Regional Differences in Indian Health

2012 Edition

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

INDIAN HEALTH SERVICE
REGIONAL DIFFERENCES IN INDIAN HEALTH
2012 EDITION

Indian Health Service
Yvette Roubideaux, M.D., M.P.H.
Acting Director

Office of Public Health Support
CAPT Francis Frazier,
Acting Director

Division of Program Statistics
Kirk Greenway, M.A., M.P.H.
Director

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 2012 edition of ***"Regional Differences in Indian Health"*** *describes IHS programs and provides tables and charts detailing the health status of AI/AN people. This report presents a structural overview of the Agency, along with demographic data on American Indians and Alaska Natives and patient care delivery services. 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.
Acting Director

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Production was accomplished by the DPS staff: Kirk Greenway, JoAnn Glakas Pappalardo, Alan Friedman, and Priscilla Sandoval.

Data were analyzed by the following Program Statistics staff:

Part I, Indian Health Structure: *Kirk Greenway*

Part II, Population Statistics: *Kirk Greenway, JoAnn Glakas Pappalardo, Alan Friedman and contractor Linda Querec*

Part III, Natality and Infant Mortality Statistics: *JoAnn Glakas Pappalardo*

Part IV, General Mortality Statistics: *JoAnn Glakas Pappalardo, Alan Friedman, and contractor Debra A. Heller*

Part V, Patient Care Statistics: *Kirk Greenway, Alan Friedman, George Chiarchiaro (Dental), and Amy Groom (Immunization)*

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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.

INTRODUCTION

Regional Differences 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 and near federal Indian reservations. 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. Current regional differences are presented, and comparisons to the general population are made when appropriate. Historical trend information can be found in the IHS companion publication ***Trends in Indian Health***.

Scope and Organization of this Report

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

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

Indian Health Service Organizational Structure

The IHS is comprised of twelve regional administrative units called Area Offices:

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

As of October 1, 2012, the Area Offices consisted of 168 basic administrative units called service units. Of the 168 service units, 107 were operated by Tribes. The number of service units ranged from two in Tucson to 34 in California.

The IHS operated 28 hospitals, 61 health centers, four school health centers, and 33 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. Tribes operated 16 hospitals (Title I, one and Title V, fifteen), 235 health centers (Title I, 95 and Title V, 140), six school health centers (Title I, three and Title V, three), 75 health stations (Title I, 40 and Title V, 35), and 164 Alaska village clinics (Title I, 8, Title V, 150, and other, six). Both California and Portland operated no hospitals while Aberdeen and Alaska operated seven hospitals. Tucson had the fewest health centers with five; California had the most with 52.

Population Statistics

In fiscal year (FY) 2012, the IHS user population was approximately 1.6 million. The IHS user population is defined as the number of Indian registrants, residing within a service delivery area with at least one face-to-face, direct or contract, inpatient stay, ambulatory care visit, or dental visit during the prior three fiscal years. The service delivery area for the user population is called a “Contract Health Service Delivery Area”, and only users who live inside one can be counted as a user. Tucson (27,000) and Nashville (53,491) had the smallest user populations while Navajo (247,203) and Oklahoma (339,617) had the largest user populations.

The AI/AN population is younger, less educated and poorer than the U.S. all races population. For the IHS user population in FY 2012, 8.5 percent of the persons was under age 5 compared to 6.3 percent for the U.S. all races population (U.S. Census Bureau American Community Survey 2012). There was considerable variation by Area with Oklahoma at 7.1 percent and Alaska at 10.5 percent.

According to the 2000 Census, 70.9 percent of AI/AN (alone) (ages 25 and older) residing in the IHS service areas are high school graduates or higher compared to 80.4 percent for the U.S. all races population. For the Navajo Area, the percentage was less than 60.0 (based on state-level AI/AN (alone) data). The 2000 Census also indicated that the median household income in 1999 for AI/AN (alone) residing in the IHS service areas was $32,461, while for the U.S. all races it was $50,046, which is 54 percent higher than AI/AN (alone) people residing in the IHS service areas. Albuquerque had the lowest median household income at $22,295 and California the highest at $35,611 (based on state-level AI/AN (alone) data).

Natality and Infant/Maternal Mortality Statistics

The birth rate for AI/AN people residing in the IHS service area was 23.3 (rate per 1,000 population) in 2005-2007. It is 1.6 times the 2006 birth rate of 14.2 for the U.S. all races population.

The infant mortality rate for AI/AN people residing in the IHS service area was 8.4 per 1,000 live births in 2005-2007 compared to 6.7 for the U.S. all races population in 2006. The AI/AN rate is 25 percent higher than the U.S. all races rate. The infant mortality rate varied considerably among the IHS Areas, ranging from 6.8 in Phoenix to 11.1 in Nashville. These data are adjusted for misreporting of AI/AN race on the death certificate.[1]

General Mortality Statistics

In 2005-2007 the age-adjusted death rate (all causes) for AI/AN people residing in the IHS service area was 953.7 per 100,000 population compared to 776.5 for the U.S. all races population in 2006. The AI/AN rate is 23 percent greater than the U.S. all races rate. The Aberdeen (1,301.5), Billings (1,219.8) and Bemidji (1,199.6) service areas had the highest rates. The rate is adjusted for misreporting of AI/AN race on the state death certificate.

The top two leading causes of death for the IHS service area population in 2005-2007 were diseases of the heart and malignant neoplasm, the same as the U.S. all races in 2006. However, five IHS Areas (Albuquerque, Billings, Navajo, Phoenix, and Tucson) had unintentional injuries as one of the top two leading causes. The leading causes of death were determined without any adjustment for age which is the customary method. Please note that the age composition of a population does influence its mortality pattern and therefore could have an effect on the leading causes of death ranking.

For most of the specific causes of death identified in this publication, the 2005-2007 AI/AN age-adjusted death rate (with data that have also been adjusted for misreporting of AI/AN race on death certificates) was greater than the 2006 U.S. all races rate. There was also considerable variation in the rates among the IHS Areas. Some of the Area rates should be interpreted with caution because of the small number of deaths involved. The following list is a comparison of the AI/AN age-adjusted rate (using data that are also adjusted for misreporting of AI/AN race on the state death certificate) to the U.S. all races rate where there are substantial differences.

1) **alcoholism** – 548 percent greater
2) **motor vehicle** – 200 percent greater
3) **diabetes mellitus** – 182 percent greater
4) **unintentional injuries** – 138 percent greater
5) **poisoning** – 75 percent greater
6) **homicide** – 75 percent greater
7) **suicide** – 74 percent greater
8) **pneumonia and influenza** – 37 percent greater
9) **firearm injury** – 27 percent greater
10) **diseases of the heart** – 4 percent less
11) **malignant neoplasm** – 6 percent less
12) **lung cancer** – 10 percent less
13) **human immunodeficiency virus (HIV) infection** – 20 percent less

Patient Care Statistics

In FY 2012, there were 72,416 admissions to IHS and Tribal direct and contract general hospitals. The number of admissions ranged from 550 in California to 18,971 in Navajo. Obstetric deliveries and complications of pregnancy accounted for the overall leading cause of hospitalization in IHS and Tribal direct and contract general hospitals. However, on an area-by-area basis, obstetric deliveries and complications of pregnancy led hospital admissions in Alaska, Navajo, Oklahoma and Phoenix. IHS and Tribal direct and contract facilities reported ambulatory medical visits in excess of 13 million for FY 2012. Tucson reported the fewest ambulatory medical visits with 227,370 and Oklahoma had the most with 2,976,576. The supplementary classification—an ambulatory visit that does not directly deal with an injury or disease, but rather includes such preventative care as well-child visits, vaccinations, physical examinations, tests only (lab, x-ray, screening), hospital, medical, or surgical follow-up, and prescription refills—led as the number-one cause of ambulatory medical visits for all IHS Areas. Prescription refills are thought to be a major contributor to the number of such visits relative to all others. In order to provide a true "top five" in terms of categories of diseases, additional such categories were added beyond five in order to balance the disproportionate number of supplementary classifications relative to all other categories.

In FY 2012, 76.8 percent of AI/AN children 19-35 months and residing in IHS service areas received all required immunizations. In the general population in CY 2012, 68.4 percent of children aged 19 to 35 months received all required immunizations. In AI/AN children 19-35 months and residing in an IHS service area, the Portland area had the lowest coverage rate at 65.1 percent, while the Albuquerque Area had the highest rate, 85.5 percent.

In FY 2012, over 4.9 million dental services were reported to be provided at IHS and Tribal direct and contract facilities. Three IHS Areas provided 50 percent of these reported dental services: California (693,710), Navajo (702,420), and Oklahoma (1,054,686).

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 National Data Warehouse. First implemented in 1984 as the Patient Registration System, it functioned adequately for many years; but, in recent years, system changes resulted in registration record errors. New system-wide improvements were implemented dating back to August, 2001. Local facilities resent 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 IHS user population estimates shown in this publication should be contrasted with the IHS service population (eligible population) estimates, which are shown in the ***Trends in Indian Health*** publication. The service population estimates are based on official U.S. Census Bureau county data, 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 with available data are projected through linear regression techniques, using the most current ten years of AI/AN birth and death data provided by the NCHS, Centers for Disease Control and Prevention (CDC).

IHS user population figures are used for calculating IHS patient care rates. However, since state birth and death certificates do not provide information on use of IHS services, IHS service population figures are used in calculating 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 bridged-race file (developed by the Census Bureau and NCHS, CDC). It consists of AI/AN 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

DPS produces service populations for IHS Areas, service units, and counties.

IHS service population figures are based on the 2000 census with bridged-race file county data. 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 bridged 2000 Census single race corresponds with the single race categories used on the birth and death certificates.

Addressing the inconsistencies in the denominators produced based on the latest 2010 bridged population, the IHS determined that since this publication uses vital event years prior to the 2010 Census, specifically 2005-2007, the more reliable bridged-race file based on the 2000 census continued to be used. The IHS is continuing to conduct detailed evaluations of the methodologies used when developing the 2010 bridge-race file. This is as a result of the AI/AN population being highly affected by the enormous increase in population counts when answering "self-identification" as an AI/AN and a combination of at least one other race (combination).

Additional information may be attained by viewing:
http://www.cdc.gov/nchs/nvss/bridged_race.htm

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/nvss/bridged_race/data_documentation.htm#Vintage2004 . Accessed November 28, 2012

Using the 2000 Census with bridged-race categories increased the AI/AN population denominators resulting in slightly decreased IHS mortality rates. The 2000 Census with bridged-race categories population for all AI/AN in the U.S. is 3.3 million. This 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 number of deaths) is applied accumulatively to the latest census enumeration for the county for 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 ***"Regional Differences in Indian Health"*** developed for data years 2005-2007 are **NOT** comparable to the previously published mortality rates calculated for data years prior to 1999. This is due to several changes in the methodology used to calculate the age-adjusted mortality rate produced by DPS.

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 and 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. (***"Regional Differences in Indian Health"*** does not apply comparability ratios as these ratios are applied to data prior to 1999. This publication refers to data years 2005-2007 which eliminated the necessity to use these adjustment factors).

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 2005-2007 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 as 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[2,3,4,5], as well as from some unpublished data from NCHS. NCHS obtains birth and death records for all U.S. residents from state health departments, based on information reported on official state birth and death 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.[4,5]

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.

The results of the NDI study provide sufficient numbers to calculate adjustments for each IHS Area, IHS over all, 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 NCHS. 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.

Preliminary results based on the latest NDI match for years 1999, 2000, and 2001 indicate that the adjustment factors illustrate ratios that not significantly different for those adjustment factors established during the late 1980's.

Natality 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 showed 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. Death rates presented in this publication have been age-adjusted to the 2000 standard population, where applicable, so that appropriate comparisons can be made between these population groups. One exception is the information presented for leading causes of death. In order to determine the leading causes of death for a population group, it is necessary to rank causes of death without any adjustment for age. However, it should be kept in mind that the ranking of causes of death for a population group is affected by its age composition.

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

Patient Care Statistics

Patient care statistics are derived principally from the IHS National Data Warehouse (NDW), the national data repository for IHS statistical health care data on patient registration and visit encounters occurring at either IHS facilities or contracting facilities that provide care. It collects data on persons who are members of federally recognized tribes that access IHS services. Other sources are listed below.

Monthly Inpatient Services Report—a patient census report prepared for each IHS hospital by the NDW indicating the number of discharges and days by type of service (e.g., adult, pediatric, obstetric, newborn), used for direct inpatient workload statistics also referred to as the "INP 202" after the name of the report series from NPIRS. Sites can also submit manual monthly versions signed by the hospital CEO if technical issues prevent their transmitting data in time to meet IHS wide deadlines. Generally, only for purposes of the annual inpatient memorandum are these reports used in place of data submitted electronically (Critical Access Hospitals located in Alaska and Billings Areas). The data used in this publication is based entirely on what was present in the NDW.

Inpatient Care Data— The IHS NDW serves as an agency-wide statistical information system and repository of Indian health and health system data. This data repository is the source of IHS hospital inpatient data pertaining to various patient characteristics (age, sex, principal diagnoses, other diagnoses, community of residence, etc.), collected daily, one record per discharge.

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

Contract Care Data— NDW website reports have provided ambulatory and inpatient contract care data collected through the Contract Health System

Immunization Data— information which was obtained by IHS/CDC jointly appointed immunization tracking staff.

Dental Data— The NDW is also the source for dental services data, monitored by IHS Headquarters dental personnel.

The data from these systems are subject to recording, inputting, and transmitting errors. However, the IHS DPS in consultation with the Office of Information Technology NDW Staff closely monitor the electronic transmissions and content of the repository and its attendant reports ensuring data quality.

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.[6]

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.

Birthweight—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.[7]

Census Definitions—Definitions for census information including: unemployment, median household income, and poverty can be found on the census website: http://www.census.gov

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.[7]

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—Birth weight 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.

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.[8]

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.[9]

Live Birth—In the WHO's definition, also adopted by the United Nations and 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.[10]

Low Birthweight—Birth weight of less than five pounds, eight ounces or 2,500 grams.

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

Occurrence—Place where the event occurred.

Post-neonatal 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.

http://www.whitehouse.gov/omb/fedreg/1997standards.html

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.

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

Kirk Greenway, Principal Statistician and Director, Division of Program Statistics
Priscilla Sandoval, Program Analyst
Jennifer Joseph, Staff Assistant

Demographic Statistics

Jo Ann Glakas Pappalardo, Senior Statistician
Alan Friedman, Health Statistician

Patient Care Statistics

Vacant

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
Fax: 301-443-1770

DPS Website: *http://www.ihs.gov/DPS/*

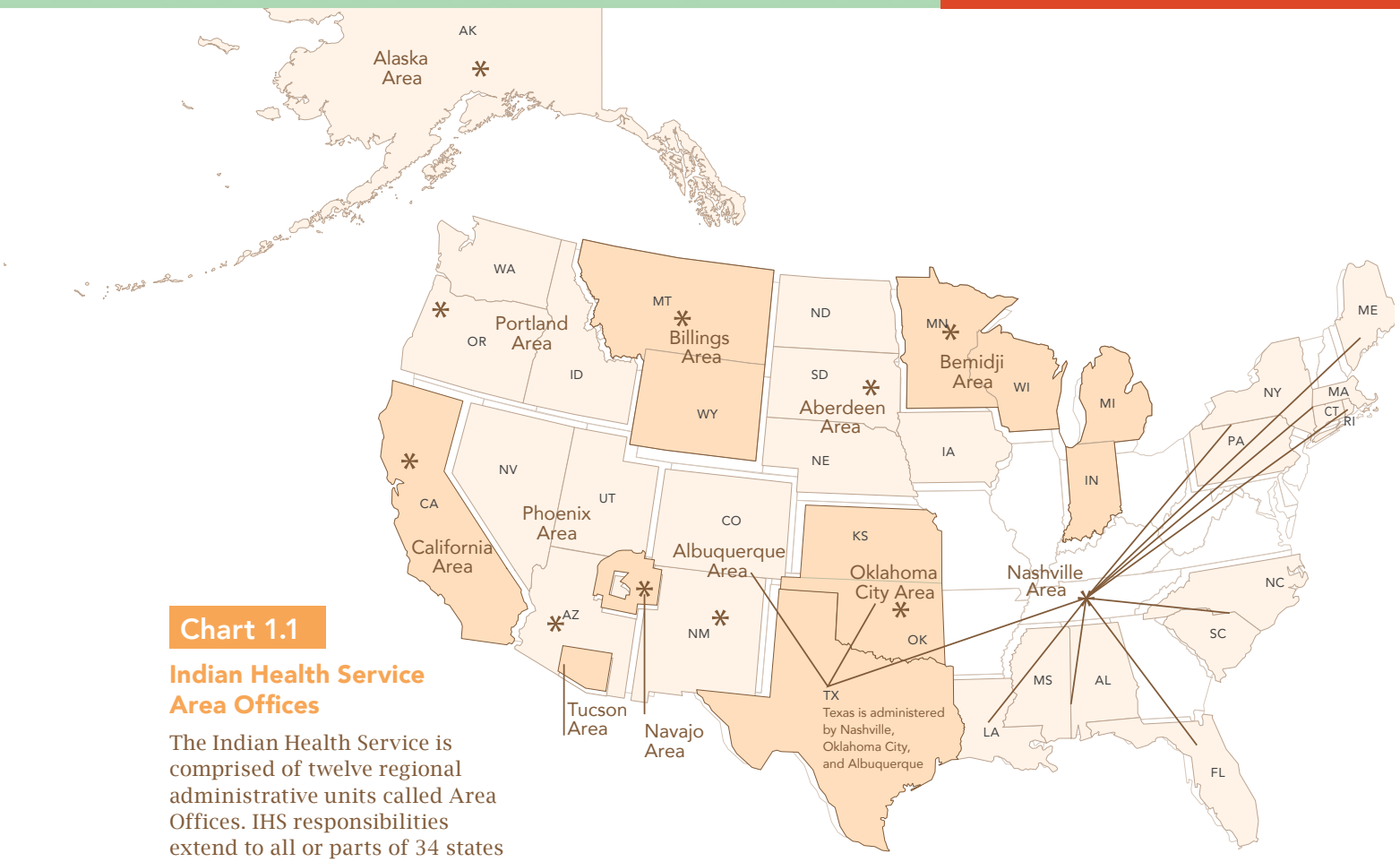


Chart 1.1

Indian Health Service Area Offices

The Indian Health Service is comprised of twelve regional administrative units called Area Offices. IHS responsibilities extend to all or parts of 34 states known as Reservation States.

Indian Health Service operated 28 hospitals, 61 health centers, three school health centers, and 33 health stations as of October 1, 2012. Tribes can operate a facility under a P.L. 93-638 self-determination contract (Title I) or self-governance compact, as amended (Title V), or—in Alaska only—an Alaska village clinic funded by a standard procurement contract. Tribes operated 16 hospitals (Title I, one and Title V, 15), 235 health centers (Title I, 95 and Title V, 140), six school health centers (Title I, three and Title V, three), 75 health stations (Title I, 40 and Title V, 35), and 164 Alaska village clinics (Title I, eight; Title V, 150; and Other, six).

Chart 1.2

Number of Service Units and Facilities

Operated by IHS and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal			
			Total	I	V	Other
Service Units	168	61	107	--	--	--
Hospitals	44	28	16	1	15	--
Ambulatory Facilities	577	97	480	146	327	7
Health Centers	296	61	235	95	140	--
School Health Centers	9	3	6	3	3	--
Health Stations	108	33	75	40	35	--
Alaska Village Clinics	164	--	164	8	150	

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

In the **Aberdeen Area**, Indian Health Service operated seven hospitals, eight health centers, and twelve health stations as of October 1, 2012. Tribes operated seven health centers and three health stations, all under Title I.

Chart 1.3

Number of Service Units and Facilities
Operated by Aberdeen Area and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal		
			Total	I	V
Service Units	19	12	7	--	--
Hospitals	7	7	--	--	--
Ambulatory Facilities	30	20	10	10	--
Health Centers	15	8	7	7	--
School Health Centers	--	--	--	--	--
Health Stations	15	12	3	3	--

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

In the **Alaska Area**, Indian Health Service did not operate any facilities as of October 1, 2012. Tribes operated seven hospitals, 39 health centers (Title I, two and Title V, 37), and 164 village clinics (Title I, eight; Title V, 150; and Other, six).

Chart 1.4

Number of Service Units and Facilities
Operated by Alaska Area and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal			
			Total	I	V	Other
Service Units	9	--	9	--	--	--
Hospitals	7	--	7	--	7	--
Ambulatory Facilities	203	--	203	10	187	6
Health Centers	39	--	39	2	37	--
School Health Centers	--	--	--	--	--	--
Health Stations	--	--	--	--	--	--
Alaska Village Clinics	164	--	164	8	150	6

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

In the **Albuquerque Area**, Indian Health Service operated four hospitals, six health centers, one school health center, and five health stations as of October 1, 2012. Tribes operated six health centers (Title I, four and Title V, two) and three health stations (Title I, two and Title V, one).

Chart 1.5

Number of Service Units and Facilities
Operated by Albuquerque Area and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal Total	Tribal I	Tribal V
Service Units	9	8	1	--	--
Hospitals	4	4	--	--	--
Ambulatory Facilities	21	12	9	6	3
Health Centers	12	6	6	4	2
School Health Centers	1	1	--	--	--
Health Stations	8	5	3	2	1

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

In the **Bemidji Area**, Indian Health Service operated two hospitals, two health centers, and two health stations as of October 1, 2012. Tribes operated 31 health centers (Title I, 18 and Title V, 13), two school health centers (Title I), and 15 health stations (Title I, nine and Title V, six).

Chart 1.6

Number of Service Units and Facilities
Operated by Bemidji Area and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal Total	Tribal I	Tribal V
Service Units	13	3	10	--	--
Hospitals	2	2	--	--	--
Ambulatory Facilities	52	4	48	29	19
Health Centers	33	2	31	18	13
School Health Centers	2	--	2	2	--
Health Stations	17	2	15	9	6

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

In the **Billings Area**, Indian Health Service operated three hospitals, seven health centers, and three health stations as of October 1, 2012. Tribes operated five health centers, one school health center, and two health stations, all under Title V.

Chart 1.7

Number of Service Units and Facilities
Operated by Billings Area and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal Total	Tribal I	Tribal V
Service Units	8	6	2	--	--
Hospitals	3	3	--	--	--
Ambulatory Facilities	18	10	8	--	8
Health Centers	12	7	5	--	5
School Health Centers	1	--	1	--	1
Health Stations	5	3	2	--	2

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

In the **California Area**, Indian Health Service did not operate any facilities as of October 1, 2012. Tribes operated 52 health centers (Title I, 39 and Title V, 13) and ten health stations (Title I, five and Title V, five).

Chart 1.8

Number of Service Units and Facilities
Operated by California Area and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal Total	Tribal I	Tribal V
Service Units	34	--	34	--	--
Hospitals	--	--	--	--	--
Ambulatory Facilities	62	--	62	44	18
Health Centers	52	--	52	39	13
School Health Centers	--	--	--	--	--
Health Stations	10	--	10	5	5

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

In the **Nashville Area**, Indian Health Service operated three health centers as of October 1, 2012. Tribes operated two hospitals (Title V), 18 health centers (Title I, ten and Title V, eight), one school health center (Title V), and eight health stations (Title I, two and Title V, six).

Chart 1.9 Number of Service Units and Facilities
Operated by Nashville Area and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal Total	Tribal I	Tribal V
Service Units	27	6	21	--	--
Hospitals	2	--	2	--	2
Ambulatory Facilities	30	3	27	12	15
Health Centers	21	3	18	10	8
School Health Centers	1	--	1	--	1
Health Stations	8	--	8	2	6

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

In the **Navajo Area**, Indian Health Service operated four hospitals, nine health centers, one school health center, and five health stations as of October 1, 2012. Tribes operated two hospitals (Title I, one and Title V, one), five health centers (Title I, one and Title V, four), and one health station (Title V).

Chart 1.10 Number of Service Units and Facilities
Operated by Navajo Area and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal Total	Tribal I	Tribal V
Service Units	9	5	4	--	--
Hospitals	6	4	2	1	1
Ambulatory Facilities	21	15	6	1	5
Health Centers	14	9	5	1	4
School Health Centers	1	1	--	--	--
Health Stations	6	5	1	--	1

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

In the **Oklahoma Area**, Indian Health Service operated two hospitals, nine health centers, and one health station as of October 1, 2012. Tribes operated four hospitals (Title V), 40 health centers (Title I, three and Title V, 37), and one school health center (Title V).

Chart 1.11 Number of Service Units and Facilities
Operated by Oklahoma Area and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal		
			Total	I	V
Service Units	12	7	5	--	--
Hospitals	6	2	4	--	4
Ambulatory Facilities	51	10	41	3	38
Health Centers	49	9	40	3	37
School Health Centers	1	--	1	--	1
Health Stations	1	1	--	--	--

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

In the **Phoenix Area**, Indian Health Service operated five hospitals, seven health centers, one school health center, and four health stations as of October 1, 2012. Tribes operated one hospital (Title V), 14 health centers (Title I, eleven and Title V, three), and 18 health stations (Title I, ten and Title V, eight).

Chart 1.12 Number of Service Units and Facilities
Operated by Phoenix Area and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal		
			Total	I	V
Service Units	11	7	4	--	--
Hospitals	6	5	1	--	1
Ambulatory Facilities	44	12	32	21	11
Health Centers	21	7	14	11	3
School Health Centers	1	1	--	--	--
Health Stations	22	4	18	10	8

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

In the **Portland Area**, Indian Health Service operated seven health centers and one health station as of October 1, 2012. Tribes operated 16 health centers (Title V), one school health center (Title I) and 14 health stations (Title I, nine and Title V, five).

Chart 1.13

Number of Service Units and Facilities
Operated by Portland Area and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal		
			Total	I	V
Service Units	16	--	16	--	--
Hospitals	--	--	--	--	--
Ambulatory Facilities	39	8	31	10	21
Health Centers	23	7	16	--	16
School Health Centers	1	--	1	1	--
Health Stations	15	1	14	9	5

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

In the **Tucson Area**, Indian Health Service operated one hospital and three health centers as of October 1, 2012. Tribes operated two health centers (Title V).

Chart 1.14

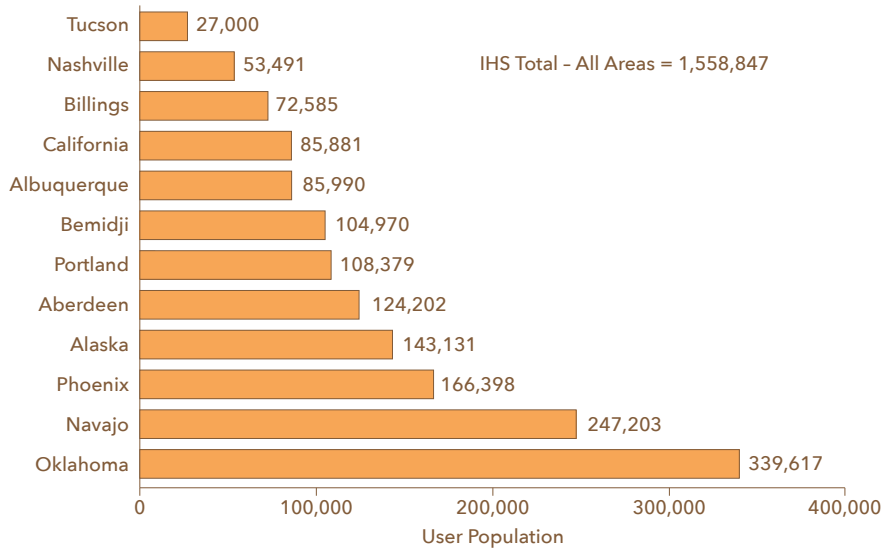
Number of Service Units and Facilities
Operated by Tucson Area and Tribes, October 1, 2012

Type of Facility	Total	IHS	Tribal		
			Total	I	V
Service Units	2	1	1	--	--
Hospitals	1	1	--	--	--
Ambulatory Facilities	7	5	2	--	2
Health Centers	5	3	2	--	2
School Health Centers	--	--	--	--	--
Health Stations	--	--	--	--	--

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

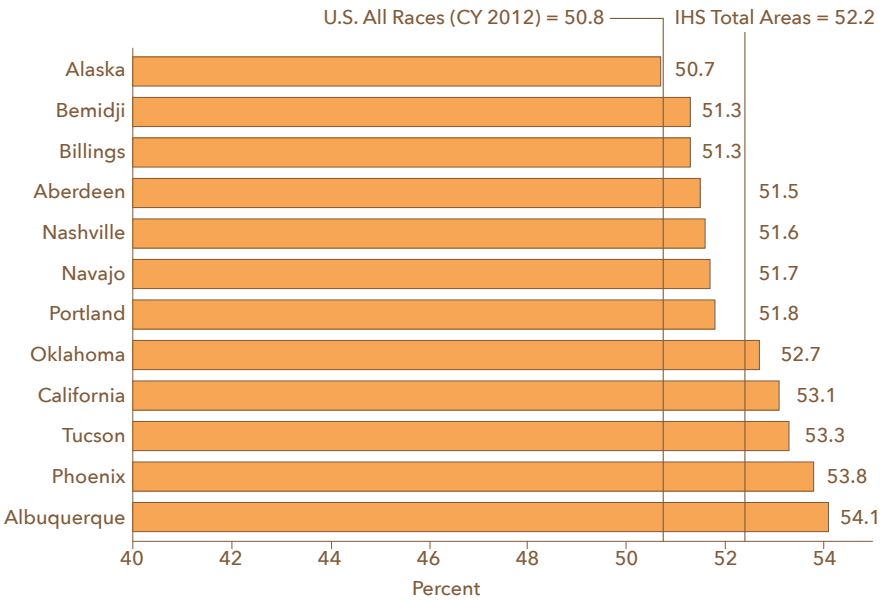
In FY 2012, the IHS user population—a count of those AI/AN people who used IHS services at least once during the last 3-year period—was approximately 1.6 million. Approximately 38 percent of the user population was concentrated in two IHS Areas: Navajo and Oklahoma.

Chart 2.1 IHS User Population
Fiscal Year 2012



There were a slightly higher percentage of females in FY 2012 in the IHS user population than the U.S. all races population (CY 2012). Phoenix and Albuquerque had the two highest percentages at 53.8 and 54.1, respectively.

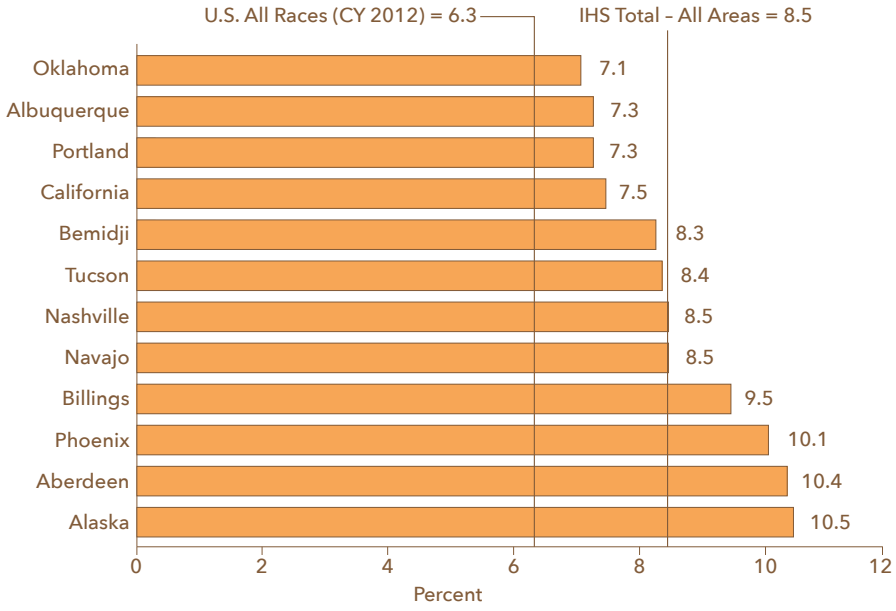
Chart 2.2 Percent of Females in User Population
Fiscal Year 2012



The IHS user population in FY 2012 was considerably younger than the U.S. all races population (CY 2012). The Oklahoma Area, which had the lowest percentage of population under age 5 (7.1), still had a percentage that was 0.8 percent higher than the U.S. all races percentage (6.3).

