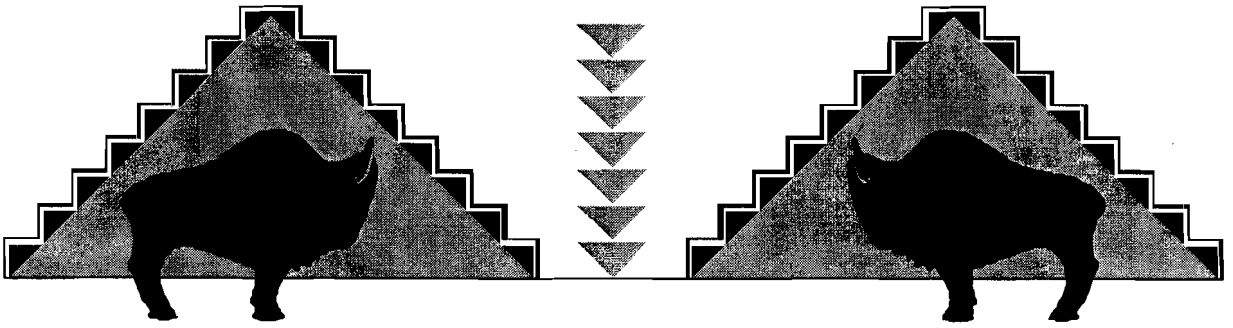
1997

Cancer Mortality Among American Indians and Alaska Natives in the United States: Regional Differences in Indian Health, 1989-1993.

Indian Health Service, Epidemiology Program

CANCER MORTALITY AMONG AMERICAN INDIANS AND ALASKA NATIVES IN THE UNITED STATES:

Regional Differences within the Indian Health Service, 1989-1993



Department of Health and Human Services
Public Health Service
Indian Health Service
Office of Public Health
Division of Community & Environmental Health
Epidemiology

Cancer Mortality Among American Indians and Alaska Natives in the United States:

Regional Differences in Indian Health, 1989-1993

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Suggested citation:

Cobb N and Paisano RE. Cancer Mortality Among American Indians and Alaska Natives in the United States: Regional Differences in Indian Health, 1989-1993. Indian Health Service. IHS Pub. No. 97-615-23. Rockville, MD, 1997.

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Purpose and Description of
Cancer Mortality: Indian Health Regional Differences, 1989-1993

This monograph delineates cancer mortality rates among American Indians and Alaska Natives (AI/AN's) within the different regions served by the IHS. The table and charts depict the IHS administrative areas, the estimated service population for each area, and the mortality from 1989 to 1993 for different cancer sites. Comparisons are made to the general U.S. population. The intention of this publication is to provide detailed information about the impact of cancer in Native American people.

Overview of the Indian Health Service Program

The Department of Health and Human Service (DHHS), primarily through the Indian Health Service (IHS) of the U.S. Public Health Service (PHS), is responsible for providing Federal health services to American Indians and Alaska Natives. Federal Indian health services are based on the laws which the Congress has passed pursuant to its authority to regulate commerce with the Indian Nations as explicitly specified in the Constitution and in other pertinent authorities. The Indian Health program became a primary responsibility of the PHS under P.L. 83-568, the Transfer Act, on August 5, 1954. This Act provides that "all functions, responsibilities, authorities, and duties... relating to the maintenance and operation of the 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 goal of the Indian Health Service is to elevate the health status of American Indians and Alaska Natives to the highest possible level. The mission is to ensure equity, availability, and accessibility of a comprehensive high quality health care delivery system providing maximum involvement of American Indians and Alaska Natives in defining their health needs, setting priorities for their local areas, and managing and controlling their health care program. The IHS also acts as the principal Federal health advocate for Indian people by assuring they have knowledge of and have access to all Federal, State, and local health programs to which they are entitled. It is the responsibility of the IHS to collaborate with these programs and make them aware of the entitlements of Indian people.

The IHS has carried out its responsibility by developing and operating a health service 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 and staff with those purchased by IHS through contractual arrangements, taking into account other health resources to which American Indians and Alaska Natives have access. Tribes are also actively involved in program implementation.

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

Indian Health Service Structure

The IHS health services delivery system is managed through local administrative units. A Service Unit is the basic health organization for a geographic area served by the IHS, just as a county or city health department is the basic health organization in a State health department. These are defined areas, usually centered around a single federal reservation in the continental United States, or a population concentration in Alaska. A few service units cover a number of small reservations; some large reservations are divided into a number of service units. The service units are grouped into 12 larger cultural- demographic management jurisdictions which are administered by IHS Area Offices.

The IHS is composed of 12 regional administrative units called Area Offices. These 12 Areas are:

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

As of October 1, 1995, the Area Offices consisted of 144 service units, 76 of which were operated by tribes. The IHS operated 38 hospitals, 61 health centers, 4 school health centers, and 47 health stations. Tribes operated 11 hospitals, 129 health centers, 3 school health centers, 73 health stations, and 167 Alaska village clinics. In addition, there are 34 urban projects ranging from information referral and community health services to comprehensive primary health care services.

IHS Service Population Statistics

The IHS service population counts are based on official U.S. Census county data. The Census Bureau enumerates those individuals who identify themselves as American Indian or Alaska Native, however, the Census Bureau does not record Tribal affiliation. The IHS service population is estimated by counting those American Indians and Alaska Natives who reside within geographic areas in which IHS has clinical facilities ("on or near" reservations). These people may or may not use IHS services.

Native American population estimates beyond the Census year are projected by the IHS through linear regression techniques, using 10 years of Native American birth and death data provided by the National Center for Health Statistics (NCHS).

From 1989-1993, the average annual IHS service population for the entire country was 1,238,932. The Tucson Area had the smallest average service population (24,975) and the Oklahoma Area had the largest (266,624). The IHS service population is increasing at a rate of approximately 2.1% per year. Based upon 1990 Census data, the IHS service population is younger than the U.S. all races population. For the entire IHS service population, 33% were less than 15 years of age, compared to 22% for the U.S. all races population. However, there was considerable variation by area with Nashville

at 29.2% and Aberdeen at 40.3% of the population being less than 15 years of age. Only 6% of the entire IHS service population was greater than 64 years of age compared to 13% in the general U.S. all races population. Again, there was variation by area with Phoenix at 4.4% and Oklahoma at 8.0% of the population greater than 64 years of age. In 1989 the median household income for those AI/AN's residing in the current reservation states was $19,879 while for the U.S. all races it was $30,056 . The Aberdeen Area had the lowest median household income at $12,310, and the California Area the highest at $28,029.

Sources and limitations of Data

Populations Statistics

IHS Service Population between census years (e.g. 1980 and 1990) is estimated by a smoothing technique in order to show a gradual transition between Census years. This normally results in upward revisions to service population figures projected prior to a Census, since each Census tends to do a better job in enumerating American Indians and Alaska Natives. In 1994 all smoothing techniques had been incorporated and population figures for the years 1989-1993 were revised.

Mortality Statistics

American Indian and Alaska Native vital event statistics are derived from data furnished annually to the IHS by the National Center for Health Statistics (NCHS). NCHS obtains birth and death records for all U.S. residents from the State Departments of Health, based upon information reported on official state birth and death certificates. Those records identified as pertaining to the American Indians and Alaska Natives are provided to the IHS. The IHS records contain the same basic demographic items as the vital events 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.

It is already known that there is an underreporting of Indian race on State death certificates in California. It also appears that this problem exists in the Oklahoma and Portland Areas. Therefore, throughout this publication, the mortality rates that are shown for these 3 Areas are suspect and should be interpreted with caution. As a result, this publication shows IHS-wide mortality rates both with and without the data for these 3 Areas.

The Native American vital events data in this publication pertain only to those American Indians and Alaska Natives residing at the time of their death in the counties that make up the IHS service areas.

The Native American population is considerably younger than the U.S. all races population. Therefore, mortality rates presented in this publication have been age-adjusted for appropriate comparisons between population groups. An adjusted rate that was computed based on a small number of deaths should be interpreted with caution since the adjusted rate may be very different from the true underlying rate.

Cancer Mortality Among American Indians and Alaska Natives in the United States: Regional Differences in Indian Health, 1989-1993

Introduction

The Indian Health Service has strived to improve the health of Native Americans in the United States (U.S.) for over 40 years. The results have been marked decreases in infectious disease and infant and maternal mortality.[1,2] Life expectancy at birth for Native Americans throughout the U.S. has also risen dramatically, from 51 years in 1940 to 74 years in 1990. With these improvements in health and this increased life span, chronic diseases have begun to impact heavily on the Native American community. Malignant neoplasms are the second leading cause of death for Native Americans throughout the country.[2]

Cancer mortality among Native Americans has not been well described. While there are isolated reports from North Carolina[3] and for a single Tribe in New York,[5] most published studies on cancer mortality among Native Americans have been done in the Southwestern part of the U.S. and in Alaska.[6-7] These studies have shown that, while total cancer mortality for all Native Americans appears to be lower than the cancer mortality for the U.S. White population,[6-8] there are regional differences and differences in mortality from specific types of cancer that are striking.[3-17]

Overall cancer mortality rates for Native Americans except for the Aberdeen, Alaska, Bemidji, and Billings Areas have been shown to be significantly lower than the US rates.[3-8,12] In Alaska, excess mortality was seen for nasopharyngeal, kidney, salivary gland, and esophageal cancers,[13,15] as well as for multiple myeloma.[16] For Alaska and the southwest U.S. excess mortality was seen for gallbladder cancer, especially among females.[6,7,13,17] In the southwest U.S., excess mortality was seen for stomach cancer.[7,10] Varying degrees of excess cervical cancer mortality was seen in all regions studied.[3-8,13]

Deficits in cancer mortality were seen in Alaska for lymphomas and leukemias,[16] in Alaska and North Carolina for prostate cancer,[3,6,13,15] and for pancreatic in cancer in New Mexico.[6,7] In all regions studied, varying degrees of deficits in cancer mortality were seen breast cancer.[3-8,13,15] Lung cancer mortality among Native Americans in New Mexico was significantly lower than U.S. rates.[6,7,11] However, lung cancer mortality in Alaska has been increasing rapidly from rates significantly lower than U.S. rates in the mid-1960's to rates as high as the U.S. rates by 1983.[13,15,17]

These studies document that there are marked regional differences in cancer mortality among Native Americans in the U.S. and that results apply only to the region under study. They clearly demonstrate that combined data for the entire U.S. do not adequately describe cancer mortality for specific Native American groups. Additionally, these studies were done using different methodologies and during different time periods, further complicating pooling of data and making comparisons difficult.

The purpose of this publication is to provide current and accurate information about cancer mortality among Native Americans in the U.S.

METHODS

Mortality data is compiled by the National Center for Health Statistics (NCHS) annually. This information includes the single underlying cause of death and is determined according to standard criteria from data listed on the death certificate. This monograph looked at only those Native American deaths between 1989-1993 in which the underlying cause of death was cancer. The IHS obtains the NCHS mortality data tapes for persons listed as Native American.

Based upon information available about residence at the time of death, the IHS assigned each person to the appropriate IHS Area (Chart 1). As is evident in Chart 1, not all parts of the US are included in the IHS Areas. Based upon data from the 1990 census, approximately 50% of all Native Americans in the U.S. reside within the geographic boundaries of the IHS Areas. Only those deaths that occurred among Native Americans residing within the boundaries of IHS Areas were included in this part of the investigation.

To help control for fluctuation in rates that occur when there is a relatively small population and a small number of deaths, five years of data were examined, 1989 to 1993. Data were examined for all cancer deaths combined as well as for specific types of cancer (Table 1). Average annual age-adjusted mortality rates were calculated using the cumulative 1989 to 1993 estimated population for each IHS Area (Table 2: data from the Indian Health Program Statistics Branch). The IHS projected these population estimates with linear regression from the 1990 census, based upon the most recent 10 years of birth and death data for Native Americans in the United States. In this publication the age-adjusted cancer mortality rates were computed by the direct method using the 1970 U.S. standard population.* To compute 95% confidence intervals for each rate, we used the method described by Armitage.[18] If the US all races rate was not included in the calculated 95% interval, we considered the rates to be significantly different at the $p<.05$ level.

RESULTS

From 1989 through 1993, the average annual age-adjusted cancer mortality rate for all cancers for both sexes combined was 127.3 per 100,000 for all IHS Areas. This rate was significantly lower than the 1988 through 1992 U.S. all races rate of 172.8 per 100,000.[19] When the three IHS Areas with underreporting for Native American race on

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* Age-specific rates and rates adjusted to the 1940 U.S. population are not included in this publication, but may be obtained by contacting the IHS Cancer Prevention and Control Program, 5300 Homestead Road NE, Albuquerque, NM 87110. The phone is: (505) 248-4132 and the FAX is: (505) 248-4393.

death certificates (California, Oklahoma, and Portland - Chart 1) are excluded, the IHS rate was 148.2 per 100,000. This rate was also significantly lower. There was wide variation among the IHS Areas; California had the lowest overall cancer mortality rate (70.3 per 100,000) and Aberdeen had the highest (223.3 per 100,000). Four IHS Areas (Alaska, Aberdeen, Bemidji, and Billings) had rates, both sexes combined, that were higher than the U.S. rate with only the Aberdeen Area being significantly higher than the U.S. rate.

When cancer mortality rates were examined by specific cancer site and by sex, wide variation among the IHS Areas as well as diverse rankings by Area were seen. Lung cancer was the leading cause of cancer mortality for the U.S. as well as for all IHS Areas as a whole and among nine of the 12 IHS Areas. Three IHS Areas (Albuquerque, Navajo, and Tucson) had ill defined/unspecified cancer as the leading cause of cancer mortality for both sexes. Detailed results for individual cancer sites are shown in Charts 2 through 32 and Tables 4 through 16. For each IHS Area, the five leading causes of cancer mortality are shown by age-adjusted mortality rates (Table 17). Detailed data by cancer site (number of deaths and age-adjusted average annual rates) for each IHS Area are shown in Tables 18 through 31.

Discussion

The data presented here demonstrate that Native Americans throughout the U.S. carry very different cancer mortality burdens. In general, Native Americans throughout the southwestern part of the country had lower cancer mortality rates than those in the northern part of the country. However, within any IHS Area or geographic region, mortality rates for specific cancers were not all lower or higher than the U.S. rates. For each specific type of cancer and for each sex, varying rankings by IHS areas or regions were found.

