986 (1985)	154	184	24.8	29.5	10.7	11.0	2.8	2.7
1983-1985 (1984)	134	166	24.2	29.2	10.6	11.0	2.8	2.7
1982-1984 (1983)	140	175	26.6	32.2	10.1	10.4	3.2	3.1
1981-1983 (1982)	168	204	29.4	35.1	10.2	10.5	3.4	3.3
1980-1982 (1981)	165	193	34.0	39.9	11.2	11.7	3.6	3.4
1979-1981 (1980)	193	230	35.4	40.6	11.8	12.2	3.4	3.3
(1979)	168	192						
1972-1974 (1973)	480	533	58.5	64.1	14.5	14.5	4.4	4.4
1954-1956 (1955)	-	-	-	-	38.4	37.8		

- Data not available.

<sup>1</sup>Adjusted - specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

NOTE: Data from 1972 forward are drawn from specific counties in the IHS service area. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 standard population; the U.S. all-races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>.

There were 420,778 public health nursing visits recorded in the Headquarters reports for FY 2006. The most frequent program areas dealt with during these visits were health promotion/disease prevention (39 percent of the visits), morbidity (17 percent), maternal health (5 percent) and communicable disease (4 percent).

Chart 6.7 IHS Public Health Nursing, Percent of Visits by Program Areas, FY 2006

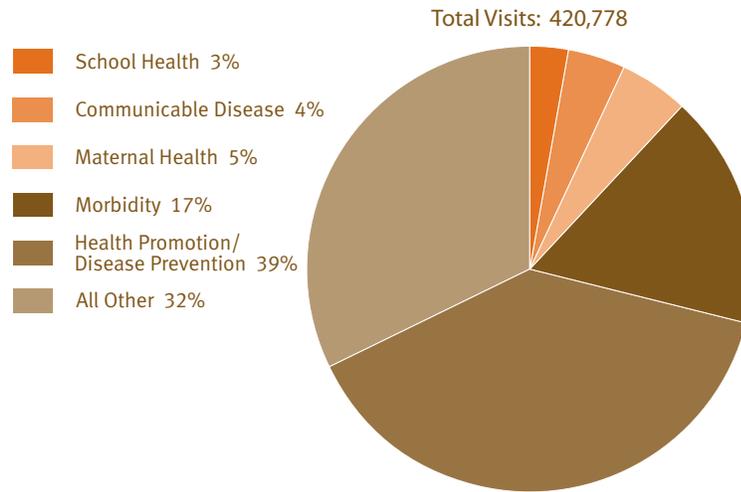


Table 6.7 IHS Public Health Nursing Visits by Program Area, FY 2006

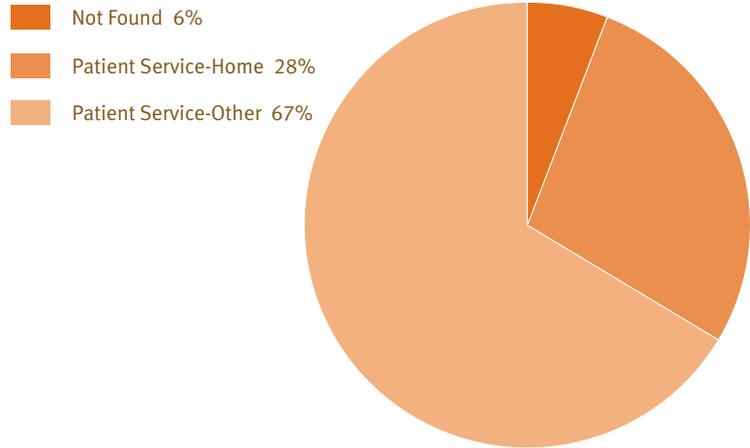
Program Area	Number of Visits	Percent Distribution
<b>Total Visits</b>	<b>420,778</b>	<b>100.0</b>
Health Promotion/Disease Prevention	162,655	38.7
Morbidity	72,353	17.2
Maternal Health	20,145	4.8
Communicable Disease	16,670	4.0
School Health	10,766	2.6
Mental Health	9,069	2.2
Accidents/Trauma	3,274	0.8
Child Health	133	0.0
General	125,067	29.7
Unspecified	646	0.2

SOURCE: IHS National Data Warehouse



Twenty-eight (28) percent of public health nursing time in FY 2006 was devoted to patient service in the home, while over 67 percent was spent on patient service outside the home.

**Chart 6.8** IHS Public Health Nursing, Percent of PHN Visits by Type of Activity, FY 2006



**Table 6.8** IHS Public Health Nursing Visits Worked by Type of Activity, FY 2006

Type of Activity	Number of Visits	Percent Distribution
<i>Total Visits</i>	<i>420,778</i>	<i>100.0</i>
Patient Service-Other	281,492	66.9
Patient Service-Home	115,912	27.5
Not Found	23,374	5.6

SOURCE: IHS National Data Warehouse

For the public health nursing program in FY 2006 female visits outnumbered male visits by 62 percent. Nearly 11 percent of all visits pertained to males under 5 years of age and nearly 7 percent pertained to males aged 65 and over. The corresponding percentages for females were nearly 10 percent and 12 percent, respectively.

Chart 6.9 IHS Public Health Nursing, Percent Visits by Age and Sex, FY 2006

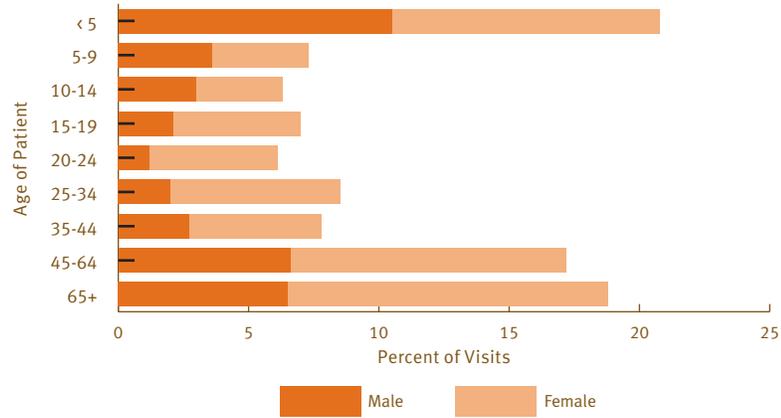


Table 6.9 IHS Public Health Nursing Visits by Age and Sex of Patients, FY 2006

Age Group	NUMBER OF VISITS <sup>1</sup>		PERCENT DISTRIBUTION OF ALL VISITS		Ratio Female to Male
	Male	Female	Male	Female	
<b>All Ages</b>	<b>161,380</b>	<b>259,397</b>	<b>38.4</b>	<b>61.6</b>	<b>1.6</b>
Under 5 years	44,134	43,283	10.5	10.3	1.0
5 to 9 years	15,326	15,756	3.6	3.7	1.0
10 to 14 years	12,829	13,765	3.0	3.3	1.1
15 to 19 years	8,989	20,508	2.1	4.9	2.3
20 to 24 years	5,103	20,805	1.2	4.9	4.1
25 to 34 years	8,603	27,483	2.0	6.5	3.2
35 to 44 years	11,282	21,646	2.7	5.1	1.9
45 to 64 years	27,713	44,600	6.6	10.6	1.6
65 years +	27,398	51,547	6.5	12.3	1.9
Unspecified Age	3	4	0.0	0.0	—

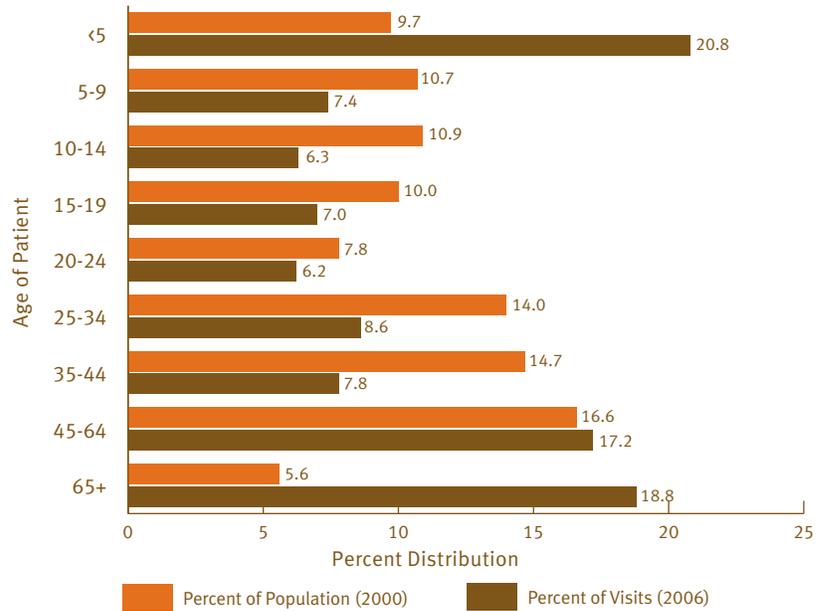
<sup>1</sup>The same visit is counted more than once if it involved more than 1 family member, e.g., 2 children in the same family, both for child health, but different ages and gender.