Chart 2.3

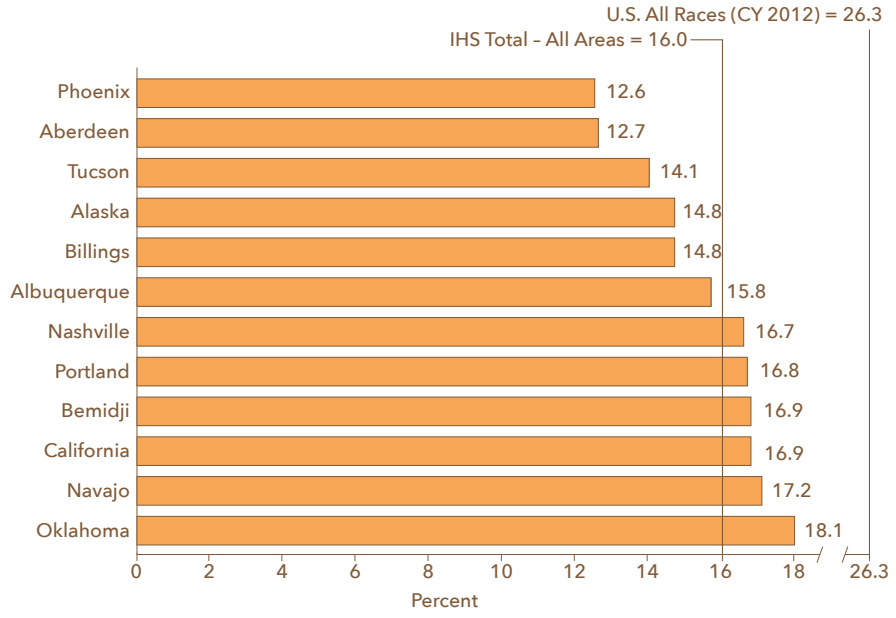
Percent of User Population Under Age Five
Fiscal Year 2012



In CY 2012, 26.3 percent of the U.S. all races population was over age 54 compared to 16.0 for the IHS user population (FY 2012). Navajo and Oklahoma had the highest percentages for this age group, 17.2 and 18.1, respectively.

Chart 2.4

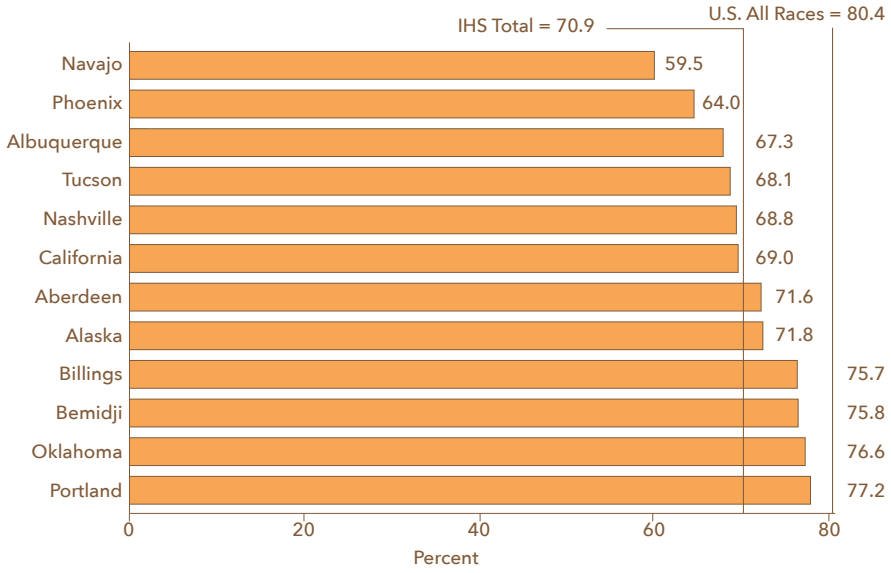
Percent of User Population Over Age 54
Fiscal Year 2012



According to the 2000 Census, 70.9 percent of AI/AN people, age 25 and older, are high school graduates or higher as compared to 80.4 percent for the U.S. all races population. Ten (10) percent more people in the U.S. general population had at least a high school education as compared to the AI/AN people in the IHS service Area. All IHS Areas were below the U.S. percent.

Chart 2.5

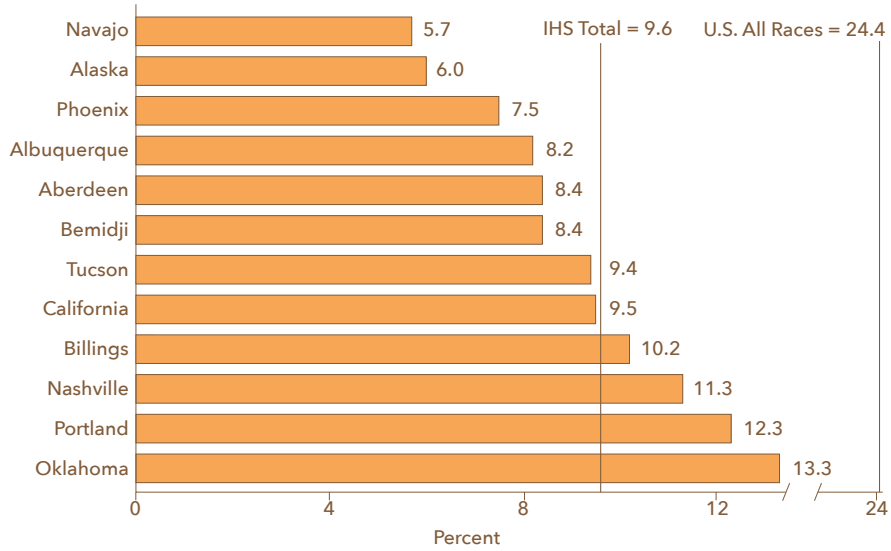
Percent High School Graduate or Higher
Age 25 and Older,
2000 Census American Indian/Alaska Native (Alone)



The 2000 Census indicated that 9.6 percent of AI/AN people, age 25 and older, residing in the current IHS Areas have a Bachelor's Degree or higher. This is less than half the rate for U.S. all races with a Bachelor Degree (24.4 percent). The Area percentages ranged from 5.7 percent in Navajo to 13.3 percent in Oklahoma.

Chart 2.6

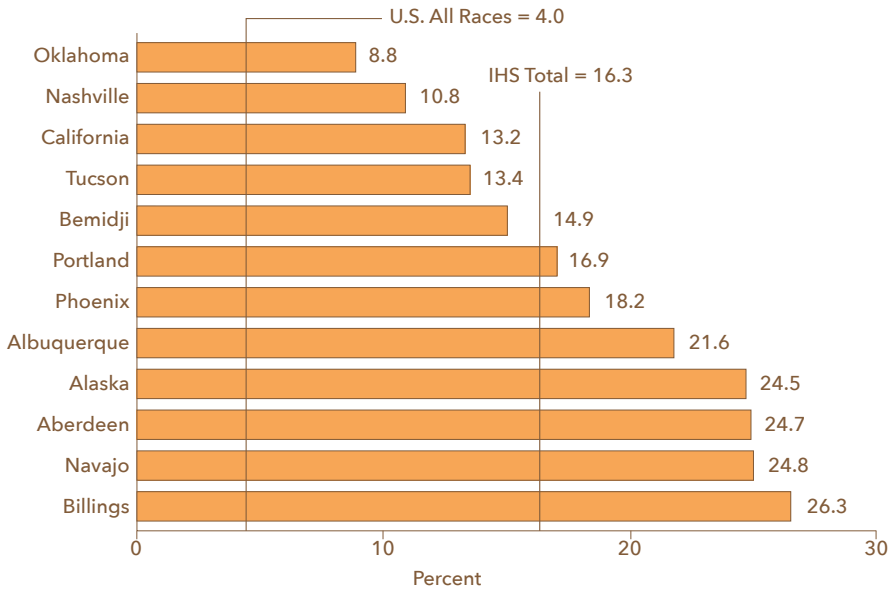
Percent Bachelor's Degree or Higher
Age 25 and Older,
2000 Census American Indian/Alaska Native (Alone)



In 2000, 16.3 percent of AI/AN males, age 16 and older, residing in the current IHS Areas were unemployed compared to 4.0 percent for the U.S. all races male population. Billings had unemployment rates greater than 26.0 percent.

Chart 2.7

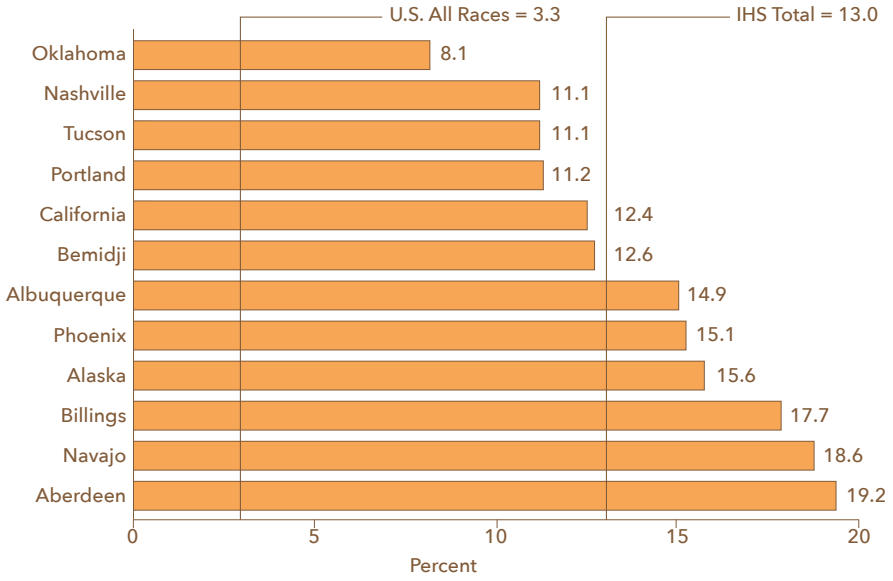
Percent Of Males Unemployed
Age 16 and Older,
2000 Census American Indian/Alaska Native (Alone)



In 2000, 13.0 percent of AI/AN females, age 16 and older, residing in the current IHS Areas were unemployed a rate that is four times greater than the U.S. all races female population (3.3 percent). The Area unemployment rates ranged from 8.1 in Oklahoma to 19.2 in Aberdeen.

Chart 2.8

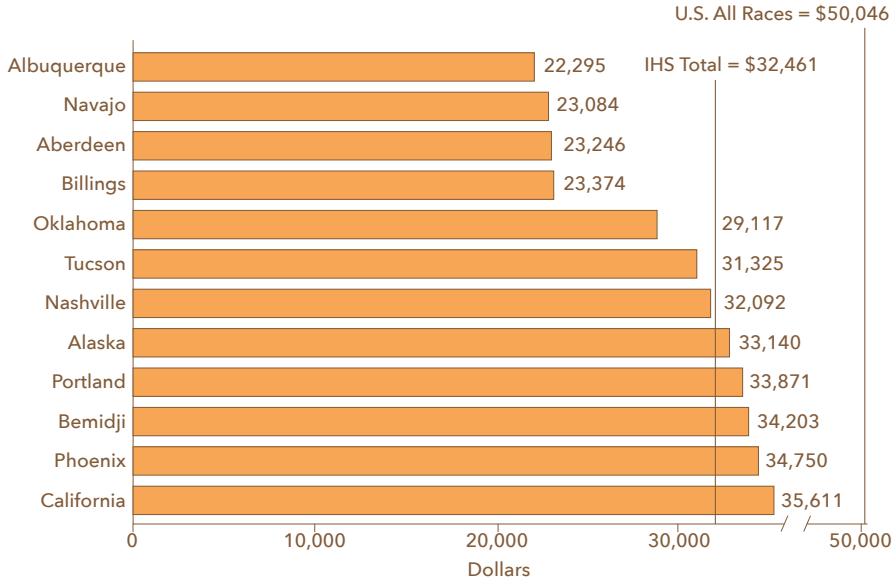
Percent Of Females Unemployed
Age 16 and Older,
2000 Census American Indian/Alaska Native (Alone)



According to the 2000 Census, the median household income in 1999 for AI/AN people residing in the current IHS Areas was $32,461. The median household income for U.S. all races (50,046) is 54.2 percent higher than that of AI/AN. The Albuquerque, Navajo, Aberdeen, and Billings Areas had median household incomes that were less than half of the U.S. figure.

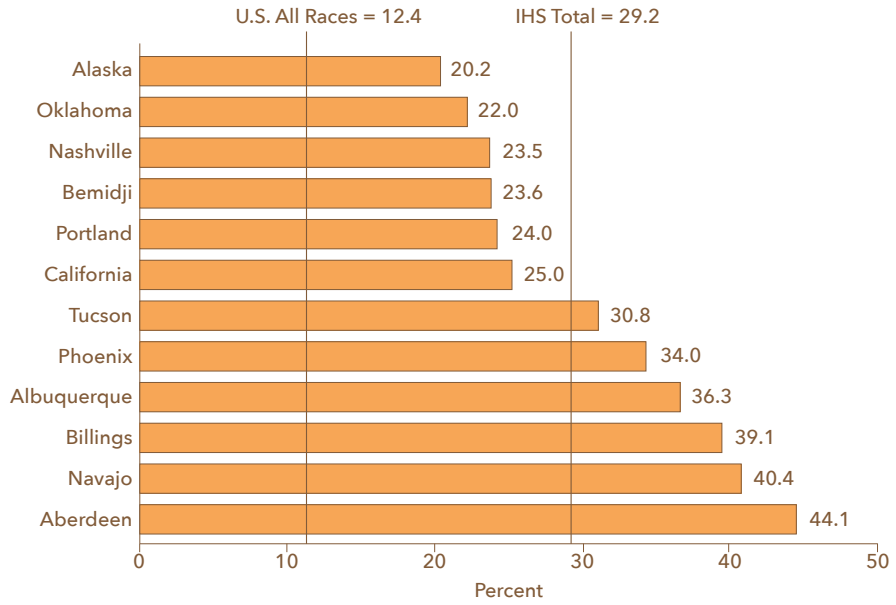
Chart 2.9

Median Household Income in 1999
2000 Census American Indian/Alaska Native (Alone)



The 2000 Census indicated that almost one-third (29.2 percent) of AI/AN people residing IHS Areas were below the poverty level. This is 2.4 times higher than the comparable U.S. all races figure of 12.4 percent below the poverty level. Aberdeen and Navajo had percentages exceeding 40.0.

Percent of Population Below Poverty Level
2000 Census American Indian/Alaska Native (Alone)



The birth rate for the IHS service area population in 2005-2007 was 1.6 times the rate for the U.S. all races population in 2006, (14.2 percent and 23.3 percent, respectively). The IHS Area with the lowest birth rate (California, 16.2).

Chart 3.1

Birth Rates
Calendar Years 2005-2007

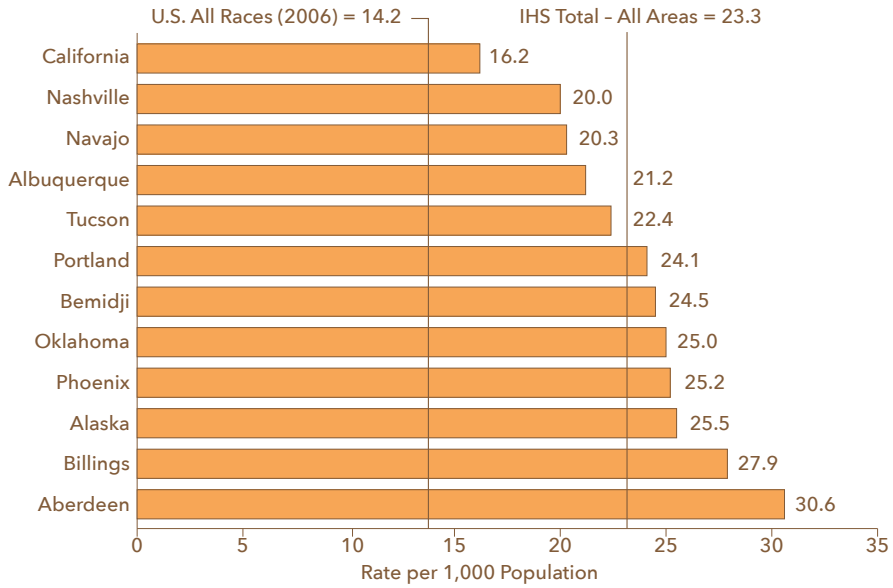


Table 3.1

Number of Rate of Live Births
Calendar Years 2005-2007

	Number	Rate[1/]
U.S. All Races (2006)	*4,265,555*	*14.2*
All IHS Areas	128,647	23.3
Aberdeen	10,589	30.6
Alaska	9,251	25.5
Albuquerque	6,641	21.2
Bemidji	8,633	24.5
Billings	5,507	27.9
California	8,677	16.2
Nashville	6,861	20.0
Navajo	14,572	20.3
Oklahoma	26,612	25.0
Phoenix	14,836	25.2
Portland	14,087	24.1
Tucson	2,381	22.4

[1/]Rate per 1,000 population.

For 2005-2007, 7.1 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 (8.3 percent in 2006). All IHS Areas had lower proportions of low birthweight births than the general population, except for the Albuquerque Area that had the same rate.

Chart 3.2 Low Birthweight
Calendar Years 2005-2007

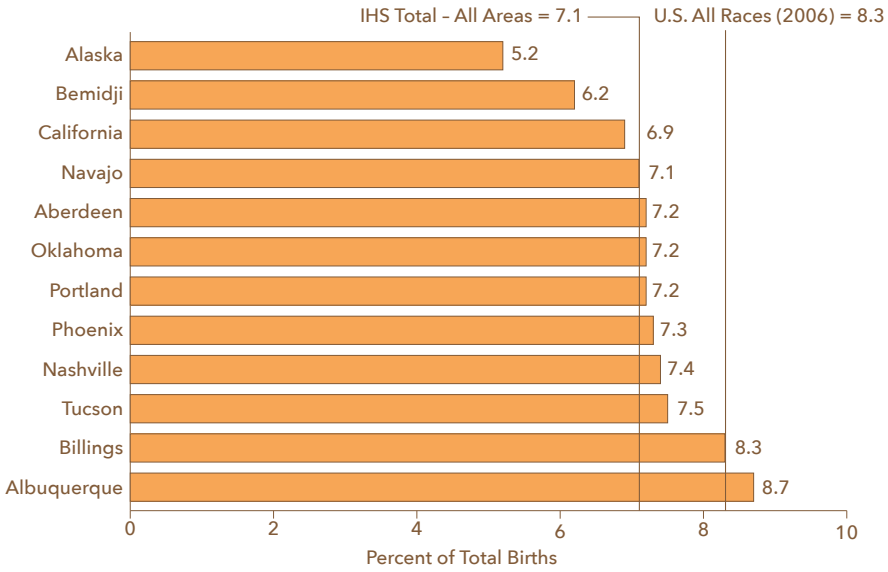


Table 3.2 Low Birthweight as a Percent of Total Live Births
Calendar Years 2005-2007

	Total Live Births[1/]	Number Low Birthweight[2/]	Percent Low Birthweight[3/]
U.S. All Races (2006)	*4,265,555*	*351,974*	*8.3*
All IHS Areas	128,647	9,147	7.1
Aberdeen	10,589	766	7.2
Alaska	9,251	482	5.2
Albuquerque	6,641	579	8.7
Bemidji	8,633	534	6.2
Billings	5,507	455	8.3
California	8,677	601	6.9
Nashville	6,861	506	7.4
Navajo	14,572	1,039	7.1
Oklahoma	26,612	1,926	7.2
Phoenix	14,836	1,080	7.3
Portland	14,087	1,021	7.2
Tucson	2,381	178	7.5

[1/]Includes 4,707 U.S. All Races live births and 171 American Indian/Alaska Native live births with birthweight not stated.
[2/]Birthweight of less than 2,500 grams (5lb 8oz).
[3/]Percent low weight based on live births with a birthweight reported.

The AI/AN population experience a greater number of high birthweights than the U.S. all races population. High birthweight may be a complication of diabetic pregnancies. In 2005-2007, 10.2 percent of all births in the IHS service area were high birthweight (4,000 grams or more). In contrast, the U.S. all races percentage was 2.4 percentage points lower (7.8 percent) in 2006 than the IHS service area high birthweight. The rates varied considerably by Area ranging from 5.6 percent in Albuquerque to 16.4 percent in Alaska.

Chart 3.3

High Birthweight
Calendar Years 2005-2007

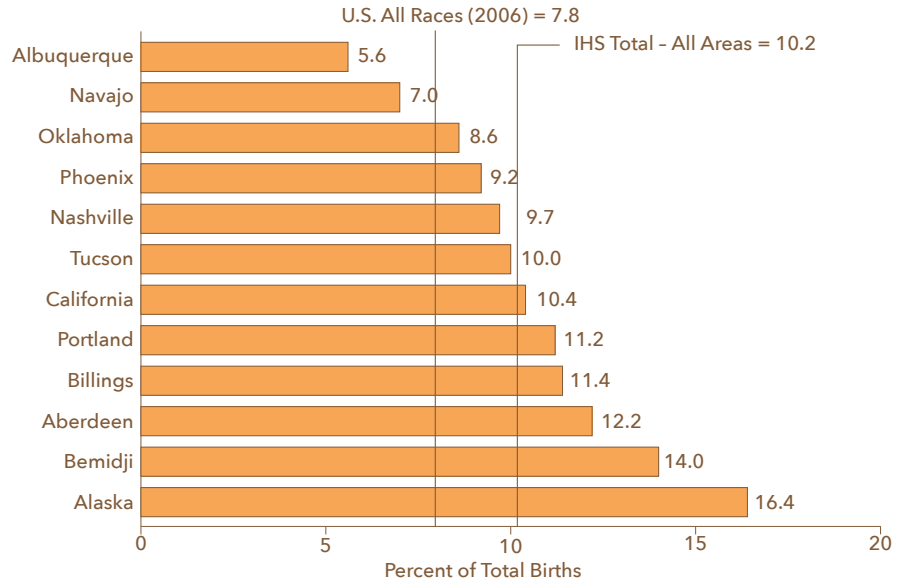


Table 3.3

High Birthweight as a Percent of Total Live Births
Calendar Years 2005-2007

	Total Live Births[1/]	Number High Birthweight[2/]	Percent High Birthweight[3/]
U.S. All Races (2006)	*4,265,555*	*333,059*	*7.8*
All IHS Areas	**128,647**	**13,067**	**10.2**
Aberdeen	10,589	1,290	12.2
Alaska	9,251	1,519	16.4
Albuquerque	6,641	373	5.6
Bemidji	8,633	1,207	14.0
Billings	5,507	628	11.4
California	8,677	906	10.4
Nashville	6,861	666	9.7
Navajo	14,572	1,014	7.0
Oklahoma	26,612	2,277	8.6
Phoenix	14,836	1,365	9.2
Portland	14,087	1,584	11.2
Tucson	2,381	238	10.0

[1/]Includes 4,707 U.S. All Races live births and 171 American Indian/Alaska Native live births with birthweight not stated.
[2/]Birthweight of more than 4,000 grams (8lb 14oz).
[3/]Percent high weight based on live births with a birthweight reported.

During 2005-2007, prenatal care began in the first trimester for 65.9 percent of AI/AN live births among the IHS service area population, which is higher than the number of births with prenatal care among the U.S. all races population (76.3 percent) in 2006. The percentages varied widely among IHS Areas, ranging from 55.6 for Aberdeen to 73.7 for Nashville.

Chart 3.4

Prenatal Care in First Trimester
Calendar Years 2005-2007

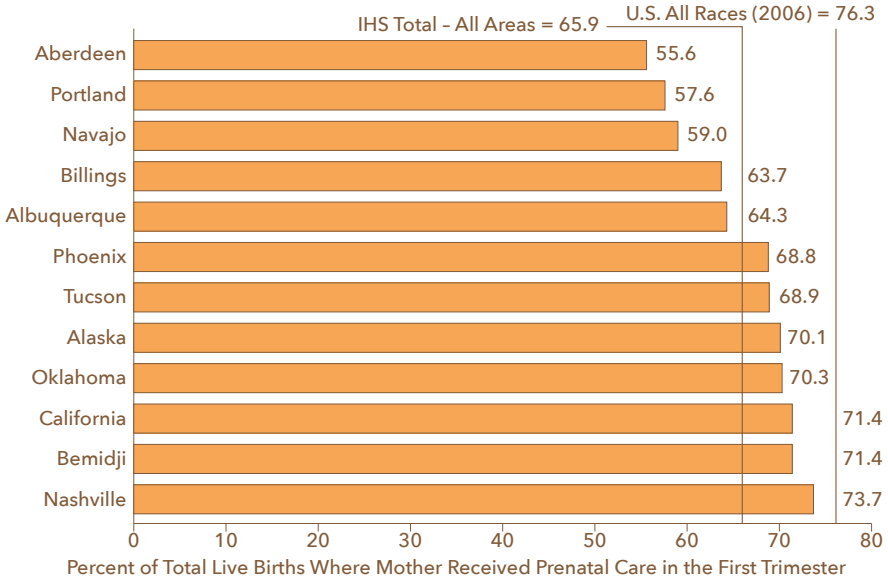


Table 3.4

Prenatal Care in First Trimester
Calendar Years 2005-2007

	Total Live Births[1/]	Mother Received Prenatal Care *Reported*	Mother Received Prenatal Care in the First Trimester[2/]	
			Number	*Percent*
U.S. All Races (2006)	*4,265,555*	*4,097,377*	*3,252,920*	*76.3*
All IHS Areas	*128,647*	*122,852*	*84,827*	*65.9*
Aberdeen	10,589	10,182	5,889	55.6
Alaska	9,251	8,889	6,487	70.1
Albuquerque	6,641	6,200	4,272	64.3
Bemidji	8,633	8,409	6,161	*71.4*
Billings	5,507	5,295	3,508	*63.7*
California	8,677	8,298	6,192	*71.4*
Nashville	6,861	6,650	5,057	*73.7*
Navajo	14,572	14,007	8,602	*59.0*
Oklahoma	26,612	25,736	18,698	*70.3*
Phoenix	14,836	14,200	10,212	*68.8*
Portland	14,087	12,678	8,109	*57.6*
Tucson	2,381	2,308	1,640	*68.9*

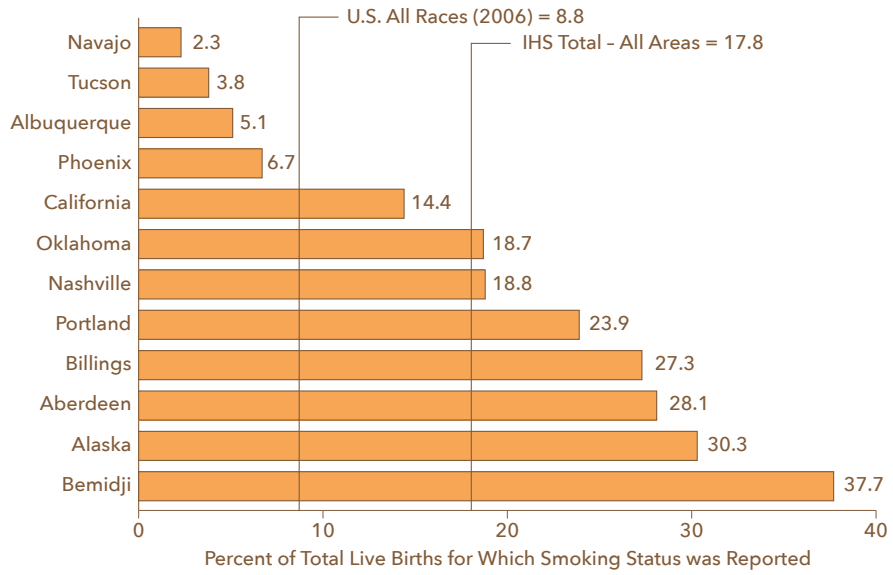
[1/]Includes 168,178 U.S. All Races live births and 5,795 American Indian/Alaska Native live births for which prenatal care was either 'not reported' or 'no prenatal care was provided.'
[2/]Percent based on live births with this information reported.

During 2005-2007, 17.8 percent of mothers of AI/AN newborns who smoked during pregnancy (as reported on the state birth certificate), which is two times the rate for mothers in the U.S. general population (8.8 percent) in 2006. The Bemidji Area (37.7 percent) was 2.1 times the all IHS Area rate.

Chart 3.5

Percent of Live Births for Mothers Who Smoked During Pregnancy

Calendar Years 2005-2007



During 2005-2007, 9.6 percent of AI/AN women who smoked pregnancy gave birth to low birthweight babies as compared to 12.6 percent of women in the U.S. all races population in 2006.

Chart 3.6

Percent of Low Birthweight for Mothers Who Smoked During Pregnancy

Calendar Years 2005-2007

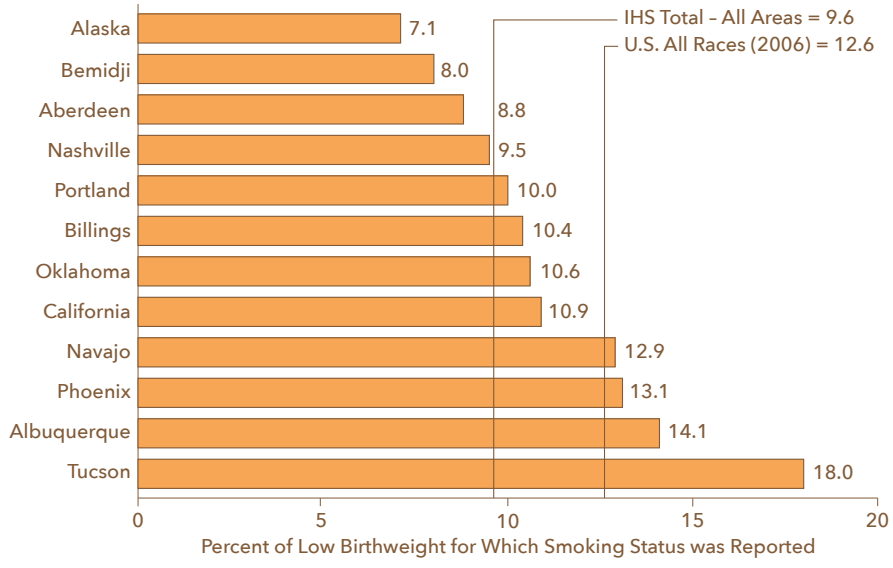


Table 3.5

Percent of Mothers Who Smoked During Pregnancy for All Births and Low Birthweight by Age of Mother

Calendar Years 2005-2007

(Low birthweight is defined as weight less than 2,500 grams (5lb., 8oz.))

	Percent of Live Births[1/] for Which the Mother Reported Smoking				
	All Ages	*Under 15 Years*	*15-19 Years*	*20-34 Years*	*35-54 Years*
U.S. All Races (2006)	*8.8*	*4.2*	*15.1*	*11.5*	*6.2*
All IHS Areas	*17.8*	*7.1*	*17.8*	*18.6*	*15.1*
Aberdeen	28.1	13.3	26.9	31.2	27.7
Alaska	30.3	6.3	28.8	29.7	26.3
Albuquerque	5.1	6.3	4.8	4.9	2.6
Bemidji	37.7	*12.5*	*39.6*	*38.8*	*31.1*
Billings	27.3	*13.3*	*24.8*	*27.4*	*25.5*
California	14.4	*0.0**	*15.6*	*14.0*	*12.3*
Nashville	18.8	*0.0**	*23.5*	*23.0*	*19.5*
Navajo	2.3	*0.0**	*2.1*	*2.0*	*1.4*
Oklahoma	18.7	*5.5*	*18.4*	*19.6*	*18.6*
Phoenix	6.7	*0.0**	*5.0*	*6.3*	*7.1*
Portland	23.9	*24.1*	*23.0*	*21.3*	*18.1*
Tucson	3.8	*0.0**	*4.2*	*4.1*	*5.2*

	Percent of Low Birthweight[1/] for Which the Mother Reported Smoking				
	All Ages	*Under 15 Years*	*15-19 Years*	*20-34 Years*	*35-54 Years*
U.S. All Races (2006)	*12.6*	*16.4*	*12.0*	*12.1*	*18.2*
All IHS Areas	*9.6*	*9.5*	*8.8*	*9.3*	*14.8*
Aberdeen	8.8	0.0*	7.4	8.6	15.5
Alaska	7.1	0.0*	5.9	7.2	8.4
Albuquerque	14.1	0.0*	11.3	15.4	6.3
Bemidji	8.0	0.0*	6.5	8.2	10.9
Billings	10.4	0.0*	7.1	10.8	15.5
California	10.9	--	8.5	12.3	2.8
Nashville	9.5	0.0*	10.6	9.1	13.5
Navajo	12.9	0.0*	22.6	11.0	21.7
Oklahoma	10.6	33.3	10.3	9.9	21.4
Phoenix	13.1	0.0*	9.6	13.4	16.3
Portland	10.0	14.3	10.8	9.1	16.7
Tucson	18.0	0.0*	23.8	15.7	22.2

-- Represents zero.