Reasons for the variability in cancer mortality seen among Native Americans from different parts of the country are not entirely known. Access to care or later stage diagnosis in different areas could cause different mortality patterns. However, some of the variability in rates would be expected. It is known that the prevalence rates for alcoholism[1,2,12,26,27] and obesity,[28-30] as well as dietary patterns,[28-30] vary considerably throughout the country. Additionally, smoking prevalence among Native American adults is relatively low in Arizona and New Mexico,[9,31] but is over 50% in the northern part of the country[31,23] and increasing rapidly in Alaska to rates now over 60%.[17,31,33] These differences in risk factors could easily explain some of the variation seen in cancer mortality in different parts of the country.

There are several well recognized and documented limitations in using death certificate data to examine cause-specific mortality.[34-36] These include racial misclassification, errors in residence at a time of death, and errors in reporting the precise cause of death. There is evidence to suggest that, at least in the recent past, racial misclassification of

Native Americans on death certificates may be a problem in some regions of the country.[19-25] Additionally, data show that Native Americans die more often than Whites of "signs, symptoms and ill-defined conditions."[37] These two latter problems would lead to underestimations of the true overall cancer mortality rates as well as underestimations of mortality for specific types of cancer. IHS Area mortality data show ill-defined cancers as the leading cause of cancer mortality for the Albuquerque, Navajo, and Tucson Areas.

All rates in this publication were derived using projections from the 1990 Census. The degree to which there may be errors in the accurate counting of Native Americans is not precisely known. However, evidence would suggest that any errors that may have occurred would be in undercounting. Errors in using population figures that may be lower than the true numbers would lead to overestimation of the true cancer mortality rates for regions of the country where this was a problem.

Despite these limitations, the findings shown here clearly demonstrate that Native Americans throughout the U.S. have very different cancer mortality patterns. The results of this study examining cancer mortality clearly showed that Native Americans in Arizona and New Mexico have markedly different cancer mortality patterns from other Native Americans in the U.S. This finding, along with differences in risk factors, would lead one to presume that cancer incidence patterns would also differ. Unfortunately, there are not sufficient data on cancer incidence among Native Americans to examine whether the same holds true for cancer incidence or survival. Presently, the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) population-based tumor registry includes only limited Native American populations. Most of this data on Native Americans comes from the New Mexico Tumor Registry which includes Native Americans in Arizona and New Mexico.

In order to better understand the extent of cancer among Native Americans in the U.S., collaborative efforts between the IHS, SEER, and state-based tumor registries need to be further developed. This would help in developing preventive programs and intervention strategies that need to be targeted appropriately for the population being treated. Until such data are available, cancer mortality data can give some indication as to the extent of the problem and can help provide direction when deciding where limited resources would have the most beneficial impact.

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TABLES
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GRAPHS

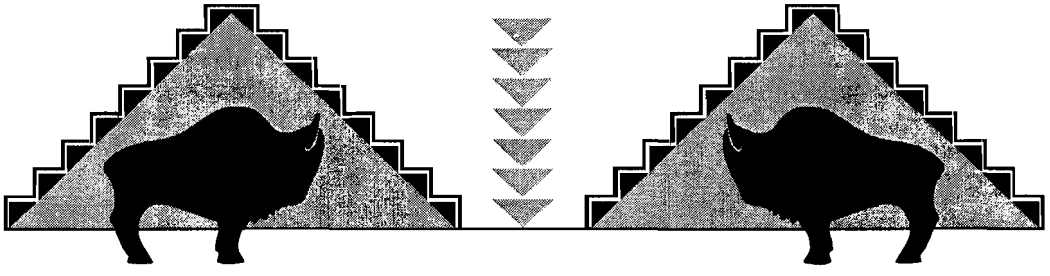


Table 1

Cancer Site Groupings for ICD-9 Coded Mortality Data

Underlying Cause of Death	ICD-9 Code
Oral Cavity and Pharynx	
Lip	140.0-140.9
Tongue	141.0-141.9
Salivary Gland	142.0-142.9
Floor of Mouth	144.0-144.9
Gingiva and other mouth	143.0-143.9, 145.0-145.6, 145.8-145.9
Tonsil	146.0-146.2
Oropharynx	146.3-146.9
Nasopharynx	147.0-147.9
Hypopharynx	148.0-148.9
Other mouth/pharynx	149.0-149.9
Digestive System	
Esophagus	150.0-150.9
Stomach	151.0-151.9
Small intestine	152.0-152.9
Colon and Rectum	153.0-154.1, 159.0
Anus, anal canal, & anorectum	154.2-154.3, 154.8
Liver & Intrahepatic duct	155.0-155.2
Gallbladder	156.0
Other biliary	156.1-156.9
Pancreas	157.0-157.9
Other digestive system	158.0-158.9, 159.8-159.9
Respiratory System	
Nose, nasal cavity, & middle ear	160.0-160.9
Larynx	161.0-161.9
Lung & bronchus	162.2-162.9
Trachea & other respiratory system	162.0, 163.0-165.9
Bones and joints	170.0-170.9
Soft tissue (including heart)	171.0-171.9
Malignant melanoma	172.0-172.9
Breast	174.0-174.9, 175.0
Female genital system	
Cervix	180.0-180.9
Corpus uterus	182.0-182.1, 182.8
Uterus, NOS	179.0
Ovary	183.0
Vagina	184.0
Vulva	184.1-184.4
Other female genital system	181.0, 183.2-183.9, 184.8-184.9

Table 1 (con't)

Cancer Site Groupings for ICD-9 Coded Mortality Data

Underlying Cause of Death	ICD-9 Code
Male genital system	
Prostate	185.0
Testis	186.0-186.9
Penis	187.1-187.4
Other male genital system	187.5-187.9
Urinary system	
Urinary bladder	188.0-188.9
Kidney & Renal pelvis	189.0-189.1
Ureter	189.2
Other urinary system	189.3-189.4, 189.8-189.9
Eye & Orbit	190.0-190.9
Brain and other nervous system	191.0-191.9, 192.0-192.3, 192.8-192.9
Thyroid gland	193.0
Other endocrine (including thymus)	164.0, 194.0-194.9
Hodgkin's disease	201.0-201.9
Non-Hodgkin's lymphomas	200.0-200.8, 202.0-202.2, 202.8-202
Multiple Myeloma	203.0, 203.2-203.8
Leukemias	
Lymphocytic:	
Acute lymphocytic	204.0
Chronic lymphocytic	204.1
Other lymphocytic	204.2-204.9
Myeloid:	
Acute myeloid	205.0
Chronic myeloid	205.1
Other myeloid	205.2-205.9
Monocytic:	
Acute monocytic	206.0
Chronic monocytic	206.1
Other leukemias	202.4, 203.1, 207.0-208.9
Ill-defined & Unspecified Sites	159.1, 195.0-195.8, 196.1-196.9, 199.0-199.1, 202.3, 202.5-202.6

Indian Health Service Areas

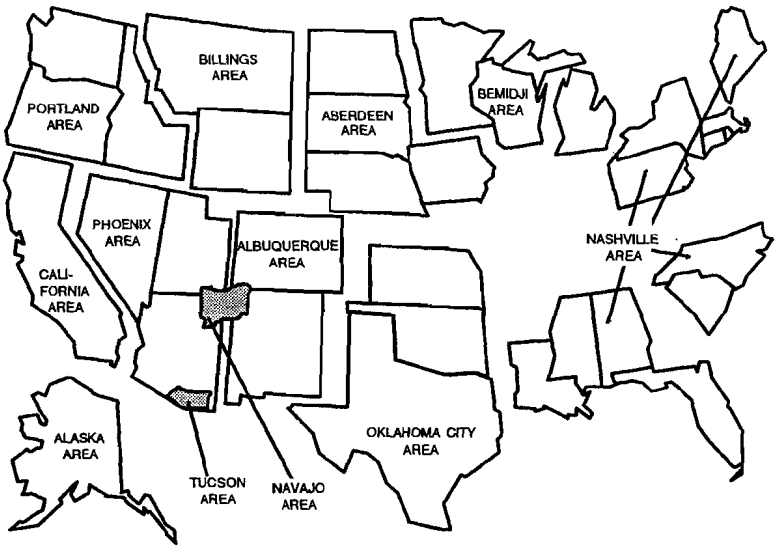


Chart 1

Estimated Indian and Alaska Native Service Population by Indian Health Service Area, 1989-1993

Area	1989	1990	1991	1992	1993
Aberdeen	73,756	74,789	81,133	83,310	85,501
Alaska	84,079	86,251	88,650	91,079	93,541
Albuquerque	64,540	67,504	69,030	70,583	72,174
Bemidji	59,677	61,349	62,716	64,116	65,520
Billings	45,930	47,008	48,232	49,460	50,679
California	101,873	104,828	106,985	109,140	111,301
Nashville	47,846	48,943	54,293	55,205	56,136
Navajo	178,483	180,959	185,743	190,567	195,435
Oklahoma	253,913	262,517	267,316	272,203	277,173
Phoenix	116,761	120,707	123,514	126,368	128,820
Portland	124,317	127,774	130,426	133,172	136,461
Tucson	23,880	24,607	25,035	25,463	25,891

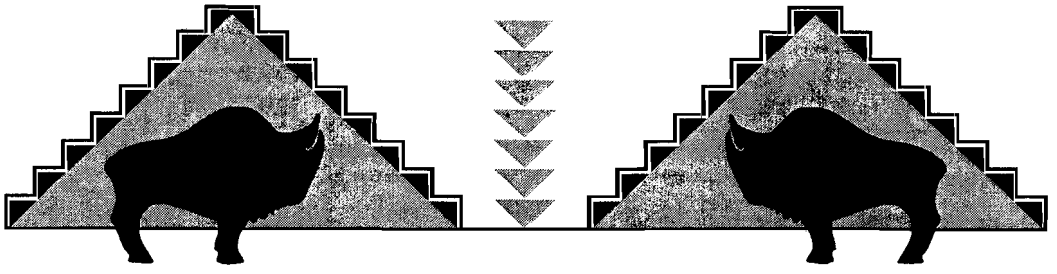
Table 2

SOURCE: Estimated American Indian and Alaska Native service population by Area based on 1984-1993 vital events and the 1990 Census modified age, race, and sex files.

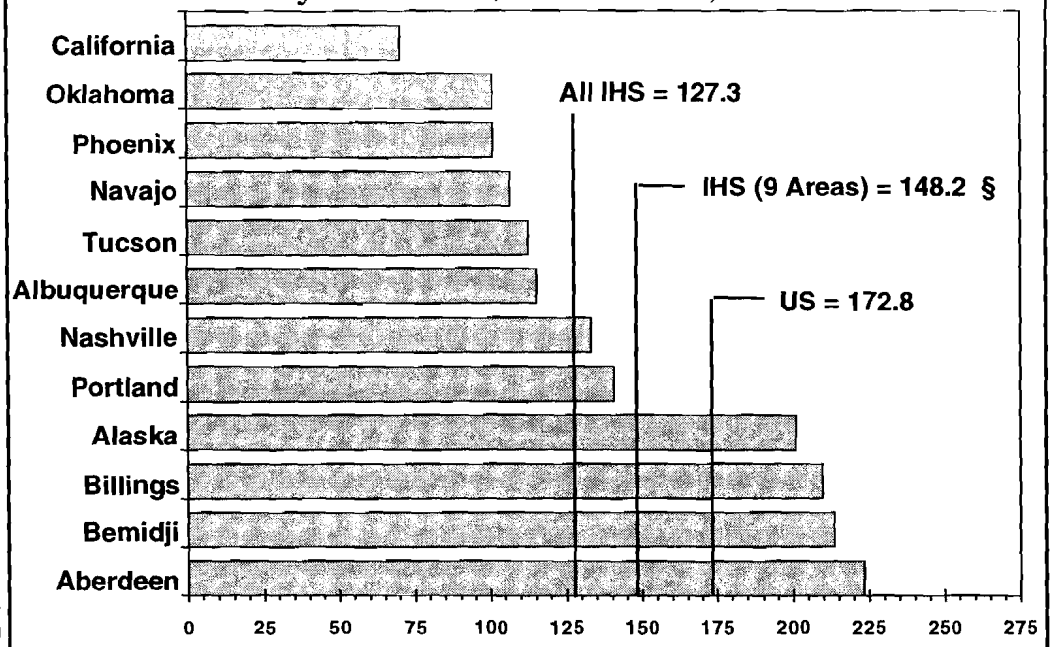
The following thirteen specific cancer sites (Charts 2-32 and Tables 3-15) have been selected to graphically highlight rate comparisons between IHS Areas and U.S. all races by sex. Table 16 shows the five leading cancers by IHS Area and sex. The remaining tables display the number of deaths and rates associated with each cancer site by IHS Area and sex.

Age-specific rates and rates adjusted to the 1940 U.S. population are not included in this publication, but may be obtained by contacting the:

Epidemiology
Division of Community and Environmental Health
Indian Health Service
5300 Homestead Road NE
Albuquerque, NM 87110
Phone: (505) 248-4132
FAX: (505) 248-4393
E-mail: rpaisano@smtp.ihs.gov



Age-Adjusted Cancer Mortality Rates, All Sites, By IHS Area, Both Sexes, 1989-1993



Rate per 100,000 per year, adjusted to 1970 U.S. population

§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 2

The 1989 to 1993 ag
adjusted cancer mo
rate for both sexes,
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per 100,000 over th
IHS service popula
Without the 3 IHS A
with apparent prob
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Both of these rates
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rate for both sexes

Of the IHS Areas, c
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the US rate. The Al
que, California, Na
Navajo, Oklahoma
Portland, and Tuc
Areas had rates si
lower than the US
both sexes.