NOTE: The male percentage does not sum to its total due to rounding.  
SOURCE: IHS National Data Warehouse



In FY 2006, 20.8 percent of public health nursing visits pertained to children under 5 years of age and 18.8 percent pertained to adults over the age of 64. Based on the 2000 census bridged race, these two age groups comprised much smaller proportions of the AI/AN population 9.7 percent and 5.6 percent, respectively.

**Chart 6.10 IHS Public Health Nursing Visits by Age, FY 2006 versus 2000 Census**



**Table 6.10 IHS Public Health Nursing Visits by Age of Patients**

*FY 2006 Visits Compared with 2000 Census Data*

Area	PHN VISITS		2000 Census Percent Distribution <sup>2</sup>	Ratio PHN Visit Distribution to 2000 Census
	Number <sup>1</sup>	Percent Distribution		
<b>All Ages</b>	<b>420,778</b>	<b>100.0</b>	<b>100.0</b>	
Under 5 years	87,417	20.8	9.7	2.1
5 to 9 years	31,082	7.4	10.7	0.7
10 to 14 years	26,594	6.3	10.9	0.6
15 to 19 years	29,497	7.0	10.0	0.7
20 to 24 years	25,908	6.2	7.8	0.8
25 to 34 years	36,086	8.6	14.0	0.6
35 to 44 years	32,928	7.8	14.7	0.5
45 to 64 years	72,313	17.2	16.6	1.0
65 years +	78,945	18.8	5.6	3.4
Unspecified Age	8	0.0	—*	—*

—\* Represents zero.

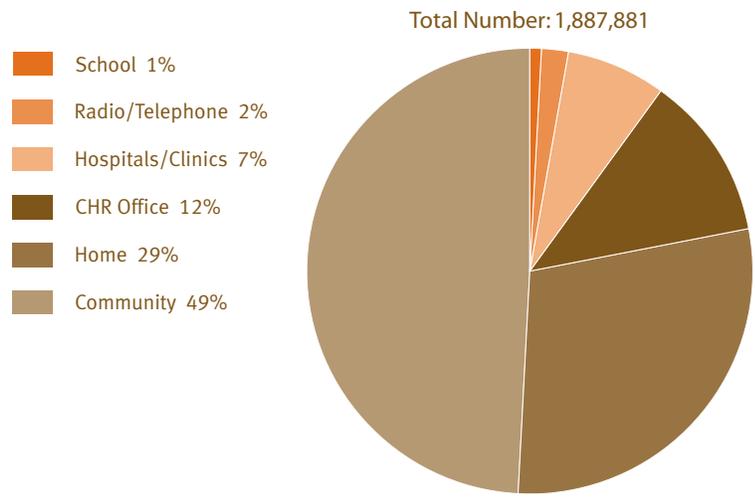
<sup>1</sup>The same visit is counted more than once if it involved more than 1 family member, e.g., 2 children in the same family, both for child health, but different ages and gender.

<sup>2</sup>Based on 2000 census bridged-race file developed by the Census Bureau and the National Center for Health Statistics, Centers for Disease Control and Prevention.

SOURCE: IHS National Data Warehouse

The community health representatives (CHR) program reported nearly 1.9 million client contacts in October 1, 2003 to September 30, 2006. Most of these contacts took place in the community (49 percent), followed by home (29 percent).

**Chart 6.11** Distribution of CHR Client Contacts by Setting, October 1, 2003 to September 30, 2006



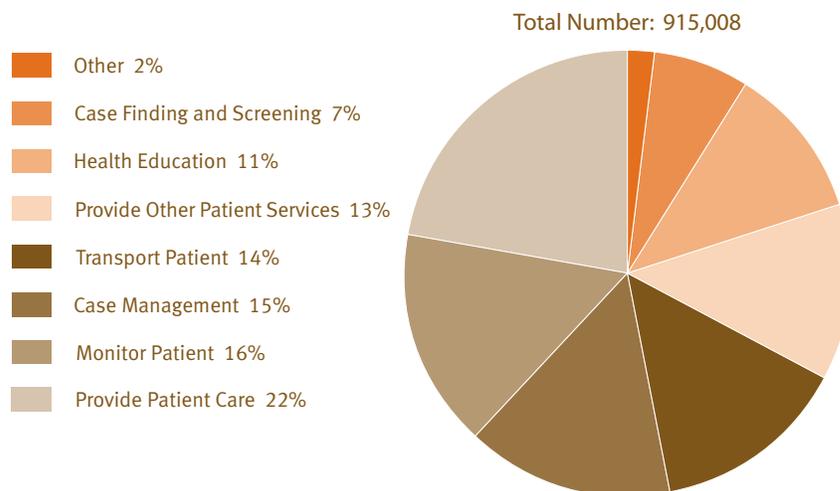
**Table 6.11** Community Health Representative Client Contacts by Setting, October 1, 2003 to September 30, 2006

Activity Location	Number of Services	Percent Distribution	Service Hours	Percent Distribution
<b>Total Client Contacts<sup>1</sup></b>	<b>1,887,881</b>	<b>100.0</b>	<b>549,557.79<sup>2</sup></b>	<b>100.0</b>
Community	925,792	49.0	166,214.22	30.2
Home	554,545	29.4	206,017.70	37.5
CHR Office	235,817	12.5	96,454.45	17.6
Hospitals and Clinics	128,638	6.8	74,641.30	13.6
Radio/Telephone	40,267	2.1	6,090.32	1.1
School	2,822	0.1	22.33	0.0

<sup>1</sup> Estimated data based on CHR client contact reports complete during 12 sample reporting weeks during October 1, 2003 to September 30, 2006 and inflated to represent all weeks during FY 1998.  
<sup>2</sup> Includes 117.47 service hours which was not specified.

The two leading detailed activities for CHR contacts in October 1, 2003 to September 30, 2006 were provide patient (22 percent) and monitor patient (16 percent).

**Chart 6.12** CHR Client Contacts by Leading Detailed Activities, October 1, 2003 to September 30, 2006



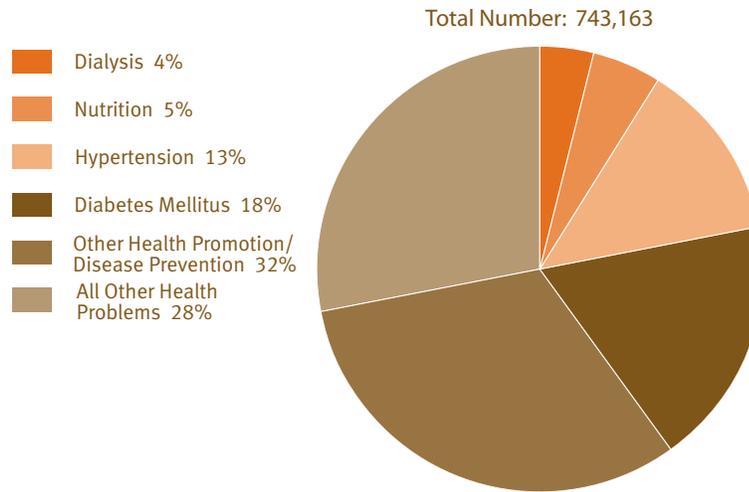
**Table 6.12** Community Health Representative Client Contacts for Leading Detailed Activities, October 1, 2003 to September 30, 2006

Detailed Activity	Services	Percent	Service Hours	Percent	Travel Hours	Percent
<i>Total Client Contacts</i>	<i>915,008<sup>1</sup></i>	<i>100.0</i>	<i>549,557.77</i>	<i>100.0</i>	<i>306,325.61</i>	<i>100.0</i>
Provide Patient Care	199,333	21.8	72,067.34	13.1	51,222.40	16.7
Monitor Patient	147,539	16.1	37,246.37	6.8	37,289.98	12.2
Case Management	136,785	14.9	96,597.70	17.6	34,251.32	11.2
Transport Patient	125,791	13.7	159,057.31	28.9	95,867.87	31.3
Provide Other Patient Services	119,264	13.0	71,984.00	13.1	41,177.18	13.4
Health Education	96,495	10.5	67,800.98	12.3	24,827.85	8.1
Case Finding and Screening	60,546	6.6	26,979.35	4.9	10,810.17	3.5
Interpret/Translate for Patient	12,809	1.4	3,870.38	0.7	3,386.42	1.1
Provide Homemaker Services	9,298	1.0	5,878.78	1.1	3,429.83	1.1
Provide Environmental Services	5,844	0.6	7,117.83	1.3	3,664.07	1.2
Provide Emergency Care	1,115	0.1	854.15	0.2	337.17	0.1
Not Found	167	0.0	28.00	0.0	42.72	0.0
Community Development	22	0.0	75.58	0.0	18.63	0.0

<sup>1</sup>Data represents top 10 CHR health problems and number of client services from data exports to RPMS CHR PCC.