* Figure does not meet standards of reliability or precision.

[1/]Based on the number of live births with smoking status of the mother reported.

During 2005-2007 mothers of AI/AN newborns were more likely to have diabetes than their counterparts in the U.S. all races population in 2006. The 2005-2007 rate for AI/AN people was 1.5 times larger than the U.S. all races rate (42.3 births to mothers with diabetes per 1,000 live births). For the AI/AN population, there were 63.2 births to mothers with diabetes per 1,000 of all live births. The Area proportions ranged from 37.8 per 1,000 live births in Billings to 91.7 in Navajo.

Chart 3.7

Birth Rates Among Mothers with Diabetes
Calendar Years 2005-2007

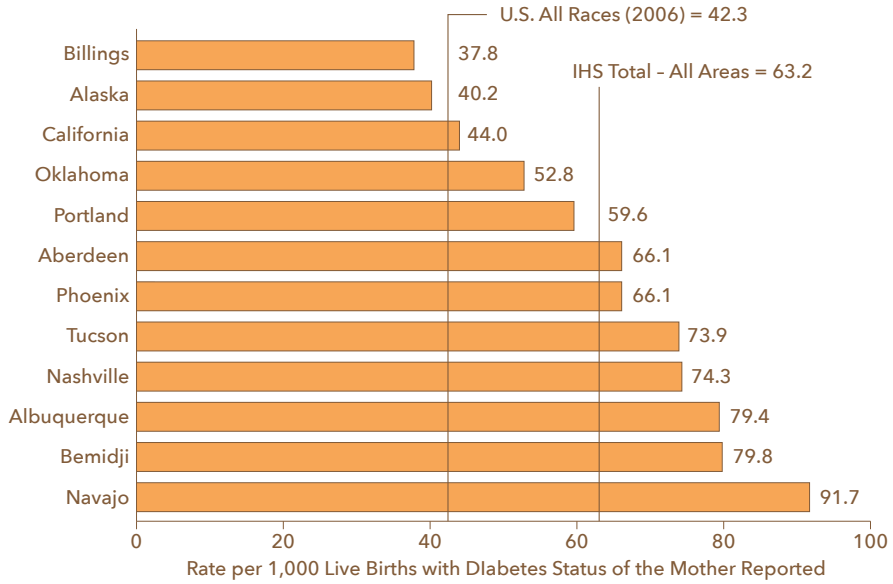


Table 3.7

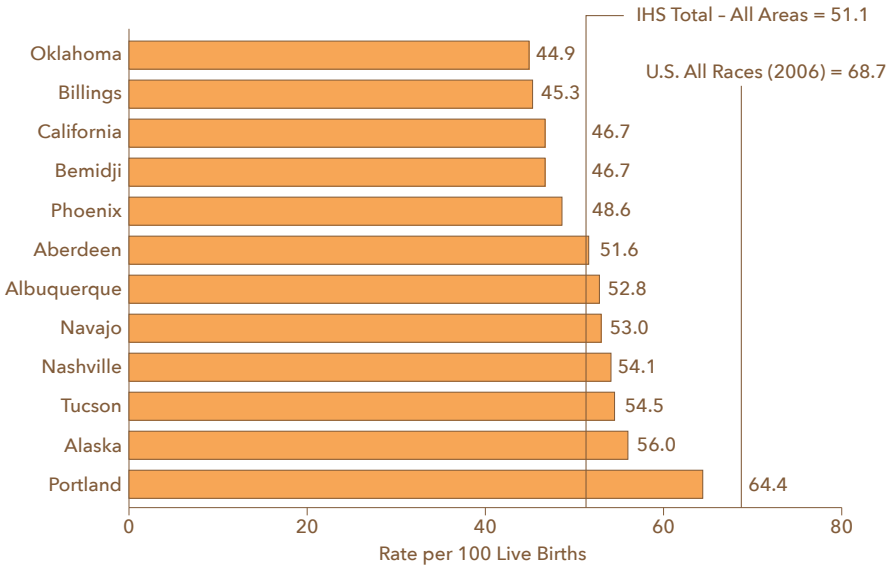
Rate[1/] of Live Births Among Mothers with Diabetes by Age of Mother
Calendar Years 2005-2007

	All Ages	Under 20 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-54 Years
U.S. All Races (2006)	*42.3*	*13.3*	*24.2*	*40.0*	*56.2*	*74.5*	*94.3*
All IHS Areas	*63.2*	*18.5*	*32.5*	*96.4*	*137.4*	*208.6*	*242.4*
Aberdeen	66.1	19.6	40.9	77.8	138.8	181.1	312.0
Alaska	40.2	12.0	22.0	41.9	70.4	90.8	160.6
Albuquerque	79.4	14.9	44.9	80.5	152.2	170.2	282.1
Bemidji	79.8	29.7	45.3	96.3	143.4	201.2	242.7
Billings	37.8	6.8	26.6	45.2	69.3	116.2	137.9
California	44.0	15.9	30.0	49.3	65.4	75.6	119.8
Nashville	74.3	29.0	43.9	93.8	113.9	137.3	153.8
Navajo	91.7	19.2	43.6	96.7	152.9	234.4	259.2
Oklahoma	52.8	18.3	35.8	61.8	97.0	125.6	206.3
Phoenix	66.1	17.5	38.0	72.7	118.8	159.9	221.3
Portland	59.6	18.7	38.3	58.2	96.9	139.6	194.4
Tucson	73.9	19.4	32.5	96.4	137.4	208.6	242.4

[1/]Number of live births among mothers with diabetes per 1,000 live births with diabetes status reported in age group specified.

Mothers of AI/AN newborns have a 1.3 higher rate of vaginal deliveries than do women in the U.S. all races population. The AI/AN rate of vaginal deliveries was 51.1 per 100 live births in 2005-2007, while the 2006 U.S. all races rate was 68.7.

Chart 3.8 Vaginal Delivery
Calendar Years 2005-2007



Women of the U.S. all races population are 2.8 times more likely to have cesarean delivery than mothers of AI/AN newborns. The highest percent of cesarean deliveries were in the Nashville Area (16.2) whereas the lowest percent of cesarean deliveries were in the Alaska Area (6.0).

Chart 3.9 Cesarean Delivery
Calendar Years 2005-2007

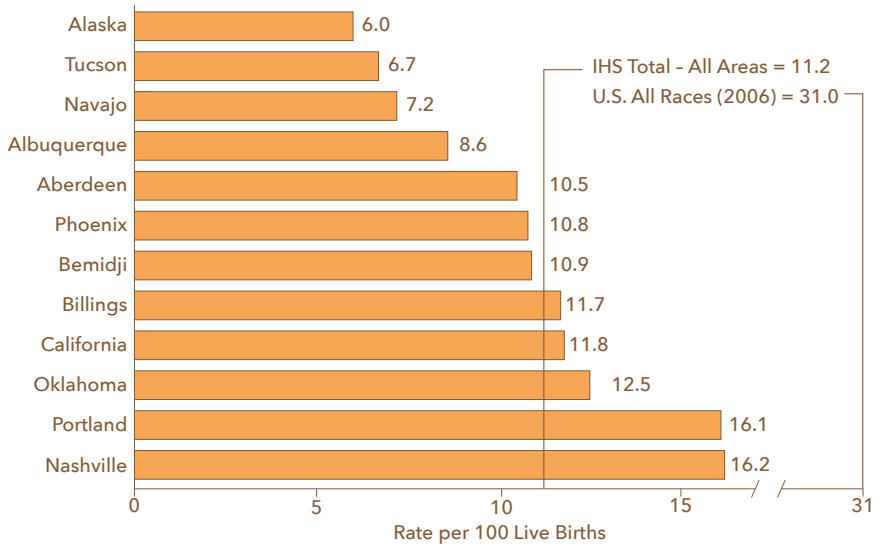


Table 3.8 Births by Method of Delivery by Age of Mother

Calendar Years 2005-2007
(Rates per 100 live births)

	Vaginal Delivery				Primary Cesarean Delivery			
	All Ages	Under 25 Years	25-34 Years	35-54 Years	All Ages	Under 25 Years	25-34 Years	35-54 Years
U.S. All Races (2006)	*68.7*	*38.7*	*49.2*	*12.0*	*31.0*	*29.0*	*51.6*	*19.4*
All IHS Areas	*51.1*	*55.7*	*37.8*	*6.5*	*11.2*	*52.6*	*37.8*	*9.6*
Aberdeen	51.6	62.0	33.4	4.7	10.5	58.8	34.1	7.2
Alaska	56.0	54.8	37.2	8.0	6.0	45.9	42.7	11.4
Albuquerque	52.8	53.4	38.9	7.7	8.6	48.6	37.3	14.1
Bemidji	46.7	58.4	36.2	5.5	10.9	57.5	35.2	7.3
Billings	45.3	62.4	33.0	4.6	11.7	58.0	36.2	5.8
California	46.7	49.3	43.1	7.6	11.8	47.5	40.5	12.0
Nashville	54.1	53.0	39.7	7.3	16.2	48.9	39.6	11.5
Navajo	53.0	52.6	38.0	9.4	7.2	50.9	37.2	12.0
Oklahoma	44.9	59.9	35.7	4.4	12.5	56.8	36.4	6.8
Phoenix	48.6	54.0	39.0	7.0	10.8	53.1	35.8	11.1
Portland	64.4	52.4	40.7	6.9	16.1	47.4	41.1	11.5
Tucson	54.5	58.0	36.3	5.7	6.7	49.1	44.7	6.3

The infant mortality rate for the IHS service area population in 2005-2007 was 8.4 deaths per 1,000 live births. The AI/AN rate is 25 percent higher than the U.S. all races (6.7 deaths per 1,000 live births for 2006). The Nashville Area had the highest infant mortality rate (11.1) followed by the Aberdeen Area (10.7). The rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.10 Infant Mortality Rates
Calendar Years 2005-2007

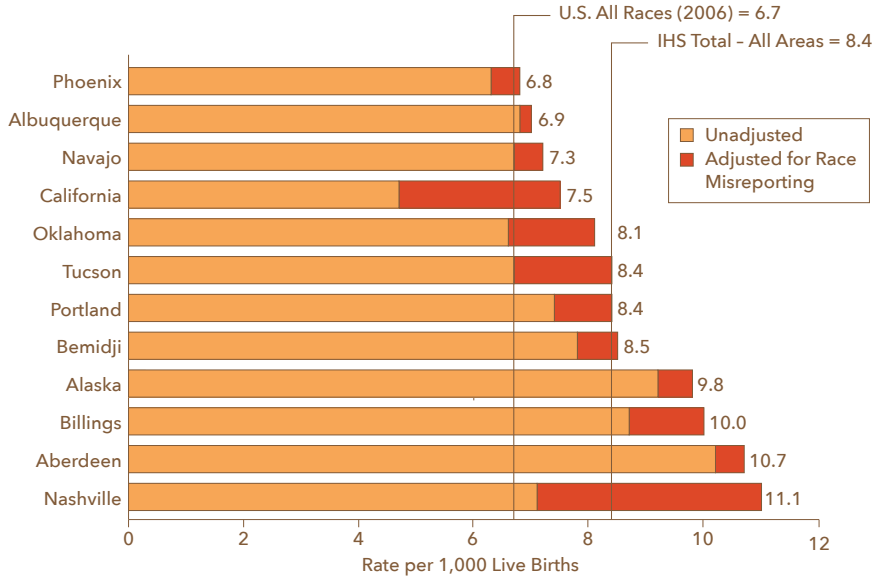


Table 3.10 Infant Mortality Rates *(Under One Year)*
Calendar Years 2005-2007

	Live Births	Infant Deaths		Rate[1/]	
		Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*4,265,555*	*28,509*		*6.7*	
All IHS Areas	*128,647*	*930*	*1,081*	*7.2*	*8.4*
Aberdeen	10,589	108	113	10.2	10.7
Alaska	9,251	85	91	9.2	9.8
Albuquerque	6,641	45	46	6.8	6.9
Bemidji	8,633	67	*73*	7.8	*8.5*
Billings	5,507	48	*55*	8.7	*10.0*
California	8,677	41	*65*	4.7	*7.5*
Nashville	6,861	49	*76*	7.1	*11.1*
Navajo	14,572	98	*106*	6.7	*7.3*
Oklahoma	26,612	176	*216*	6.6	*8.1*
Phoenix	14,836	93	*101*	6.3	*6.8*
Portland	14,087	104	*119*	7.4	*8.4*
Tucson	2,381	16	*20*	6.7	*8.4*

[1/]Rate per 1,000 live births.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.

The neonatal mortality rate for the IHS service area population in 2005-2007 was 4.1 deaths per 1,000 live births. The U.S. all races rate of 4.5 deaths per 1,000 live births in 2006 is 1.1 times higher than the AI/AN rate of 4.1. Three IHS Areas (Aberdeen, Billings, and Nashville) had rates that exceeded the U.S. all races rate. The rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.11 Neonatal Mortality Rates
Calendar Years 2005-2007

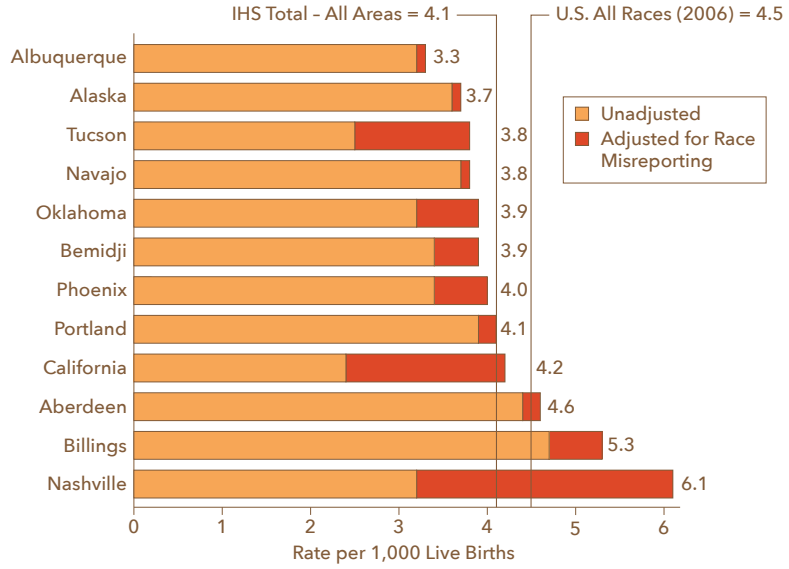


Table 3.11 Neonatal Mortality Rates *(Under 28 Days)*
Calendar Years 2005-2007

	Live Births	Infant Deaths		Rate[1/]	
		Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*4,265,555*	*19,041*		*4.5*	
All IHS Areas	*128,647*	*444*	*525*	*3.5*	*4.1*
Aberdeen	10,589	47	49	4.4	4.6
Alaska	9,251	33	34	3.6	3.7
Albuquerque	6,641	21	22	3.2	3.3
Bemidji	8,633	29	*34*	3.4	*3.9*
Billings	5,507	26	*29*	4.7	*5.3*
California	8,677	21	*37*	2.4	*4.2*
Nashville	6,861	22	*42*	3.2	*6.1*
Navajo	14,572	54	*56*	3.7	*3.8*
Oklahoma	26,612	85	*105*	3.2	*3.9*
Phoenix	14,836	51	*59*	3.4	*4.0*
Portland	14,087	55	*58*	3.9	*4.1*
Tucson	2,381	*	*	2.5	*3.8*

*Quantity greater than zero and less than ten.
[1/]Rate per 1,000 live births.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
NOTE: Infant deaths are weighted so numbers may not exactly add to total due to rounding.

The postneonatal mortality rate for the IHS service area population in 2005-2007 was 4.3 deaths per 1,000 live births. The AI/AN rate is 2.0 times higher than the U.S. all races rate of 2.2 deaths per 1,000 live births for 2006. The Alaska Area had the highest rate (6.2 deaths per 1,000 live births) among the IHS Areas followed by Aberdeen (6.0 deaths per 1,000 live births). The rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.12

Postneonatal Mortality Rates
Calendar Years 2005-2007

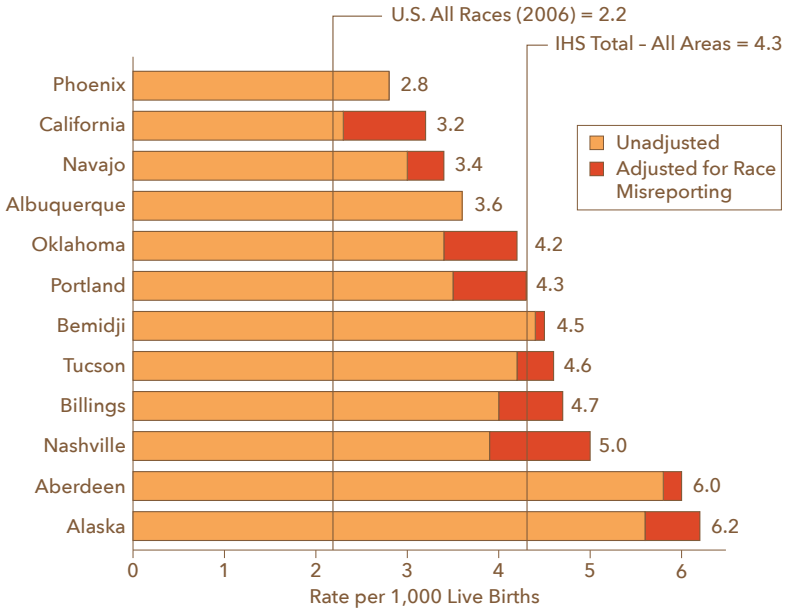


Table 3.12

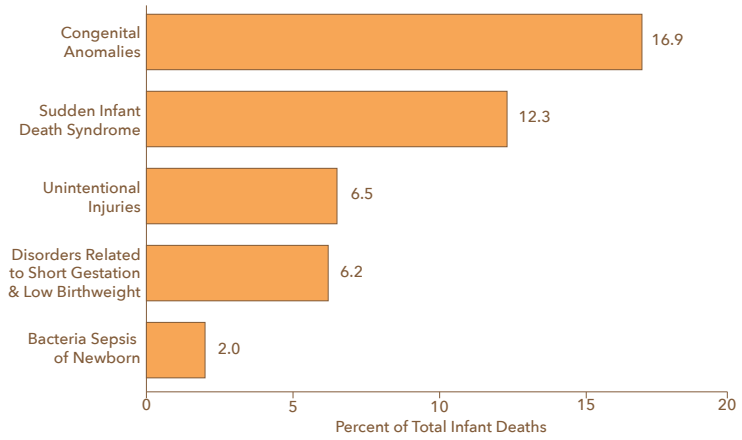
Postneonatal Mortality Rates
(28 Days to Under One Year)
Calendar Years 2005-2007

	Live Births	Infant Deaths		Rate[1/]	
		Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*4,265,555*	*9,468*		*2.2*	
All IHS Areas	*128,647*	*480*	*547*	*3.7*	*4.3*
Aberdeen	10,589	61	64	5.8	6.0
Alaska	9,251	52	57	5.6	6.2
Albuquerque	6,641	24[3/]	24[3/]	3.6[3/]	3.6[3/]
Bemidji	8,633	38	39	4.4	4.5
Billings	5,507	22	26	4.0	4.7
California	8,677	20	28	2.3	3.2
Nashville	6,861	27	34	3.9	5.0
Navajo	14,572	44	50	3.0	3.4
Oklahoma	26,612	91	111	3.4	4.2
Phoenix	14,836	42[3/]	42[3/]	2.8[3/]	2.8[3/]
Portland	14,087	49	61	3.5	4.3
Tucson	2,381	10	11	4.2	4.6

[1/]Rate per 1,000 live births.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[3/]The adjusted numbers and rates for postneonatal deaths for the Albuquerque and Phoenix Areas are equal to the unadjusted numbers and rates as a result of the linked birth/infant death file (used to obtain the adjusted counts for postneonatal deaths) having the same number of deaths as the unadjusted mortality file for each Area (2005-2007 data).
NOTE: Infant deaths are weighted so numbers may not exactly add to total due to rounding.

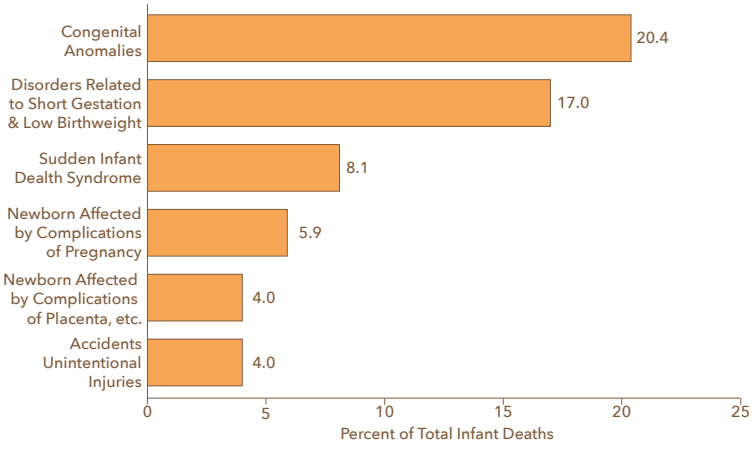
In 2005-2007, 16.9 percent of all infant deaths in the IHS service area were caused by congenital anomalies. This was followed by sudden infant death syndrome (12.3 percent), unintentional injuries (6.5 percent), disorders related to short gestation and low birth weight (6.2 percent), and bacteria sepsis of newborn at 2.0 percent. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.13 Leading Causes of Infant Deaths, All IHS Areas
Calendar Years 2005-2007



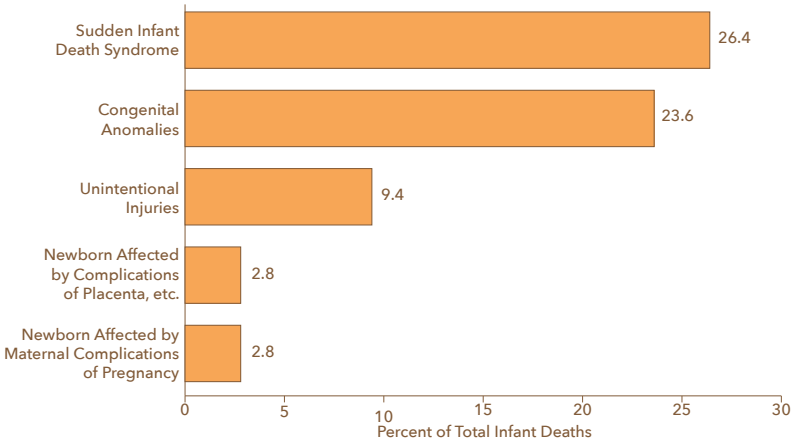
In 2006, 20.4 percent of all infant deaths in the U.S. were caused by congenital anomalies, followed by disorders related to short gestation and low birthweight at 17.0 percent. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.14 Leading Causes of Infant Deaths, U.S. All Races
Calendar Year 2006



In 2005-2007, 26.4 percent of all infant deaths in the Aberdeen Area were caused by sudden infant death syndrome, followed by congenital anomalies at 23.6 percent. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

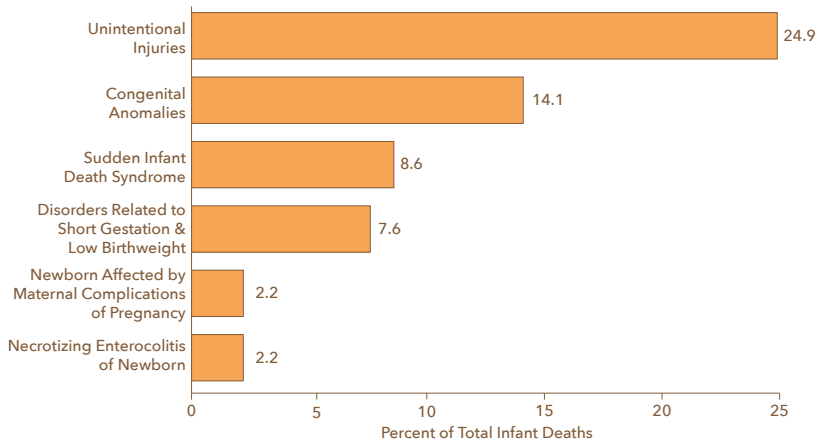
Chart 3.15 Leading Causes of Infant Deaths, Aberdeen Area
Calendar Years 2005-2007



In 2005-2007, 24.9 percent of all infant deaths in the Alaska Area were caused by unintentional injuries, followed by congenital anomalies at 14.1 percent. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.16

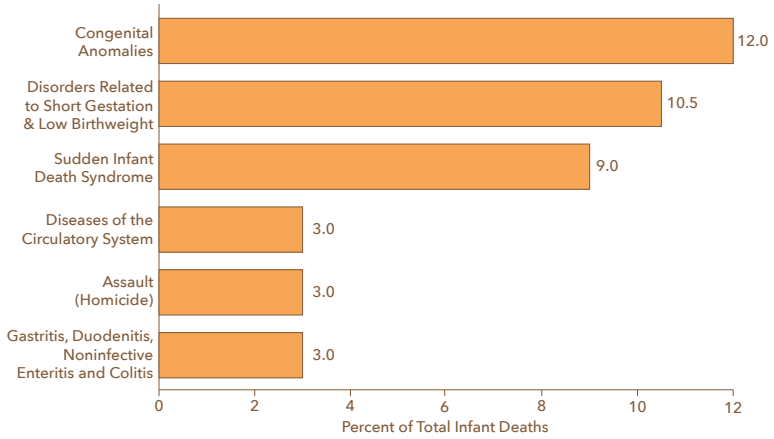
Leading Causes of Infant Deaths, Alaska Area
Calendar Years 2005-2007



In 2005-2007, 12.0 percent of all infant deaths in the Albuquerque Area were caused by congenital anomalies, followed by disorders related to short gestation and low birthweight at 10.5 percent. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.17

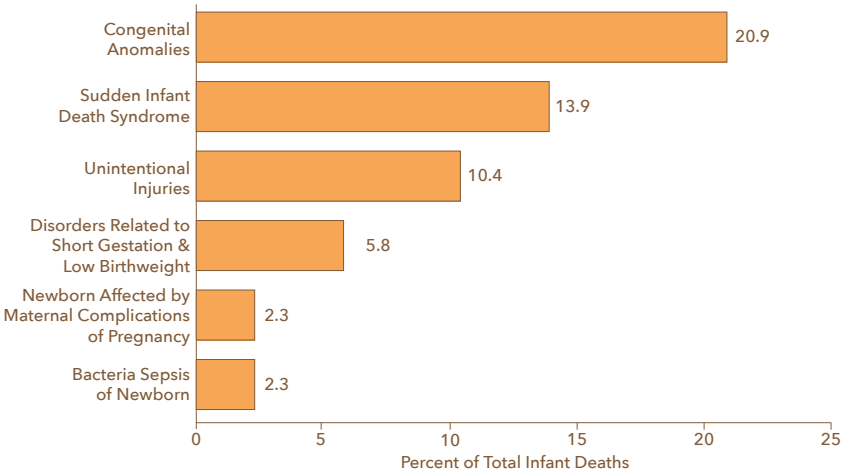
Leading Causes of Infant Deaths, Albuquerque Area
Calendar Years 2005-2007



In 2005-2007, 20.9 percent of all infant deaths in the Bemidji Area were caused by congenital anomalies, followed by sudden infant death syndrome at 13.9 percent. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.18

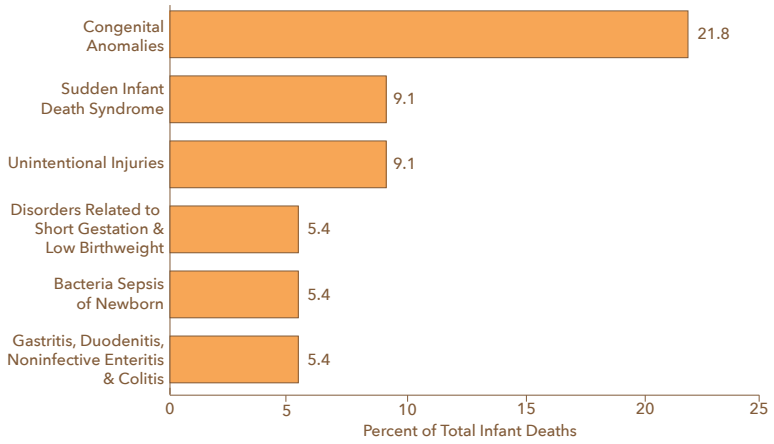
Leading Causes of Infant Deaths, Bemidji Area
Calendar Years 2005-2007



In 2005-2007, 21.8 percent of all infant deaths in the Billings Area were caused by congenital anomalies, followed by sudden infant death syndrome and unintentional injuries at 9.1 percent. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.19

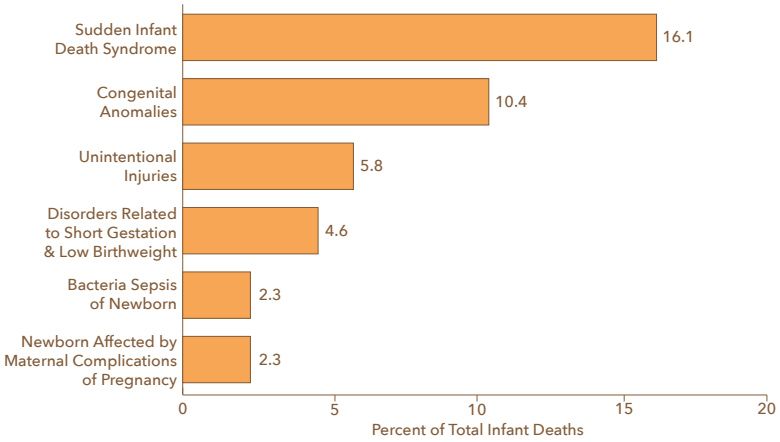
Leading Causes of Infant Deaths, Billings Area
Calendar Years 2005-2007



In 2005-2007, 16.1 percent of all infant deaths in the California Area were caused by sudden infant death syndrome, followed by congenital anomalies at 10.4 percent. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.20

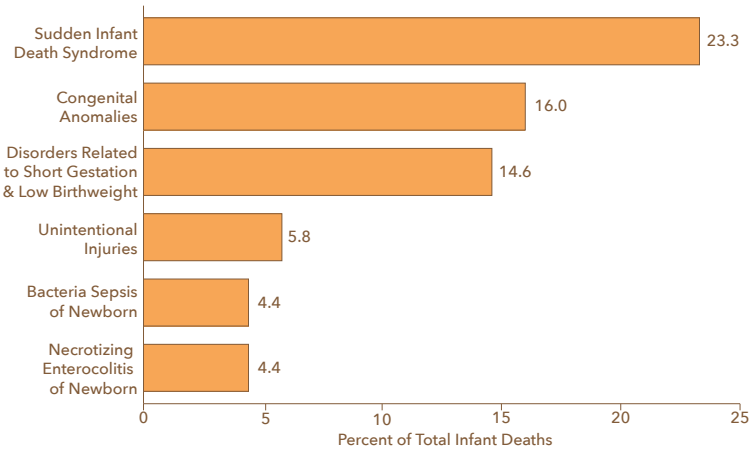
Leading Causes of Infant Deaths, California Area
Calendar Years 2005-2007



In 2005-2007, 23.3 percent of all infant deaths in the Nashville Area were caused by sudden infant death syndrome, followed by congenital anomalies (16.0 percent). The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.21

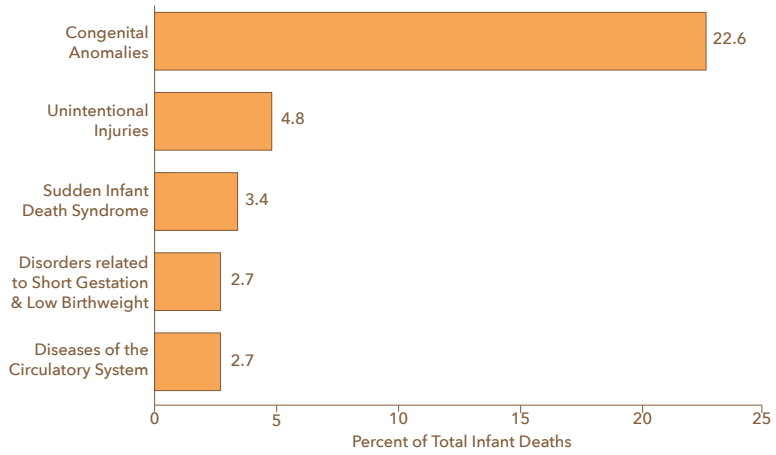
Leading Causes of Infant Deaths, Nashville Area
Calendar Years 2005-2007