Total Number of Deaths and Age-Adjusted Cancer Mortality Rates, All Cancer Sites, By IHS Area, 1989-1993

	Both Sexes		Males		Females	
	N	Rate	N	Rate	N	Rate
US. All Races		172.8		219.6		141.5
All IHS Areas	4843	127.3 **	2432	146.5 **	2411	113.2 **
IHS (9 Areas) §	3043	148.2 **	1535	167.2 **	1508	133.1
Aberdeen	465	223.3 **	233	258.8	232	196.6
Alaska	486	201.1	246	218.6	240	187.0
Albuquerque	228	115.4 **	121	134.4 **	107	100.0
Bemidji	386	213.6	211	255.4	175	178.1
Billings	260	209.7	143	261.4	117	168.9
California §	234	70.3 **	116	80.1 **	118	63.2 **
Nashville	239	133.3 **	126	164.6	113	110.9
Navajo	575	106.6 **	267	110.2 **	308	103.8 **
Oklahoma §	1075	101.0 **	547	124.5 **	528	86.7 **
Phoenix	324	101.1 **	157	108.1 **	167	95.4 **
Portland §	491	140.7 **	234	150.1 **	257	133.8
Tucson	80	112.8 **	31	97.0 **	49	126.2

§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

** Denotes a rate significantly different from the US rate.

Table 3

Table 3 lists the t
number of deaths
all cancers from
1993 in addition t
mortality rate by
for both sexes cc
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Mortality rates ar
lated per 100,000
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1970 US populati
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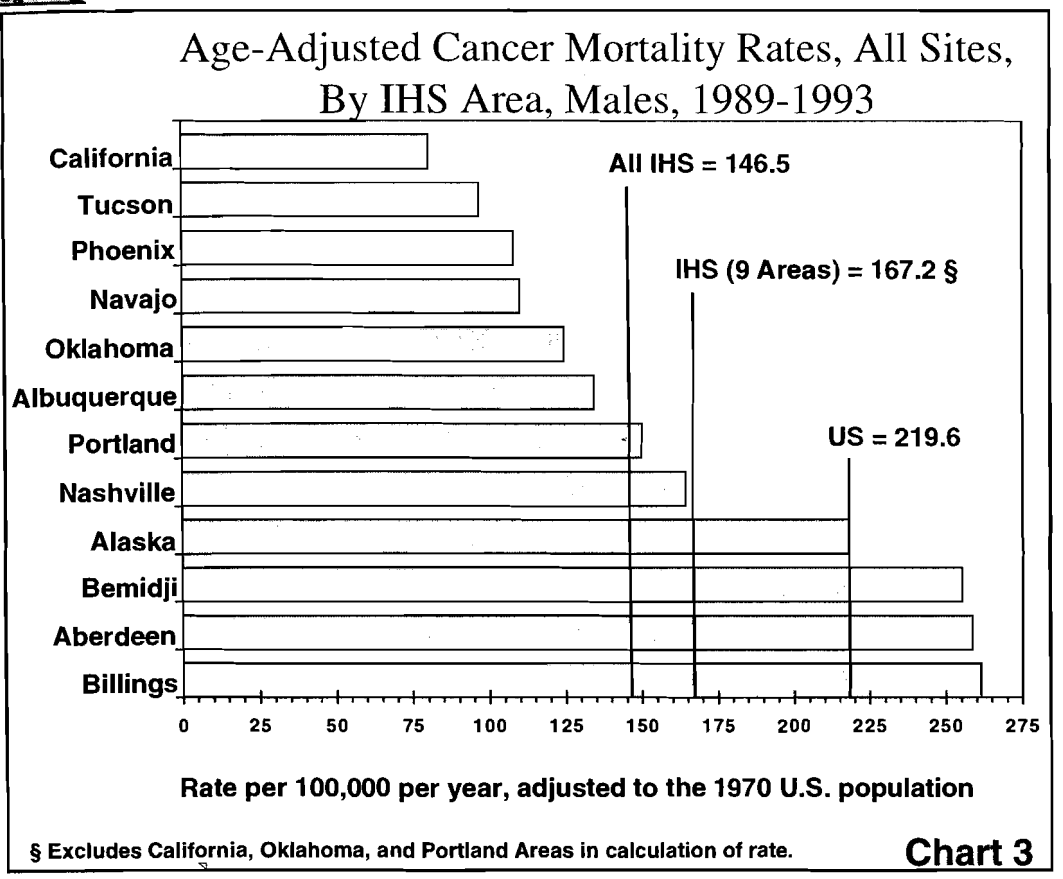
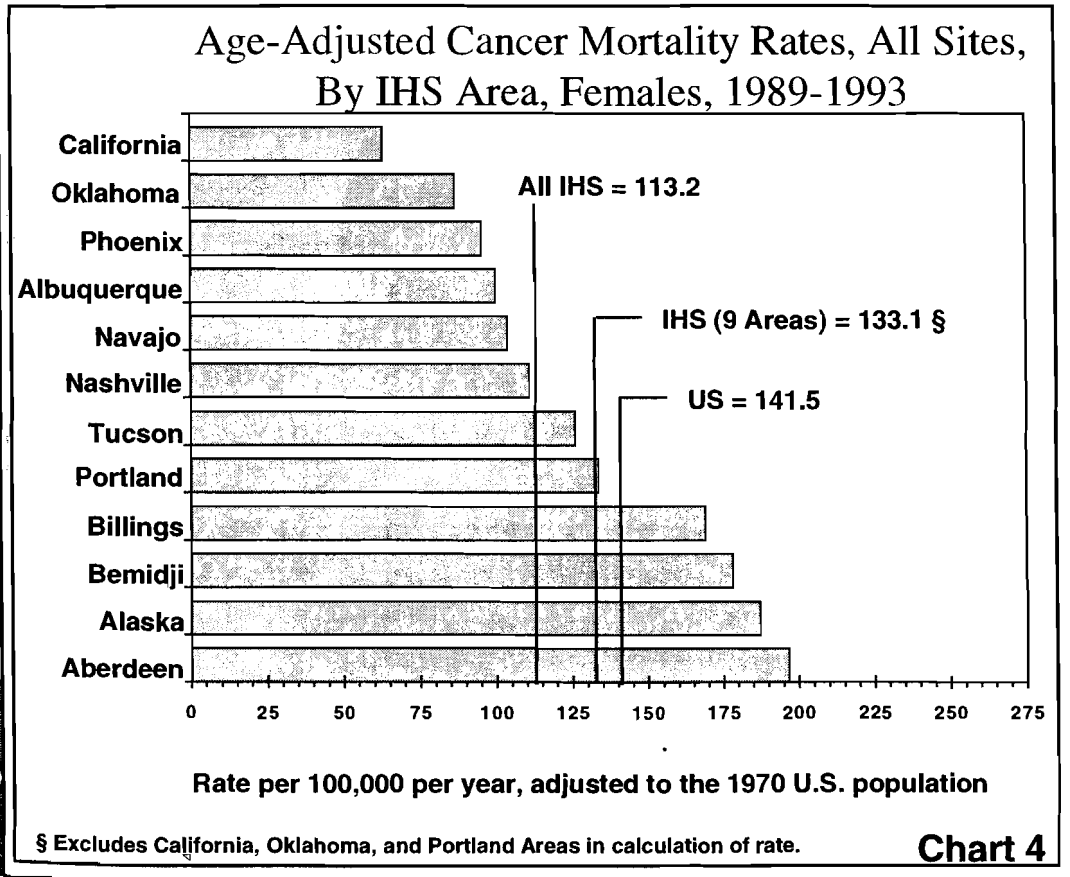


The 1989 to 1993 male age-adjusted cancer mortality rate for all cancers is 146.5/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 167.2/100,000. Both of these rates are significantly lower than the US rate for males.

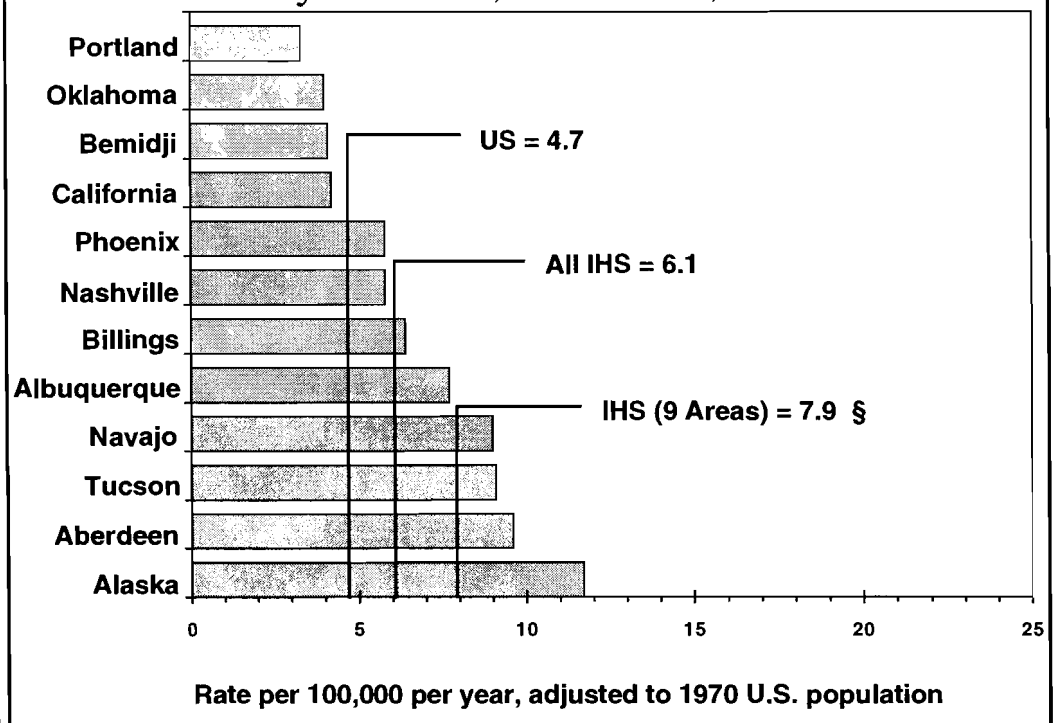
Seven IHS Areas (Albuquerque, California, Navajo, Oklahoma, Phoenix, Portland, & Tucson) had cancer mortality rates for males that are significantly lower than the US rate.



The 1989 to 1993 female age-adjusted cancer mortality rate for all cancers is 113.2/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 133.1/100,000. The All IHS rate is significantly lower than the US rate.

Four IHS Areas (California, Navajo, Oklahoma, and Phoenix) had rates for females that are significantly lower than the US rate.

Age-Adjusted Stomach Cancer Mortality Rates, By IHS Area, Both Sexes, 1989-1993



§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 5

The 1989 to 1993 age-adjusted cancer mortality rate for both sexes, pertaining to stomach cancer, is 6.1 per 100,000 over the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 7.9 per 100,000. The IHS (9 Areas) rate is significant higher than the US rate for both sexes.

None of the IHS Areas had rate that was significantly different from the US rate f both sexes.

Total Number of Deaths and Age-Adjusted Stomach Cancer Mortality Rates, By IHS Area, 1989-1993

	Both Sexes		Males		Females	
	N	Rate	N	Rate	N	Rate
US. All Races		4.7		6.8		3.1
All IHS Areas	235	6.1	142	8.3	93	4.3
IHS (9 Areas) §	167	7.9 **	100	10.5	67	5.8
Aberdeen	21	9.6	10	10.4	11	9.0
Alaska	31	11.7	23	18.9	8	5.2
Albuquerque	14	7.7	7	8.9	7	6.7
Bemidji	7	4.1	6	7.7	1	1.1
Billings	8	6.4	4	6.8	4	6.1
California §	13	4.2	8	5.6	5	3.0
Nashville	11	5.8	6	7.2	5	4.9
Navajo	49	9.0	29	12.0	20	6.4
Oklahoma §	43	4.0	26	6.1	17	2.6
Phoenix	20	5.8	12	6.7	8	4.9
Portland §	12	3.3	8	4.6	4	2.2
Tucson	6	9.1	3	10.5	3	8.1

§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

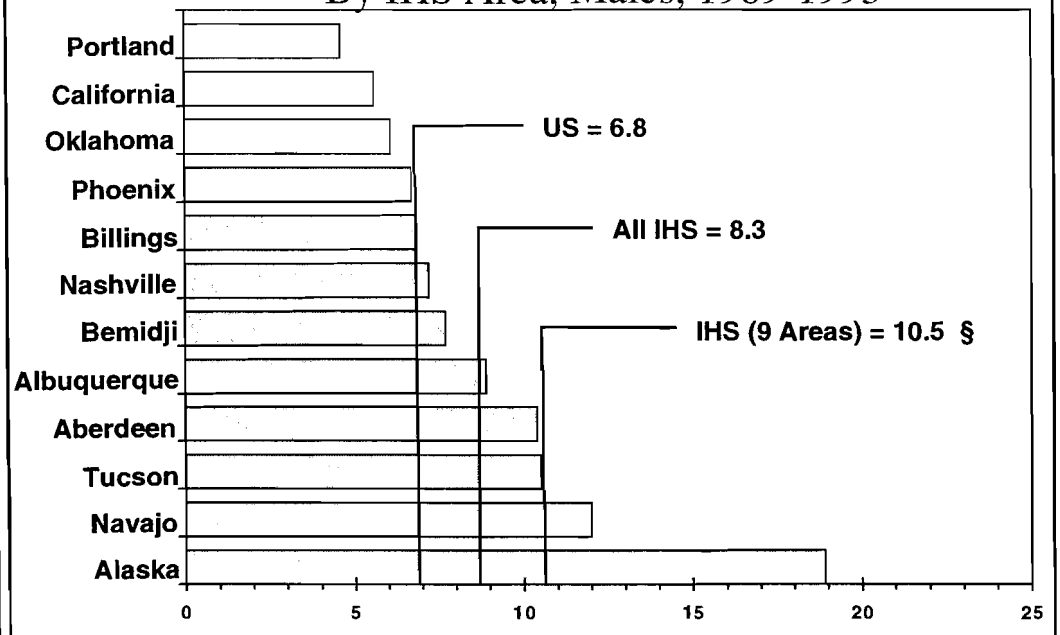
** Denotes a rate significantly different from the US rate.

Table 4

Table 4 lists the total number of deaths due to stomach cancer from 1989 to 1993 in addition to the mortality rate by IHS Area for both sexes combined, males, and females.

Mortality rates are calculated per 100,000 per year and are age-adjusted to th 1970 US population. Rates based on small numbers o deaths should be interpreted with caution.