The top leading health problems for CHR contacts in October 1, 2003 to September 30, 2006 were other health promotion/disease prevention (32 percent), diabetes mellitus (18 percent), hypertension (13 percent), nutrition (5 percent), and dialysis (4 percent). The remaining 28 percent for all other health problems include heart, immunizations, eye care/glasses, dental (all) and arthritis.

**Chart 6.13 Ten Leading Health Problems for CHR Client Contacts, October 1, 2003 to September 30, 2006**



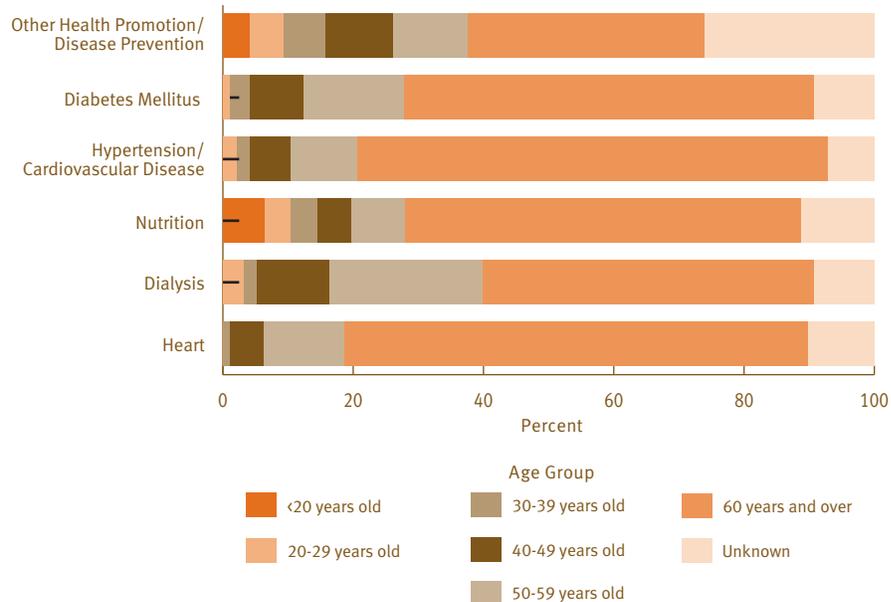
**Table 6.13 Community Health Representative Client Contacts for Top Leading Health Problems, October 1, 2003 to September 30, 2006**

Health Problems	Number of Services	Percent	Service Hours	Percent
<b>Total Service</b>	<b>743,163</b>	<b>81.1</b>	<b>451,306.37</b>	<b>100.0</b>
Other Health Promotion/Disease Prevention	290,567	31.8	250,959.80	55.6
Diabetes Mellitus	163,285	17.9	66,244.47	14.7
Hypertension/Cardiovascular Disease	116,319	12.7	29,473.50	6.5
Nutrition	45,630	5.0	16,861.98	3.7
Dialysis	39,520	4.3	43,331.17	9.6
Heart	21,404	2.3	10,046.63	2.2
Immunizations	19,623	2.1	3,910.20	0.9
Eye Care/Glasses	19,193	2.1	14,402.75	3.2
Dental (All)	14,054	1.5	10,354.77	2.3
Arthritis	13,568	1.5	5,721.10	1.3

Data represents top 10 CHR health problems and number of client services from data exports to RPMS CHR PCC.

Data reflect the top 6 health problems by percentages of age for which CHR provide services. It is clear that patients over 60 are primary recipients.

**Chart 6.14** Leading Health Problems for CHR Client Contacts by Age, October 1, 2003 to September 30, 2006

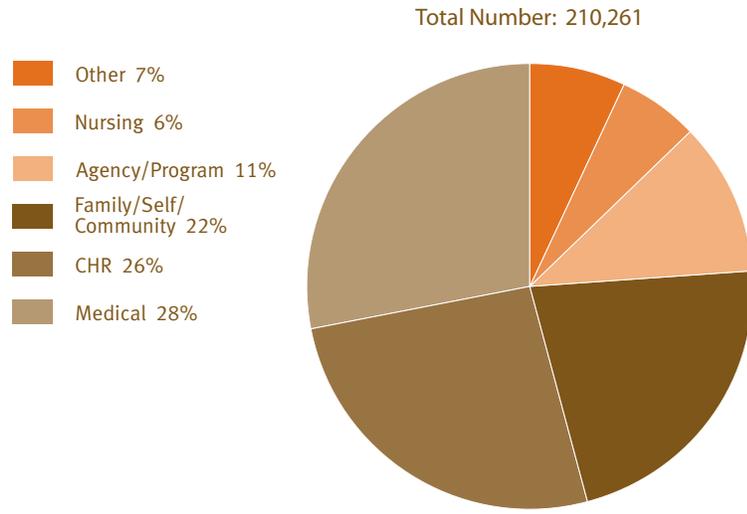


**Table 6.14** Community Health Representative Client Contacts for Leading Health Problems by Age, October 1, 2003 to September 30, 2006

Health Problem	AGE							Unknown
	0-9	10-19	20-29	30-39	40-49	50-59	60+	
Other Health Promotion/Disease Prevention	2.0	2.1	5.2	6.3	10.4	11.5	36.5	26.0
Diabetes Mellitus	0.0	0.0	1.0	3.1	8.2	15.5	62.9	9.3
Hypertension/Cardiovascular Disease	0.0	0.0	2.0	2.1	6.2	10.3	72.2	7.2
Nutrition	5.2	1.1	4.1	4.1	5.2	8.2	60.8	11.3
Dialysis	0.0	0.0	3.1	2.0	11.2	23.5	51.0	9.2
Heart	0.0	0.0	0.0	1.0	5.2	12.4	71.1	10.3

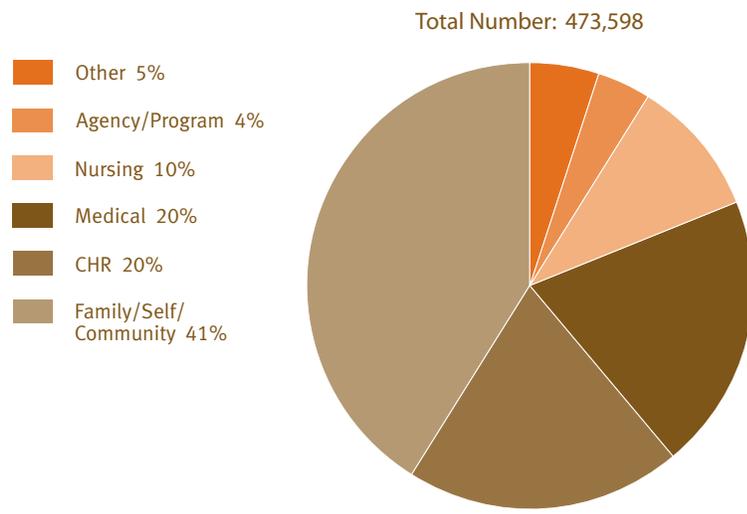
The CHR program reported receiving 210,261 referrals in FY 2003-2006. Medical referrals comprised 28 percent of the total, while 26 percent came from fellow CHRs.

Chart 6.15 Leading Types of CHR, Incoming Client Referrals, FY 2003-2006



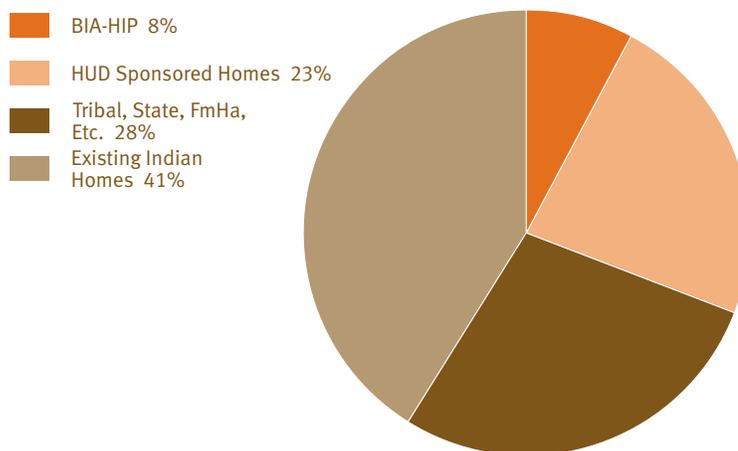
The CHR program reported making 473,598 referrals in FY 2003-2006. Family/self/community made up 41 percent of outgoing CHR referrals, while CHR and medical professionals both received 20 percent of these referrals.

Chart 6.16 Leading Types of CHR, Outgoing Client Referrals, FY 2003-2006



Since 1960, Indian Health Service has funded the provision of sanitation facilities for over 273,000 Indian homes.