In 2005-2007, 22.6 percent of all infant deaths in the Navajo Area were caused by congenital anomalies, followed by unintentional injuries at 4.8 percent. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.22

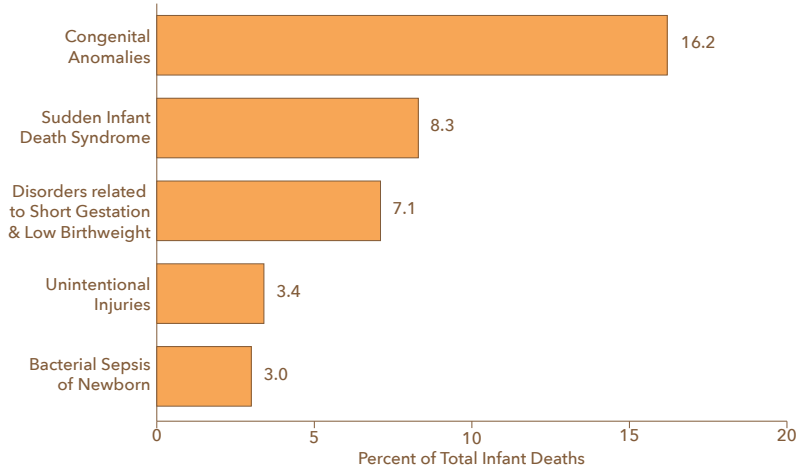
Leading Causes of Infant Deaths, Navajo Area
Calendar Years 2005-2007



In 2005-2007, 16.2 percent of all infant deaths in the Oklahoma Area were caused by congenital anomalies, followed by sudden infant death syndrome at 8.3 percent. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.23

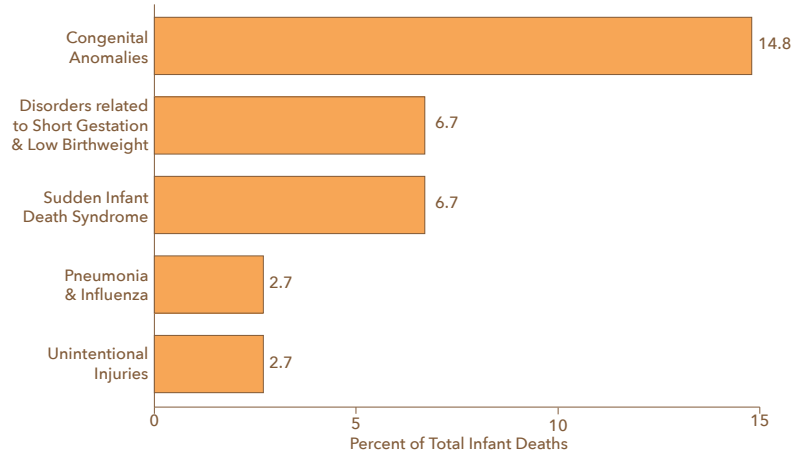
Leading Causes of Infant Deaths, Oklahoma Area
Calendar Years 2005-2007



In 2005-2007, 14.8 percent of all infant deaths in the Phoenix Area were caused by congenital anomalies, followed by disorders related to short gestation and low birthweight and sudden infant death syndrome at 6.7 percent. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

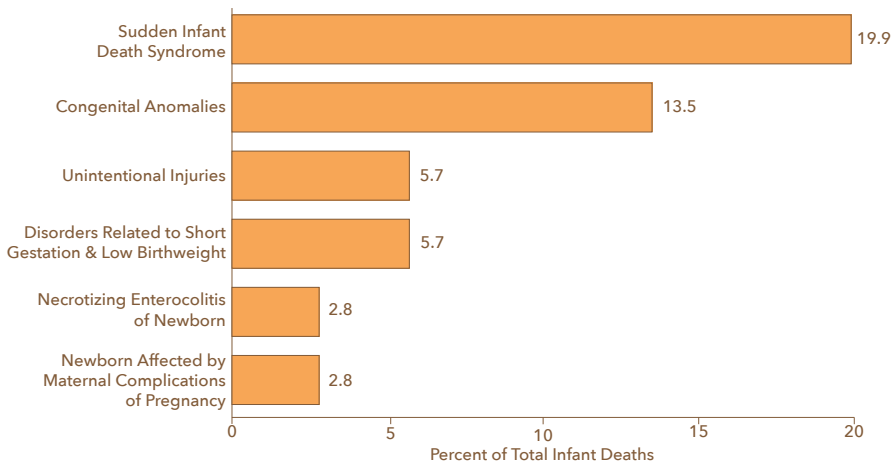
Chart 3.24

Leading Causes of Infant Deaths, Phoenix Area
Calendar Years 2005-2007



In 2005-2007, 19.9 percent of all infant deaths in the Portland Area were caused by sudden infant death syndrome, followed by congenital anomalies at 13.5 percent. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

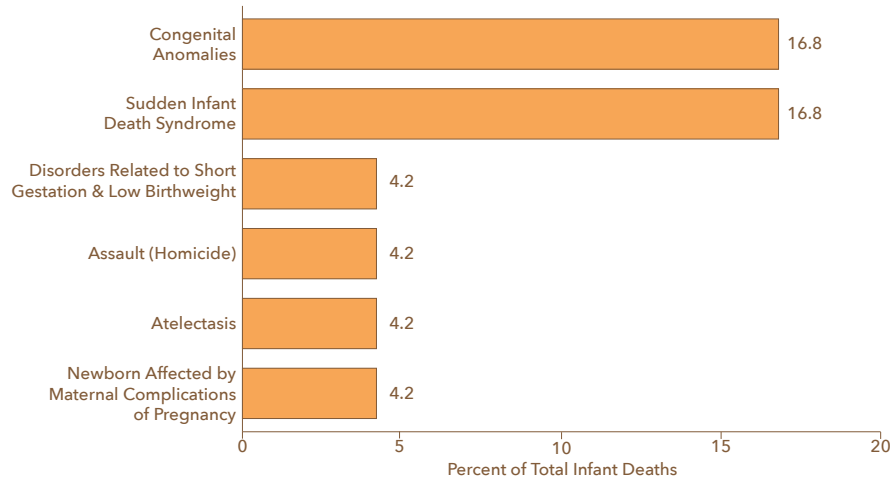
Leading Causes of Infant Deaths, Portland Area
Calendar Years 2005-2007



In 2005-2007, 16.8 percent of all infant deaths in the Tucson Area were caused by congenital anomalies and sudden infant death syndrome. Disorders related to short gestation and low birthweight, assault (homicide), atelectasis, and newborns affected by maternal complications of pregnancy are at 4.2 percent. The number of infant deaths for the Tucson Area is very small therefore these percent's should be interpreted with caution. The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.26

Leading Causes of Infant Deaths, Tucson Area
Calendar Years 2005-2007



In 2005-2007, the mortality rate for sudden infant death syndrome (SIDS) for the IHS service area population was 2.3 times the rate for the U.S. all races population in 2006 (122.8 and 54.5, respectively). The percent's are based on calculations adjusted for misreporting of AI/AN race on the state death certificate.

Chart 3.27 Sudden Infant Death Syndrome (SIDS) Rates
Calendar Years 2005-2007

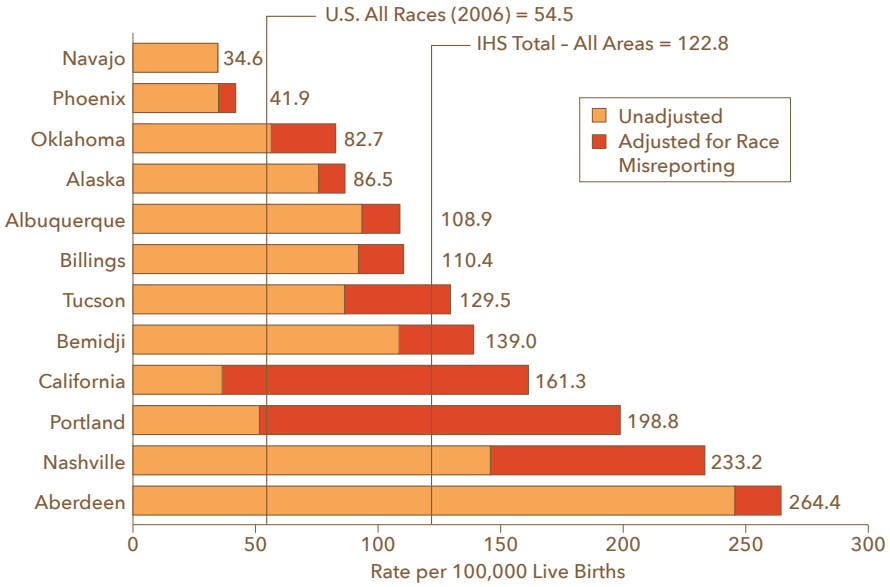


Table 3.27 Sudden Infant Death Syndrome (SIDS) Rates
Calendar Years 2005-2007

	Live Births	Infant Deaths		Rate[1/]	
		Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*4,265,555*	*2,323*		*54.5*	
All IHS Areas	***128,647***	***114***	***158***	***88.6***	***122.8***
Aberdeen	10,589	26	28	245.5	264.4
Alaska	9,251	*	*	75.7	86.5
Albuquerque	6,641	*	*	93.4	108.9
Bemidji	8,633	11	12	108.6	139.0
Billings	5,507	*	*	92.0	110.4
California	8,677	*	14	36.4	161.3
Nashville	6,861	10	16	145.8	233.2
Navajo	14,572	*	*	34.6	34.6
Oklahoma	26,612	15	22	56.4	82.7
Phoenix	14,836	*	*	34.9	41.9
Portland	14,087	15	28	51.6	198.8
Tucson	2,381	*	*	86.3	129.5

* Quantity greater than zero and less than ten.
[1/]Rate per 100,000 live births.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.

In 2005-2007, the age-adjusted death rate (all causes) for the IHS service area population was 953.7 deaths per 100,000 population. The AI/AN rate is 23 percent higher than the U.S. all races rate of 776.5 for 2006. The Aberdeen (1,301.5), Billings (1,219.8) and Bemidji (1,199.6) service areas had the highest rates. The rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.1

Age-Adjusted Death Rates
Calendar Years 2005-2007

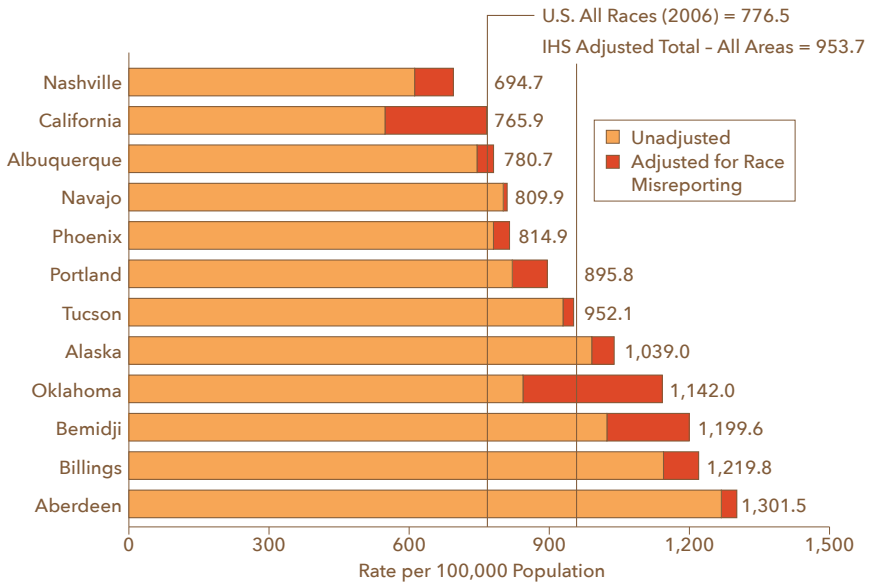


Table 4.1

Age-Adjusted Death Rates (All Causes)
Calendar Years 2005-2007

	Deaths[1/]		Rate[2/]	
	Unadjusted	*Adjusted[3/]*	*Unadjusted*	*Adjusted[3/]*
U.S. All Races (2006)	*2,426,264*		*776.5*	
All IHS Areas	***31,129***	***35,990***	***830.4***	***953.7***
Aberdeen	2,485	2,549	1,268.4	1,301.5
Alaska	2,345	2,456	990.9	1,039.0
Albuquerque	1,580	1,655	745.3	780.7
Bemidji	2,288	2,707	1,023.4	1,199.6
Billings	1,407	1,499	1,144.5	1,219.8
California	1,966	2,818	548.3	765.9
Nashville	1,594	1,823	611.7	694.7
Navajo	4,085	4,126	801.5	809.9
Oklahoma	6,747	9,289	843.7	1,142.0
Phoenix	2,914	3,036	780.5	814.9
Portland	3,081	3,381	820.8	895.8
Tucson	637	651	929.4	952.1

[1/]Includes deaths with age not reported (4 deaths IHS-wide; Phoenix-2 deaths, Navajo-1 death and Oklahoma-1 death).
[2/]Age-adjusted rate per 100,000 population.
[3/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.

In 2005-2007, the years of potential life lost rate for the IHS service area population was 87.7 years per 1,000 persons under 65 years, which is 95 percent higher than the U.S. all races rate of 44.9 for 2006. The rate of each IHS Area is higher than the U.S. all races rate. The lowest Area rate, California (65.1 years of potential life lost per 1,000 persons under 65 years), is 45 percent greater than the U.S. all races rate, while the highest Area rate, Billings, (120.1) is 2.7 times the U.S. all races rate. The IHS service area rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.2

Years of Potential Life Lost (YPLL) Rates
Calendar Years 2005-2007

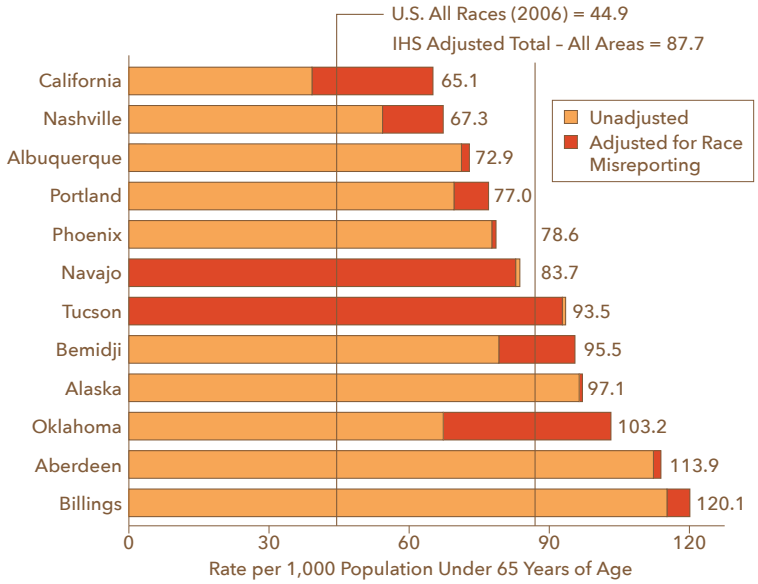


Table 4.2

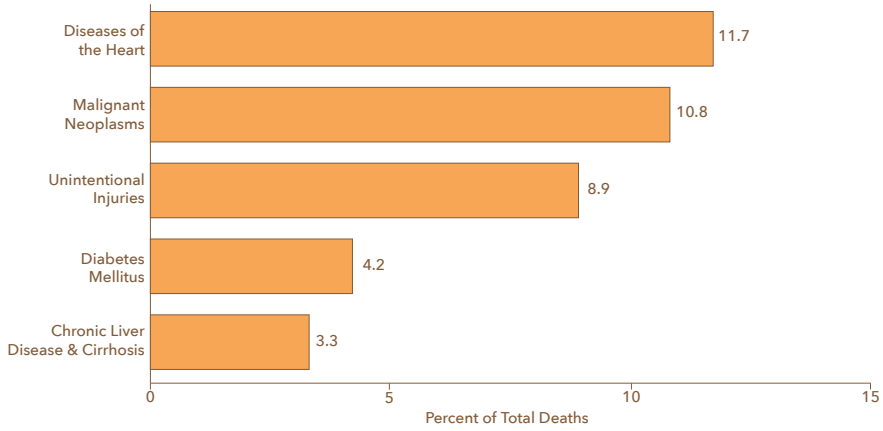
Years of Potential Life Lost (YPLL) Rates (All Causes)
Calendar Years 2005-2007

	Number of YPLL[1/]		Rate[2/]	
	Unadjusted	*Adjusted[3/]*	*Unadjusted*	*Adjusted[3/]*
U.S. All Races (2006)	*11,874,713*		*44.9*	
All IHS Areas	***386,243***	***449,795***	***75.3***	***87.7***
Aberdeen	36,830	37,375	112.3	113.9
Alaska	32,624	32,864	96.4	97.1
Albuquerque	20,858	21,333	71.2	72.9
Bemidji	26,191	31,558	79.2	95.5
Billings	21,424	22,329	115.2	120.1
California	19,606	32,528	39.2	65.1
Nashville	17,188	21,295	54.3	67.3
Navajo	55,420[4/]	54,844[4/]	83.7[4/]	82.8[4/]
Oklahoma	65,613	100,627	67.3	103.2
Phoenix	43,052	43,571	77.7	78.6
Portland	38,070	42,171	69.6	77.0
Tucson	9,367[4/]	9,300[4/]	93.5[4/]	92.8[4/]

[1/]Years of Potential Life Lost (YPLL) is a mortality indicator which measures the burden of premature deaths. It is calculated by subtracting the age at death from age 65 and summing the result over all deaths. This calculation was performed through the use of age groups under one, one to four, and five-year age groups through sixty to 64 years. The age at death was calculated based upon the mid-point of each of these age groups.
[2/]Rate per 1,000 population under 65 years of age.
[3/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[4/]The adjusted numbers and/or rates in the Navajo and Tucson Areas are lower than the unadjusted numbers and rates for each of these Areas.

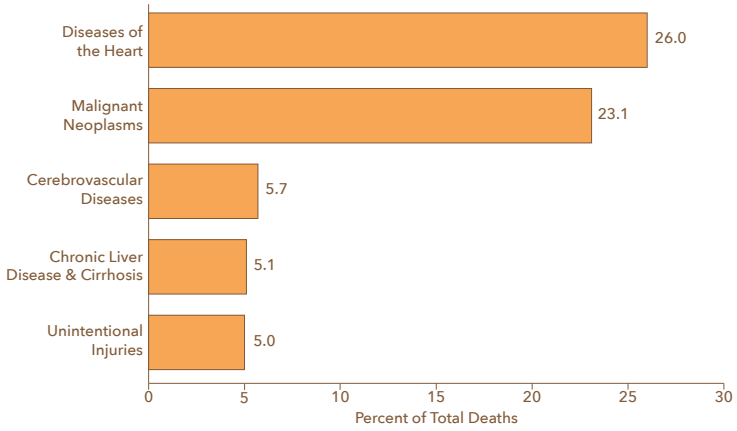
In 2005-2007, 11.7 percent of all deaths in the IHS service area were caused by diseases of the heart, followed by malignant neoplasms (10.8 percent), unintentional injuries (8.9 percent), diabetes mellitus (4.2 percent), and chronic liver disease and cirrhosis (3.3 percent).

Leading Causes of Death, All IHS Areas
Calendar Years 2005-2007



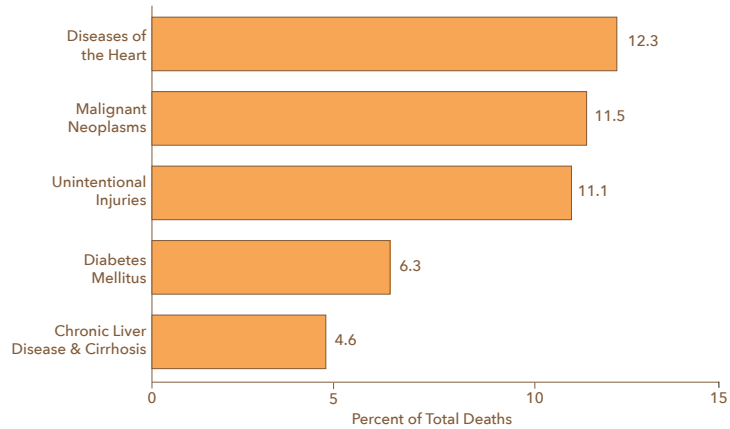
In 2006, 26.0 percent of all deaths in the U.S. were caused by diseases of the heart, followed by malignant neoplasms at 23.1 percent.

Leading Causes of Death, U.S. All Races
Calendar Year 2006



In 2005-2007, 12.3 percent of all deaths in the Aberdeen Area were caused by diseases of the heart followed by malignant neoplasms at 11.5 percent.

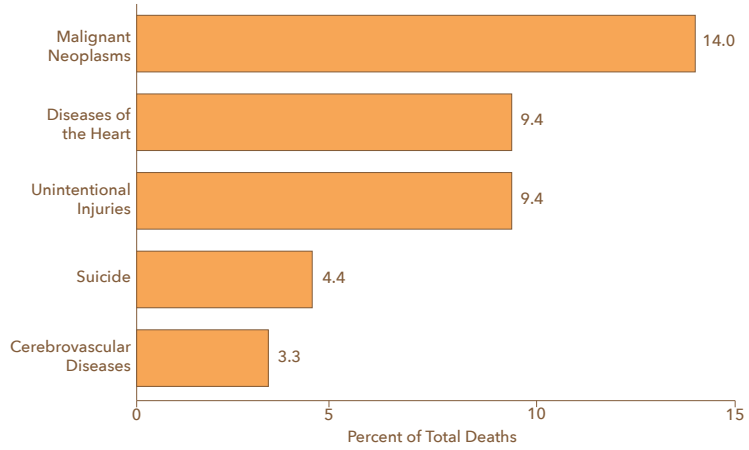
Leading Causes of Death, Aberdeen Area
Calendar Years 2005-2007



In 2005-2007, 14.0 percent of all deaths in the Alaska Area were caused by malignant neoplasms, followed by diseases of the heart and unintentional injuries at 9.4 percent.

Chart 4.6

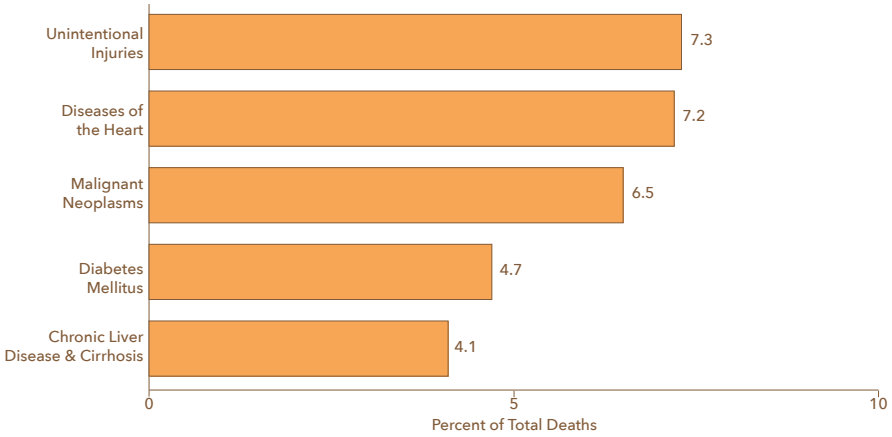
Leading Causes of Death, Alaska Area
Calendar Years 2005-2007



In 2005-2007, 7.3 percent of all deaths in the Albuquerque Area were caused by unintentional injuries, followed by diseases of the heart at 7.2 percent.

Chart 4.7

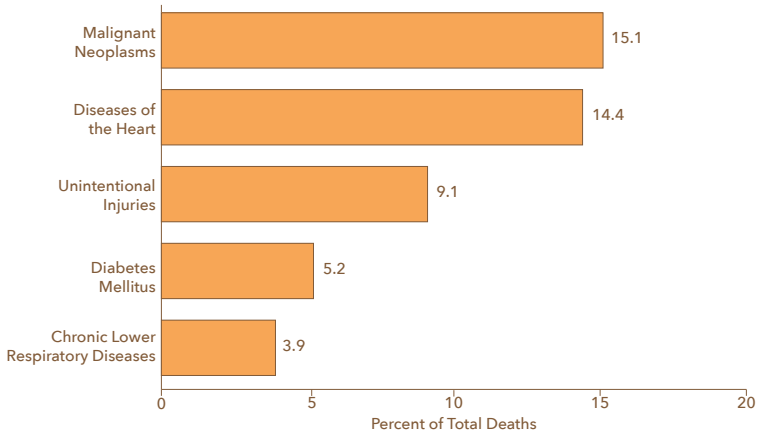
Leading Causes of Death, Albuquerque Area
Calendar Years 2005-2007



In 2005-2007, 15.1 percent of all deaths in the Bemidji Area were caused by malignant neoplasms, followed by diseases of the heart at 14.4 percent.

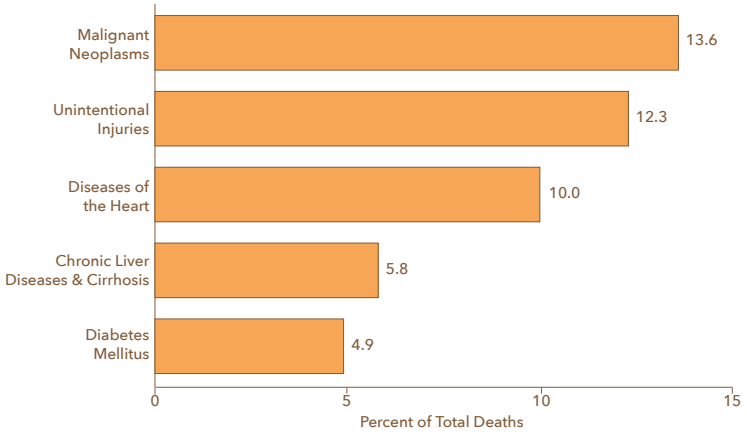
Chart 4.8

Leading Causes of Death, Bemidji Area
Calendar Years 2005-2007



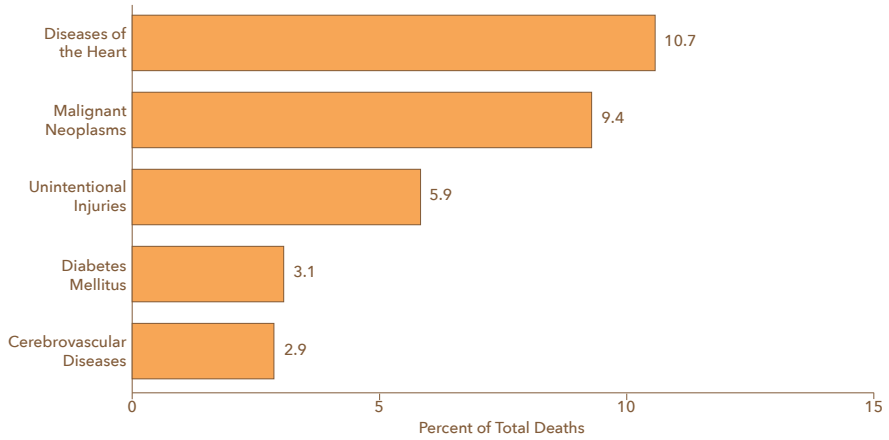
In 2005-2007, 13.6 percent of all deaths in the Billings Area were caused by malignant neoplasms, followed by unintentional injuries at 12.3 percent.

Chart 4.9 Leading Causes of Death, Billings Area
Calendar Years 2005-2007



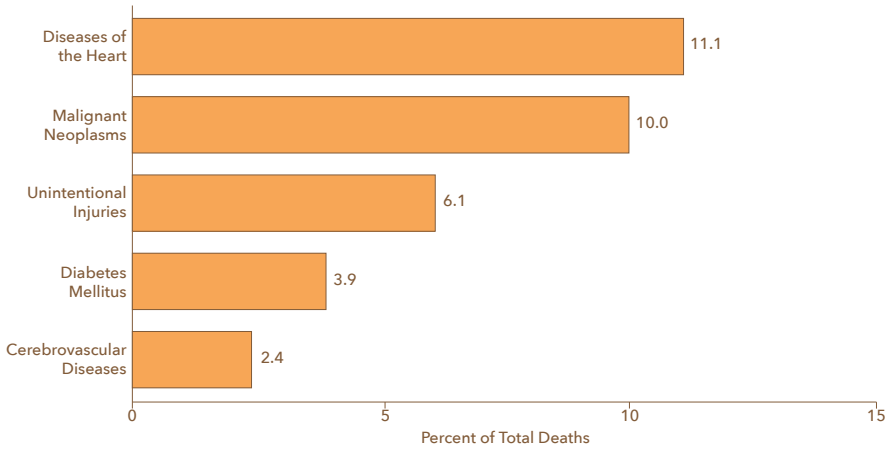
In 2005-2007, 10.7 percent of all deaths in the California Area were caused by diseases of the heart, followed by malignant neoplasms at 9.4 percent.

Chart 4.10 Leading Causes of Death, California Area
Calendar Years 2005-2007



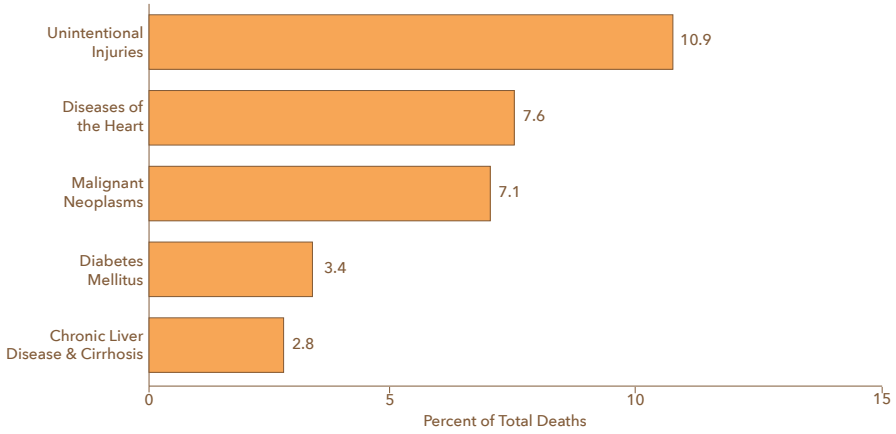
In 2005-2007, 11.1 percent of all deaths in the Nashville Area were caused by diseases of the heart, followed by malignant neoplasms at 10.0 percent.

Chart 4.11 Leading Causes of Death, Nashville Area
Calendar Years 2005-2007



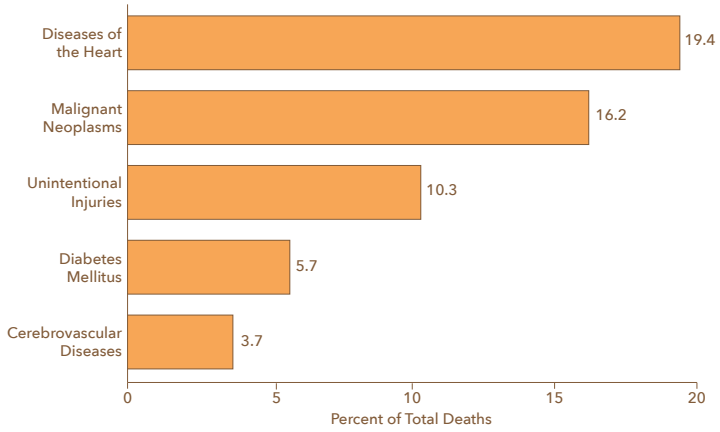
In 2005-2007, 10.9 percent of all deaths in the Navajo Area were caused by unintentional injuries, followed by diseases of the heart at 7.6 percent.