Age-Adjusted Stomach Cancer Mortality Rates, By IHS Area, Males, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

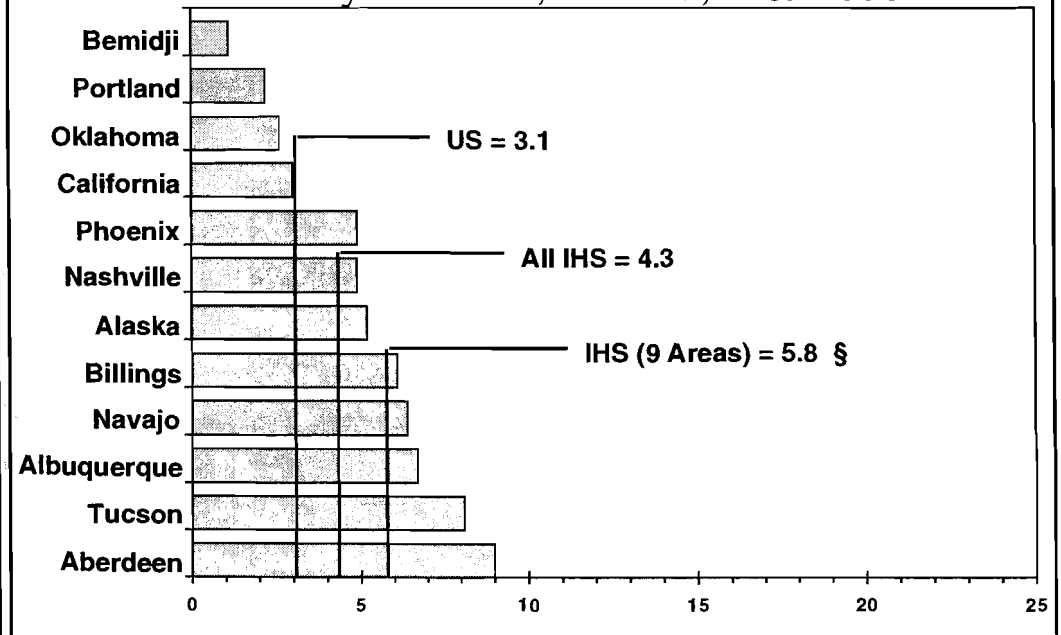
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 6

The 1989 to 1993 male age-adjusted cancer mortality rate for stomach is 8.3/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 10.5/100,000.

No IHS Area had a rate that was significantly higher or, lower than the US rate.

Age-Adjusted Stomach Cancer Mortality Rates, By IHS Area, Females, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

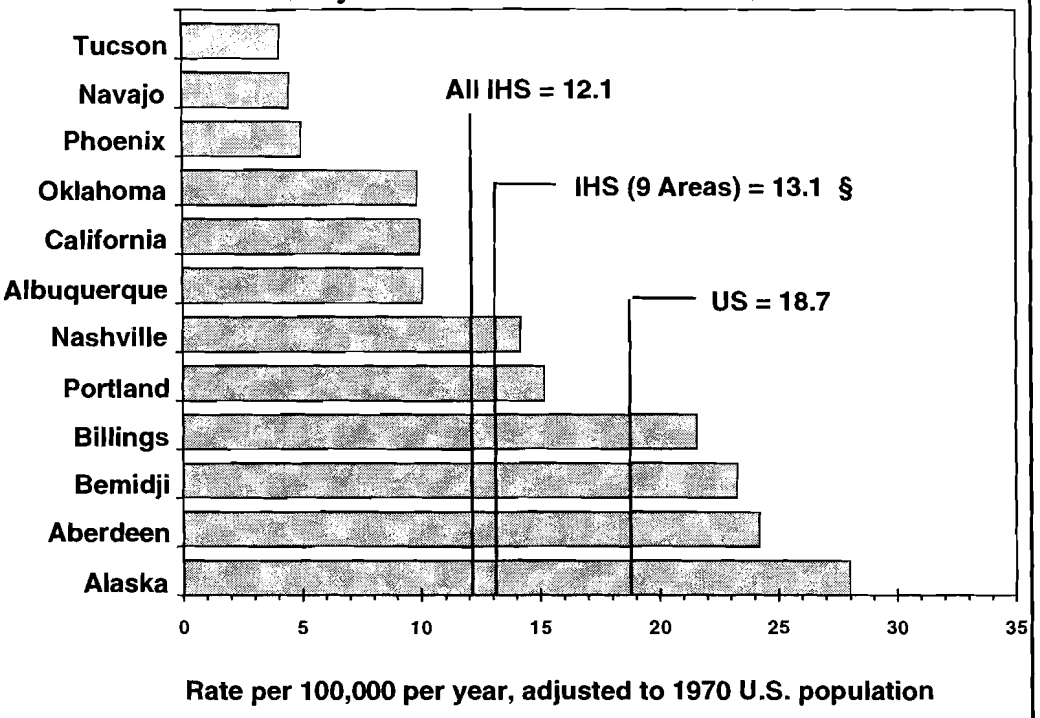
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 7

The 1989 to 1993 female age-adjusted cancer mortality rate for stomach is 4.3/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 5.8/100,000.

No IHS Area had a rate that was significantly higher or lower than the US rate.

Age-Adjusted Colon/Rectum Cancer Mortality Rates, By IHS Area, Both Sexes, 1989-1993



§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 8

The 1989 to 1993 age-adjusted cancer mortality rate for both sexes, pertaining to colorectal cancer, i 12.1 per 100,000 over the entire IHS service popula tion. Without the 3 IHS Areas with apparent problems in underreporting Indian race on death certi cates, the rate is 13.1 per 100,000. Both rates are significantly lower than t US rate for both sexes.

Five IHS Areas (Californi Navajo, Oklahoma, Phoe and Tucson) had rates significantly lower than t US rate for both sexes.

Total Number of Deaths and Age-Adjusted Cancer Mortality Rates, Colon/Rectum, By IHS Area, 1989-1993

	Both Sexes			Males			Females		
	N	Rate		N	Rate		N	Rate	
US. All Races		18.7			23.1			15.6	
All IHS Areas	451	12.1	**	217	13.2	**	234	11.2	**
IHS (9 Areas) §	263	13.1	**	133	14.5	**	130	11.9	
Aberdeen	49	24.2		25	27.5		24	21.3	
Alaska	59	25.8		30	27.0		29	24.3	
Albuquerque	19	10.1		13	15.8		6	5.5	**
Bemidji	41	23.3		20	23.7		21	22.1	
Billings	27	21.6		13	22.8		14	20.4	
California §	32	10.0	**	16	11.7		16	8.8	
Nashville	25	14.2		13	16.4		12	12.3	
Navajo	25	4.5	**	8	3.2	**	17	5.6	**
Oklahoma §	105	9.9	**	48	10.9	**	57	9.4	**
Phoenix	15	5.0	**	10	7.4	**	5	3.1	**
Portland §	51	15.2		20	13.8		31	16.4	
Tucson	3	4.1	**	1	3.1	**	2	4.9	

§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

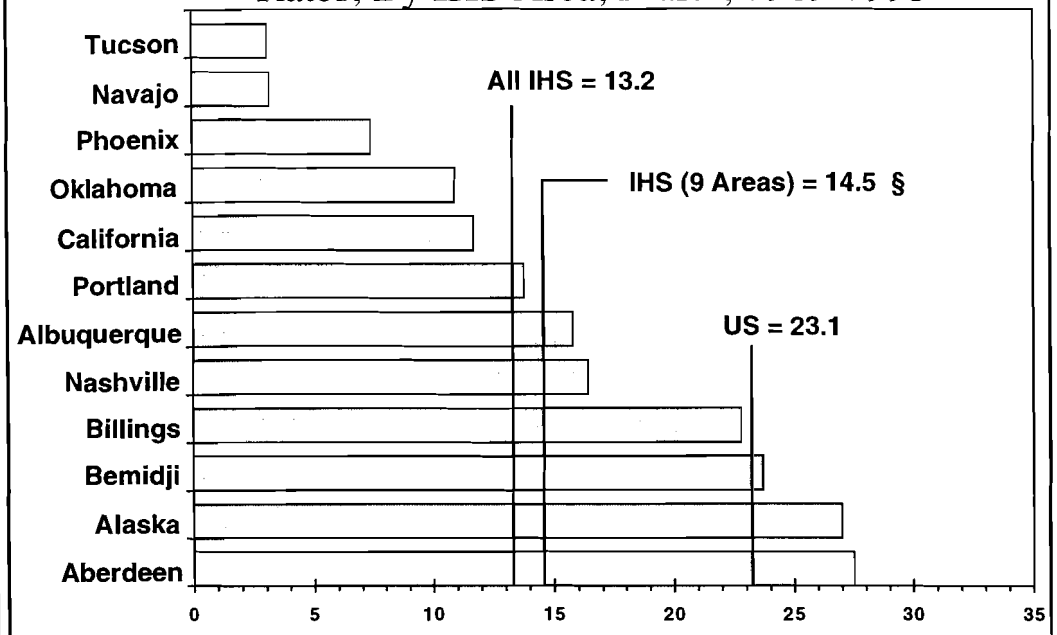
** Denotes a rate significantly different from the US rate.

Table 5

Table 5 lists the total nu ber of deaths due to all cancers from 1989 to 19 in addition to the mortal rate by IHS Area for bot sexes combined, males, and females.

Mortality rates are calcu lated per 100,000 per ye and are age-adjusted to the 1970 US population. Rates based on small numbers of deaths sho be interpreted with caut

Age-Adjusted Colon/Rectum Cancer Mortality Rates, By IHS Area, Males, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

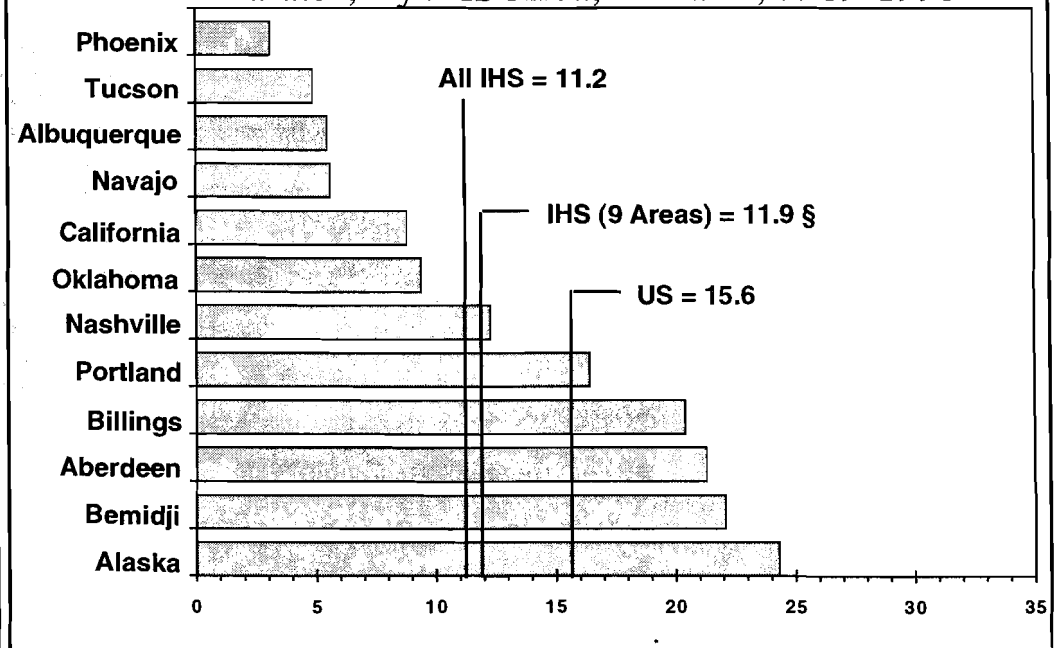
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 9

The 1989 to 1993 male age-adjusted cancer mortality rate for colorectal cancer is 13.2/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 14.5/100,000. Both of these rates are significantly lower than the US rate for males.

Four IHS Areas (Navajo, Oklahoma, Phoenix, & Tucson) had cancer mortality rates for males that are significantly lower than the US rate.

Age-Adjusted Colon/Rectum Cancer Mortality Rates, By IHS Area, Females, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

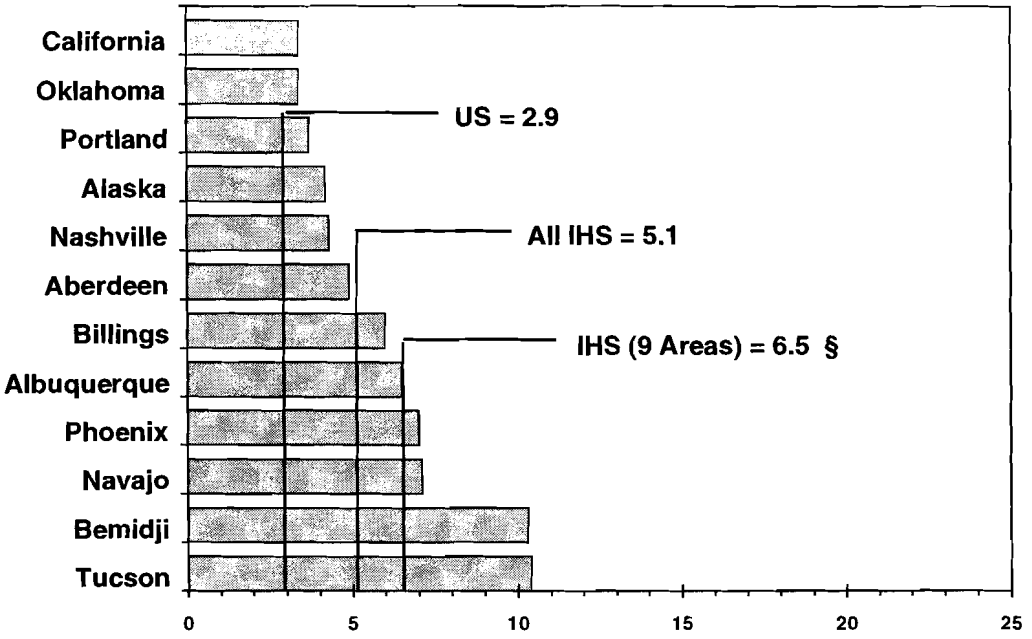
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 10

The 1989 to 1993 female age-adjusted cancer mortality rate for colorectal cancer is 11.2/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 11.9/100,000. The All IHS rate is significantly lower than the US rate.