**Chart 6.17** Types of Indian Homes, Provided with Sanitation Facilities by IHS through 2006



**Table 6.17** Indian Homes Provided with Sanitation Facilities by IHS, FYs 1960–2006

Fiscal Year	Total First Service	First Service & Upgrade	Existing First Service	HUD First Service	HIP First Service	Tribal & Other	Total Upgrade
<b>Total</b>	<b>273,202</b>	<b>542,796</b>	<b>111,193</b>	<b>61,490</b>	<b>22,850</b>	<b>77,669</b>	<b>269,594</b>
2006	3,177	24,090	1,766	79	30	1,302	20,913
2005	4,424	24,072	2,029	23	123	2,249	19,648
2004	4,939	24,928	2,391	5	112	2,431	19,989
2003	6,460	22,750	2,689	422	334	3,015	16,290
2002	4,985	21,996	1,232	186	212	3,355	17,011
2001	5,862	18,978	1,670	503	217	3,472	13,116
2000	5,748	17,296	1,674	331	201	3,542	11,548
1999	5,471	18,003	1,740	497	244	2,990	12,532
1998	6,987	17,479	2,815	643	232	3,297	10,492
1997	6,919	19,912	2,306	1,109	397	3,107	12,993
1996	6,779	15,151	2,565	1,161	435	2,618	8,372
1995	5,915	12,041	1,847	920	457	2,691	6,126
1994	6,457	15,612	1,564	1,867	307	2,719	9,155
1993	6,434	14,084	1,663	1,247	415	3,109	7,650
1992	5,506	15,116	1,911	910	394	2,291	9,610
1991	7,600	13,300	2,099	1,668	645	3,188	5,700
1990	4,572	7,407	524	1,679	468	1,901	2,835
1980-1989	60,488	100,850	16,472	19,225	7,001	17,790	40,362
1970-1979	69,603	91,074	24,873	24,167	9,246	11,317	21,471
1960-1969	44,876	48,657	37,363	4,848	1,380	1,285	3,781

NOTE: Data for the later years represent estimates of services to be provided.

Contributions to Indian Health Service sanitation facilities projects are received from numerous sources. In FY 2006, 88 percent of the contributions were attributed to the Tribes. Housing Authorities contributed five percent of the funds for these cooperative projects, followed by State Government with three percent.

Chart 6.18 Contributions to IHS, Sanitation Facilities Projects, FY 2006

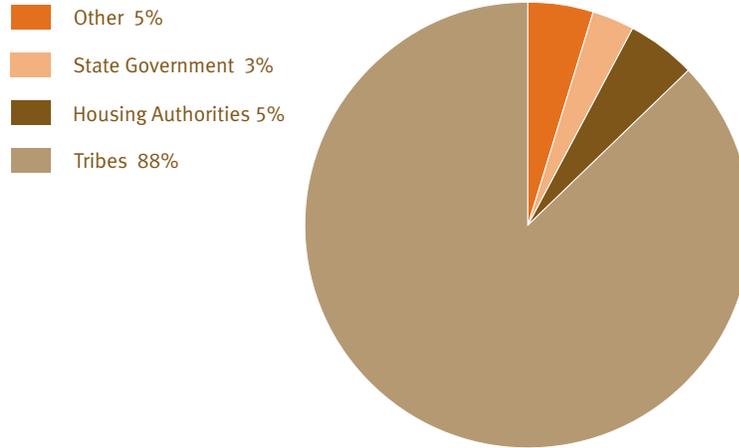


Table 6.18 P.L. 86-121 Program—Summary of Cash

*Contributions Received in FY 2006 by Contributor*

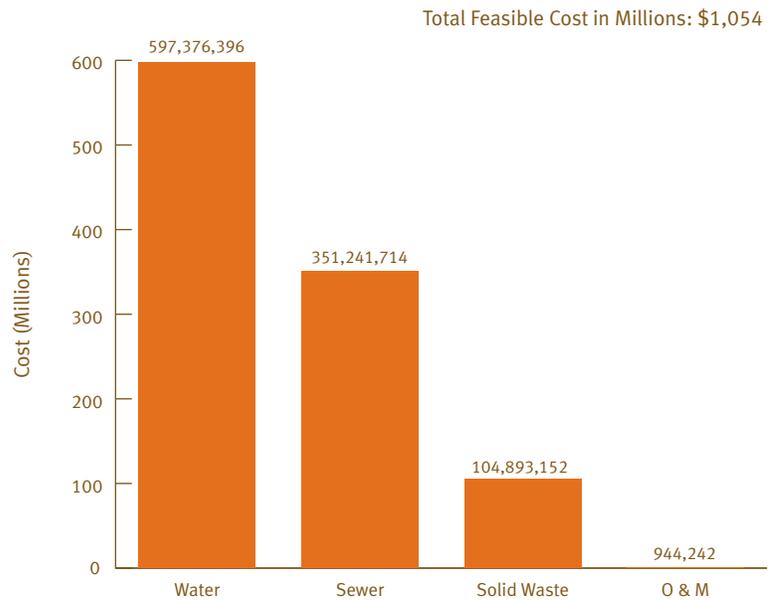
Contributor	Contributions	Percent
<b>Total</b>	<b>\$33,166,551</b>	<b>100.0</b>
Tribes <sup>1</sup>	\$29,056,524	87.6
Housing Authorities	\$1,503,335	4.5
State Government	\$1,037,085	3.1
Other Federal	\$809,293	2.4
Department of Housing and Urban Development (DHUD) Infrastructure	\$585,402	1.8
Office of Navajo-Hopi Indian Relocation	\$174,912	0.5

<sup>1</sup>Includes EPA and DHUD Community Development Block Grant funds that were contributed by Tribes.



The FY 2007 sanitation deficiency of \$1.054 billion to serve existing AI/AN homes and communities represents the cost to provide first service sanitation facilities, to upgrade existing facilities, to provide solid waste facilities, and to provide assistance to operation and maintenance organizations.

**Chart 6.19 Sanitation Facilities Deficiencies, FY 2007 – Costs**



The sanitation facility deficiency for AI/AN homes and communities is categorized into requirements for water, sewer, assistance to establish and equip organizations to operate and maintain the facilities, and solid waste disposal systems. Units are the total number of homes.

**Chart 6.20 Sanitation Facilities Deficiencies, FY 2007 – Units**

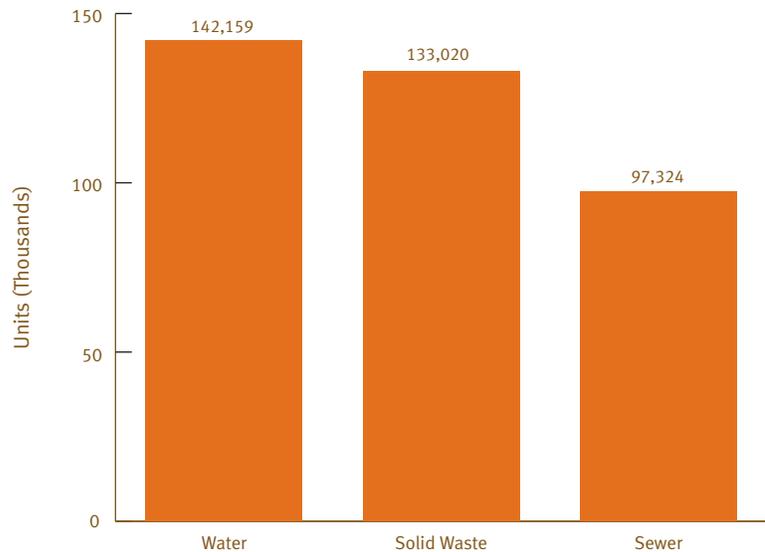


Table 6.19 Sanitation Facilities Deficiency Summary, FY 2007

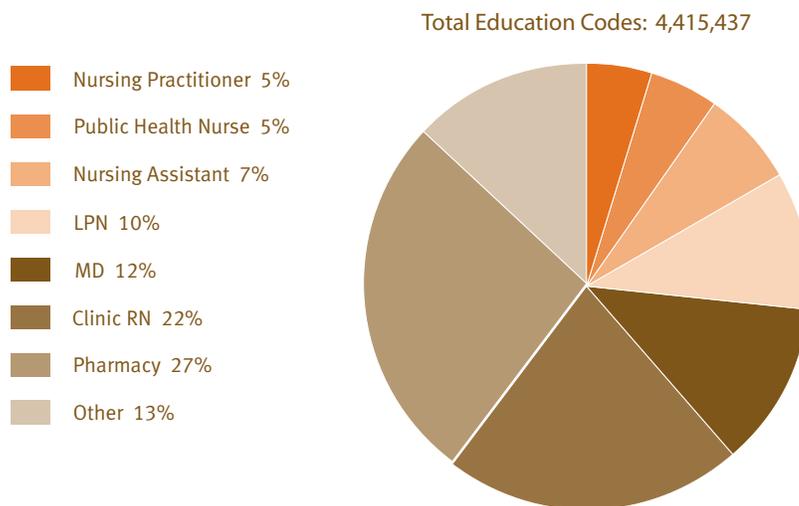
	Total	
	Units	Cost (thousands)
<i>Total Eligible Deficiency: \$1,054,455,504<sup>1</sup></i>		
Water	142,159	\$597,376
Sewer	97,324	\$351,242
Solid Waste	133,020	\$104,893
Operation and Maintenance	0	\$944,242

Units are the total number of homes.