Chart 4.12 Leading Causes of Death, Navajo Area
Calendar Years 2005-2007



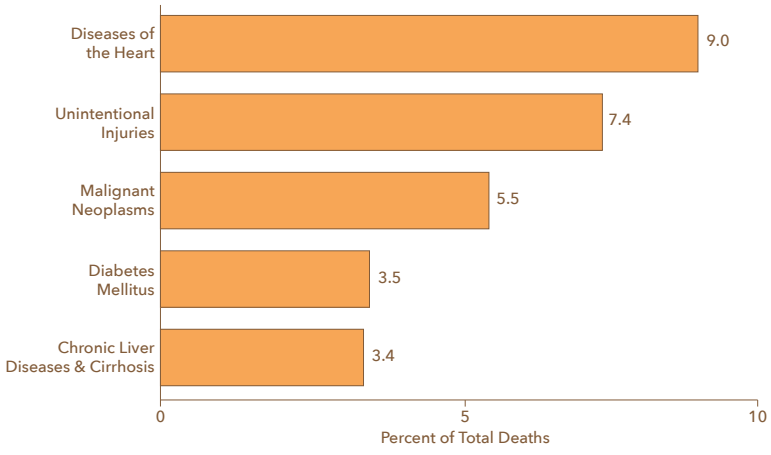
In 2005-2007, 19.4 percent of all deaths in the Oklahoma Area were caused by diseases of the heart, followed by malignant neoplasms at 16.2 percent.

Chart 4.13 Leading Causes of Death, Oklahoma Area
Calendar Years 2005-2007



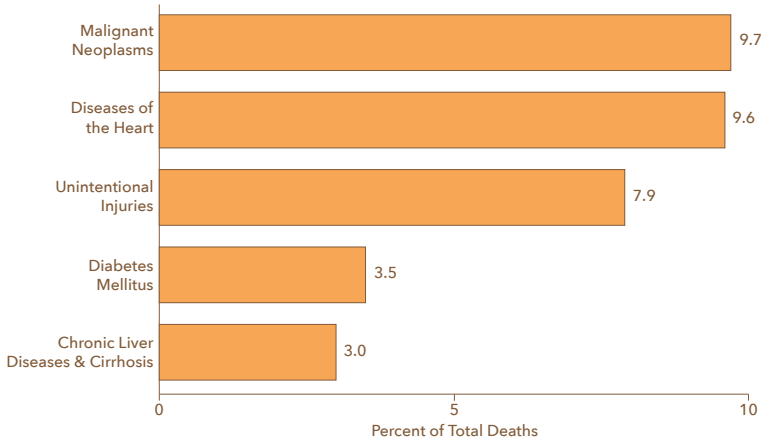
In 2005-2007, 9.0 percent of all deaths in the Phoenix Area were caused by diseases of the heart, followed by unintentional injuries at 7.4 percent.

Chart 4.14 Leading Causes of Death, Phoenix Area
Calendar Years 2005-2007



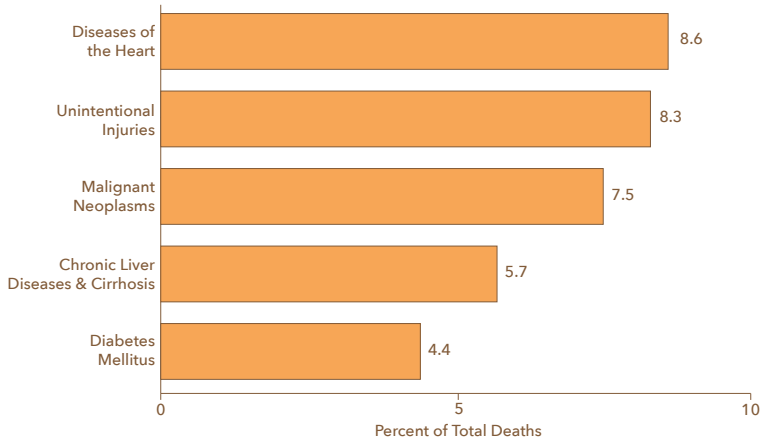
In 2005-2007, 9.7 percent of all deaths in the Portland Area were caused by malignant neoplasms, followed by diseases of the heart at 9.6 percent.

Chart 4.15 Leading Causes of Death, Portland Area
Calendar Years 2005-2007



In 2005-2007, 8.6 percent of all deaths in the Tucson Area were caused by diseases of the heart, followed by unintentional injuries at 8.3 percent.

Chart 4.16 Leading Causes of Death, Tucson Area
Calendar Years 2005-2007



In 2005-2007, the age adjusted poisoning death rate for the IHS service area population was 21.7 deaths per 100,000 population. The AI/AN rate is 1.8 times the U.S. all races rate (12.4 per 100,000 population) for 2006. The Oklahoma Area rate (33.8 per 100,000 population), which is the highest among the Areas is 2.7 times the U.S. all races rate. The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.17 Age-Adjusted Poisoning Death Rates
Calendar Years 2005-2007

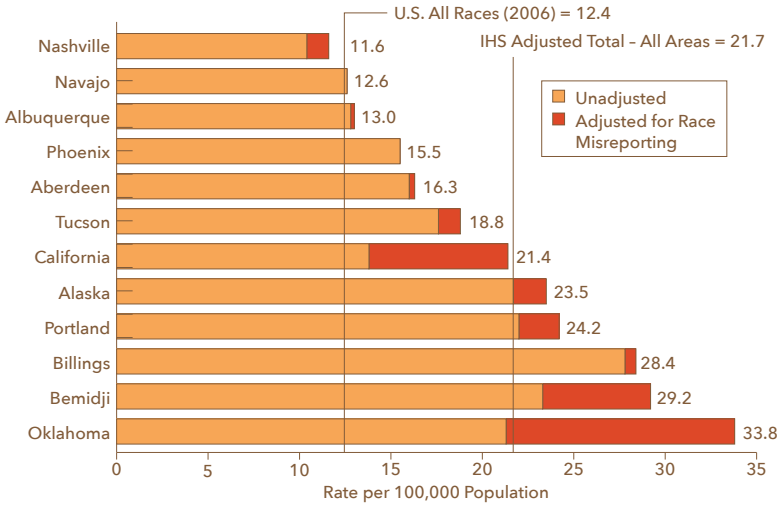


Table 4.17 Age-Adjusted Poisoning[1/] Death Rates
Calendar Years 2005-2007

	Deaths		Rate[2/]	
	Unadjusted	*Adjusted[3/]*	*Unadjusted*	*Adjusted[3/]*
U.S. All Races (2006)	*37,286*		*12.4*	
All IHS Areas	*911*	*1,129*	*17.7*	*21.7*
Aberdeen	45	46	16.0	16.3
Alaska	72	78	21.7	23.5
Albuquerque	40	41	12.8	13.0
Bemidji	80	101	23.3	29.2
Billings	51	52	27.8	28.4
California	70	112	13.8	21.4
Nashville	37	42	10.4	11.6
Navajo	81	81	12.6	12.6
Oklahoma	208	335	21.3	33.8
Phoenix	82	82	15.5	15.5
Portland	128	141	22.0	24.2
Tucson	17	18	17.6	18.8

[1/]Includes the following ICD-10 cause of death groups combined: U01(.6-.7), X40-X49, X60-X69, X85-X90, Y10-Y19, and Y35.2.
[2/]Age-adjusted rate per 100,000 population.
[3/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.

In 2005-2007, the age-adjusted unintentional injury death rate for the IHS service area population was 94.8 per 100,000 population. The AI/AN rate is 2.4 times higher than the U.S. all races rate of 39.8 for 2006. The California Area has the lowest rate among the IHS Areas (61.3), but it is still over 1.5 times the U.S. all races rate. The highest Area rate (Billings, 129.6) is 3.3 times the U.S. all races rate. The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.18 Age-Adjusted Unintentional Injury Death Rates
Calendar Years 2005-2007

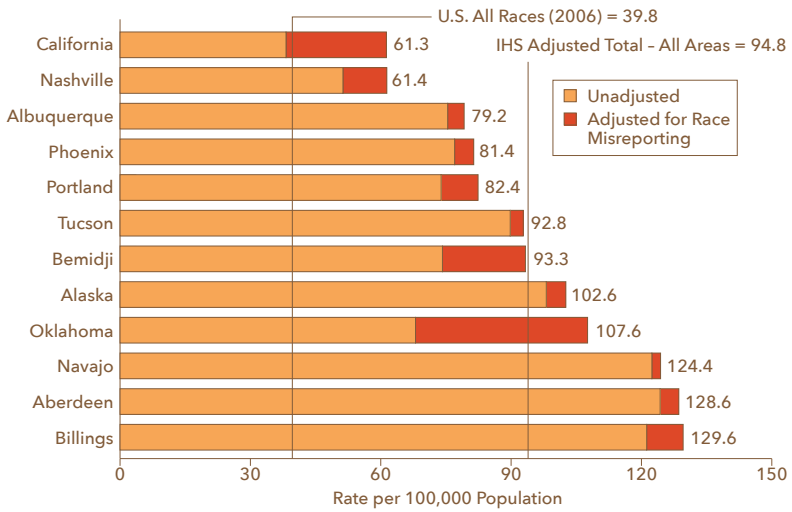


Table 4.18 Age-Adjusted Unintentional Injury Death Rates
Calendar Years 2005-2007

	All Unintentional Injuries				Motor Vehicle Crashes: Totals		*Percent of Motor Vehicle Crash Deaths Pedestrian-related*[1/]	Other Unintentional Injuries	
	Deaths		Rate[2/]		Rate[2/]			Rate[2/]	
	Unadjusted	*Adjusted*[3/]	*Unadjusted*	*Adjusted*[3/]	*Unadjusted*	*Adjusted*[3/]		*Unadjusted*	*Adjusted*[3/]
U.S. All Races (2006)	***121,599***		***39.8***		***15.0***		***11.5%***	***24.8***	
All IHS Areas	***4,076***	***4,901***	***80.3***	***94.8***	***37.1***	***45.0***	***14.9%***	***43.3***	***49.8***
Aberdeen	**368**	**384**	**124.3**	128.6	67.5	71.2	11.5%	**55.6**	56.2
Alaska	324	340	98.1	102.6	22.6	24.4	18.0%	**74.8**	77.6
Albuquerque	215	229	75.4	79.2	37.0	40.1	26.4%	**38.5**	39.1
Bemidji	250	321	74.2	93.3	31.7	42.5	16.6%	**42.4**	50.8
Billings	225	242	121.2	129.6	70.8	78.6	9.7%	**51.0**	51.6
California	190	316	38.2	61.3	15.2	26.7	5.5%	**23.0**	34.7
Nashville	171	209	51.3	61.4	24.7	32.2	15.5%	**26.5**	29.1
Navajo	769	784	122.4	124.4	61.1	63.0	25.5%	**61.8**	61.9
Oklahoma	665	1,091	68.0	107.6	28.0	46.7	5.7%	**40.4**	61.3
Phoenix	410	438	77.0	81.4	43.4	47.6	18.4%	**33.9**	34.1
Portland	404	459	73.9	82.4	32.3	38.2	11.6%	**41.2**	43.7
Tucson	85	88	89.8	92.8	48.5	49.3	28.8%	**41.3**	43.5

[1/]Includes Motor vehicle crashes having ICD-10 codes. V02-V04 (.1,.9) and V09.2 indicates a pedestrian was the subject decedent as a result of the motor vehicle crash. Percentages rare based on adjusted numbers of deaths.
[2/]Age-adjusted rate per 100,000 population.
[3/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.

In 2005-2007, the age-adjusted suicide death rate for the IHS service area population was 19.0 per 100,000 population. The AI/AN rate is 74 percent higher than the U.S. all races rate of 10.9 for 2006. The Alaska Area rate (41.5) is 3.8 times the U.S. rate. The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.19 Age-Adjusted Suicide Death Rates
Calendar Years 2005-2007

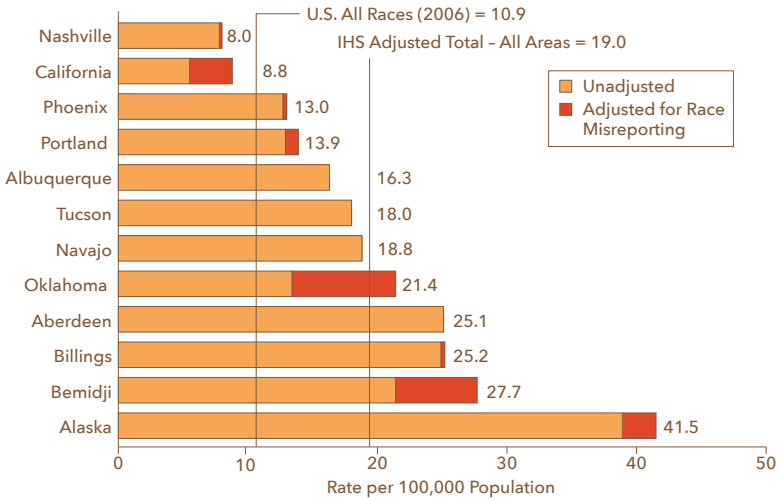


Table 4.19 Age-Adjusted Suicide Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*33,300*		*10.9*	
All IHS Areas	*935*	*1,088*	*16.3*	*19.0*
Aberdeen	94	94	25.1	25.1
Alaska	147	158	38.9	41.5
Albuquerque	50	50	16.3	16.3
Bemidji	76	99	21.4	27.7
Billings	48	49	24.9	25.2
California	29	49	5.5	8.8
Nashville	27	28	7.8	8.0
Navajo	142	142	18.8	18.8
Oklahoma	138	226	13.4	21.4
Phoenix	81	83	12.7	13.0
Portland	79	86	12.9	13.9
Tucson	24	24	18.0	18.0

[1/]Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.

In 2005-2007, the age-adjusted homicide death rate for the IHS service area population was 11.0 per 100,000 population. The AI/AN rate is 75 percent higher than the U.S. all races rate of 6.3 for 2006. The Tucson Area had the highest rate of 17.5. The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.20 Age-Adjusted Homicide Death Rates
Calendar Years 2005-2007

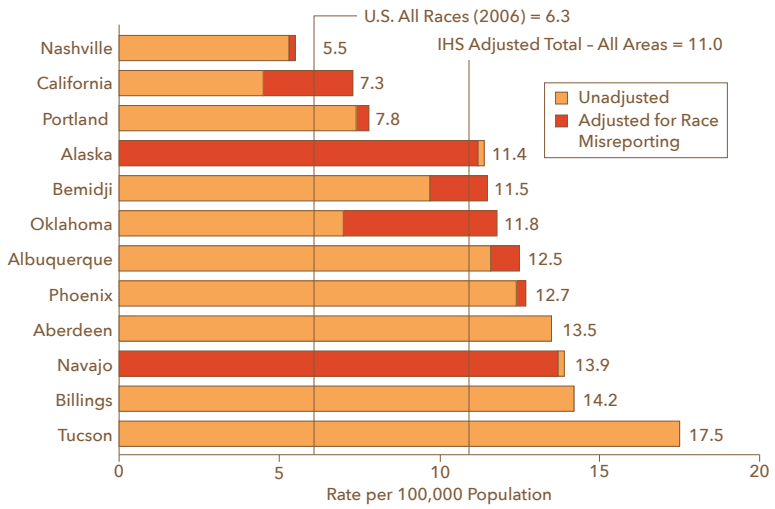


Table 4.20 Age-Adjusted Homicide Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*19,007*		*6.3*	
All IHS Areas	*554*	*637*	*9.7*	*11.0*
Aberdeen	46	46	13.5	13.5
Alaska	39[3/]	38[3/]	11.4[3/]	11.2[3/]
Albuquerque	37	40	11.6	12.5
Bemidji	37	45	9.7	11.5
Billings	30	30	14.2	14.2
California	24	40	4.5	7.3
Nashville	19	20	5.3	5.5
Navajo	99[3/]	97[3/]	13.9[3/]	13.7[3/]
Oklahoma	73	126	7.0	11.8
Phoenix	82	84	12.4	12.7
Portland	47	50	7.4	7.8
Tucson	21	21	17.5	17.5

[1/]Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[3/]The adjusted numbers and rates in the Alaska and Navajo Areas are lower than the unadjusted numbers and rates as a result of the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) having less deaths for this cause than did the unadjusted mortality file (2005-2007 data).

NOTE: Homicides due to legal intervention are not included.

In 2005-2007 the age-adjusted firearm injury death rate for the IHS service area population was 12.9 per 100,000 population. The AI/AN rate is 1.3 times the U.S. all races rate of 10.2 for 2006 The Alaska Area rate (29.1) far exceeds the rate of the next highest area (Tucson) with a rate of 20.2. The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.21 Age-Adjusted Firearm Injury Death Rates
Calendar Years 2005-2007

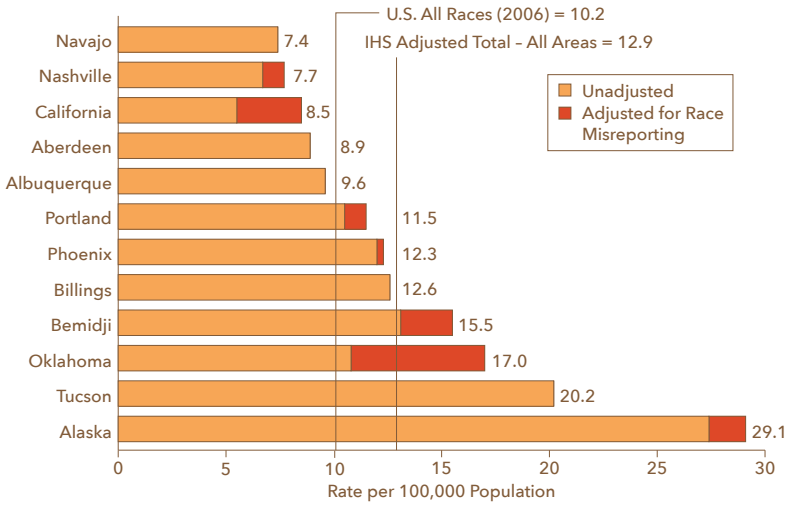


Table 4.21 Age-Adjusted Firearm Injury[1/] Death Rates
Calendar Years 2005-2007

	Deaths		Rate[2/]	
	Unadjusted	*Adjusted[3/]*	*Unadjusted*	*Adjusted[3/]*
U.S. All Races (2006)	*30,896*		*10.2*	
All IHS Areas	***630***	***748***	***10.9***	***12.9***
Aberdeen	32	32	8.9	8.9
Alaska	103	110	27.4	29.1
Albuquerque	31	31	9.6	9.6
Bemidji	49	59	13.1	15.5
Billings	25	25	12.6	12.6
California	30	48	5.5	8.5
Nashville	24	28	6.7	7.7
Navajo	54	54	7.4	7.4
Oklahoma	111	180	10.8	17.0
Phoenix	81	84	12.0	12.3
Portland	63	70	10.5	11.5
Tucson	27	27	20.2	20.2

[1/]Includes deaths with ICD-10 codes: accident caused by firearm missile—W32-W34; suicide and self-inflicted injury by firearms—X72-X74; assault by firearms and legal intervention—X93-X95,Y35.0; terrorism involving firearms--U01.4; and injury by firearms, undetermined whether accidently or purposely inflicted—Y22-Y24. Injury by firearm causes exclude explosive and other causes indirectly related to firearms.
[2/]Age-adjusted rate per 100,000 population.
[3/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.

The age-adjusted alcohol-related death rate for the IHS service area population in 2005-2007 was 44.7 per 100,000 population. The AI/AN rate is 6.5 times the U.S. all races rate of 6.9 for 2006. The Billings Area rate of 83.4 is 12.1 times the U.S. all races rate and 4.9 times the lowest Area rate (Nashville, 17.0). The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.22 Age-Adjusted Alcohol-Related Death Rates
Calendar Years 2005-2007

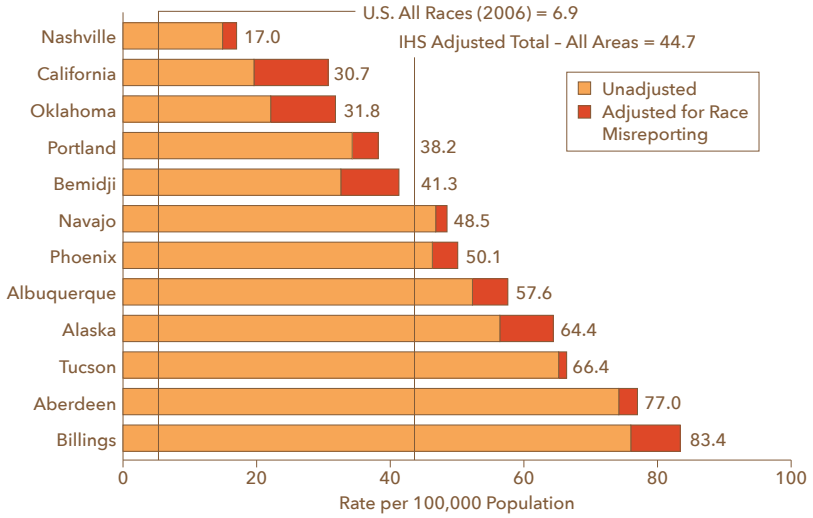


Table 4.22 Age-Adjusted Alcohol-Related Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*21,771*		*6.9*	
All IHS Areas	*1,763*	*2,048*	*38.0*	*44.7*
Aberdeen	175	182	74.2	77.0
Alaska	170	194	56.4	64.4
Albuquerque	136	150	52.3	57.6
Bemidji	102	129	32.6	41.3
Billings	119	131	76.0	83.4
California	93	147	19.6	30.7
Nashville	49	56	14.9	17.0
Navajo	270	280	46.8	48.5
Oklahoma	203	292	22.1	31.8
Phoenix	220	238	46.3	50.1
Portland	172	194	34.3	38.2
Tucson	54	55	65.2	66.4

[1/]Age-adjusted rate per 100,000 population.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.

The age-adjusted diabetes death rate for the IHS service area population in 2005-2007 was 65.6 per 100,000 population. The 2005-2007 AI/AN rate is 2.8 times the 2006 U.S. all races rate of 23.3. The IHS Area rates vary widely, ranging from 16.3 in Alaska to 129.7 in Aberdeen. The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.23 Age-Adjusted Diabetes Mellitus Death Rates
Calendar Years 2005-2007

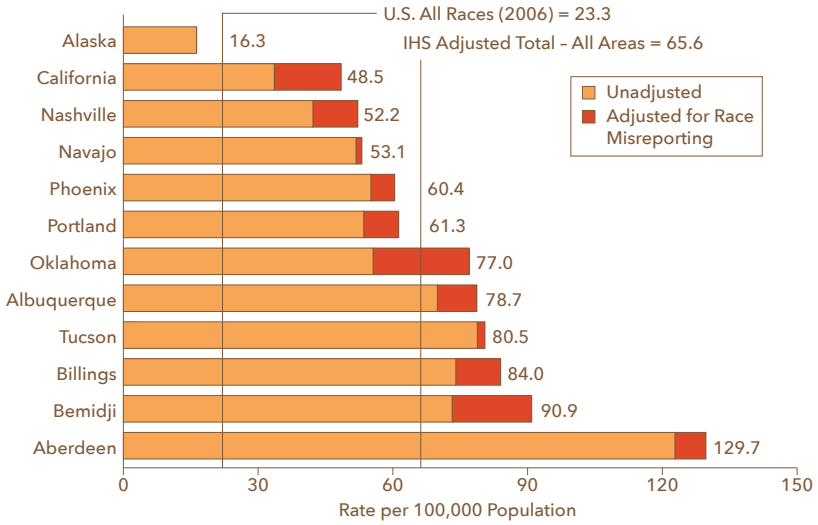


Table 4.23 Age-Adjusted Diabetes Mellitus Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*72,449*		*23.3*	
All IHS Areas	*1,913*	*2,296*	*55.0*	*65.6*
Aberdeen	206	218	122.8	129.7
Alaska	36	36	16.3	16.3
Albuquerque	130	146	69.9	78.7
Bemidji	146	182	73.2	90.9
Billings	85	96	74.0	84.0
California	115	168	33.6	48.5
Nashville	108	134	42.2	52.2
Navajo	239	245	51.8	53.1
Oklahoma	434	610	55.6	77.0
Phoenix	189	207	55.1	60.4
Portland	179	207	53.5	61.3
Tucson	46	47	78.8	80.5

[1/]Age-adjusted rate per 100,000 population.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.

The age-adjusted pneumonia and influenza death rate for the IHS service area population in 2005-2007 was 24.3 per 100,000 population. The AI/AN rate is 1.4 times the U.S. all races rate of 17.8 for 2006. The two highest Area rates in Navajo (41.9), and Tucson (32.7), are over two times higher than the lowest Area rate in Nashville (11.1). The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.24 Age-Adjusted Pneumonia and Influenza Death Rates
Calendar Years 2005-2007

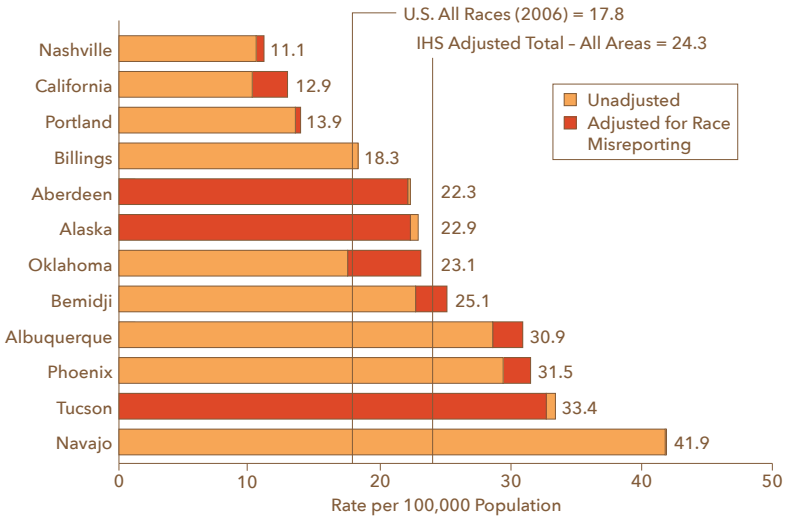


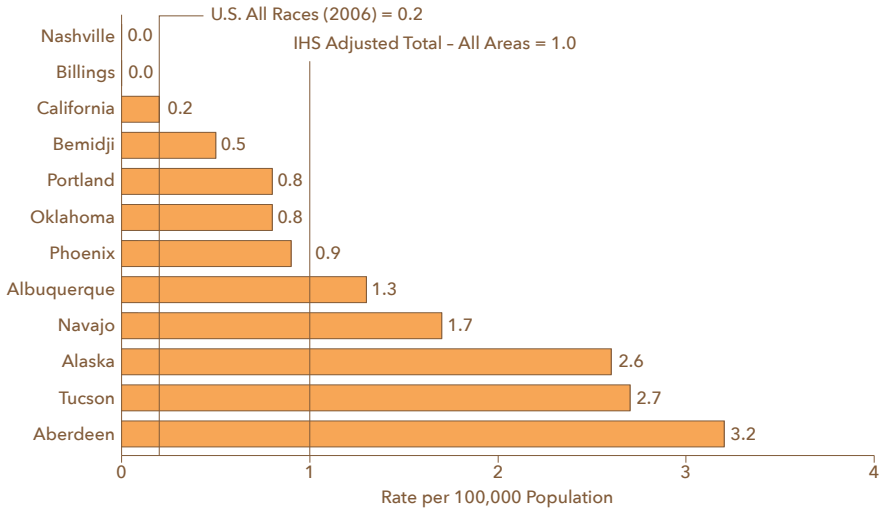
Table 4.24 Age-Adjusted Pneumonia and Influenza Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*56,326*		*17.8*	
All IHS Areas	*708*	*770*	*22.3*	*24.3*
Aberdeen	36[3/]	35[3/]	22.3[3/]	22.1[3/]
Alaska	45[3/]	42[3/]	22.9[3/]	22.3[3/]
Albuquerque	51	55	28.6	30.9
Bemidji	43	48	22.7	25.1
Billings	19	19	18.3	18.3
California	31	39	10.2	12.9
Nashville	24	25	10.5	11.1
Navajo	185	185	41.8	41.9
Oklahoma	127	169	17.5	23.1
Phoenix	87	93	29.4	31.5
Portland	42	43	13.5	13.9
Tucson	18[3/]	17[3/]	33.4[3/]	32.7[3/]

[1/]Age-adjusted rate per 100,000 population.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[3/]The adjusted numbers and rates in the Aberdeen, Alaska, and Tucson Areas are lower than the unadjusted numbers and rates because the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) had one less death for this cause than did the unadjusted mortality file (2005-2007 data).

In 2005-2007, the age-adjusted tuberculosis death rate for the IHS service area population was 1.0 per 100,000 population. The AI/AN rate is five times the U.S. all races rate of 0.2 for 2006. Area rates with the small numbers of deaths should be interpreted with caution. (See section Sources and Limitations of Data: Population Statistics.) The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.25 Age-Adjusted Tuberculosis Death Rates
Calendar Years 2005-2007



NOTE: IHS unadjusted rates and rates adjusted for race misreporting are the same.

Table 4.25 Age-Adjusted Tuberculosis Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*652*		*0.2*	
All IHS Areas	*37[3/]*	*37[3/]*	*1.0[4/]*	*1.0[4/]*
Aberdeen	*	*	3.2	3.2
Alaska	*	*	2.6	2.6
Albuquerque	*	*	1.3	1.3
Bemidji	*	*	0.5	0.5
Billings	--	--	0.0	0.0
California	*	*	0.2	0.2
Nashville	*	*	0.0	0.0
Navajo	*	*	1.7	1.7
Oklahoma	*	*	0.8	0.8
Phoenix	*	*	0.9	0.9
Portland	*	*	0.8	0.8
Tucson	*	*	2.7	2.7

-- Represents zero.
* Quantity greater than zero and less than 10.
[1/]Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[3/] Total number of deaths for the Indian Health Service includes suppressed counts (counts greater than zero and less than 10).
[4/] Calculated unadjusted and adjusted rates include all Indian Health Service Areas with suppressed counts.

In 2005-2007, the age-adjusted death rate for enterocolitis due to C. difficile for the IHS service area population was 1.9 per 100,000 population. The AI/AN rate is lower than the U.S. all races rate for 2006 (2.1 per 100,000 population). The Area rates should be interpreted with caution because of the small number of deaths involved. (See section *Sources and Limitations of Data: Population Statistics*.). The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

NOTE: The number of deaths from Enterocolitis due to Clostridium difficile (C. difficile) has increased dramatically in recent years. C. difficile has been added to the list of rankable causes of death as of 2006. Deaths from Enterocolitis due to C. difficile accounts for over 81 percent of all gastrointestinal deaths for American Indians and Alaska Natives in the Indian Health Service.

Chart 4.26

Age-Adjusted Death Rates for Enterocolitis Due to Clostridium Difficile

Calendar Years 2005-2007

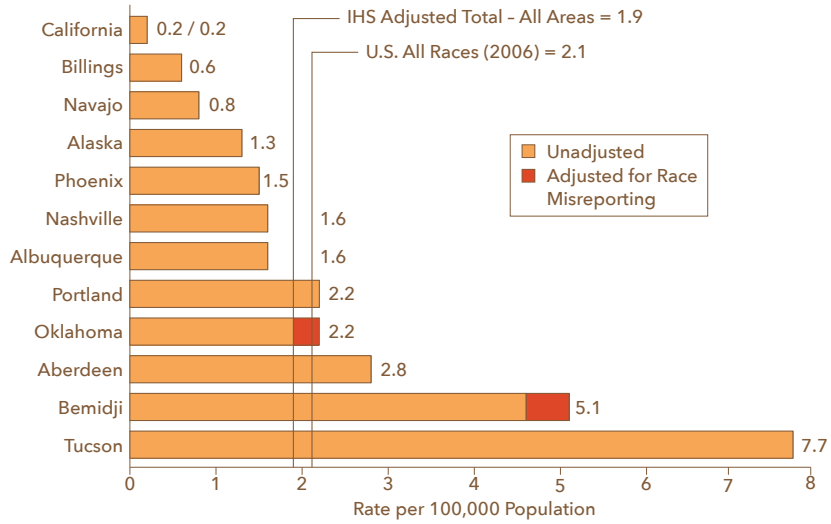


Table 4.26

Age-Adjusted Death Rates for Enterocolitis Due to Clostridium Difficile (C. difficile)

Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*6,225*		*2.1*	
All IHS Areas	*56[3/]*	*59[3/]*	*1.8[4/]*	*1.9[4/]*
Aberdeen	*	*	2.8	2.8
Alaska	*	*	1.3	1.3
Albuquerque	*	*	1.6	1.6
Bemidji	*	*	4.6	5.1
Billings	*	*	0.6	0.6
California	*	*	0.2	0.2
Nashville	*	*	1.6	1.6
Navajo	*	*	0.8	0.8
Oklahoma	14	14	1.9	2.2
Phoenix	*	*	1.5	1.5
Portland	*	*	2.2	2.2
Tucson	*	*	7.7	7.7

* Quantity greater than zero and less than 10.
[1/]Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[3/]Total number of deaths for the Indian Health Service includes suppressed counts (counts greater than zero and less than 10).
[4/]Calculated unadjusted and adjusted rates include all Indian Health Service Areas with suppressed counts.