Four IHS Areas (Albuquerque, Navajo, Oklahoma, & Phoenix) had rates for females that are significantly lower than the US rate.

Age-Adjusted Liver & Intrahepatic Ducts Cancer Mortality Rates, By IHS Area, Both Sexes, 1989-1993



Rate per 100,000 per year, adjusted to 1970 U.S. population

§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 11

The 1989 to 1993 age-adjusted cancer mortality rate for both sexes, pertaining to liver & intra hepatic duct cancer, is 5. per 100,000 for the entire IHS service population. Without the 3 IHS Areas with apparent problems i underreporting of Indian race on death certificate the rate is 6.5 per 100,00 Both rates are signifi-cantly higher than the U rate for both sexes.

No IHS Areas had rates significantly higher or lower than the US rate fc both sexes.

Total Number of Deaths and Age-Adjusted Cancer Mortality Rates, Liver & Intrahepatic Duct, By IHS Area, 1989-1993

	Both Sexes			Males			Females	
	N	Rate		N	Rate		N	Rate
US. All Races		2.9			4.2			1.9
All IHS Areas	190	5.1	**	112	7.0		78	3.7
IHS (9 Areas) §	131	6.5	**	80	9.0	**	51	4.5
Aberdeen	10	4.9		5	5.9		5	4.1
Alaska	12	4.2		8	5.5		4	3.0
Albuquerque	12	6.5		10	12.0		2	1.9
Bemidji	18	10.3		13	16.3		5	5.5
Billings	7	6.0		5	9.4		2	3.2
California §	11	3.4		5	3.6		6	3.3
Nashville	8	4.3		5	6.2		3	2.7
Navajo	37	7.1		21	9.3		16	5.3
Oklahoma §	36	3.4		21	4.9		15	2.5
Phoenix	20	7.0		10	7.9		10	6.2
Portland §	12	3.7		6	3.6		6	3.6
Tucson	7	10.4		3	9.8		4	10.8

§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

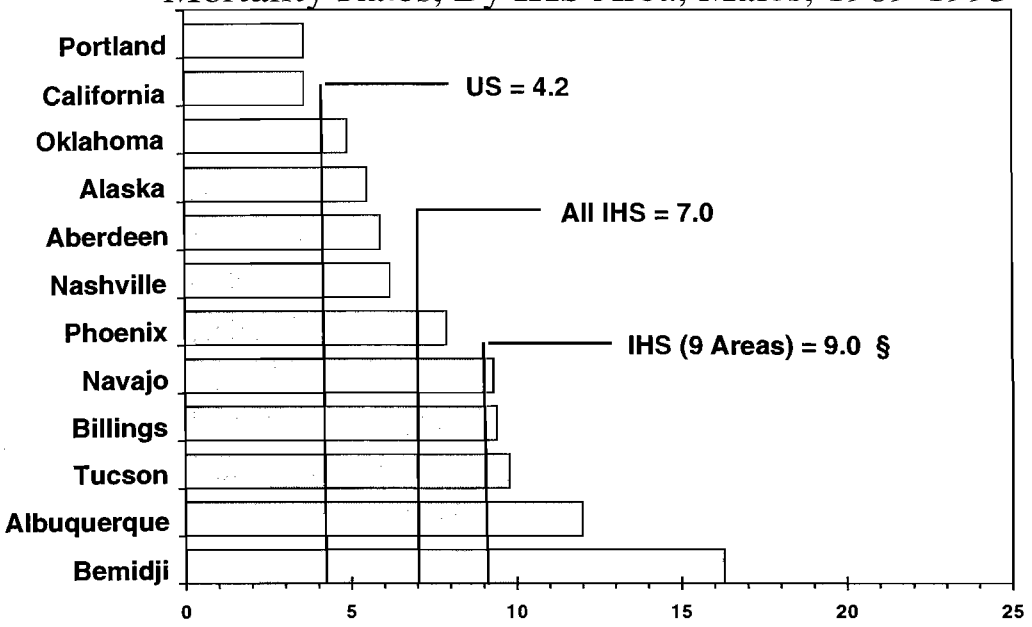
** Denotes a rate significantly different from the US rate.

Table 6

Table 6 lists the total number of deaths due t all cancers from 1989 tc 1993 in addition to the mortality rate by IHS Ar for both sexes combine males, and females.

Mortality rates are calc lated per 100,000 per ye and are age-adjusted tc the 1970 US population Rates based on small numbers of deaths sho be interpreted with caution.

Age-Adjusted Liver & Intrahepatic Ducts Cancer Mortality Rates, By IHS Area, Males, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

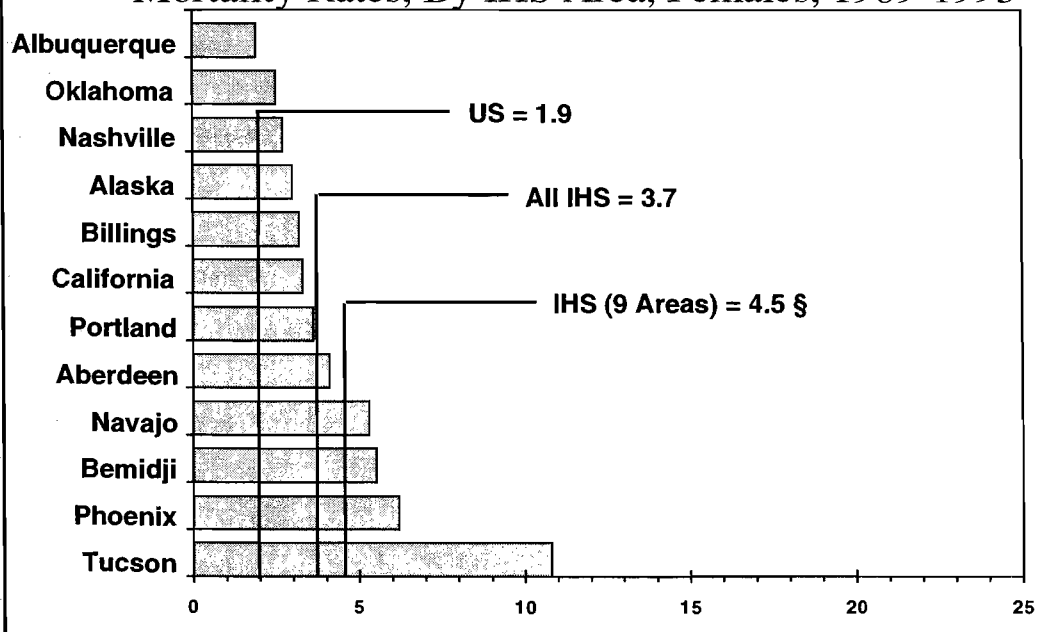
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 12

The 1989 to 1993 male age-adjusted cancer mortality rate for liver & intrahepatic duct cancer is 7.0/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 9.0/100,000. The IHS (9 Areas) rate is significantly higher than the US rate for males.

No IHS Areas had cancer mortality rates for males that are significantly higher or lower than the US rate.

Age-Adjusted Liver & Intrahepatic Ducts Cancer Mortality Rates, By IHS Area, Females, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

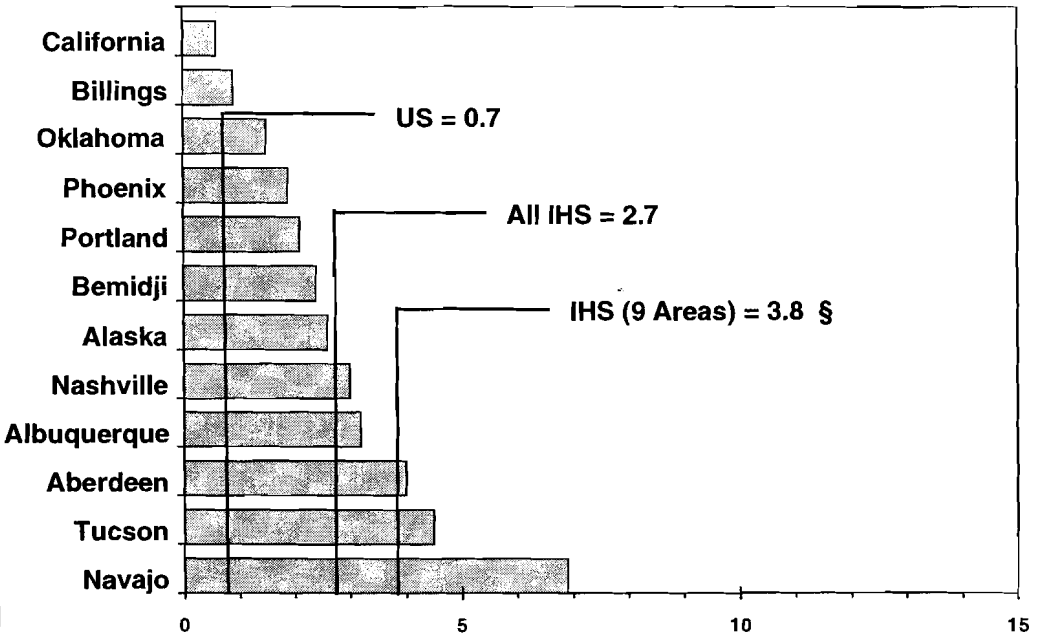
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 13

The 1989 to 1993 female age-adjusted cancer mortality rate for liver & intrahepatic duct cancer is 3.7/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 4.5/100,000.

No IHS Areas had rates for females that are significantly higher or lower than the US rate.

Age-Adjusted Gallbladder Cancer Mortality Rates, By IHS Area, Both Sexes, 1989-1993



Rate per 100,000 per year, adjusted to 1970 U.S. population

§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 14

The 1989 to 1993 age-adjusted cancer mort rate for both sexes, pertaining to gallblad cancer, is 2.7 per 100, over the entire IHS se population. Excludin 3 IHS Areas with appa problems in underrep ing of Indian race on certificates, the rate i per 100,000. Both of rates are significantly higher than the US bo sexes rate.

The Navajo IHS Area a rate that is significa higher than the US bo sexes rate.

Total Number of Deaths and Age-Adjusted Cancer Mortality Rates, Gallbladder, By IHS Area, 1989-1993

	Both Sexes			Males			Females		
	N	Rate		N	Rate		N	Rate	
US. All Races		0.7			0.5			0.9	
All IHS Areas	97	2.7	**	26	1.7		71	3.5	**
IHS (9 Areas) §	78	3.8	**	21	2.5		52	4.8	**
Aberdeen	8	4.0		4	5.0		4	3.5	
Alaska	6	2.6		2	2.1		4	3.2	
Albuquerque	6	3.2		1	1.2		5	4.8	
Bemidji	4	2.4		3	4.1		1	1.1	
Billings	1	0.9		1	2.0		0	0.0	**
California §	2	0.6		0	0.0	**	2	1.1	
Nashville	5	3.0		2	3.2		3	2.9	
Navajo	34	6.9	**	6	2.6		28	10.4	**
Oklahoma §	16	1.5		3	0.7		13	2.1	
Phoenix	6	1.9		2	1.5		4	2.2	
Portland §	6	2.1		2	1.6		4	2.4	
Tucson	3	4.5		0	0.0	**	3	8.1	

§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

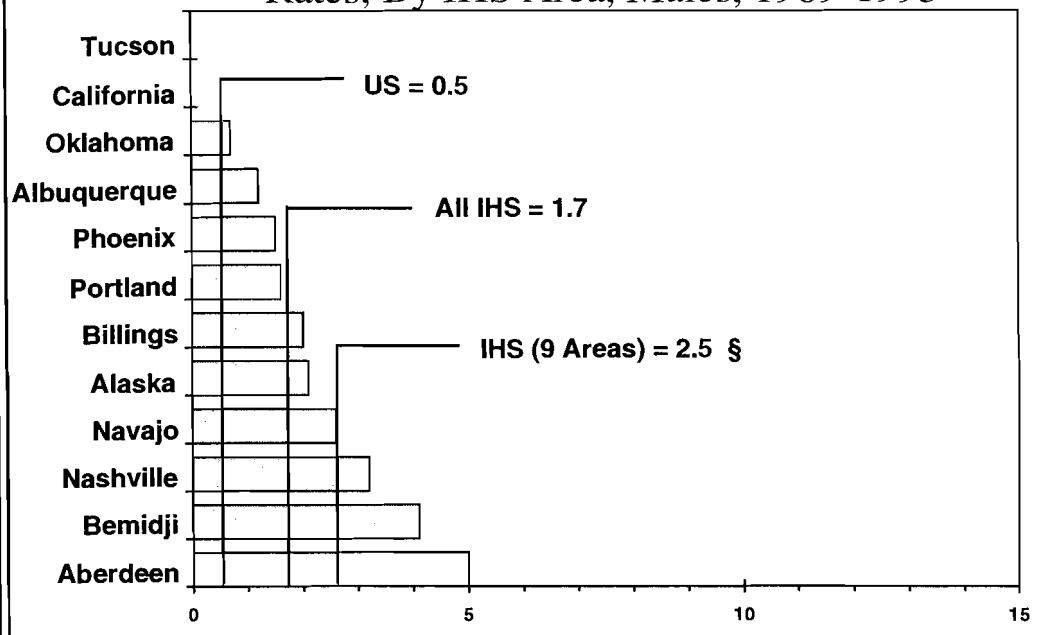
** Denotes a rate significantly different from the US rate.

Table 7

Table 7 lists the total number of deaths due cancers from 1989 to in addition to the mor rate by IHS Area for b sexes combined, mal and females.