<sup>1</sup>Cost estimates are for projects in current IHS funding plan. Additional projects totaling approximately \$949 million, mostly for the provision of piped water and sewer to 2-5 percent of existing American Indian and Alaska Native homes and communities, are not considered economically feasible at this time.

In FY 2007, 4,415,437 patient education topics were provided to patients through a diverse range of health care disciplines. Pharmacists documented 27 percent of the patient education provided to patients, followed by clinical nurses (22 percent), physicians (12 percent), LPNs (10 percent), nursing assistants (7 percent), public health nurse and nurse practitioners (5 percent). Other disciplines provided less than 5 percent and are grouped together in the other category, which totaled provided 13 percent of patient education.

**Chart 6.21 IHS Clinicians Documenting Patient Education, FY 2007**



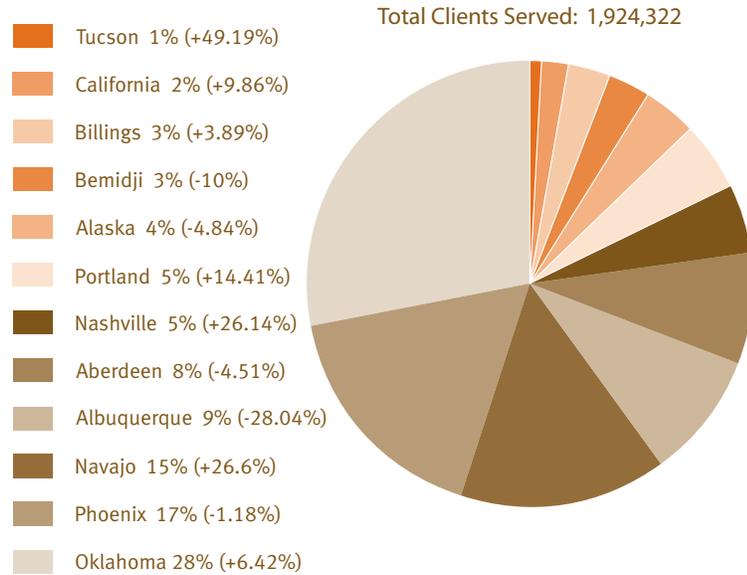
**Table 6.21 IHS Clinicians Documenting Patient Education, FY 2007**

Provider	Number of Education Codes Documented	Percent Distribution
<i>Total Education Codes</i>	<i>4,415,437</i>	<i>100.0</i>
Pharmacy	1,184,745	26.8
Clinic RN	985,559	22.3
MD	521,687	11.8
LPN	426,666	9.7
Nursing Assistant	310,613	7.0
Public Health Nurse	206,942	4.7
Nurse Practitioner	201,118	4.6
Family Practice Physician	155,811	3.5
Physician Assistant	129,706	2.9
Peds	96,784	2.2
Internal Medicine	86,711	2.0
Dentist	45,168	1.0
Contract Physician	38,913	0.9
ER Physician	25,014	0.6

SOURCE: IHS National Data Warehouse

In FY 2007, patient education was provided to 1,924,322 patients. Areas documenting the most patient education are the Oklahoma area (28 percent), Phoenix area (17 percent), and the Navajo area (15 percent). Areas with the greatest improvement in documentation as compared to FY 2003 are the Tucson area (increase of 49.19 percent), Navajo area (increase of 26.6 percent), Nashville area (increase of 26.14 percent), and the Portland area (increase of 14.41 percent).

Chart 6.22 IHS Clients Served by IHS Areas, FY 2007, Percent change from FY 2006



Most patient education is provided in the hospital (57 percent) or health clinic (35 percent) location. Health stations, village clinics, and chapter houses account for 4 percent of health education provided and the remaining 4 percent of health education is provided in non-health care related settings such as home, school, or the office.

Chart 6.23 IHS Patient Education, Percent of Clients Served by Location, FY 2007

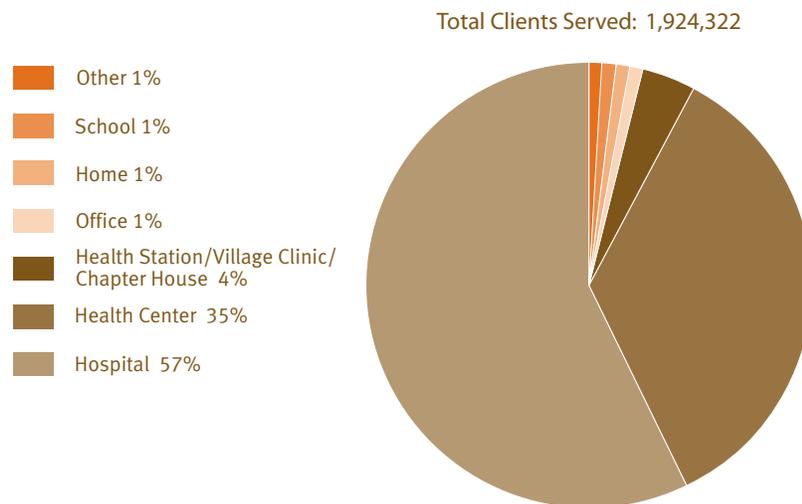


Table 6.22 IHS Clients Served by Location, FY 2007

Area	Total	Hospital	Health Center	Health Station	Home	School	Other	Office	Village Clinic
<b>Total Clients</b>	<b>1,924,322</b>	<b>1,095,921</b>	<b>683,910</b>	<b>56,509</b>	<b>26,337</b>	<b>14,357</b>	<b>24,797</b>	<b>11,849</b>	<b>10,642</b>
Aberdeen	151,235	76,510	61,412	1,354	3,822	2,704	3,486	1,947	0
Alaska	84,025	46,204	26,461	0	0	0	718	0	10,642
Albuquerque	167,430	86,312	62,415	7,373	6,594	937	3,799	0	0
Billings	57,765	23,474	20,749	1,864	2,552	423	1,977	6,726	0
Bemidji	61,934	22,726	29,239	6,978	205	0	2,786	0	0
California	44,206	0	39,926	3,858	52	0	370	0	0
Navajo	287,864	203,577	56,279	13,044	6,678	3,703	4,583	0	0
Nashville	105,768	75,637	21,248	8,185	86	278	334	0	0
Oklahoma	528,489	294,240	227,191	0	1,065	1,007	3,236	1,750	0
Phoenix	310,780	258,609	32,580	9,413	4,826	1,267	2,659	1,426	0
Portland	96,313	0	92,889	3,424	0	0	0	0	0
Tucson	28,513	8,632	13,521	1,016	457	4,038	849	0	0

SOURCE: IHS National Data Warehouse

In FY 2007, the top 25 patient education codes made up 63.6 percent of all patient education codes provided (2,808,706 codes out of a total 4,415,706). The top 25 education codes fall into 7 categories. The most education was provided on medications (63 percent), immunizations (11 percent), diabetes (9 percent), wellness (6 percent), women’s health (5 percent), medical safety (4 percent), and tobacco (2 percent).

Chart 6.24 Top 25 IHS Patient and Family Education, Code Documented by All IHS Areas, FY 2007

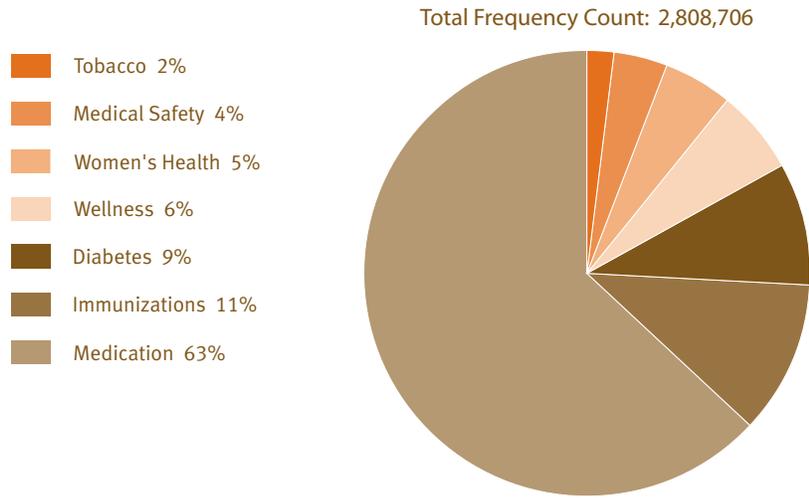


Table 6.24 Top 25 IHS Patient and Family Education Code Documented by All IHS Areas, FY 2007