In 2005-2007, the age-adjusted heart disease death rate for the IHS service area population was 191.7 per 100,000 population. The AI/AN rate is 4.2 percent lower than the U.S. all races rate (200.2) in 2006. The Navajo Area has the lowest rate (119.0) and is 38 percent lower than the U.S. all races rate while the Oklahoma Area has the highest rate (271.4) for heart disease which is 36 percent higher than the U.S. all races rate. The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.27 Age-Adjusted Heart Disease Death Rates
Calendar Years 2005-2007

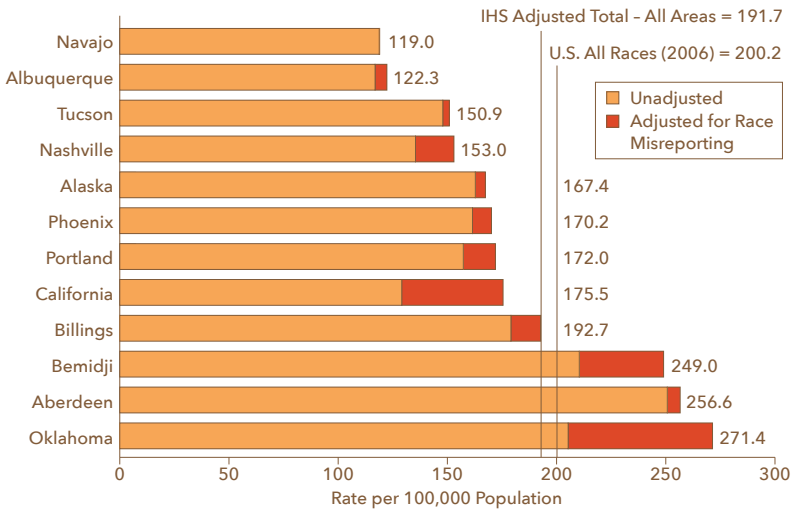


Table 4.27 Age-Adjusted Heart Disease Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*631,636*		*200.2*	
All IHS Areas	*5,530*	*6,437*	*165.1*	*191.7*
Aberdeen	417	426	250.7	256.6
Alaska	330	339	162.8	167.4
Albuquerque	218	227	116.9	122.3
Bemidji	427	507	210.4	249.0
Billings	186	198	179.1	192.7
California	421	577	129.1	175.5
Nashville	337	381	135.4	153.0
Navajo	540	541	118.8	119.0
Oklahoma	1,546	2,060	205.3	271.4
Phoenix	506	528	161.5	170.2
Portland	513	562	157.3	172.0
Tucson	89	91	147.9	150.9

[1/]Age-adjusted rate per 100,000 population.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.

In 2005-2007, the age-adjusted cerebrovascular diseases death rate for the IHS service area population was 43.8 per 100,000 population, whereas, the U.S. all races rate is 43.6 for the year 2006. The IHS Area rates differ considerably among Areas; the Alaska rate of 62.7 is 2.7 times higher than the lowest area (Albuquerque) with a rate of 23.3. The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.28 Age-Adjusted Cerebrovascular Diseases Death Rates
Calendar Years 2005-2007

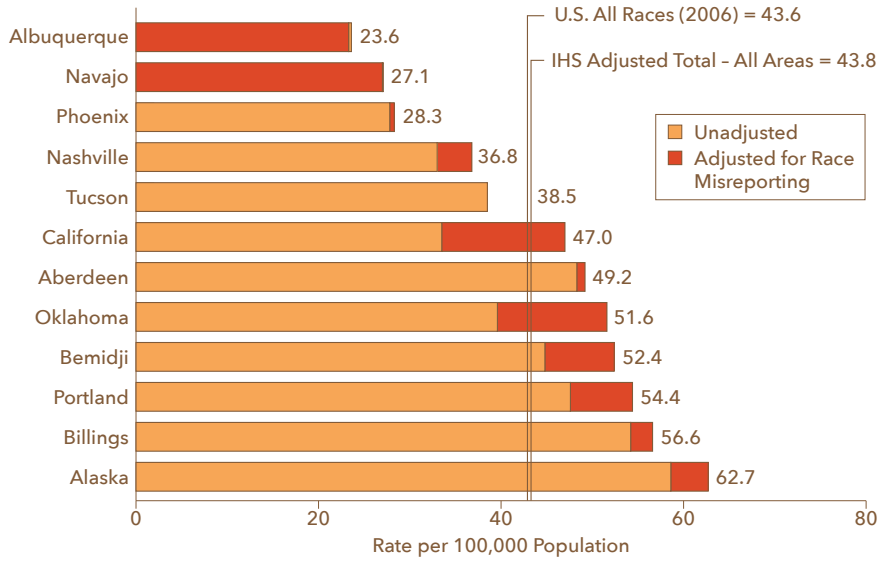


Table 4.28 Age-Adjusted Cerebrovascular Diseases Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*137,119*		*43.6*	
All IHS Areas	*1,204*	*1,392*	*37.9*	*43.8*
Aberdeen	75	76	48.3	49.2
Alaska	112	120	58.6	62.7
Albuquerque	44[3/]	43[3/]	23.6[3/]	23.3[3/]
Bemidji	84	98	44.8	52.4
Billings	49	51	54.2	56.6
California	110	158	33.5	47.0
Nashville	76	84	33.0	36.8
Navajo	121[3/]	120[3/]	27.1[3/]	27.0[3/]
Oklahoma	286	374	39.6	51.6
Phoenix	84	85	27.8	28.3
Portland	144	164	47.6	54.4
Tucson	19	19	38.5	38.5

[1/]Age-adjusted rate per 100,000 population.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[3/]The adjusted numbers and rates in the Albuquerque and Navajo Area are lower than the unadjusted numbers and rates because the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) had one less death for this cause than did the unadjusted mortality file (2005-2007 data).

In 2005-2007, the age-adjusted malignant neoplasm death rate for the IHS service area population was 170.1 per 100,000 population. The 2005-2007 AI/AN rate is 5.9 percent less than the U.S. all races rate of 180.7 for 2006. Five IHS Areas have a rate greater than the U.S. all races rate; Bemidji (255.0), Billings (244.7), Aberdeen (241.7), Alaska (224.0), and Oklahoma (217.3). The rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.29 Age-Adjusted Malignant Neoplasm Death Rates
Calendar Years 2005-2007

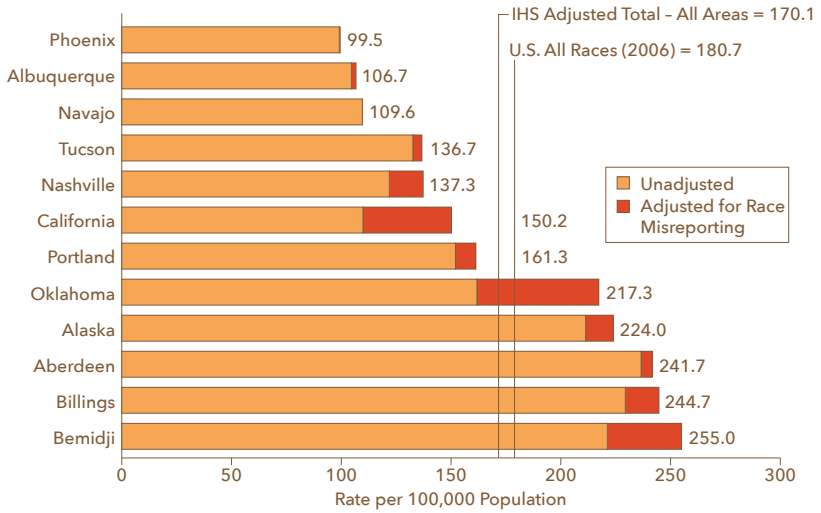


Table 4.29 Age-Adjusted Malignant Neoplasm Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*559,888*		*180.7*	
All IHS Areas	*5,174*	*5,961*	*148.1*	*170.1*
Aberdeen	391	398	236.6	241.7
Alaska	477	507	211.3	224.0
Albuquerque	201	205	104.6	106.7
Bemidji	463	531	221.2	255.0
Billings	252	268	229.4	244.7
California	370	507	109.9	150.2
Nashville	306	344	121.9	137.3
Navajo	512	512	109.6	109.6
Oklahoma	1,272	1,722	161.8	217.3
Phoenix	321	323	99.1	99.5
Portland	531	564	152.0	161.3
Tucson	78	80	132.6	136.7

[1/]Age-adjusted rate per 100,000 population.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.

In 2005-2007, the age adjusted lung cancer death rate for the IHS service area population was 46.3 per 100,000 population. The definition of lung cancer has been expanded to include the trachea and bronchus. The 2005-2007 AI/AN rate is 8.7 percent less than the U.S. all races rate of 51.5 in 2006. Five IHS Areas (Aberdeen, Alaska, Bemidji, Billings, and Oklahoma) have rates exceeding the U.S. all races rate. The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.30 Age-Adjusted Lung Cancer Death Rates
Calendar Years 2005-2007

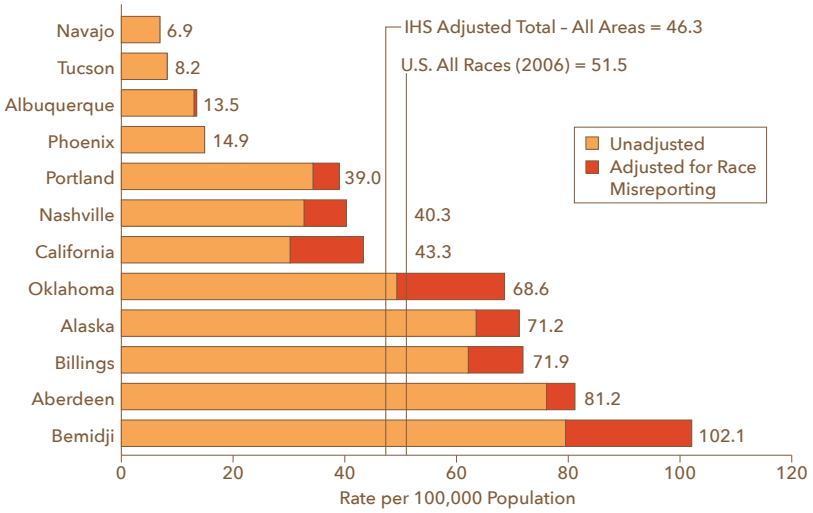


Table 4.30 Age-Adjusted Lung Cancer[1/] Death Rates
Calendar Years 2005-2007

	Deaths		Rate[2/]	
	Unadjusted	*Adjusted[3/]*	*Unadjusted*	*Adjusted[3/]*
U.S. All Races (2006)	158,664		51.5	
All IHS Areas	*1,280*	*1,595*	*37.2[4/]*	*46.3[4/]*
Aberdeen	119	126	76.1	81.2
Alaska	139	157	63.5	71.2
Albuquerque	24	25	13.0	13.5
Bemidji	167	214	79.5	102.1
Billings	61	70	62.1	71.9
California	97	139	30.2	43.3
Nashville	86	106	32.7	40.3
Navajo	31	31	6.9	6.9
Oklahoma	387	541	49.3	68.6
Phoenix	43	43	14.9	14.9
Portland	121	138	34.3	39.0
Tucson	*	*	8.2	8.2

* Quantity greater than zero and less than 10.
[1/]Lung cancer death includes deaths due to cancers of the trachea, bronchus and lung, ICD-10 codes C33-C34.
[2/]Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.
[3/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[4/]Calculated unadjusted and adjusted rates include all Indian Health Service Areas with suppressed counts.

In 2005-2007, the age-adjusted female breast cancer death rate in the IHS service area population was 19.6 per 100,000 population. The 2005-2007 AI/AN rate is 16.8 percent less than the U.S. all races rate of 23.5 per 100,000 population for 2006. The age-adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.31

Age-Adjusted Female Breast Cancer Death Rates
Calendar Years 2005-2007

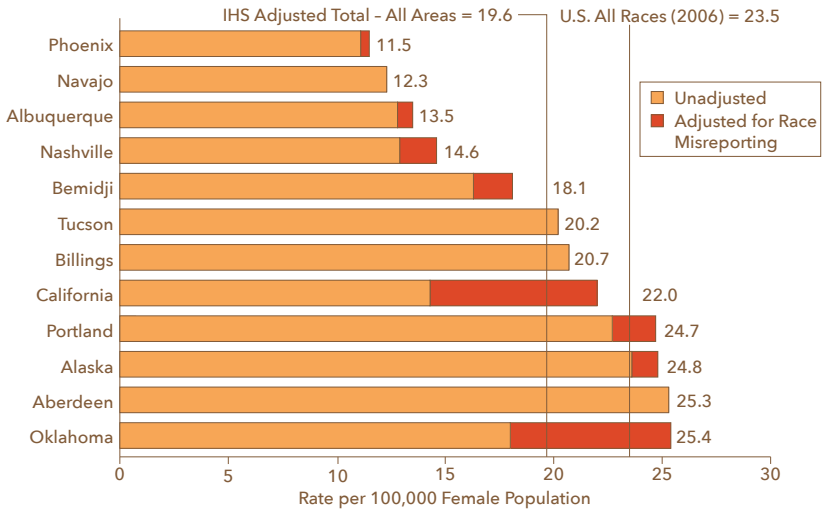


Table 4.31

Age-Adjusted Female Breast Cancer Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*40,821*		*23.5*	
All IHS Areas	*340*	*403*	*16.7[3/]*	*19.6[3/]*
Aberdeen	27	27	25.3	25.3
Alaska	32	34	23.6	24.8
Albuquerque	15	16	12.8	13.5
Bemidji	18	20	16.3	18.1
Billings	13	13	20.7	20.7
California	28	44	14.3	22.0
Nashville	20	23	12.9	14.6
Navajo	34	34	12.3	12.3
Oklahoma	79	113	18.0	25.4
Phoenix	23	24	11.1	11.5
Portland	44	48	22.7	24.7
Tucson	*	*	20.2	20.2

* Quantity greater than zero and less than 10.
[1/]Age-adjusted rate per 100,000 female population. Rates based on a small number of deaths should be interpreted with caution.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[3/]Calculated unadjusted and adjusted rates include all Indian Health Service Areas with suppressed counts.

In 2005-2007, the age-adjusted cervical cancer death rate for females in the IHS service area population was 2.8 per 100,000 population. The 2005-2007 AI/AN rate is 16.7 percent greater than the U.S. all races rate of 2.4 per 100,000 population for 2006. The Area rates should be interpreted with caution because of the small number of deaths involved. The highest death rates for cervical cancer occurred in Aberdeen (6.3) followed by Alaska (5.3) during the 3-year period. (See section Sources and Limitations of Data: Population Statistics.) The age-adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.32 Age-Adjusted Cervical Cancer Death Rates
Calendar Years 2005-2007

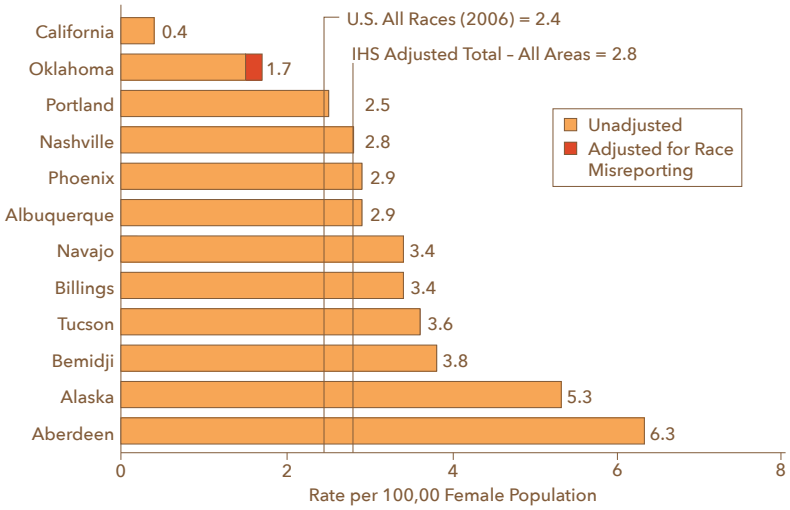


Table 4.32 Age-Adjusted Cervical Cancer Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*3,976*		*2.4*	
All IHS Areas	*62[3/]*	*63[3/]*	*2.8[4/]*	*2.8[4/]*
Aberdeen	*	*	6.3	6.3
Alaska	*	*	5.3	5.3
Albuquerque	*	*	2.9	2.9
Bemidji	*	*	3.8	3.8
Billings	*	*	3.4	3.4
California	*	*	0.4	0.4
Nashville	*	*	2.8	2.8
Navajo	10	10	3.4	3.4
Oklahoma	*	*	1.5	1.7
Phoenix	*	*	2.9	2.9
Portland	*	*	2.5	2.5
Tucson	*	*	3.6	3.6

* Quantity greater than zero and less than 10.
[1/]Age-adjusted rate per 100,000 female population. Rates based on a small number of deaths should be interpreted with caution.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[3/]Total number of deaths for the Indian Health Service includes suppressed counts (counts greater than zero and less than 10).
[4/]Calculated unadjusted and adjusted rates include all Indian Health Service Areas with suppressed counts.

The age-adjusted colon rectal cancer death rate for the IHS service area population in 2005-2007 was 17.2 per 100,000 population, whereas, the U.S. all races rate in 2006 is 17.2 per 100,000 population. Alaska has the highest rate at 27.7 which is 1.6 times the U.S. all races rate. The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.33 Age-Adjusted Colon-Rectal Cancer Death Rates
Calendar Years 2005-2007

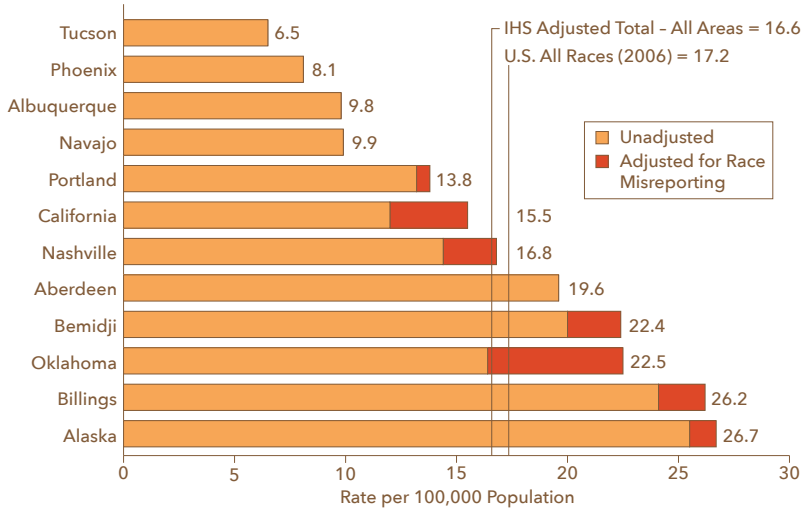


Table 4.33 Age-Adjusted Colon-Rectal Cancer Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*53,549*		*17.2*	
All IHS Areas	*509*	*589*	*14.4[3/]*	*16.6[3/]*
Aberdeen	34	34	19.6	19.6
Alaska	59	62	25.5	26.7
Albuquerque	18	18	9.8	9.8
Bemidji	41	45	20.0	22.4
Billings	26	29	24.1	26.2
California	39	50	12.0	15.5
Nashville	36	42	14.4	16.8
Navajo	47	47	9.9	9.9
Oklahoma	131	182	16.4	22.5
Phoenix	26	26	8.1	8.1
Portland	48	50	13.2	13.8
Tucson	*	*	6.5	6.5

* Quantity greater than zero and less than 10.
[1/]Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[3/]Calculated unadjusted and adjusted rates include all Indian Health Service Areas with suppressed counts.

In 2005-2007, the age-adjusted prostate cancer death rate for males in the IHS service area population was 21.3 per 100,000 population, whereas, the 2006 U.S. all races rate is 23.5 per 100,000 population. The age-adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.34 Age-Adjusted Prostate Cancer Death Rates
Calendar Years 2005-2007

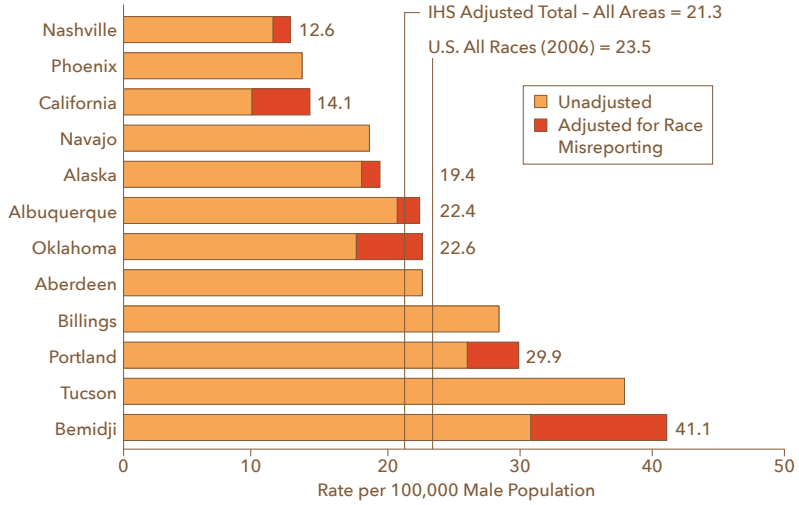


Table 4.34 Age-Adjusted Prostate Cancer Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*28,372*		*23.5*	
All IHS Areas	*217*	*250*	*18.5[3/]*	*21.3[3/]*
Aberdeen	13	13	22.6	22.6
Alaska	13	14	18.0	19.4
Albuquerque	14	15	20.7	22.4
Bemidji	20	26	30.8	41.1
Billings	*	*	28.4	28.4
California	11	16	9.7	14.1
Nashville	10	11	11.3	12.6
Navajo	31	31	18.6	18.6
Oklahoma	51	67	17.6	22.6
Phoenix	13	13	13.5	13.5
Portland	25	28	26.0	29.9
Tucson	*	*	37.9	37.9

* Quantity greater than zero and less than 10.
[1/]Age-adjusted rate per 100,000 male population. Rates based on a small number of deaths should be interpreted with caution.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[3/]Calculated unadjusted and adjusted rates include all Indian Health Service Areas with suppressed counts.

In 2005-2007, the age-adjusted human immunodeficiency virus (HIV) infection death rate for the IHS service area population is 3.2 per 100,000 population, whereas, the 2006 U.S. all races rate is 4.0 per 100,000 population. The Billings Area didn't have any deaths due to HIV, therefore had the lowest mortality rate for all IHS areas. Area rates should be interpreted with caution when small numbers of deaths occur. (See section: *Sources and Limitations of Data: Population Statistics.*) The age adjusted rate is adjusted for misreporting of AI/AN race on the state death certificate.

Chart 4.35

Age-Adjusted Human Immunodeficiency Virus (HIV) Infection Death Rates
Calendar Years 2005-2007

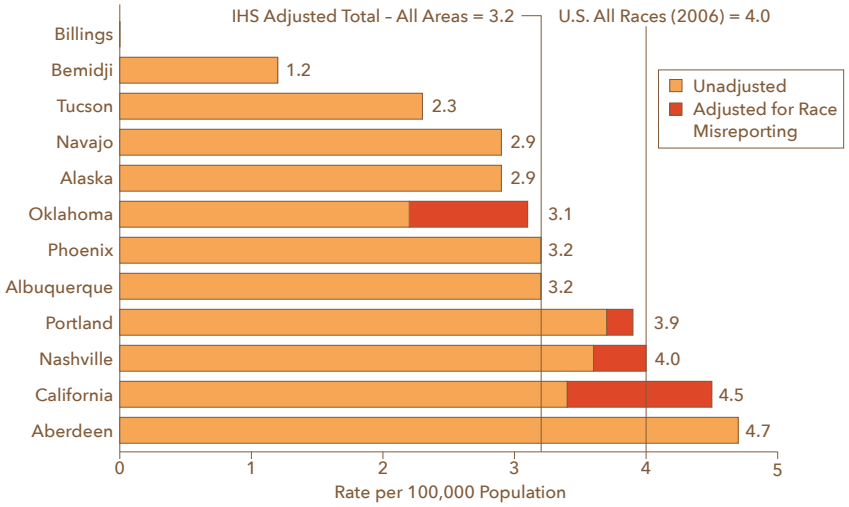


Table 4.35

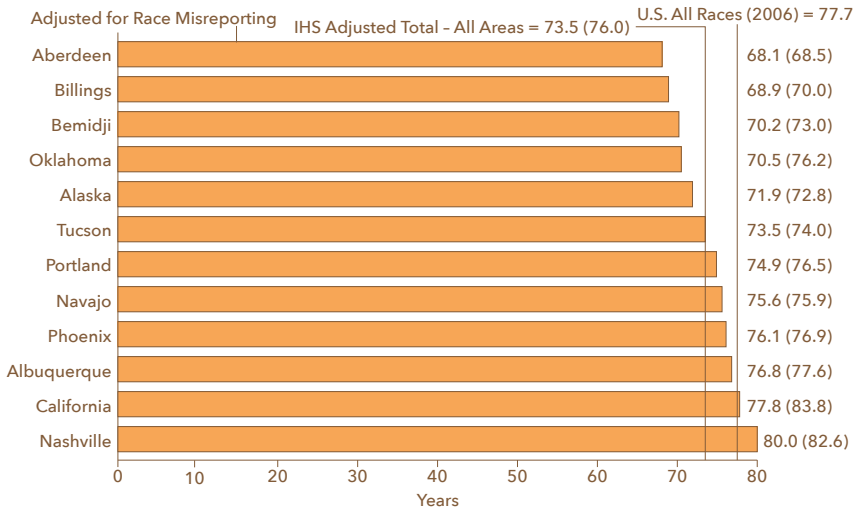
Age-Adjusted Human Immunodeficiency Virus (HIV) Infection Death Rates
Calendar Years 2005-2007

	Deaths		Rate[1/]	
	Unadjusted	*Adjusted[2/]*	*Unadjusted*	*Adjusted[2/]*
U.S. All Races (2006)	*12,113*		*4.0*	
All IHS Areas	*138[3/]*	*153[3/]*	*2.9[4/]*	*3.2[4/]*
Aberdeen	**12**	**12**	4.7	4.7
Alaska	*	*	2.9	2.9
Albuquerque	*	*	3.2	3.2
Bemidji	*	*	1.2	1.2
Billings	--	--	--	--
California	17	22	3.4	4.5
Nashville	12	13	3.6	4.0
Navajo	16	16	2.9	2.9
Oklahoma	20	28	2.2	3.1
Phoenix	16	16	3.2	3.2
Portland	20	21	3.7	3.9
Tucson	*	*	2.3	2.3

-- Represents zero.
* Quantity greater than zero and less than 10.
[1/]Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.
[2/]Adjusted to compensate for misreporting of American Indian/Alaska Native race on the state death certificate.
[3/]Total number of deaths for the Indian Health Service includes suppressed counts (counts greater than zero and less than 10).
[4/]Calculated unadjusted and adjusted rates include all Indian Health Service Areas with suppressed counts.

In 2005-2007, the AI/AN life expectancy at birth (both sexes) for the IHS service area population was 73.5 years. Life expectancy calculations are based on rates adjusted for misreporting of AI/AN race on the death certificate. Life expectancy at birth is 4.2 years less than the 2006 figure of 77.7 years for the U.S. all races population. The Nashville and California IHS Areas have a life expectancy greater than the U.S. all races population. The Aberdeen Area has a life expectancy (68.1) 9.6 years less than the U.S. figure.

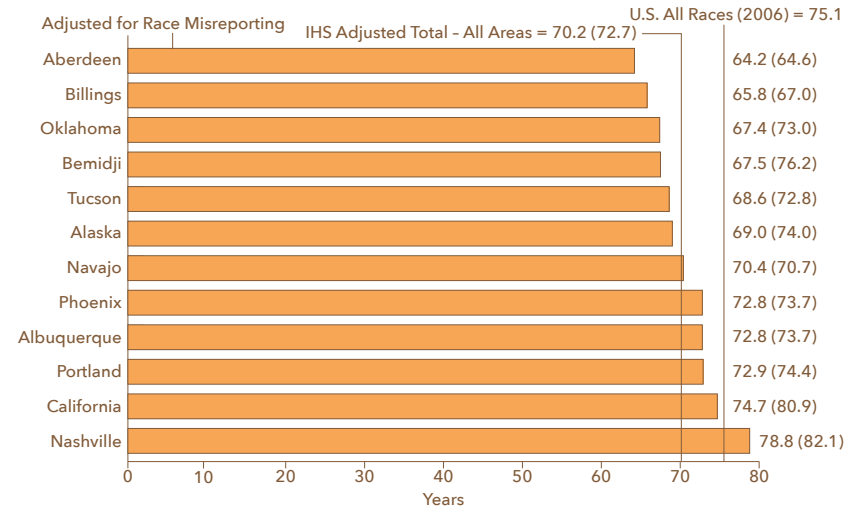
Chart 4.36 Life Expectancy at Birth for Both Sexes
Calendar Years 2005-2007



NOTE: Life expectancies **not** adjusted for misreporting of American Indian/Alaska Native race on state death certificates are shown in parenthesis.

In 2005-2007, the life expectancy at birth for AI/AN males in the IHS service area population was 70.2 years. Life expectancy calculations are based on rates adjusted for misreporting of AI/AN race on the death certificate. Life expectancy at birth is 4.9 years less than the 2006 figure of 75.1 years for the U.S. all races male population. AI/AN males in the Aberdeen Area (64.2) can expect to live from birth, 10.9 years less than U.S. males.

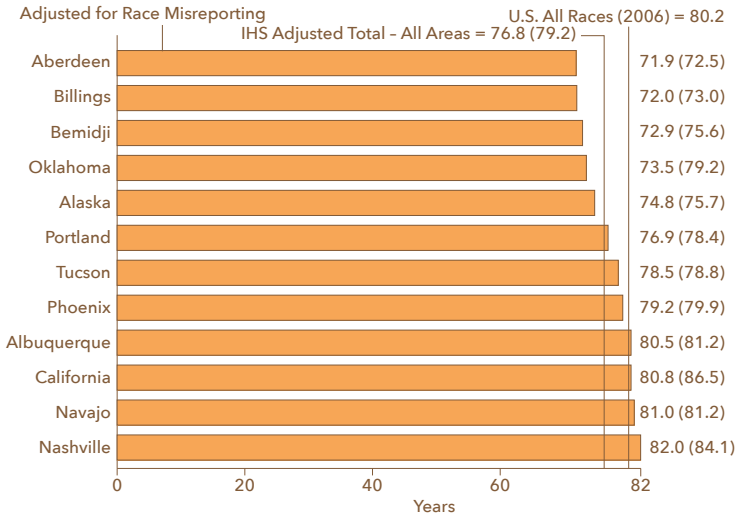
Chart 4.37 Life Expectancy at Birth for Males
Calendar Years 2005-2007



NOTE: Life expectancies **not** adjusted for misreporting of American Indian/Alaska Native race on state death certificates are shown in parenthesis.

In 2005-2007, the life expectancy at birth for AI/AN females in the IHS service area population was 76.8 years. Life expectancy calculations are based on rates adjusted for misreporting of AI/AN race on the state death certificate. Life expectancy at birth is 3.4 years less than the 2006 figure of 80.2 years for the U.S. all races female population. AI/AN females in the Nashville Area (82.0) had the best Area life expectancy, can expect to live from birth slightly less than their counterparts in the U.S. all races population. Females in the Aberdeen Area have a life expectancy (71.9) that is 8.3 years less than that of U.S. females.