Mortality rates are cal lated per 100,000 per and are age-adjusted the 1970 US populatic Rates based on small numbers of deaths sh be interpreted with ca

Age-Adjusted Gallbladder Cancer Mortality Rates, By IHS Area, Males, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

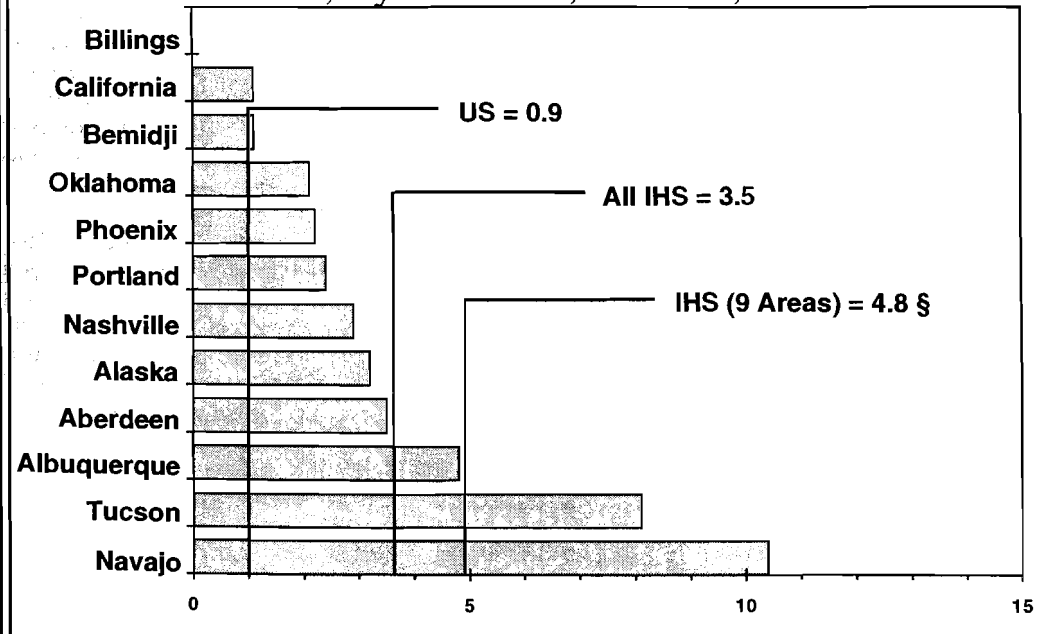
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 15

The 1989 to 1993 male age-adjusted cancer mortality rate for gallbladder cancer is 1.7/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 2.5/100,000.

Two IHS Areas (California and Tucson) had cancer mortality rates for males that are significantly lower than the US rate.

Age-Adjusted Gallbladder Cancer Mortality Rates, By IHS Area, Females, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

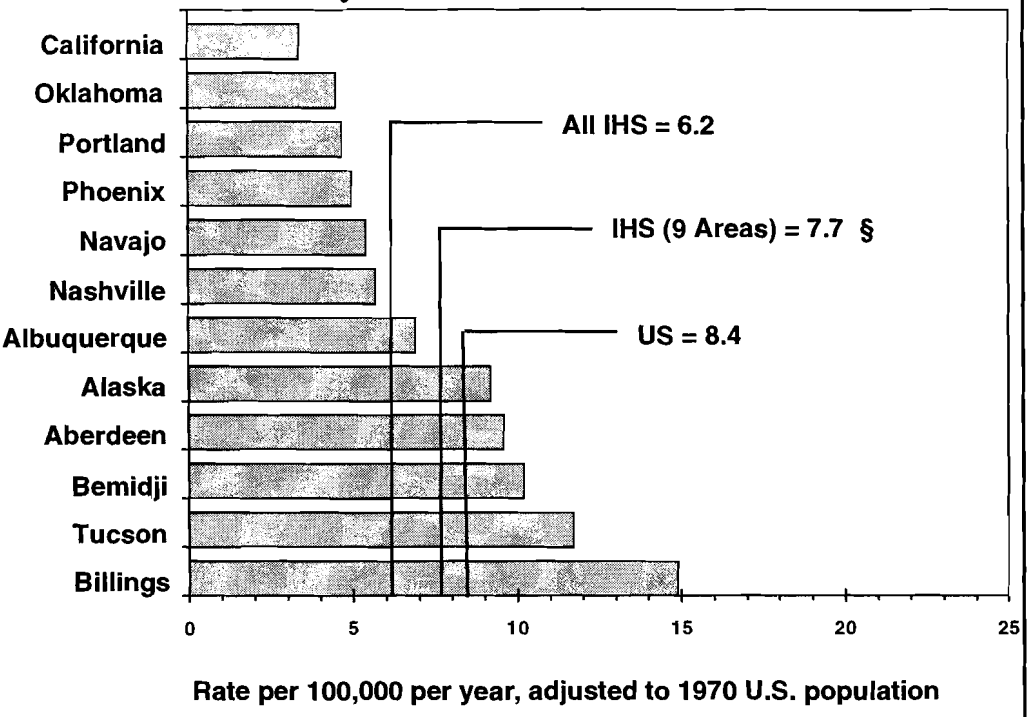
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 16

The 1989 to 1993 female age-adjusted cancer mortality rate for gallbladder cancer is 3.5/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 4.8/100,000. Both of these rates are significantly higher than the US rate for females.

The Navajo IHS Area had a rate for females that is significantly higher than the US rate. Conversely, the Billings IHS Area had a rate for females that is significantly lower than the US rate.

Age-Adjusted Pancreas Cancer Mortality Rates, By IHS Area, Both Sexes, 1989-1993



§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 17

The 1989 to 1993 age-adjusted cancer mortality rate for both sexes, pertaining to pancreatic cancer, is 6.2 per 100,000 over the entire IHS servic population. Without the 3 IHS Areas with apparent problems in underreporti of Indian race on death certificates, the rate is 7.7 per 100,000. The All IHS rate is significantly lower than the rate for US both sexes.

Two IHS Areas (Californi and Navajo) had a rate th is significantly lower thar the US both sexes rate.

Total Number of Deaths and Age-Adjusted Cancer Mortality Rates, Pancreas, By IHS Area, 1989-1993

	Both Sexes			Males			Females	
	N	Rate		N	Rate		N	Rate
US. All Races		8.4			10.0			7.2
All IHS Areas	226	6.2	**	92	5.7	**	134	6.5
IHS (9 Areas) §	150	7.7		65	7.3		85	7.9
Aberdeen	19	9.6		14	16.6		5	4.5
Alaska	21	9.2		5	5.3		16	12.9
Albuquerque	13	6.9		4	5.0		9	8.3
Bemidji	18	10.2		6	7.2		12	12.5
Billings	18	14.9		10	18.4		8	11.7
California §	11	3.4	**	4	2.6	**	7	4.1
Nashville	10	5.7		5	6.8		5	4.7
Navajo	27	5.4	**	12	5.2		15	5.6
Oklahoma §	49	4.5		18	4.2	**	31	4.9
Phoenix	16	5.0		5	2.5	**	11	7.0
Portland §	16	4.7		5	2.9	**	11	6.0
Tucson	8	11.7		4	12.4		4	10.7

§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

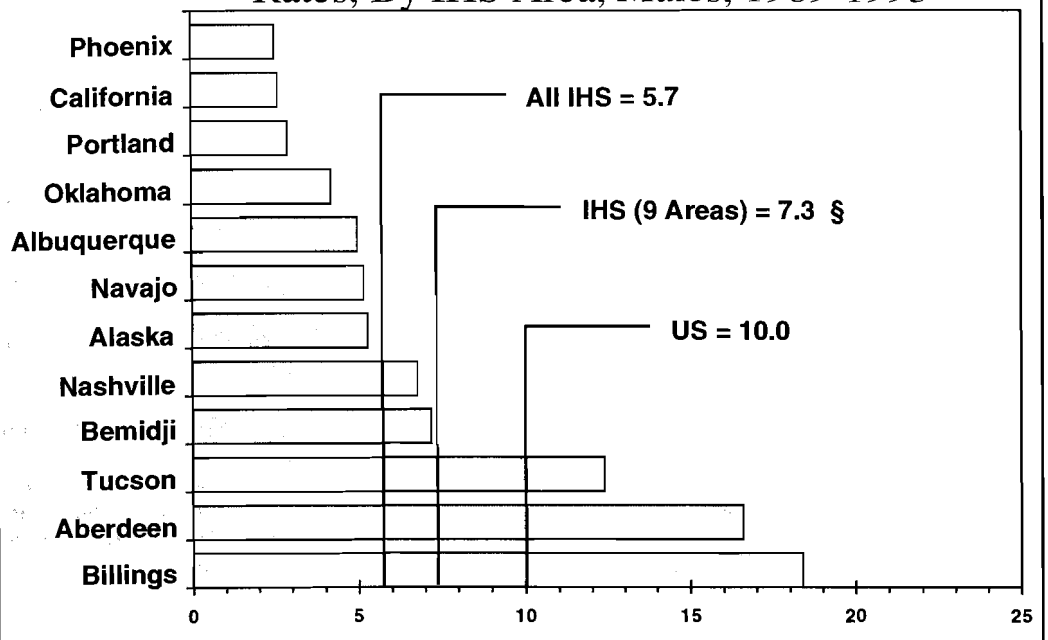
** Denotes a rate significantly different from the US rate.

Table 8

Table 8 lists the total number of deaths due to all cancers from 1989 to 1993 in addition to the mortality rate by IHS Are for both sexes combined males, and females.

Mortality rates are calculated per 100,000 per yea and are age-adjusted to 1 1970 US population. Rat based on small numbers deaths should be inter-preted with caution.

Age-Adjusted Pancreas Cancer Mortality Rates, By IHS Area, Males, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

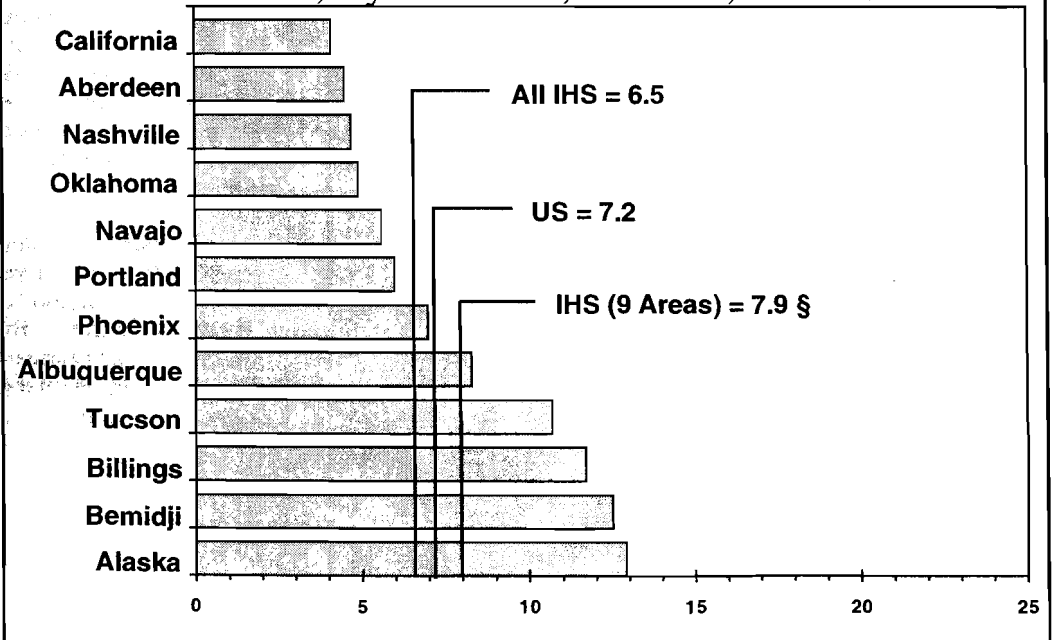
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 18

The 1989 to 1993 male age-adjusted cancer mortality rate for pancreatic cancer is 5.7/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 7.3/100,000. The All IHS rate is significantly lower than the U.S. rate for males.

Four IHS Areas (California, Oklahoma, Phoenix, and Portland) had cancer mortality rates for males that are significantly lower than the US rate.

Age-Adjusted Pancreas Cancer Mortality Rates, By IHS Area, Females, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

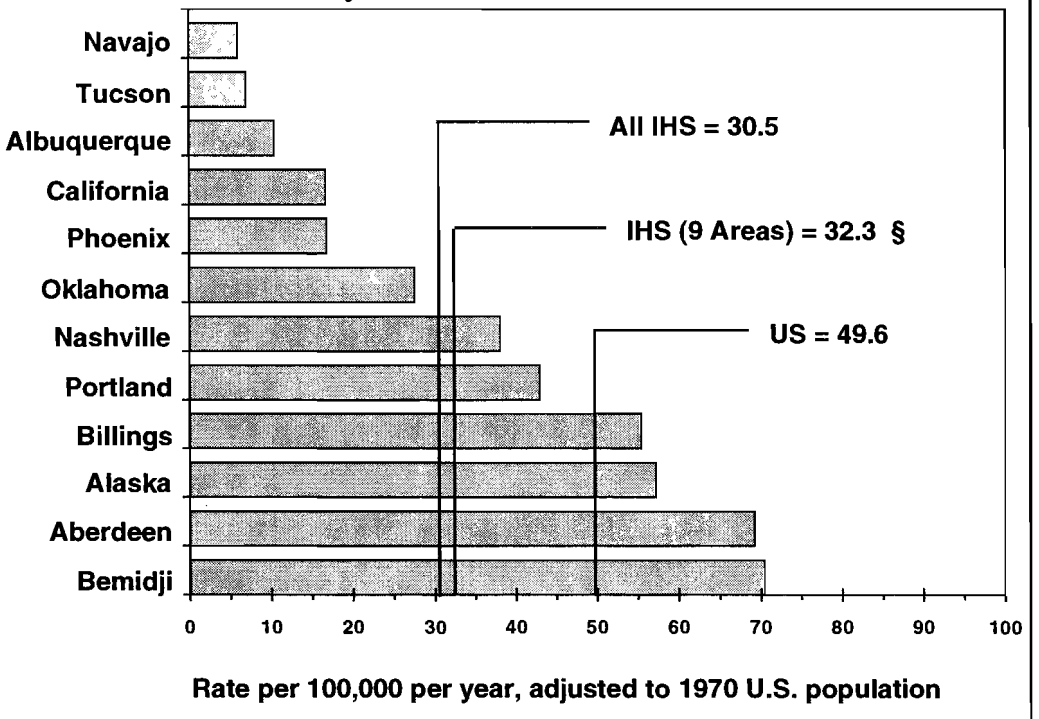
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 19

The 1989 to 1993 female age-adjusted cancer mortality rate for pancreatic cancer is 6.5/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 7.9/100,000.

None of the IHS Areas had a rate that was significantly different from the US rate for females.