Patient and Family Education Code Documented	Frequency Count
<b>Total Documented</b>	<b>2,808,706</b>
Medication, Information (M-I)	1,105,216
Medications, Patient Information Literature (M-L)	159,587
Medication, Drug Interaction (M-DI)	138,283
Medication, Dispensation to Proxy (M-PRX)	125,882
Disease Process, Follow Up (DP-FU)	101,687
Immunization, Patient Information Literature (IM-L)	101,560
Medication, Follow Up (M-FU)	90,417
Domestic Violence, Screening (DV-SCR)	84,748
Medical Safety, Medications (MEDS-M)	76,482
Immunization, Information (IM-I)	74,418
Diabetes Mellitus, Exercise (DM-EX)	69,484
Diabetes Mellitus, Nutrition (DM-N)	65,112
Immunization, Schedule (IM-SCH)	61,901
Wellness, Screening (WL-SCR)	58,942
Wellness, Followup (WL-FU)	58,494
Tobacco, Quit (TO-QT)	54,580
Diabetes Mellitus, Follow Up (DM-FU)	54,463
Diabetes Mellitus, Medications (DM-M)	50,310
Womens Health, Follow Up (WH-FU)	46,318
Immunization, Follow Up (IM-FU)	42,649
Wellness, Safety and Injury Prevention (WL-S)	39,625
Womens Health, Breast Exam (WH-BE)	39,476
Womens Health, Pap Smear (WH-PAP)	39,254
Medication, Follow Up (MED-FU)	36,382
Medical Safety, Information (MEDS-I)	33,4366

## GLOSSARY OF ICD-10 CODES

### LIST OF 113 CAUSES OF DEATH (1999-PRESENT)

Cause of Death	ICD-10 Codes
Salmonella infections	A01-A02
Shigellosis and amebiasis	A03, A06
Certain other intestinal infections	A04, A07-A09
Tuberculosis	A16-A19
Respiratory Tuberculosis	A16
Other Tuberculosis	A17-A19
Whooping cough	A37
Scarlet fever and erysipelas	A38, A46
Meningococcal infection	A39
Septicemia	A40-A41
Syphilis	A50-A53
Acute poliomyelitis	A80
Arthropod-borne viral encephalitis	A83-A84, A85.2
Measles	B05
Viral Hepatitis	B15-B19
Human immunodeficiency virus (HIV) disease	B20-B24
Malaria	B50-B54
Other and unspecified infections and parasitic diseases and their sequelae	A00, A05, A20-A36, A42-A44, A48-A49, A54-A79, A81-A82, A85.0-A85.1, A85.8, A86-B04, B06-B09, B25-B49, B55-B99
Malignant neoplasm	C00-C97
Malignant neoplasm of lip, oral cavity and pharynx	C00-C14
Malignant neoplasm of esophagus	C15
Malignant neoplasm of stomach	C16
Malignant neoplasm of colon, rectum, anus	C18-C21
Malignant neoplasm of liver and intrahepatic bile ducts	C22
Malignant neoplasm of pancreas	C25
Malignant neoplasm of larynx	C32
Malignant neoplasm of trachea, bronchus and lung	C33-C34
Malignant melanoma of skin	C43
Malignant neoplasm of breast	C50
Malignant neoplasm of cervix uteri	C53
Malignant neoplasm of corpus uteri and uterus, part unspecified	C54-C55
Malignant neoplasm of ovary	C56
Malignant neoplasm of prostate	C61
Malignant neoplasm of kidney and renal pelvis	C64-C65

Cause of Death	ICD-10 Codes
Malignant neoplasm of bladder	C67
Malignant neoplasm of meninges, brain, and other parts of central nervous system	C70-C72
Malignant neoplasm of lymphoid, hematopoietic and related tissue	C81-C96
Hodgkin's disease	C81
Non-Hodgkin's lymphoma	C82-C85
Leukemia	C91-C95
Multiple myeloma and immunoproliferative neoplasm	C88, C90
Other and unspecified malignant neoplasm of lymphoid, hematopoietic and related tissue	C96
All other unspecified malignant neoplasm	C17, C23-C24, C26-C31, C37-C41, C44-C49, C51-C52, C57-C60, C62-C63, C66, C68-C69, C73-C80, C97
In situ neoplasm, benign neoplasm and neoplasm of uncertain or unknown behavior	D00-D48
Anemia	D50-D64
Diabetes mellitus	E10-E14
Nutritional deficiencies	E40-E64
Malnutrition	E40-E46
Other nutritional deficiencies	E50-E64
Meningitis	G00, G03
Parkinson's disease	G20-G21
Alzheimer's disease	G30
Major cardiovascular diseases	I00-I78
Diseases of heart	I00-I09, I11, I13, I20-I51
Acute rheumatic fever and chronic rheumatic heart diseases	I00-I09
Hypertensive heart disease	I11
Hypertensive and renal disease	I13
Ischemic heart disease	I20-I25
Acute myocardial infraction	I21-I22
Other acute ischemic heart diseases	I24
Other forms of chronic ischemic heart disease	I20-I25
Atherosclerotic cardiovascular disease, so described	I25.0
All other forms of chronic ischemic heart disease	I20, I25.1-I25.9
Other heart diseases	I26-I51
Acute and subacute endocarditis	I33
Diseases of pericardium and acute myocarditis	I30-I31, I40
Heart failure	I50
All other forms of heart disease	I26-I28, I34-I38, I42-I49, I51
Essential (primary) hypertension and hypertensive renal disease	I10, I12
Cerebrovascular disease	I60-I69

Cause of Death	ICD-10 Codes
Atherosclerosis	I70
Other diseases of circulatory system	I71-I78
Aortic aneurysm and dissection	I71
Other diseases of arteries, arterioles and capillaries	I72-I78
Other disorders of circulatory system	I80-I99
Influenza and pneumonia	J10-J18
Influenza	J10-J11
Pneumonia	J12-J18
Other acute lower respiratory infections	J20-J22
Acute bronchitis and bronchiolitis	J20-J21
Unspecified acute lower respiratory infection	J22
Chronic lower respiratory diseases	J40-J47
Bronchitis chronic and unspecified	J44, J47
Emphysema	J43
Asthma	J45-J46
Other chronic lower respiratory diseases	J44, J47
Pneumoconioses and chemical effects	J60-J66, J68
Pneumonitis due to solids and liquids	J69
Other diseases of respiratory system	J00-J06, J30-J39, J67, J70-J98
Peptic ulcer	K25-K28
Diseases of appendix	K35-K38
Hernia	K40-K46
Chronic liver disease and cirrhosis	K70, K73-K74
Alcoholic liver disease	K70
Other chronic liver disease and cirrhosis	K73-K74
Cholelithias and other disorders of gall bladder	K80-K82
Nephritis, nephritic syndrome and nephrosis	N00-N07, N17-N19, N25-N27
Acute and rapidly progressive nephritic and nephritic syndrome	N00-N01, N04
Chronic glomerulonephritis, nephritis and nephropathy not specified as acute or chronic, and renal sclerosis unspecified	N02-N03, N05-N07, N26
Renal failure	N17-N19
Other disorders of kidney	N25, N27
Infections of kidney	N10-N12, N13.6, N15.1
Hyperplasia of prostate	N40
Inflammatory diseases of female pelvic organs	N70-N76
Pregnancy, childbirth and the puerperium	O00-O99
Pregnancy with abortive outcome	O00-O07

Cause of Death	ICD-10 Codes
Other complications of pregnancy, childbirth and the puerperium	O10-O99
Certain conditions originating in the perinatal period	P00-P96
Congenital malformations, deformations and chromosomal abnormalities	Q00-Q99
Symptoms, signs, and abnormal clinical and laboratory findings not elsewhere classified	R00-R99
<hr/>	
All other diseases	Residual
Accidents (unintentional injuries)	V01-X59, Y85-Y86
Transport accidents	V01-V99, Y85
Motor vehicle accidents	V02-V04, V09.0-V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
Other land transport accidents	V01, V05-V06, V09.1, V09.3-V09.9, V10-V11, V15-V18, V19.3, V19.8-V19.9, V80.0-V80.2, V80.6-V80.9, V81.2-V81.9, V82.2-V82.9, V87.9, V88.9, V89.1, V89.3, V89.9
Water, air and space and other and unspecified transport accidents and their sequelae	V90-V99, Y85
Nontransport accidents	W00-X59, Y86
Falls	W00-W19
Accidental discharge of firearms	W32-W34
Accidental drowning and submersion	W65-W74
Accidental exposure to smoke, fire and flames	X00-X09
Accidental poisoning and exposure to noxious substances	X40-X49
Other and unspecified nontransport accidents and their sequelae	W20-W31, W35-W64, W75-W99, X10-X39, X50-X59, Y86
Intentional self-harm (suicide)	U03, X60-X84, Y87.0
Intentional self-harm (suicide) by discharge of firearms	X72-X74
Intentional self-harm (suicide) by other and unspecified means and their sequelae	U03, X60-X71, X75-X84, Y87.0
Assault (homicide)	U01-U02, X85-Y09, Y87.1
Assault (homicide) by discharge of firearms	U01.4, X93-X95
Assault (homicide) by other and unspecified means and their sequelae	U01.0-U01.3, U01.5-U01.9, U02, X85-X92, X96-Y09, Y87.1
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Discharge of firearms, undetermined intent	Y22-Y24
Other and unspecified events of undetermined intent and their sequelae	Y10-Y21, Y25-Y34, Y87.2, Y89.9
Operations of war and their sequelae	Y36, Y89.1
Complications of medical and surgical care	Y40-Y84, Y88