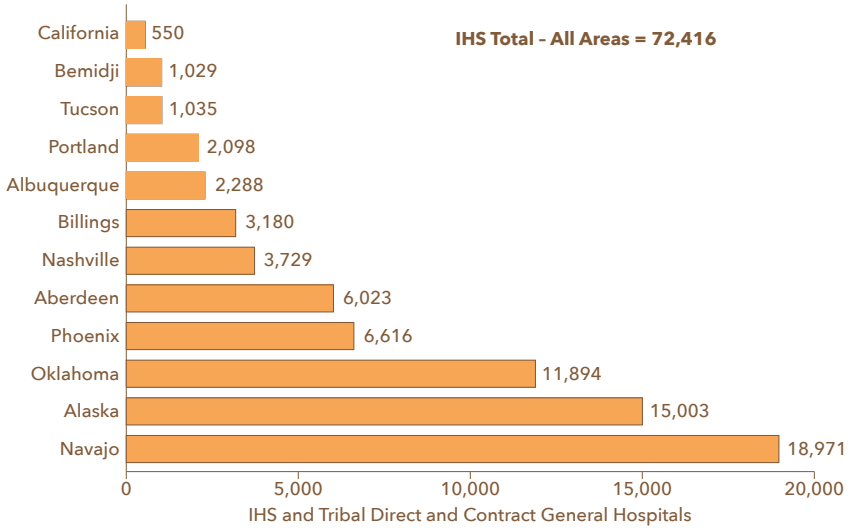
Chart 4.38 Life Expectancy at Birth for Females
Calendar Years 2005-2007



NOTE: Life expectancies **not** adjusted for misreporting of American Indian/Alaska Native race on State death certificates are shown in parenthesis

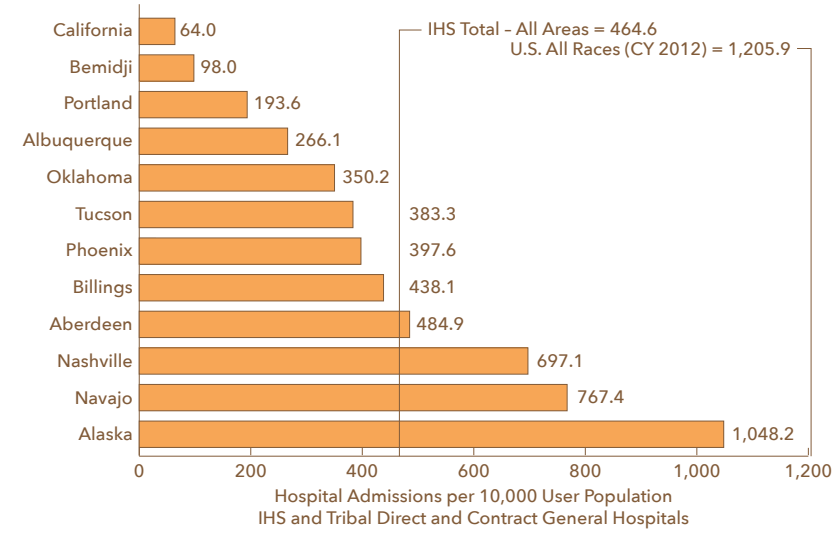
In FY 2012, there were 72,416 admissions to IHS and Tribal direct and contract general hospitals. Over 46.9 percent of these admissions were in two IHS Areas, Alaska (15,003) and Navajo (18,971).

Chart 5.1 Number of Hospital Admissions
Fiscal Year 2012



The IHS admission rate of 464.6 admissions per 10,000 user population in FY 2012 was 39 percent lower than the U.S. rate of 1,205.9 in CY 2012. The IHS Area rates ranged from 64.0 in California, where the IHS provides little inpatient care, to 1,048.2 in Alaska.

Chart 5.2 Hospital Admission Rates
Fiscal Year 2012



NOTE: Prior issues used User Population for the denominator of this measure.

Table 5.1 Number and Rate of Admissions, Indian Health Service and Tribal Direct and Contract General Hospitals, Fiscal Year 2012 *and U.S. Short-Stay Community Hospitals, Calendar Year 2012*

	Total Admission Rate	Total Admissions	IHS Admissions		Tribal Admissions	
			Direct	*Contract*	*Direct*	*Contract*
U.S. All Races (2012)	*1,205.9*	*36,915[2/]*				
All IHS Areas	*464.6[1/]*	*72,416*	*24,064*	*10,692*	*30,202*	*7,458*
Aberdeen	484.9	6,023	4,006	1,956	0	61
Alaska	1,048.2	15,003	0	0	14,772	231
Albuquerque	266.1	2,288	1,370	821	0	97
Bemidji	98.0	1,029	465	343	0	221
Billings	438.1	3,180	1,157	2,023	0	0
California[3/]	64.0	550	0	0	0	550
Nashville	697.1	3,729	0	90	1,142	2,497
Navajo	767.4	18,971	10,230	1,725	6,259	757
Oklahoma	350.2	11,894	1,460	1,592	7,998	844
Phoenix	397.6	6,616	4,949	1,549	31	87
Portland[3/]	193.6	2,098	0	181	0	1,917
Tucson	383.3	1,035	427	412	0	196

[1/]Number of admissions per 10,000 user population.
[2/]Number of admissions in thousands.
[3/]California and Portland do not have direct IHS or Tribal inpatient care.

SOURCES: FY 2012 Inpatient Memorandum. April, 2010; NPIRS, National Data Warehouse; March 2013 American Hospital Association. Fast Facts on US Hospitals (2012), AHA Hospital Statistics (2012), US Census Bureau (www.census.gov/population/age)

The number of inpatient days in IHS and Tribal direct and contract general hospitals was approximately 293,000 in FY 2012. The number varied considerably among the IHS Areas, ranging from 3,432 in Tucson to 74,755 in Navajo.

Chart 5.3 Number of Hospital Days
Fiscal Year 2012

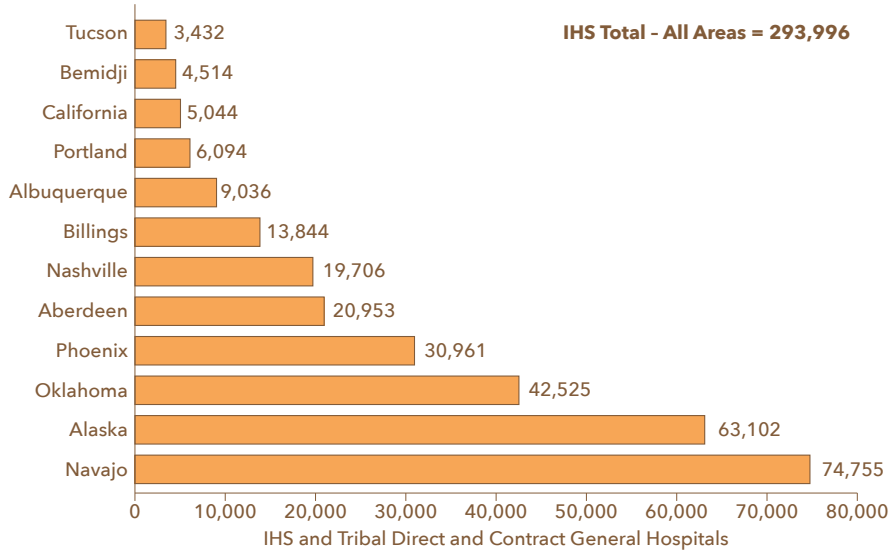


Table 5.3 Number of Hospital Days, Indian Health Service and Tribal Direct and Contract General Hospitals
Fiscal Year 2012

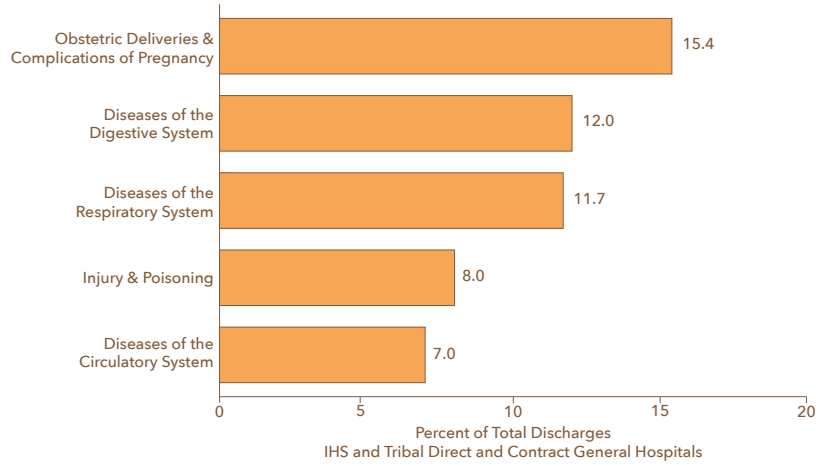
	Total Days	IHS Days		Tribal Days	
		Direct	*Contract*	*Direct*	*Contract*
All IHS Areas	*293,966*	*84,211*	*52,815*	*119,939*	*37,001*
Aberdeen	**20,953**	**11,268**	**9,406**	**0**	**279**
Alaska	**63,102**	**0**	**0**	**61,765**	**1,337**
Albuquerque	**9,036**	**5,047**	**3,646**	**0**	**343**
Bemidji	4,514	1,857	1,599	0	1,058
Billings	13,844	4,270	9,574	0	0
California	5,044	0	0	0	5,044
Nashville	19,706	0	307	8,480	10,919
Navajo	74,755	33,523	10,267	25,655	5,310
Oklahoma	42,525	5,744	6,900	23,390	6,491
Phoenix	30,961	20,819	9,199	649	294
Portland	6,094	0	594	0	5,500
Tucson	3,432	1,683	1,323	0	426

[1]California and Portland do not have direct IHS or Tribal inpatient care.

SOURCES: IHS National Data Warehouse, March 2013.

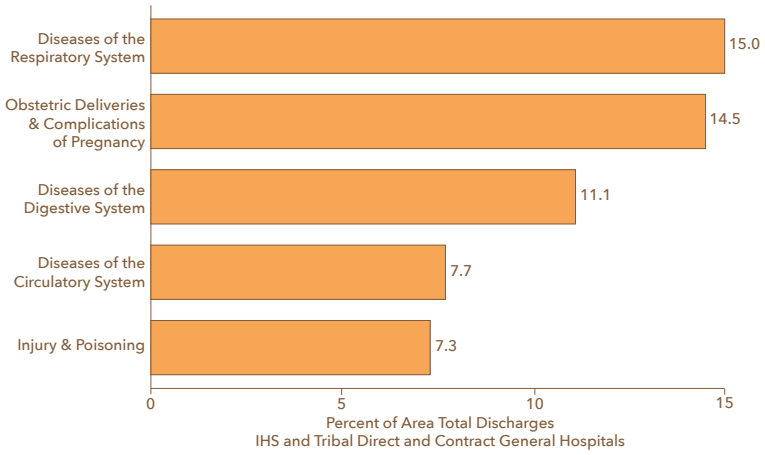
In FY 2012, 15.4 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy, followed by diseases of the digestive system at 12.0 percent.

Chart 5.4 Leading Causes of Hospitalization, All IHS Areas
Fiscal Year 2012



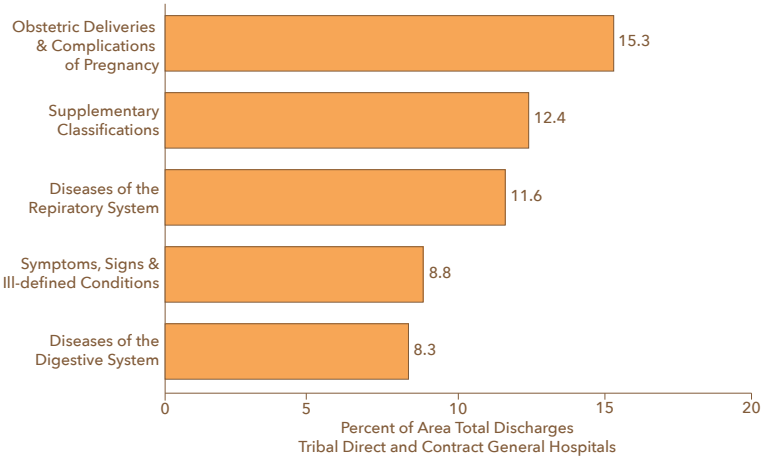
For the Aberdeen Area in FY 2012, 15.0 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to diseases of the respiratory system, followed by obstetric deliveries and complications of pregnancy at 14.5 percent.

Chart 5.5 Leading Causes of Hospitalization, Aberdeen Area
Fiscal Year 2012



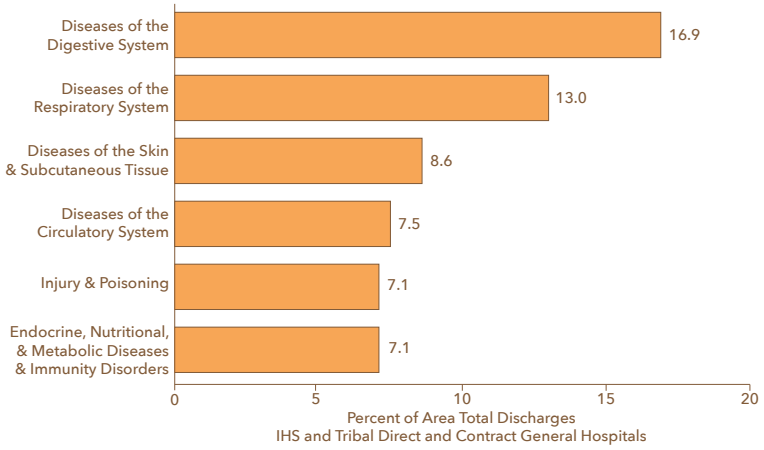
For the Alaska Area in FY 2012, 15.3 percent of all discharges from Tribal contract general hospitals pertained to obstetric deliveries and complications of pregnancy, followed by supplementary classification at 12.4 percent.

Chart 5.6 Leading Causes of Hospitalization, Alaska Area
Fiscal Year 2012



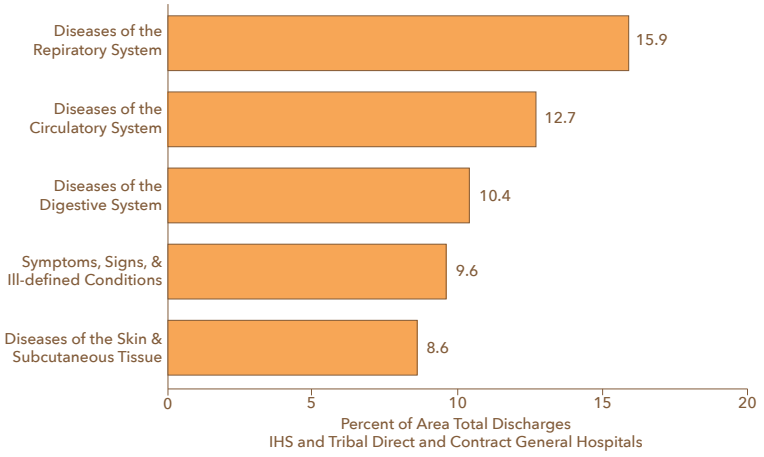
For the Albuquerque Area in FY 2012, 16.9 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to diseases of the digestive system, followed by diseases of the respiratory system at 13.0 percent.

Chart 5.7 Leading Causes of Hospitalization, Albuquerque Area
Fiscal Year 2012



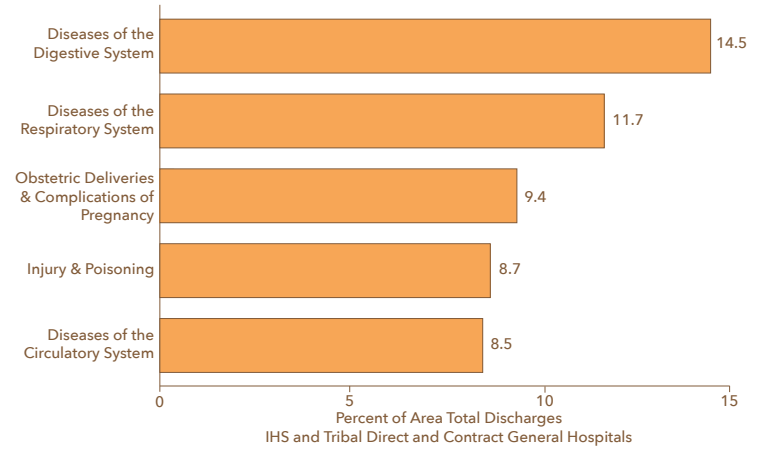
For the Bemidji Area in FY 2012, 15.9 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to diseases of the respiratory system, followed by diseases of the circulatory system at 12.7 percent.

Chart 5.8 Leading Causes of Hospitalization, Bemidji Area
Fiscal Year 2012



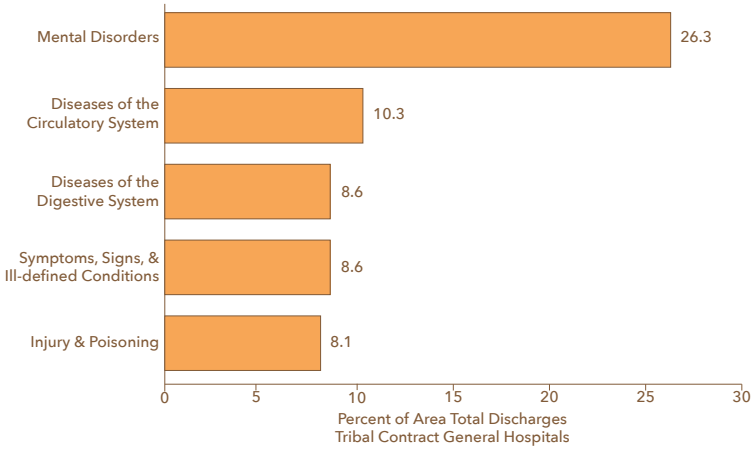
For the Billings Area in FY 2012, 14.5 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to diseases of the digestive system, followed by diseases of the respiratory system at 11.7 percent.

Chart 5.9 Leading Causes of Hospitalization, Billings Area
Fiscal Year 2012



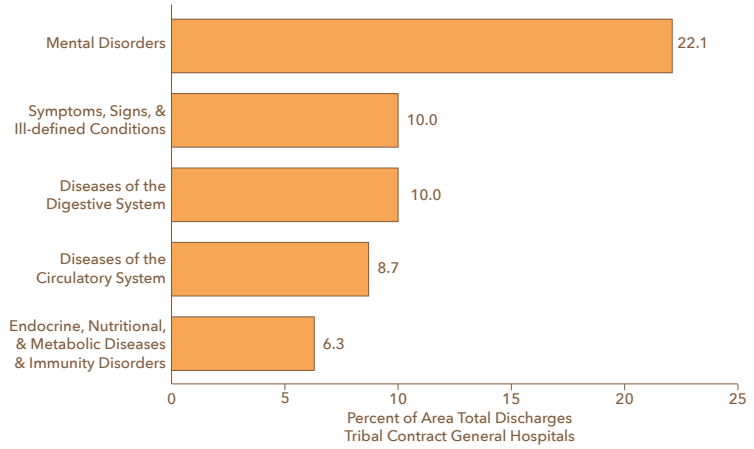
For the California Area in FY 2012, 26.3 percent of all discharges from Tribal contract health service hospitals pertained to mental disorders, followed by diseases of the digestive system at 10.3 percent.

Chart 5.10 Leading Causes of Hospitalization, California Area
Fiscal Year 2012



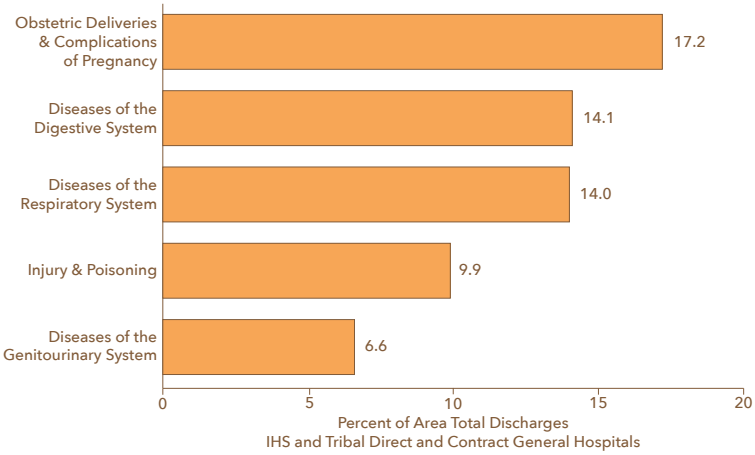
For the Nashville Area in FY 2012, 22.1 percent of all discharges from Tribal contract general hospitals pertained to mental disorders, followed by symptoms, signs, and ill-defined conditions and diseases of the digestive system at 10.0 percent.

Chart 5.11 Leading Causes of Hospitalization, Nashville Area
Fiscal Year 2012



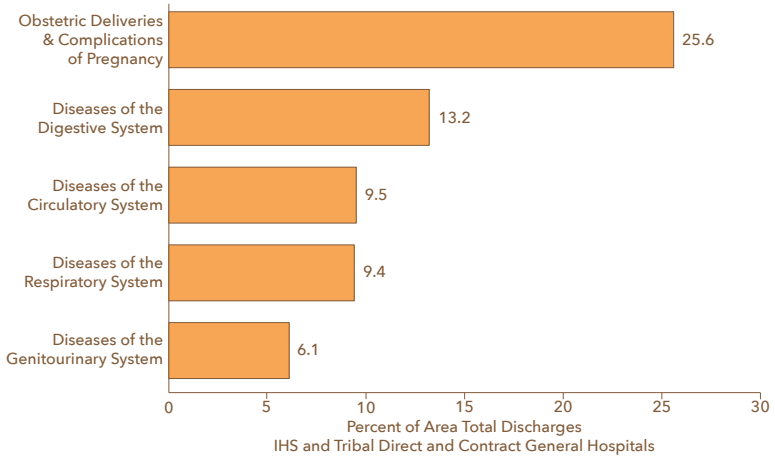
For the Navajo Area in FY 2012, 17.2 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy, followed by diseases of the digestive system at 14.1 percent.

Chart 5.12 Leading Causes of Hospitalization, Navajo Area
Fiscal Year 2012



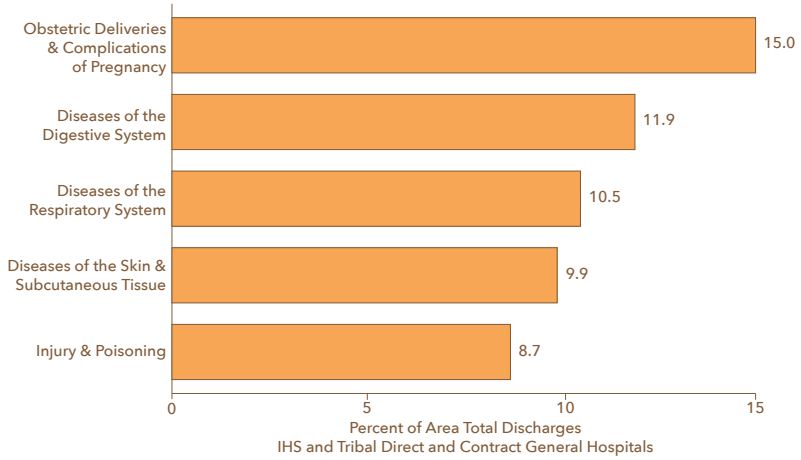
For the Oklahoma Area in FY 2012, 25.6 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy, followed by diseases of the digestive system at 13.2 percent.

Chart 5.13 Leading Causes of Hospitalization, Oklahoma Area
Fiscal Year 2012



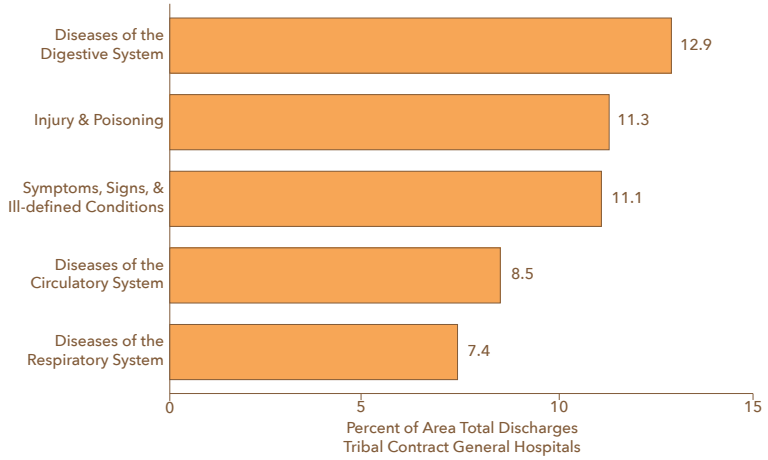
For the Phoenix Area in FY 2012, 15.0 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy, followed by diseases of the digestive system at 11.9 percent.

Chart 5.14 Leading Causes of Hospitalization, Phoenix Area
Fiscal Year 2012



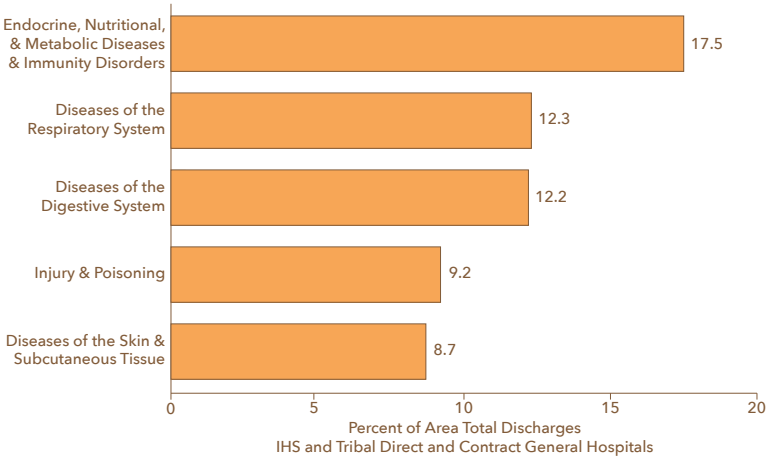
For the Portland Area in FY 2012, 12.9 percent of all discharges from Tribal contract general hospitals pertained to diseases of the digestive system, followed by injury and poisoning at 11.3 percent.

Chart 5.15 Leading Causes of Hospitalization, Portland Area
Fiscal Year 2012



For the Tucson Area in FY 2012, 17.5 percent of all discharges from IHS and Tribal direct and contract general hospitals pertained to endocrine, nutritional, and metabolic diseases and immunity disorders, followed by diseases of the respiratory system at 12.3 percent.

Chart 5.16 Leading Causes of Hospitalization, Tucson Area
Fiscal Year 2012



In FY 2012, there were over 13 million ambulatory medical visits to IHS and Tribal direct and contract facilities. Three IHS Areas—Oklahoma (2,976,576), Navajo (1,726,867) and Alaska (1,652,205)—had 47.9 percent of the visits.

Chart 5.17 Number of Ambulatory Medical Visits
Fiscal Year 2012

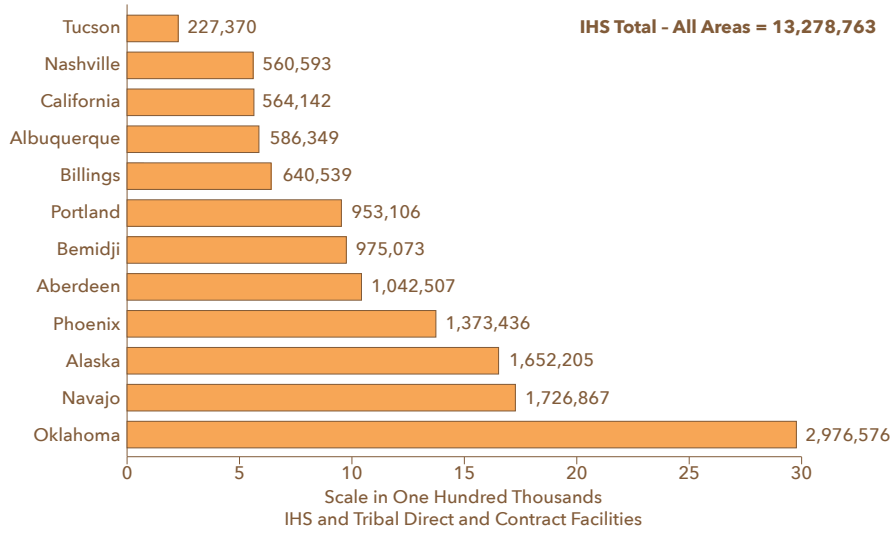


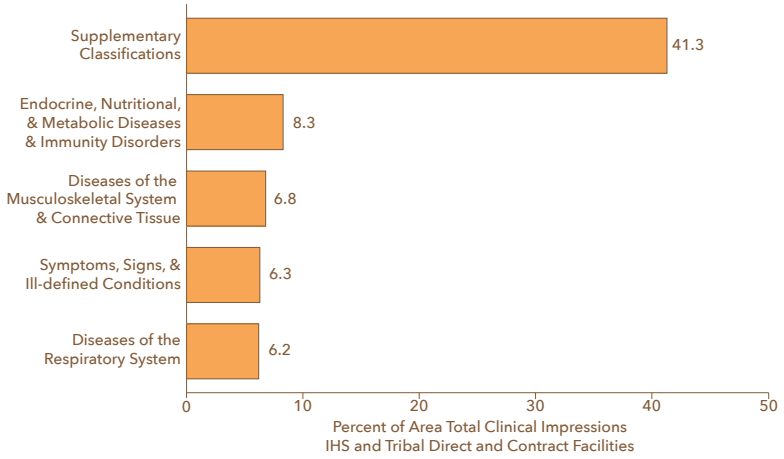
Table 5.17 Number of Ambulatory Medical Visits, Indian Health Service and Tribal Direct and Contract Facilities
Fiscal Year 2012

		Indian Health Service		Tribal	
	Total	*Direct*	*Contract*	*Direct*	*Contract*
All IHS Areas	***13,278,763***	***4,999,492***	***189,123***	***7,830,184***	***259,964***
Aberdeen	**1,042,507**	**899,723**	**30,227**	**111,687**	**870**
Alaska	**1,652,205**	**0**	**0**	**1,643,517**	**8,688**
Albuquerque	**586,349**	**469,999**	**11,659**	**102,801**	**1,890**
Bemidji	975,073	240,080	7,916	703,290	23,787
Billings	640,539	474,201	45,865	120,473	0
California	564,142	0	0	524,887	39,255
Nashville	560,593	11,922	3,215	484,269	61,187
Navajo	1,726,867	1,022,032	22,850	661,256	20,729
Oklahoma	2,976,576	602,710	28,453	2,327,618	17,795
Phoenix	1,373,436	833,224	26,004	509,263	4,945
Portland	953,106	287,329	6,984	585,619	73,174
Tucson	227,370	158,272	5,950	55,504	7,644

SOURCE: National Data Warehouse, March 2013.

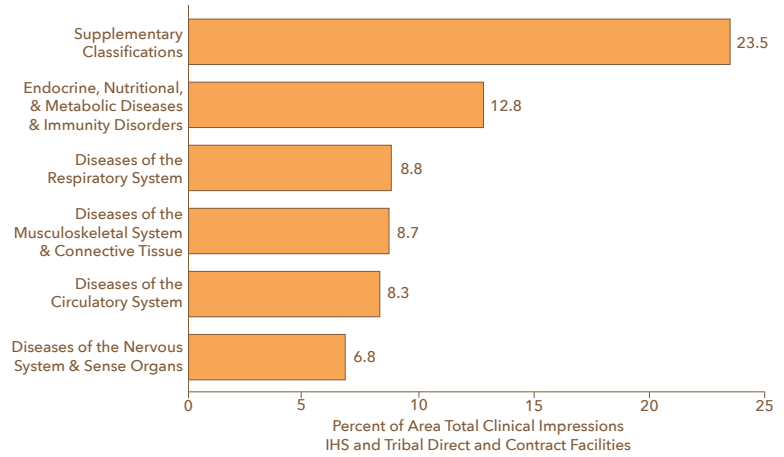
In FY 2012, 41.3 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications, followed by endocrine, nutritional, and metabolic diseases and immunity disorders at 8.3 percent.

Chart 5.18 Leading Causes of Ambulatory Medical Visits All IHS Areas, *Fiscal Year 2012*



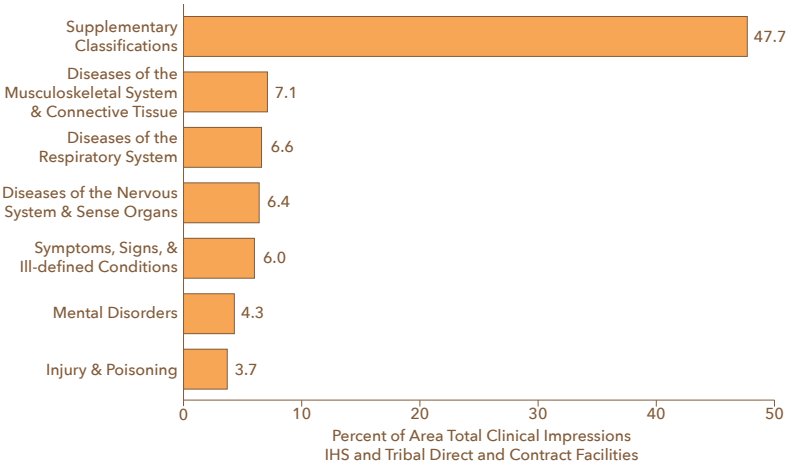
For the Aberdeen Area in FY 2012, 23.5 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications, followed by endocrine, nutritional, and metabolic diseases and immunity disorders at 12.8 percent.