Age-Adjusted Lung Cancer Mortality Rates, By IHS Area, Both Sexes, 1989-1993



§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 20

The 1989 to 1993 age-adjusted cancer mortalit rate for both sexes, pertaining to lung cancer, i 30.5 per 100,000 over th entire IHS service popul tion. Without the 3 IHS Areas with apparent pro blems in underreporting Indian race on death cer cates, the rate is 32.3 pe 100,000. Both rates are significantly lower than the US rate for both sex

Six IHS Areas (Albuquer que, California, Navajo, Oklahoma, Phoenix, and Tucson) had a rate that i significantly lower than US both sexes rate.

Total Number of Deaths and Age-Adjusted Cancer Mortality Rates, Lung, By IHS Area, 1989-1993

	Both Sexes			Males			Females		
	N	Rate		N	Rate		N	Rate	
US. All Races		49.6			74.4			31.4	
All IHS Areas	1121	30.5	**	678	41.9	**	443	21.7	**
IHS (9 Areas) §	633	32.3	**	376	42.6	**	257	23.8	**
Aberdeen	140	69.2		78	88.2		62	54.6	
Alaska	130	57.2		73	70.3		57	46.5	
Albuquerque	20	10.4	**	8	9.2	**	12	11.5	**
Bemidji	126	70.4		79	95.7		47	48.7	
Billings	65	55.4		43	80.7		22	34.8	
California §	56	6.7	**	31	20.9	**	25	13.6	**
Nashville	67	38.1		40	52.3		27	27.2	
Navajo	30	6.0	**	22	9.8	**	8	2.9	**
Oklahoma §	288	27.6	**	191	43.3	**	97	16.1	**
Phoenix	50	16.8	**	31	22.9	**	19	11.7	**
Portland §	144	42.9		80	54.9		64	34.2	
Tucson	5	7.0	**	2	6.2	**	3	7.6	**

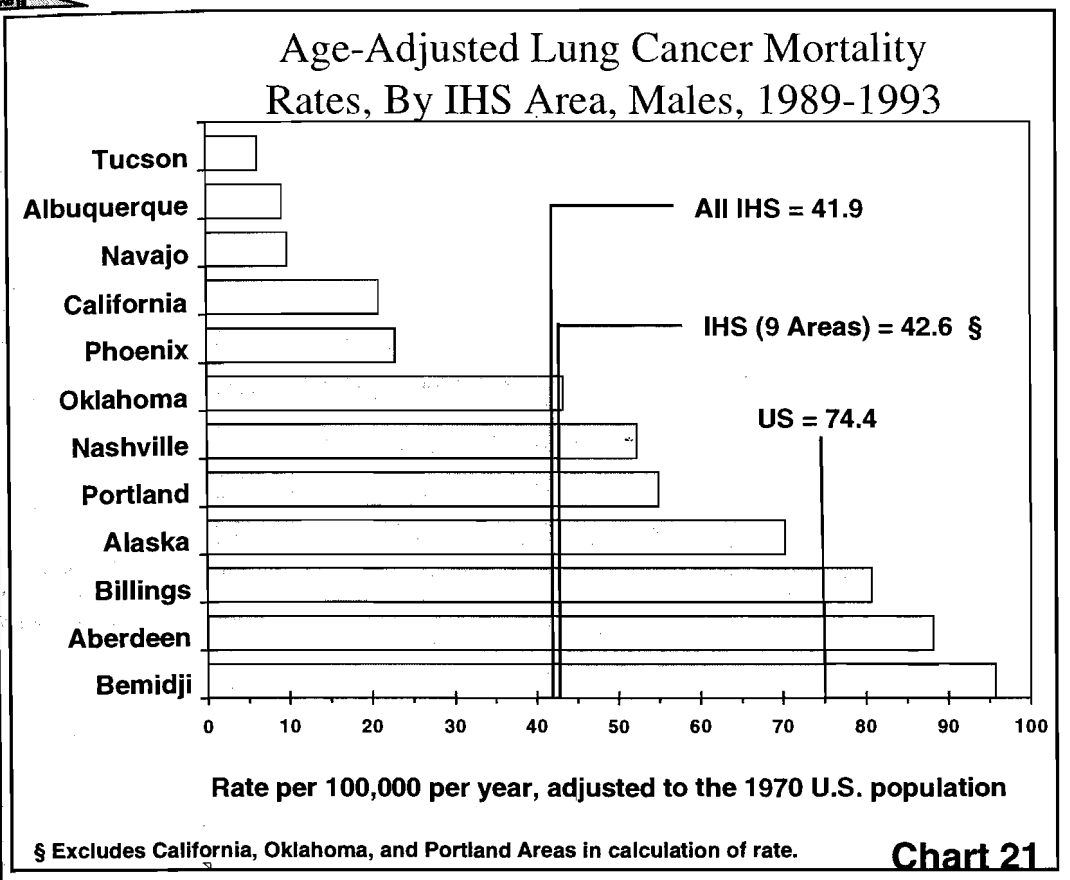
§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

** Denotes a rate significantly different from the US rate.

Table 9

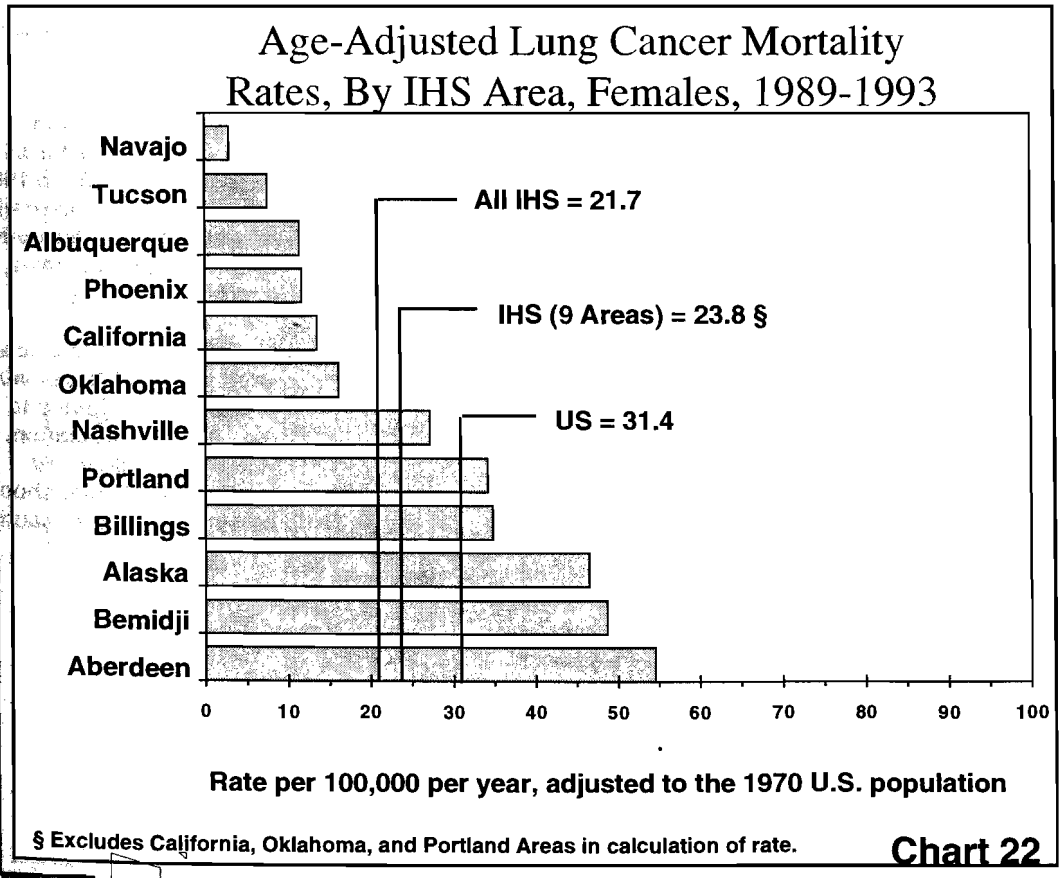
Table 9 lists the total nu ber of deaths due to all cancers from 1989 to 19 in addition to the mortal rate by IHS Area for bot sexes combined, males, and females.

Mortality rates are calcu lated per 100,000 per ye and are age-adjusted to 1970 US population. Ra based on small number deaths should be inter-preted with caution.



The 1989 to 1993 male age-adjusted cancer mortality rate for lung cancer is 41.9/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 42.6/100,000. Both of these rates are significantly lower than the U.S. rate for males.

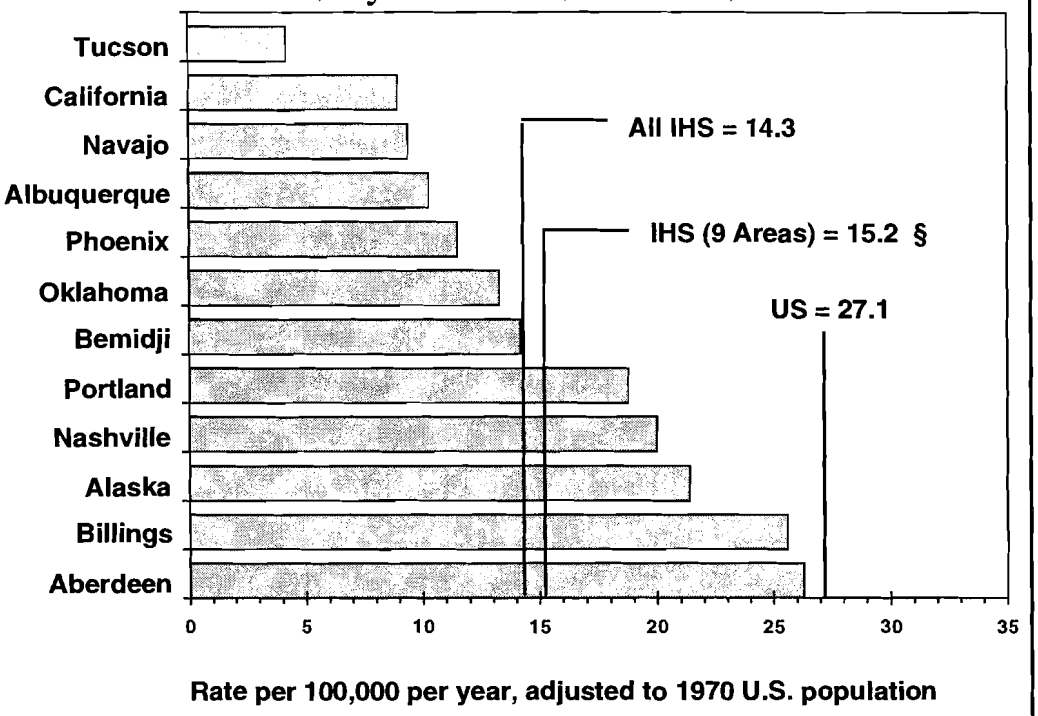
Six IHS Areas (Albuquerque California, Navajo, Oklahoma, Phoenix, and Tucson) had cancer mortality rates for males that are significantly lower than the US rate.



The 1989 to 1993 female age-adjusted cancer mortality rate for lung cancer is 21.7/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 23.8 per 100,000. Both rates are significantly lower than the US female rate.

Six IHS Areas (Albuquerque, California, Navajo, Oklahoma, Phoenix and Tucson) had a rate that is significantly lower than the US rate for females.

Age-Adjusted Breast Cancer Mortality Rates, By IHS Area, Females, 1989-1993



§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 23

The 1989 to 1993 female age-adjusted cancer mor tality rate for breast canc is 14.3 per 100,000 for the entire IHS service popula tion. Excluding the 3 IHS Areas with apparent pro- blems in underreporting Indian race on death cert ficates, the rate is 15.2 pe 100,000. Both rates are significantly lower than t US rate for females.

Six IHS Areas (Albuquer- que, California, Navajo, Oklahoma, Phoenix, and Tucson) had a rate that i significantly lower than t US for females.

Total Number of Deaths and Age-Adjusted Cancer Mortality Rates, Breast, By IHS Area, 1989-1993

	Both Sexes			Males			Females		
	N	Rate		N	Rate		N	Rate	
US. All Races		15.2			0.2			27.1	
All IHS Areas	317	7.8	**	0	0.0	**	317	14.3	**
IHS (9 Areas) §	184	8.2	**	0	0.0	**	184	15.2	**
Aberdeen	33	14.5		0	0.0	**	33	26.3	
Alaska	30	11.0		0	0.0	**	30	21.4	
Albuquerque	11	5.7	**	0	0.0	**	11	10.3	**
Bemidji	15	7.6		0	0.0	**	15	14.2	
Billings	19	13.8		0	0.0	**	19	25.6	
California §	18	5.0	**	0	0.0	**	18	9.0	**
Nashville	22	11.1		0	0.0	**	22	20.0	
Navajo	29	5.1	**	0	0.0	**	29	9.4	**
Oklahoma §	78	7.4	**	0	0.0	**	78	13.3	**
Phoenix	23	6.2	**	0	0.0	**	23	11.5	**
Portland §	37	10.3		0	0.0	**	37	18.8	
Tucson	2	2.2	**	0	0.0	**	2	4.2	**

§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

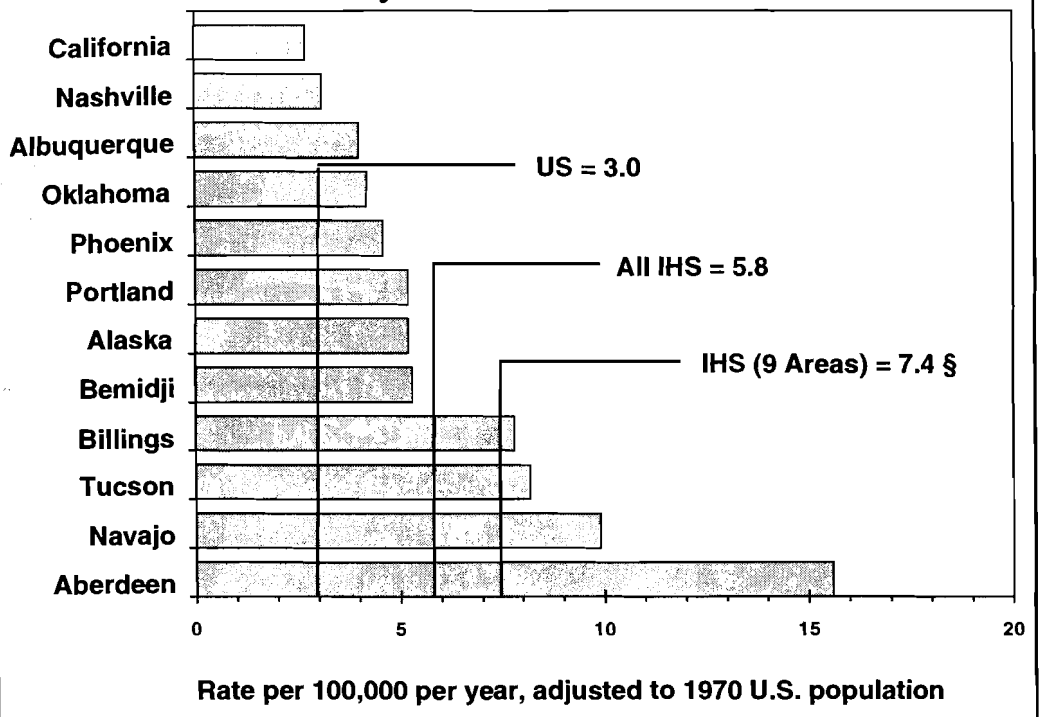
** Denotes a rate significantly different from the US rate.