## LIST OF 130 CAUSES OF INFANT DEATH (1999-PRESENT)

Cause of Death	ICD-10 Codes
Certain infections and parasitic diseases	A00-B99
Certain intestinal infectious diseases	A00-A08
Diarrhea and gastroenteritis of infectious origin	A09
Tuberculosis	A16-A19
Tetanus	A33, A35
Diphtheria	A36
Whooping cough	A37
Meningococcal infection	A39
Septicemia	A40-A41
Congenital syphilis	A50
Gonococcal infection	A54
Viral diseases	A80-B34
Acute poliomyelitis	A80
Varicella (chickenpox)	B01
Measles	B05
Human immunodeficiency virus (HIV) disease	B20-B24
Mumps	B26
Other and unspecified viral diseases	A81-B00, B02-B04, B06-B19, B25, B27-B34
Candidiasis	B37
Malaria	B50-B54
Pneumocystosis	B59
All other and unspecified infectious and parasitic diseases	A20-A32, A38, A42-A49, A51-A53, A55-A79, B35-B36, B38-B49, B55-B58, B60-B99
Neoplasm	C00-D48
Malignant neoplasm	C00-C97
Hodgkin's disease and non-Hodgkin's lymphomas	C81-C85
Leukemia	C91-C95
Other and unspecified malignant neoplasm	C00-C80, C88-C90, C96-C97
In situ neoplasm, benign, neoplasm and neoplasm of uncertain or unknown behavior	D00-D48
Diseases of the blood and blood forming organs and certain disorders involving the immune mechanism	D50-D89
Anemias	D50-D64
Other diseases of blood and blood forming organs	D65-D76
Certain disorders involving the immune mechanism	D80-D89
Endocrine, nutritional and metabolic diseases	E00-E88
Short stature, not elsewhere classified	E34.3

Cause of Death	ICD-10 Codes
Malnutrition and other nutritional deficiencies	E40-E64
Cystic fibrosis	E84
Volume depletion, disorders of fluid, electrolyte and acid-base balance	E86-E87
All other endocrine, nutritional and metabolic diseases	E00-E32, E34.0-E34.2, E34.4-E34.9, E65-E83, E85, E88
Diseases of the nervous system	G00-G98
Meningitis	G00, G03
Infantile spinal muscular atrophy, type I (Werdnig-Hoffman)	G12.0
Infantile cerebral palsy	G80
Anoxic brain damage, not elsewhere classified	G93.1
Other diseases of nervous system	G04, G06-G11, G12.1-G12.9, G20-G72, G81-G92, G93.0, G93.2-G93.9, G95-G98
Diseases of the ear and mastoid process	H60-H93
Diseases of the circulatory system	I00-I99
Pulmonary heart disease and diseases of pulmonary circulation	I26-I28
Pericarditis, endocarditis and myocarditis	I30, I33, I40
Cardiomyopathy	I42
Cardiac arrest	I46
Cerebrovascular disease	I60-I69
All other diseases of the circulatory system	I00-I25, I31, I34-I38, I44-I45, I47-I51, I70-I99
Diseases of the respiratory system	J00-J98
Acute upper respiratory infections	J00-J06
Influenza and pneumonia	J10-J18
Influenza	J10-J11
Pneumonia	J12-J18
Acute bronchitis and acute bronchiolitis	J20-J21
Bronchitis, chronic and unspecified	J40-J42
Asthma	J45-J46
Pneumonitis due to solids and liquids	J69
Other and unspecified diseases of the respiratory system	J22, J30-J39, J43-J44, J47-J68, J70-J98
Diseases of the digestive system	K00-K92
Gastritis, duodenitis, and noninfective enteritis and colitis	K29, K50-K55
Hernia of abdominal cavity and intestinal obstruction without hernia	K40-K46, K56
All other and unspecified diseases of the digestive system	K00-K28, K30-K38, K57-K92
Diseases of the genitourinary system	N00-N95
Renal failure and other diseases of the kidney	N17-N19, N25, N27
Other and unspecified diseases of the genitourinary system	N00-N15, N20-N23, N26, N28-N95

<b>Cause of Death</b>	<b>ICD-10 Codes</b>
Certain conditions originating in the prenatal period	P00-P96
Newborn affected by maternal factors and by complications of pregnancy, labor and delivery	P00-P04
Newborn affected by maternal hypertensive disorders	P00.0
Newborn affected by other maternal conditions which may be unrelated to present pregnancy	P00.1- P00.9
Newborn affected by maternal complications of pregnancy	P01
Newborn affected by incompetent cervix	P01.0
Newborn affected by premature rupture of membranes	P01.1
Newborn affected by multiple pregnancy	P01.5
Newborn affected by other maternal complications of pregnancy	P01.2-P01.4, P01.6-P01.9
Newborn affected by complications of placenta, cord, and membranes	P02
Newborn affected by complications involving placenta	P02.0-P02.3
Newborn affected by complications involving cord	P02.4-P02.6
Newborn affected by chorioamnionitis	P02.7
Newborn affected by other and unspecified abnormalities of membranes	P02.8-P02.9
Newborn affected by other complications of labor and delivery	P03
Newborn affected by noxious influences transmitted via placenta or breast milk	P04
Disorders related to length of gestation and fetal malnutrition	P05-P08
Slow fetal growth and fetal malnutrition	P05
Disorders related to short gestation and low birth weight not elsewhere classified	P07
Extremely low birth weight or extreme immaturity	P07.0-P07.2
Other low birth weight or preterm	P07.1, P07.3
Disorders related to long gestation and high birth weight	P08
Birth trauma	P10-P15
Intrauterine hypoxia and birth asphyxia	P20-P21
Intrauterine hypoxia	P20
Birth asphyxia	P21
Respiratory distress of newborn	P22
Other respiratory conditions originating in the perinatal period.	P23-P28
Congenital pneumonia	P23
Neonatal aspiration syndromes	P24
Interstitial emphysema and related conditions originating in the perinatal period	P25
Pulmonary hemorrhage originating in the perinatal period	P26
Chronic respiratory disease originating in the perinatal period	P27
Atelectasis	P28.0-P28.1
All other respiratory conditions originating in the perinatal period	P28.2-P28.9

<b>Cause of Death</b>	<b>ICD-10 Codes</b>
Infections specific to the perinatal period	P35-P39
Bacterial sepsis of newborn	P36
Omphalitis of newborn with or without mild hemorrhage	P38
All other infections specific to the perinatal period	P35, P37, P39
Hemorrhagic and hematological disorders of newborn	P50-P61
Neonatal hemorrhage	P50-P52, P54
Hemorrhagic disease of newborn	P53
Hemolytic disease of newborn due to isoimmunization and other perinatal jaundice	P55-P59
Hematological disorders	P60-P61
Syndrome of infant of a diabetic mother and neonatal diabetes mellitus	P70.0-P70.2
Necrotizing enterocolitis of newborn	P77
Hydrops fetalis not due to hemolytic disease	P83.2
Other perinatal conditions	P29, P70.3-P76, P78-P81, P83.0-P83.1, P83.3-P83.9, P90-P96
Congenital malformations, deformations and chromosomal abnormalities	Q00-Q99
Anencephaly and similar malformations.	Q00
Congenital hydrocephalus	Q03
Spina bifida	Q05
Other congenital malformations of the nervous system	Q01-Q02, Q04, Q06-Q07
Congenital malformations of heart	Q20-Q24
Other congenital malformations of circulatory system	Q25-Q28
Congenital malformations of respiratory system	Q30-Q34
Congenital malformations of digestive system	Q35-Q45
Congenital malformations genitourinary system	Q50-Q64
Congenital malformations and deformations of musculoskeletal system, limbs and integument	Q65-Q85
Down's syndrome	Q90
Edwards syndrome	Q91.0-Q91.3
Patau's syndrome	Q91.4-Q91.7
Other congenital malformations and deformations	Q10-Q18, Q86-Q89
Other chromosomal abnormalities, not elsewhere classified	Q92-Q99
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	R00-R99
Sudden infant death syndrome	R95
Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	R00-R53, R55-R59.4, R96-R99
All other diseases	F01-F99, H00-H57, L00-M99