Chart 5.19 Leading Causes of Ambulatory Medical Visits Aberdeen Area, *Fiscal Year 2012*



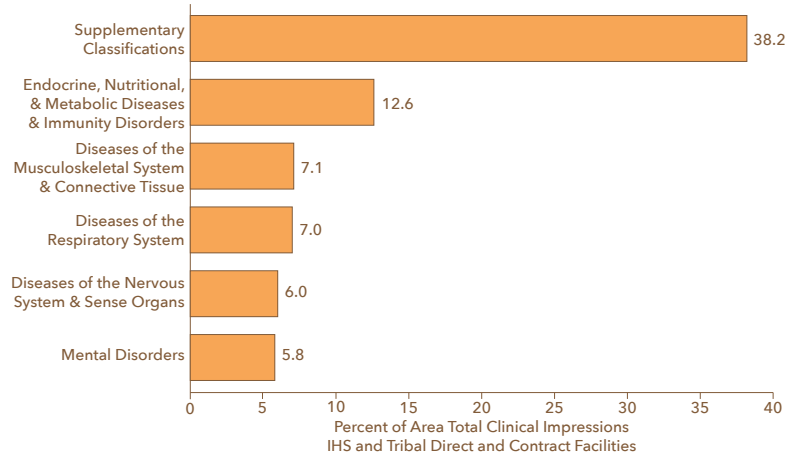
For the Alaska Area in FY 2012, 47.7 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications, followed by diseases of the musculoskeletal system and connective tissue at 7.1 percent.

Chart 5.20 Leading Causes of Ambulatory Medical Visits Alaska Area, *Fiscal Year 2012*



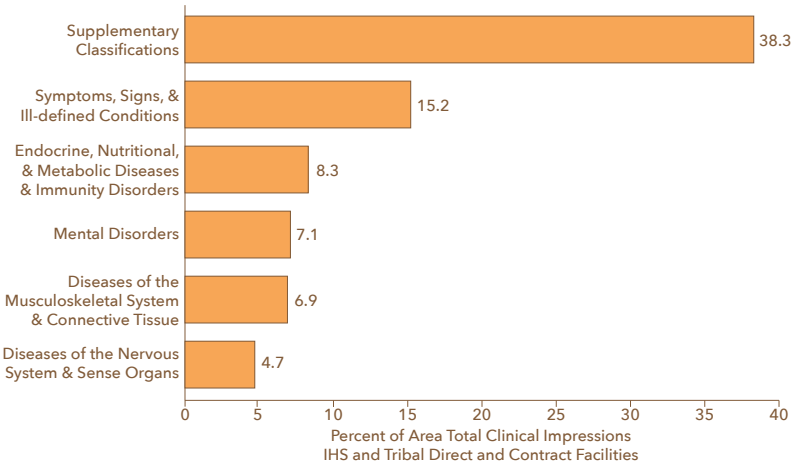
For the Albuquerque Area in FY 2012, 38.2 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications, followed by endocrine, nutritional, and metabolic diseases and immunity disorders at 12.6 percent.

Chart 5.21 Leading Causes of Ambulatory Medical Visits Albuquerque Area, *Fiscal Year 2012*



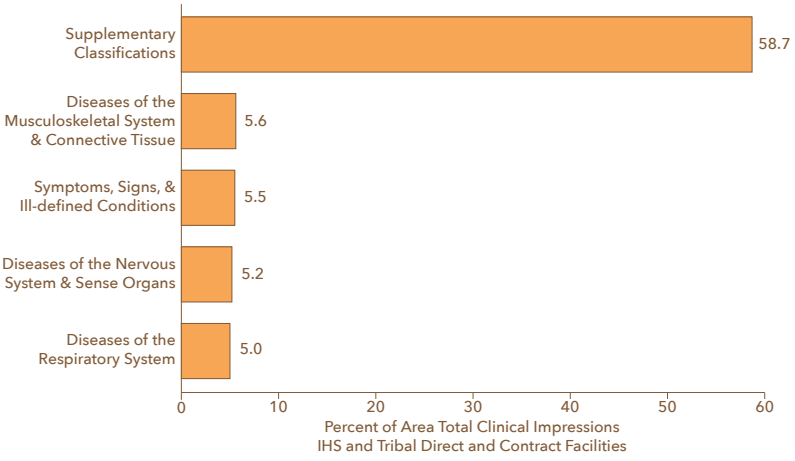
For the Bemidji Area in FY 2012, 38.3 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications, followed by symptoms, signs and ill-defined conditions at 15.2 percent.

Chart 5.22 Leading Causes of Ambulatory Medical Visits Bemidji Area, *Fiscal Year 2012*



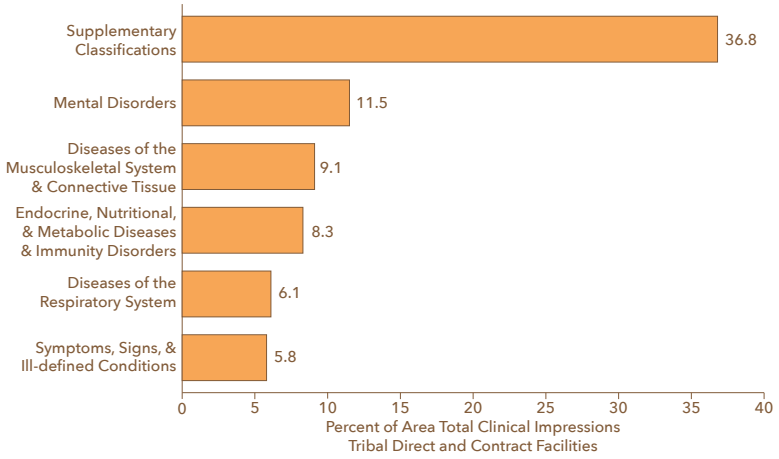
For the Billings Area in FY 2012, 58.7 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications, followed by diseases of the musculoskeletal system and connective tissue at 5.6 percent.

Chart 5.23 Leading Causes of Ambulatory Medical Visits Billings Area, *Fiscal Year 2012*



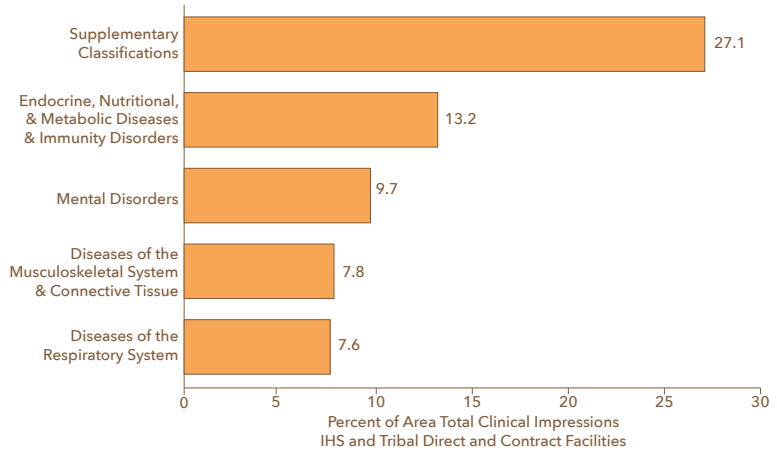
For the California Area in FY 2012, 36.8 percent of all clinical impressions in Tribal direct and contract facilities pertained to supplementary classifications, followed by mental disorders at 11.5 percent.

Chart 5.24 Leading Causes of Ambulatory Medical Visits California Area, *Fiscal Year 2012*



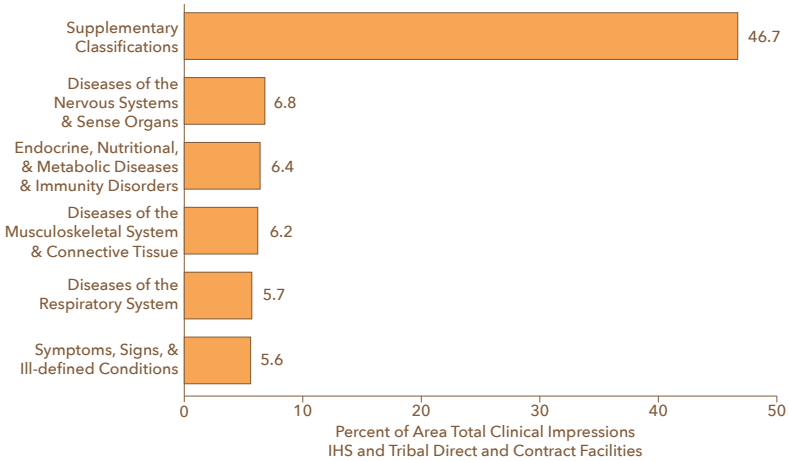
For the Nashville Area in FY 2012, 27.1 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications, followed by endocrine, nutritional, and metabolic diseases and immunity disorders at 13.2 percent.

Chart 5.25 Leading Causes of Ambulatory Medical Visits Nashville Area, *Fiscal Year 2012*



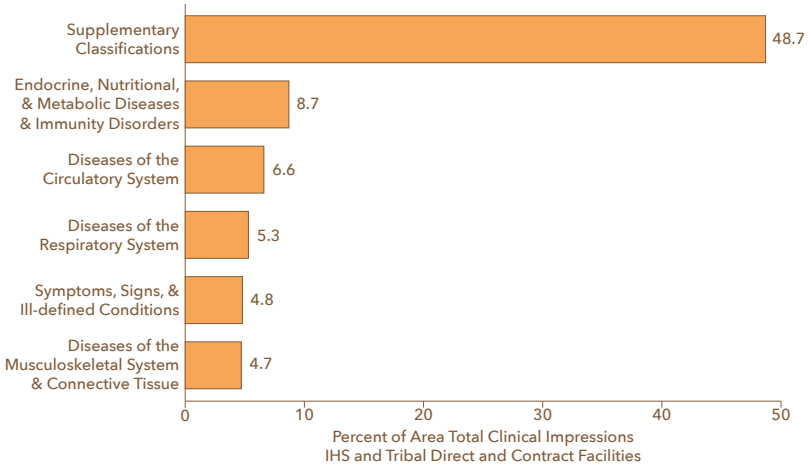
For the Navajo Area in FY 2012, 46.7 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications, followed by diseases of the nervous system and sense organs at 6.8 percent.

Chart 5.26 Leading Causes of Ambulatory Medical Visits Navajo Area, *Fiscal Year 2012*



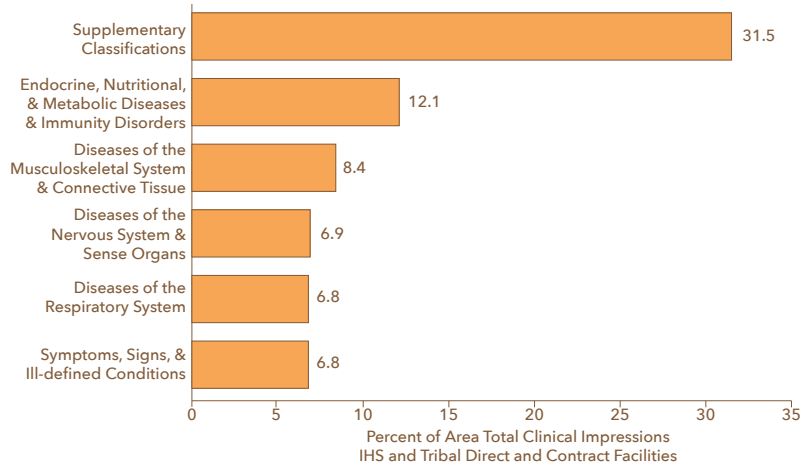
For the Oklahoma Area in FY 2012, 48.7 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications, followed by endocrine, nutritional, and metabolic diseases and immunity disorders at 8.7 percent.

Chart 5.27 Leading Causes of Ambulatory Medical Visits, Oklahoma Area, *Fiscal Year 2012*



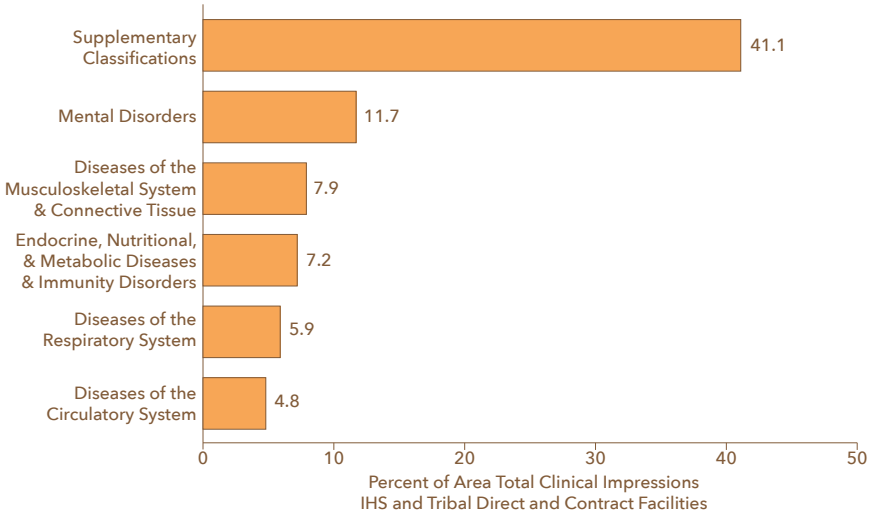
For the Phoenix Area in FY 2012, 31.5 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications, followed by endocrine, nutritional, and metabolic diseases and immunity disorders at 12.1 percent.

Chart 5.28 Leading Causes of Ambulatory Medical Visits, Phoenix Area, *Fiscal Year 2012*



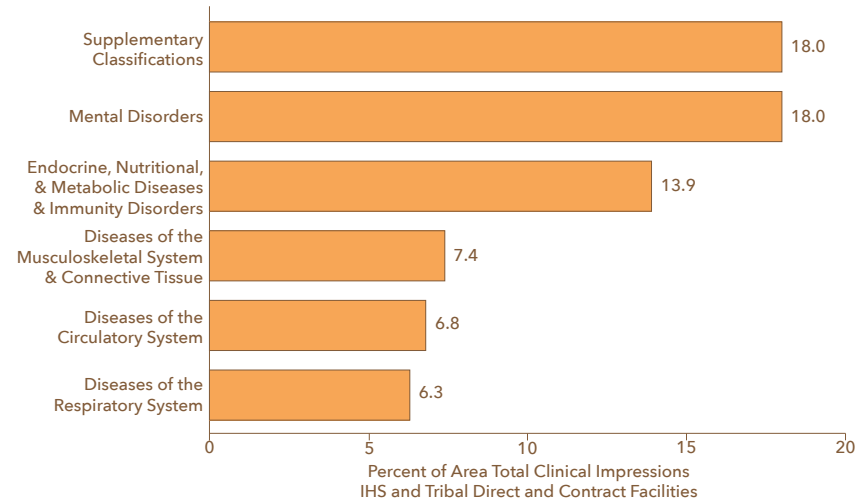
For the Portland Area in FY 2012, 41.1 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications, followed by mental disorders at 11.7 percent.

Chart 5.29 Leading Causes of Ambulatory Medical Visits, Portland Area, *Fiscal Year 2012*



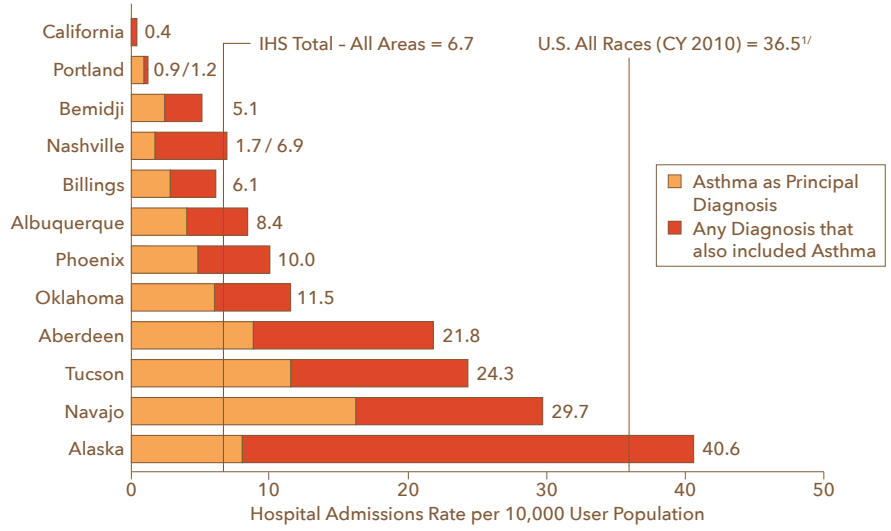
For the Tucson Area in FY 2012, 18.0 percent of all clinical impressions in IHS and Tribal direct and contract facilities pertained to supplementary classifications and mental disorders, followed by endocrine, nutritional, and metabolic diseases and immunity disorders at 13.9 percent.

Chart 5.30 Leading Causes of Ambulatory Medical Visits, Tucson Area, *Fiscal Year 2012*



In FY 2012, there were 333 asthma admissions to IHS and Tribal direct and contract general hospitals with asthma as a principal diagnosis. Approximately 56 percent of these admissions where asthma was a principal diagnosis were in two IHS Areas, Navajo (127) and Oklahoma (59). The rate of the IHS and Tribal AI/AN population is 18.4 percent of that found in the U.S. all races population (6.7 asthma admissions per 10,000 versus 36.5, respectively).

Chart 5.31 Hospital Rate of Persons Diagnosed with Asthma Under Age 18, *Fiscal Year 2012*



1/CDC National Hospital Survey

Table 5.31 Number and Rate of Hospitalization of Persons Diagnosed with Asthma Under Age 18, *Fiscal Year 2012*

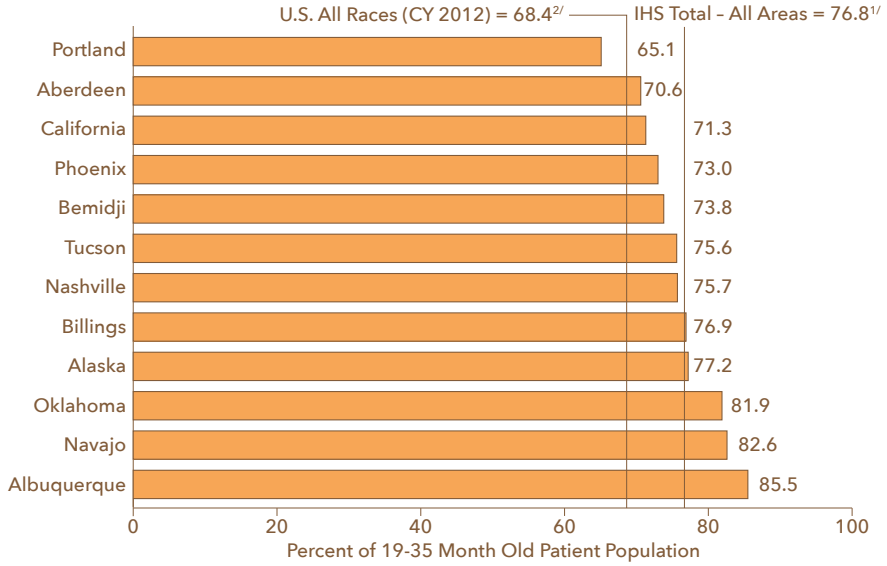
	Asthma as Principal Diagnosis		Any Diagnosis that also included Asthma		Estimated Population Under Age 18 Years 1/
	Admission Rate per 10,000	*Number of Admissions*	*Admission Rate per 10,000*	*Number of Admissions*	
U.S. All Races (2010) 2/	*36.5*				
All IHS Areas	*6.7*	*333*	*16.0*	*794*	*497,145*
Aberdeen	8.8	39	21.8	97	44,565
Alaska	8.0	40	40.6	202	49,720
Albuquerque	4.0	10	8.4	21	25,054
Bemidji	2.4	8	5.1	17	33,079
Billings	2.8	7	6.1	15	24,684
California	0.0	0	0.4	1	27,362
Nashville	1.7	3	6.9	12	17,441
Navajo	16.2	127	29.7	233	78,536
Oklahoma	6.0	59	11.5	114	98,776
Phoenix	4.8	27	10.0	57	56,754
Portland	0.9	3	1.2	4	32,515
Tucson	11.5	10	24.3	21	8,659

1/IHS User Population under age 18 for FY 2012.
2/CDC National Hospital Discharge Survey under age 15 for CY 2010. http://1.usa.gov/15ns9ks

SOURCES: IHS National Data Warehouse, March 2013.

In FY 2012, 76.8 percent of AI/AN children 19-35 months old residing in an IHS service area who received care from an IHS or Tribal facility completed the 4:3:1:3:3:1:4 (4 or more doses diphtheria, tetanus, acellular pertussis vaccine, 3 or more doses of polio vaccine, 1 or more doses of measles, mumps, rubella vaccine, 3 or more doses of Haemophilus influenzae type B vaccine, 3 or more doses of hepatitis B vaccine, 1 dose of varicella vaccine, and 4 or more doses of pneumococcal conjugate vaccine). The Portland Area had the lowest coverage at 65.1 percent, while the Albuquerque Area had the highest coverage, 85.5 percent. Based on the data from the CDC's National Immunization Survey in CY 2012, 68.4 percent of children aged 19 to 35 months completed the 4:3:1:3:3:1:4 vaccine series.

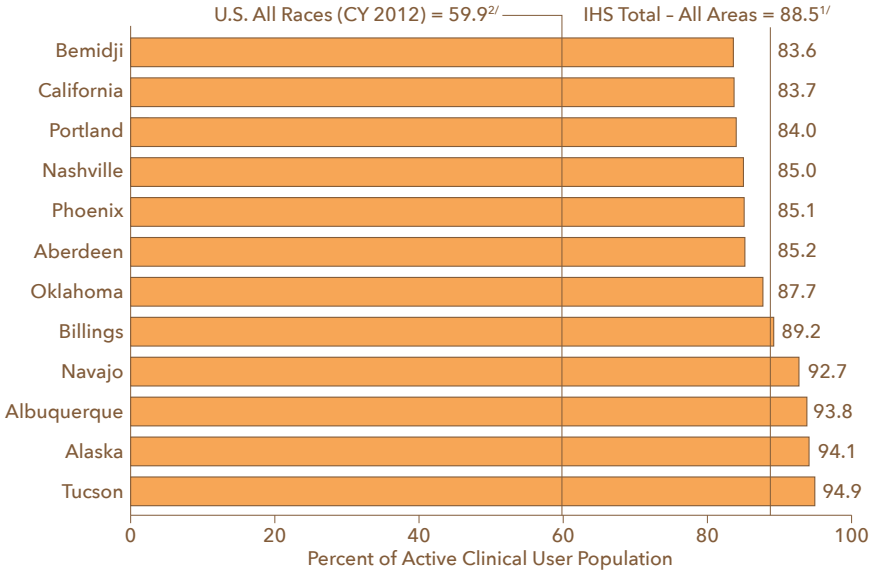
Chart 5.32 Immunization Rates, 19-35 Months
Fiscal Year 2012



[1/]IHS FY 2012 12 Area GPRA Report
[2/]Centers for Disease Control and Prevention. National Immunization Survey 2012. http://www.cdc.gov/vaccines/stats_surv/nis/data/tables_2012.htm#overall

In FY 2012, 88.5 percent of AI/AN adults 65 years and older residing in an IHS service area and receiving care from an IHS or Tribal facility received the pneumococcal vaccine. The Bemidji Area had the lowest coverage at 83.6 percent, while the Tucson Area had the highest coverage, 94.9 percent. Based on the data from the CDC's National Health Interview Survey, CY 2012, 59.9 percent of the U.S. general population 65 years and older received pneumococcal vaccine.

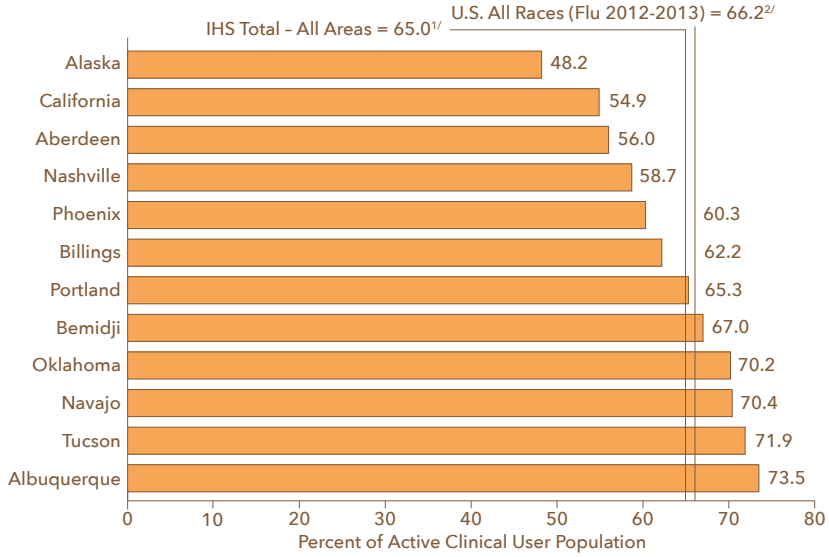
Chart 5.33 Pneumococcal Immunization Rates, 65 Years and Older
Fiscal Year 2012



[1/]IHS FY 2012 12 Area GPRA Report
[2/]Centers for Disease Control and Prevention. National Health Interview Survey 2012. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6305a4.htm

In FY 2012, 65.0 percent of AI/AN adults 65 years and older and residing in an IHS service area and receiving care from an IHS or Tribal facility received the influenza vaccine. The Alaska Area had the lowest coverage at 48.2 percent, while the Albuquerque Area had the highest coverage, 73.5 percent. Based on the data from the CDC's FluVaxView for 2012-2013 influenza season, 66.2 percent of the U.S. general population 65 years and older received influenza vaccine.

Chart 5.34 Influenza Immunization Rates, 65 Years and Older
Fiscal Year 2012



[1/]IHS FY 2012 12 Area GPRA Report
[2/]Centers for Disease Control and Prevention FluVaxView.
http://www.cdc.gov/fluvaxview/coverage-1213estimates.htm#data

In FY 2012, over 4.9 million dental services were provided at IHS and Tribal direct and contract facilities, as reported to the IHS National Data Warehouse. These IHS Areas provided 50 percent of these dental services: California (693,710), Navajo (702,420), and Oklahoma (1,054,686).
NOTE: Not all IHS areas fully report contract dental services. Direct Dental patients by definition are not referrals. Contract patients by definition are referrals. Not all Tribal or Urban programs report direct services data to IHS.

Chart 5.35 Number of Dental Services Provided
Fiscal Year 2012

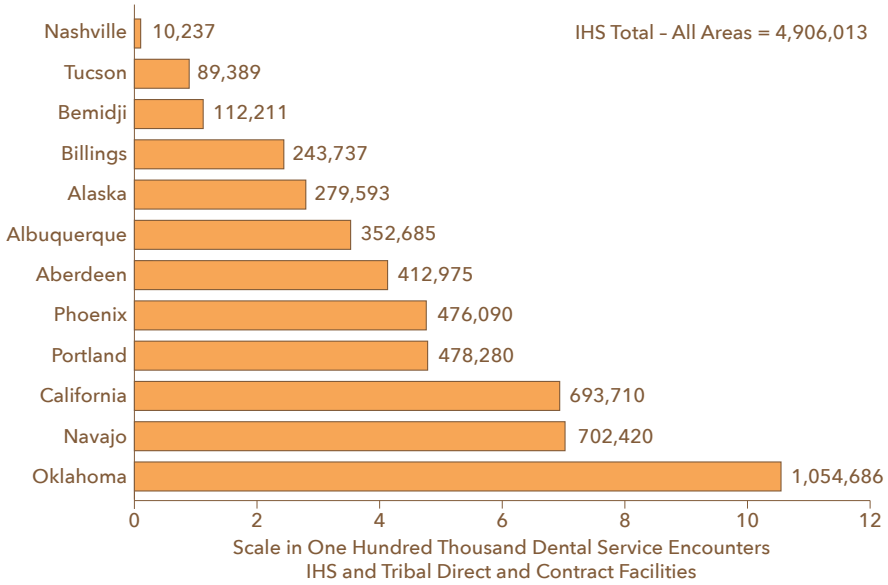


Table 5.35 Number of Dental Services Provided, Indian Health Service and Tribal Direct and Contract Facilities
Fiscal Year 2012

	Total		IHS Direct		IHS Contract		Tribal Direct		Tribal Contract	
	Patients	*Services*	*Patients*	*Services*	*Patients*	*Services*	*Patients*	*Services*	*Patients*	*Services*
All IHS Areas	***400,647***	***4,906,013***	***203,035***	***2,377,861***	***0***	***473***	***195,122***	***2,424,831***	***2,490***	***102,848***
Aberdeen	35,305	412,975	29,120	347,846	0	28	6,185	65,101	0	0
Alaska	16,492	279,593	0	0	0	140	16,492	264,204	0	15,249
Albuquerque	31,193	352,685	24,299	273,537	0	26	6,894	79,122	0	0
Bemidji	30,559	112,211	8,624	112,183	0	28	21,935	0	0	0
Billings	24,324	243,737	19,665	196,342	0	25	4,659	47,370	0	0
California	44,048	693,710	0	7	0	53	44,048	668,613	0	25,037
Nashville	16,005	10,237	836	10,205	0	32	15,169	0	0	0
Navajo	56,570	702,420	51,850	532,421	0	29	4,720	169,970	0	0
Oklahoma	66,324	1,054,686	23,454	322,466	0	37	42,870	728,876	0	3,307
Phoenix	40,707	476,090	27,004	329,794	0	38	13,703	146,258	0	0
Portland	34,003	478,280	13,066	167,474	0	33	18,447	251,518	2,490	59,255
Tucson	5,117	89,389	5,117	85,586	0	4	0	3,799	0	0

NOTE: Not all IHS areas fully report contract dental services. Direct Dental patients by definition are not referrals. Contract patients by definition are referrals. Not all Tribal or Urban programs report direct services data to IHS.

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

Cause of Death	ICD-10 Codes
Malignant neoplasm of kidney and renal pelvis	C64-C65
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 infarction	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 endocartitis	I33
Diseases of pericardium and acute myocarditis	I30-I31, I40

Cause of Death	ICD-10 Codes
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
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

Cause of Death	ICD-10 Codes
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
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
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
Legal intervention	Y35, Y89.0

Cause of Death	ICD-10 Codes
Events of undetermined intent	Y10-Y34, Y87.2, Y89.9
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
Diptheria	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

Cause of Death	ICD-10 Codes
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
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

Cause of Death	ICD-10 Codes
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
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

Cause of Death	ICD-10 Codes
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
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

Cause of Death	ICD-10 Codes
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 clinicaland laboratory findings, not elsewhere classified	R00-R53, R55-R59.4, R96-R99
All other diseases	F01-F99, H00-H57, L00-M99
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

Cause of Death	ICD-10 Codes
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	F10, G31.2, G62.1, I42.6, K29.2, K70, R78.0, X45, X65, Y15
Breast cancer (females)	C50
Cervical cancer	C53
Colon-rectal-cancer	C18-C21
Drug-related deaths	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, X40-X44, X60-X64, X85, Y10-Y14
Enterocolitis due to Clostridium Difficile (C. difficile)	A04.7
Firearm deaths	W32-W34, X72-X74, X93-X95, Y22-Y24, Y35.0, U01.4
Human Immunodeficiency virus (HIV) infection	B24
Injury and poisoning	S00-T98, U01-U03, V00-Y89
Lung cancer	C33-C34
Maternal death	A34, O00-O95, O98-O99
Other injuries	Y10-Y21, Y25-Y34, Y36, Y87.2, Y89.1, Y89.9
Prostate cancer	C61, D29

List of ICD-9-CM Codes used in Patient Care Charts and Tables

Condition	ICD-9-CM Codes
Infectious and parasitic diseases	001-139
Neoplasms	140-239
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	630-679
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-V89

INDEX TO CHARTS AND TABLES

(Numbers refer to chart and table numbers)

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