<b>Cause of Death</b>	<b>ICD-10 Codes</b>
External causes of mortality	U01, V01-Y84
Accidents (unintentional injuries)	V01-X59
Transport accident	V01-V99
Motor vehicle accidents	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3,-V80.2, V80.6-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
Other unspecified transport accidents	V01, V05-V06, V09.1, V09.3-V09.9, V10-V11, V15-V18, V19.3, V19.8, V19.9, V80.0-V80.2, V80.6-V80.9, V81.2-V81.9, V82.2-V82.9, V87.9, V88.9, V89.1, V89.3, V89.9, V90-V99
Falls	W00-W19
Accidental discharge of firearms	W32-W34
Accidental drowning and submersion	W65-W74
Accidental suffocation and strangulation in bed	W75
Other accidental suffocation and strangulation	W76-W77, W81-W84
Accidental inhalation and ingestion of food or other objects causing obstruction of respiratory tract	W78-W80
Accidents caused by exposure to smoke, fire and flames	X00-X09
Accidental poisoning and exposure to noxious substances	X40-X49
Other and unspecified accidents	W20-W31, W35-W64, W85-W99, X10-X39, X50-X59
Assault (homicide)	X85-Y09
Assault (homicide) by hanging, strangulation and suffocation	X91
Assault (homicide) by discharge of firearms	X93-X95
Neglect, abandonment and other maltreatment syndromes	Y06-Y07
Assault (homicide) by other and unspecified means	U01.0-U01.3 X85-X90, X92, X96-X99, Y00-Y05, Y08-Y09
Complications of medical and surgical care	Y40-Y84
Other external causes	X60-X84, Y10-Y36

**ADDITIONAL CAUSES OF DEATH AND THEIR CORRESPONDING ICD-10 CODES (1999-PRESENT)**

(These categories are not included as part of the 113 cause of death or 130 causes of infant death lists. They are independent of these two lists but are valid cause of death codes to use for the causes indicated.)

Cause of Death	ICD-10 Codes
Alcohol-related deaths	E24.4, F10, G31.2, G62.1, G72.1, I42.6, K29.2, K70, K86.0, R78.0, X45, X65, Y15
Breast cancer (females)	C50
Cervical cancer	C53
Colon-rectal-cancer	C18-C21
Drug-related deaths	D52.1, D59.0, D59.2, D61.1, D64.2, E06.4, E16.0, E23.1, E24.2, E27.3, E66.1, F11-F11.5, F11.7-F11.9, F12-F12.5, F12.7-F12.9, F13-F13.5, F13.7-F13.9, F14-F14.5, F14.7-F14.9, F15-F15.5, F15.7-F15.9, F16-F16.5, F16.7-F16.9, F17.0, F17.3-F17.5, F17.7-F17.9, F18-F18.5, F18.7-F18.9, F19-F19.5, F19.7-F19.9, G21.1, G24.0, G25.1, G25.4, G25.6, G44.4, G62.0, G72.0, I95.2, J70.2-J70.4, L10.5, L27.0-L27.1, M10.2, M32.0, M80.4, M81.4, M83.5, M87.1, R78.1-R78.5, X40-X44, X60-X64, X85, Y10-Y14
Gastrointestinal disease deaths	A03-A03.3, A03.8-A03.9, A04, A06.1-A06.2, A06.4-A06.9, A07.0-A07.3, A07.8-A07.9, A08-A08.3, A08.5, A09, K29-K29.1, K50.0-K50.1, K50.8-K50.9, K51.0- K51.4, K51.8-K51.9, K52.0-K52.1, K52.8, K57.1
Human Immunodeficiency Virus (HIV) infection	B20-B24
Firearm deaths	W32-W34, X72-X74, X93-X95, Y22-Y24, Y35.0, U01.4
Poisoning	U01.6-U01.7, X40-X49, X60-X69, X85-X90, Y10-Y19, Y35.2
Other injuries	Y10-Y21, Y25-Y34, Y36, Y87.2, Y89.1, Y89.9
Lung cancer	C33-C34
Maternal death	A34, O00-O95, O98-O99
Prostate cancer	C61

**LIST OF ICD-9-CM CODES USED IN PATIENT CARE CHARTS AND TABLES**

<b>Condition</b>	<b>ICD-9-CM Codes</b>
Infectious and parasitic diseases	001-139
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Endocrine, nutritional, and metabolic diseases and immunity disorders	240-279
Diseases of the blood and blood-forming organs	280-289
Mental disorders	290-319
Diseases of the nervous system and sense organs	320-389
Diseases of the circulatory system	390-459
Diseases of the respiratory system	460-519
Diseases of the digestive system	520-579
Diseases of the genitourinary system	580-629
Complications of pregnancy, childbirth, and the puerperium	630-677
Diseases of the skin and subcutaneous tissue	680-709
Diseases of the musculoskeletal system and connective tissue	710-739
Congenital anomalies	740-759
Certain conditions originating in the perinatal period	760-779
Symptoms, signs, and ill-defined conditions	780-799
Injury and poisoning	800-999
Supplementary classification (classification of factors influencing health status and contact with health service)	V01-V85

## METHODS USED TO RANK LEADING SITES OF CANCER DEATHS

Site of Cancer Death	ICD-10 Codes
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	C00-C97
Malignant neoplasms of lip, oral cavity, and pharynx	C00-C14
Malignant neoplasms of esophagus	C15
Malignant neoplasms of stomach	C16
Malignant neoplasms of colon, rectum and anus	C18-C21
Malignant neoplasms of liver /intrahepatic bile ducts	C22.0, C22.2-C22.4, C22.7, C22.9
Malignant neoplasms of gallbladder	C23
Malignant neoplasms of pancreas	C25
Malignant neoplasms of larynx	C32
Malignant neoplasms of lung and bronchus	C33-C34
Malignant neoplasms of bones and joints	C40-C41
Malignant neoplasms of skin	C43
Malignant mesothelioma**	C45
Malignant kaposi sarcoma**	C46
Malignant neoplasms of soft tissue including heart**	C47, C49, C38.0, C45.2
Malignant neoplasms of breast	C50
Malignant neoplasms of vulva	C51
Malignant neoplasms of cervix uteri	C53
Malignant neoplasms of corpus uteri and uterus, part unspecified	C54, C55
Malignant neoplasms of ovary	C56
Malignant neoplasms of prostate	C61
Malignant neoplasms of testis	C62
Malignant neoplasms of kidney and renal pelvis	C64-C65
Malignant neoplasms of urinary bladder	C67
Malignant neoplasms eye and orbit	C69
Malignant neoplasms of meninges, brain and other parts of central nervous system	C70-C72
Malignant neoplasms of thyroid	C73

Site of Cancer Death	ICD-10 Codes
Malignant neoplasms of lymphoid, hematopoietic, and related tissue	C81-C96
Hodgkin lymphoma	C81
Non-Hodgkin lymphoma	C82-C85, C96.3
Multiple myeloma	C90.0, C90.2
Leukemia	C90.1, C91-C95
Lymphocytic leukemia	
Acute lymphocytic leukemia	C91
Chronic lymphocytic leukemia	C91
Myeloid and monocytic leukemia	C92-C93
Acute myeloid leukemia	C92.0, C92.4-C92.5, C94.0, C94.2
Acute monocytic leukemia	C93.0
Chronic myeloid leukemia	C92.1
Other and unspecified malignant neoplasms of lymphoid, Hematopoietic, and related tissue	C96
All other and unspecified malignant neoplasms	C17, C24, C26-C31, C36-C39, C44, C48, C52, C57-C60, C63, C66, C68, C74-C80, C97

\*\*These variables can be created with or without Mesothelioma (C45) and Kaposi Sarcoma (C46) as separated groupings. The list above documents both possibilities. Note that this is only possible with ICD10.

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Alcoholism	4.29,4.30,6.3	4.29,4.30,6.3
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Outpatient visits, by patient age	5.21-5.28,5.32-5.33	5.21-5.28,5.32
Outpatient visits, preventive	5.37	
Outpatient visits, by type of provider	5.34	5.34

	Chart	Table
<b>P</b>		
Patient Education	6.21-6.24	6.21-6.23
Pharmacy services	1.9-1.10	1.9-1.10
Pneumonia and influenza	4.43-4.44	4.43-4.44
Population, service	2.1,2.2	2.1
Population, by age and sex	2.3	2.3
Population, by age	2.4	2.4
Postneonatal mortality	3.9	3.9
Postneonatal mortality, leading causes	3.12	3.10
Poverty level	(see Income)	
Public health nursing	6.7-6.10	6.7-6.10
<b>S</b>		
Sanitation facilities	6.17-6.20	6.17-6.19
Socio-economic factors	2.5-2.7	2.5
Suicide, all causes	4.21,4.22	4.21,4.22
<b>T</b>		
Tuberculosis	4.45	4.45
<b>U</b>		
Unemployment	(see employment)	
Urban programs	2.8,5.3,5.4	2.8,5.2,5.4
<b>Y</b>		
Years of Potential Life Lost	4.60	4.59



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