Table 10

Table 10 lists the total number of deaths for all cancers from 1989 to 19 in addition to the mortal rate by IHS Area for botl sexes combined, males, and females.

Mortality rates are calcu lated per 100,000 per ye and are age-adjusted to the 1970 US population. Rates based on small numbers of deaths shot be interpreted with caut

Age-Adjusted Cervical Cancer Mortality Rates, By IHS Area, Females, 1989-1993



§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 24

The 1989 to 1993 female age-adjusted cancer mortality rate for cervical cancer is 5.8 per100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 7.4 per 100,000. Both are significantly higher than the US rate for females.

None of the IHS Areas had a rate that is significantly different than the US rate for females.

Total Number of Deaths and Age-Adjusted Cancer Mortality Rates, Cervix, By IHS Area, 1989-1993

	Both Sexes			Males			Females		
	N	Rate		N	Rate		N	Rate	
US. All Races		1.6			0.0			3.0	
All IHS Areas	132	3.2	**	0	0.0		132	5.8	**
IHS (9 Areas) §	89	4.0	**	0	0.0		89	7.4	**
Aberdeen	19	8.6		0	0.0		19	15.6	
Alaska	10	2.6		0	0.0		10	5.2	
Albuquerque	5	2.2		0	0.0		5	4.0	
Bemidji	5	2.9		0	0.0		5	5.3	
Billings	6	4.2		0	0.0		6	7.8	
California §	6	1.5		0	0.0		6	2.7	
Nashville	3	1.7		0	0.0		3	3.1	
Navajo	30	5.4		0	0.0		30	9.9	
Oklahoma §	24	2.3		0	0.0		24	4.2	
Phoenix	8	2.5		0	0.0		8	4.6	
Portland §	13	2.7		0	0.0		13	5.2	
Tucson	3	4.6		0	.0.0		3	8.2	

§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

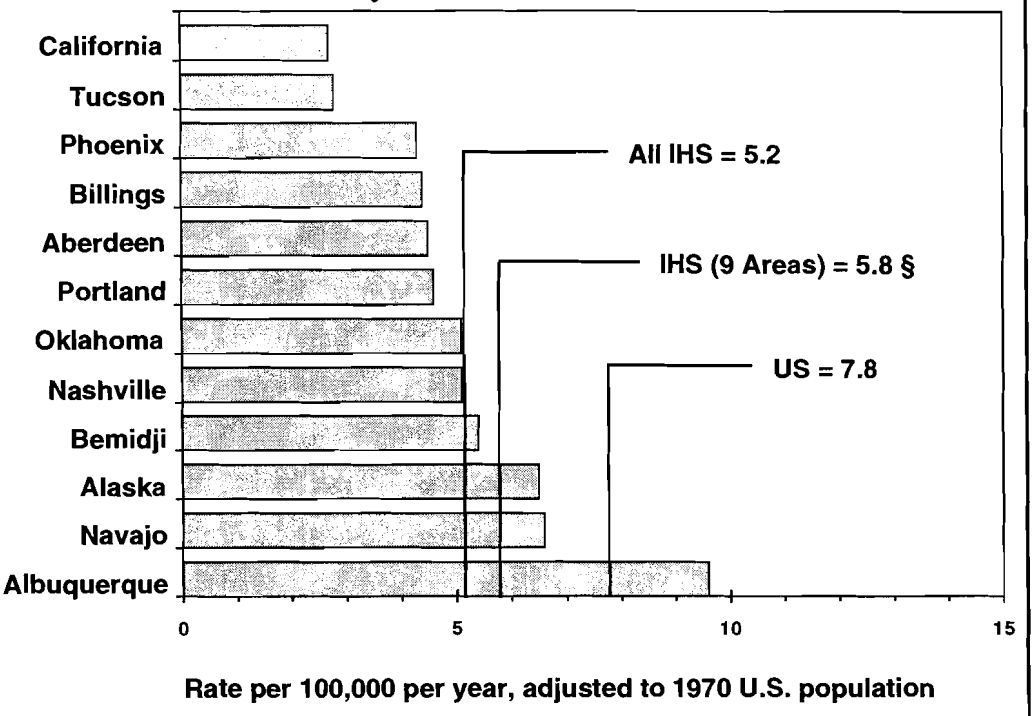
** Denotes a rate significantly different from the US rate.

Table 11

Table 11 lists the total number of deaths due to all cancers from 1989 to 1993 in addition to the mortality rate by IHS Area for both sexes combined, males, and females.

Mortality rates are calculated per 100,000 per year and are age-adjusted to the 1970 US population. Rates based on small numbers of deaths should be interpreted with caution.

Age-Adjusted Ovarian Cancer Mortality Rates, By IHS Area, Females, 1989-1993



§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 25

The 1989 to 1993 female age-adjusted cancer mortality rate for ovarian cancer is 5.2 per 100,000 for the entire IHS service population. Excluding th 3 IHS Areas with apparen problems in underreporti of Indian race on death certificates, the rate is 5.8 per 100,000. The All IHS rate is significantly lower than the US rate for females.

None of the IHS Areas ha a rate that is significantly different from the US rate for females.

Total Number of Deaths and Age-Adjusted Cancer Mortality Rates, Ovary, By IHS Area, 1989-1993

	Both Sexes			Males			Females		
	N	Rate		N	Rate		N	Rate	
US. All Races		4.4			0.0			7.8	
All IHS Areas	113	2.9	**	0	0.0		113	5.2	**
IHS (9 Areas) §	67	3.1		0	0.0		67	5.8	
Aberdeen	5	2.6		0	0.0		5	4.5	
Alaska	9	3.3		0	0.0		9	6.5	
Albuquerque	10	5.3		0	0.0		10	9.6	
Bemidji	6	2.9		0	0.0		6	5.4	
Billings	3	2.3		0	0.0		3	4.4	
California §	6	1.5		0	0.0		6	2.7	
Nashville	5	3.0		0	0.0		5	5.1	
Navajo	19	3.6		0	0.0		19	6.6	
Oklahoma §	31	2.9		0	0.0		31	5.1	
Phoenix	9	2.3		0	0.0		9	4.3	
Portland §	9	2.6		0	0.0		9	4.6	
Tucson	1	1.5		0	0.0		1	2.8	

§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

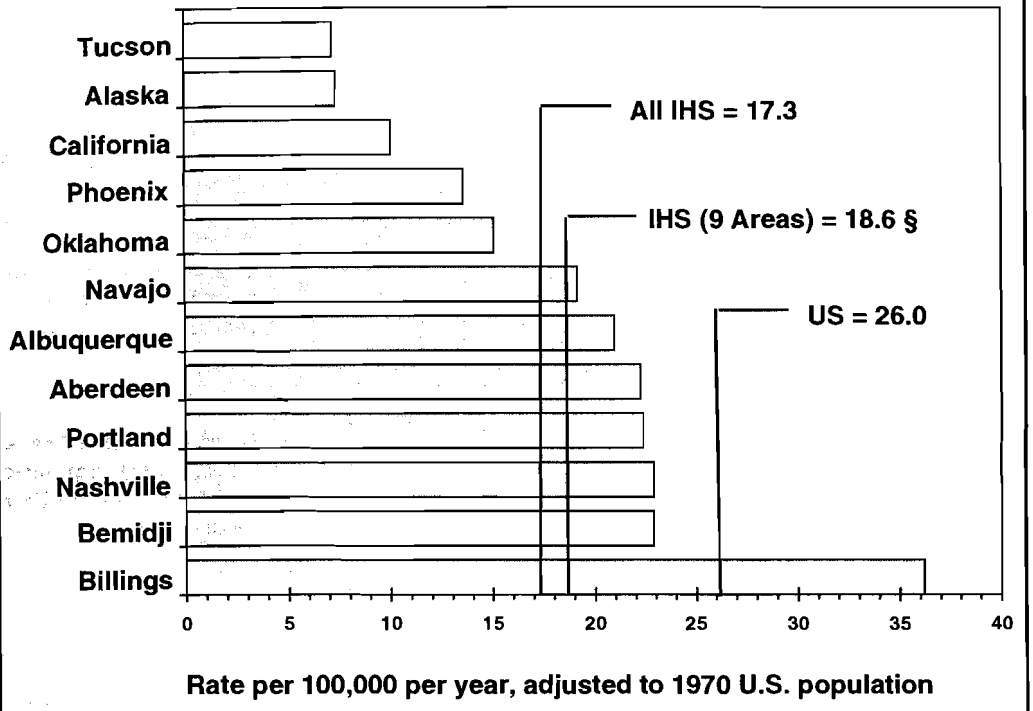
** Denotes a rate significantly different from the US rate.

Table 12

Table 12 lists the total nu ber of deaths due to all cancers from 1989 to 19 in addition to the mortali rate by IHS Area for both sexes combined, males, and females.

Mortality rates are calcu lated per 100,000 per yea and are age-adjusted to the 1970 US population. Rates based on small numbers of deaths shou be interpreted with cauti

Age-Adjusted Prostate Cancer Mortality Rates, By IHS Area, Males, 1989-1993



§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 26

The 1989 to 1993 female age-adjusted cancer mortality rate for prostate cancer is 17.3 per 100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 18.6 per 100,000. Both of these rates are significantly lower than the US rate for males.

Three of the IHS Areas (Alaska, California, and Oklahoma) had a rate that is significantly lower than the US rate for males.

Total Number of Deaths and Age-Adjusted Cancer Mortality Rates, Prostate, By IHS Area, 1989-1993

	Both Sexes			Males			Females		
	N	Rate		N	Rate		N	Rate	
US. All Races		9.9			26.0			0.0	
All IHS Areas	259	7.3	**	259	17.3	**	0	0.0	**
IHS (9 Areas) §	155	8.2		155	18.6	**	0	0.0	
Aberdeen	19	9.6		19	22.3		0	0.0	
Alaska	7	3.3	**	7	7.4	**	0	0.0	
Albuquerque	17	9.2		17	21.0		0	0.0	
Bemidji	17	10.1		17	22.9		0	0.0	
Billings	17	15.4		17	36.2		0	0.0	
California §	12	4.1	**	12	10.1	**	0	0.0	
Nashville	15	9.1		15	22.9		0	0.0	
Navajo	44	8.7		44	19.2		0	0.0	
Oklahoma §	63	5.8	**	63	15.1	**	0	0.0	
Phoenix	17	6.0	**	17	13.6		0	0.0	
Portland §	29	9.5		29	22.4		0	0.0	
Tucson	2	3.1		2	. 7.2		0	0.0	

§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

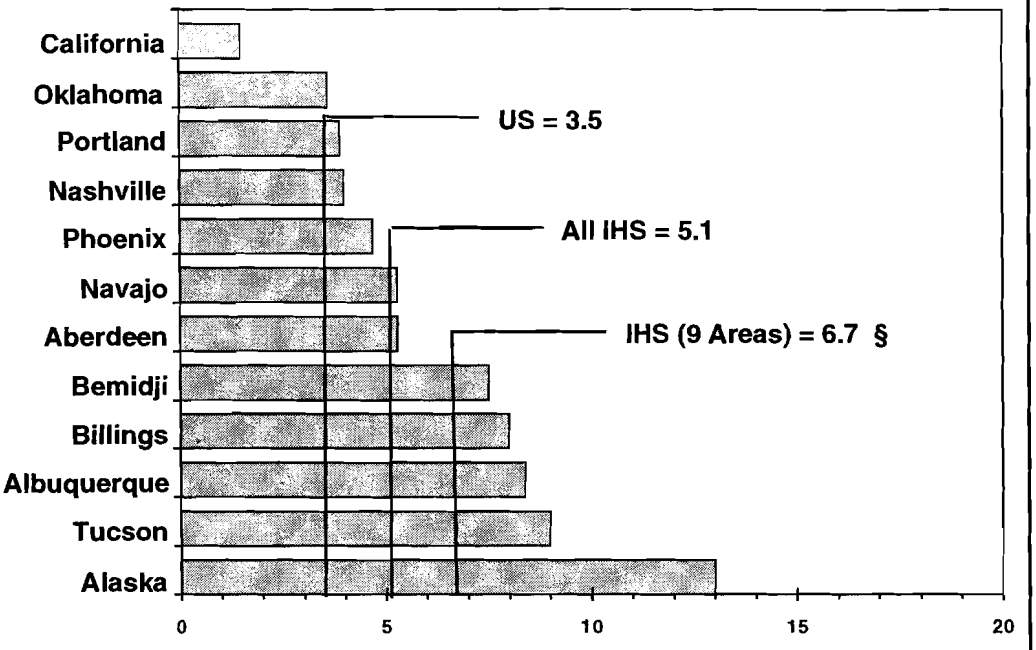
** Denotes a rate significantly different from the US rate.

Table 13

Table 13 lists the total number of deaths due to all cancers from 1989 to 1993 in addition to the mortality rate by IHS Area for both sexes combined, males, and females.

Mortality rates are calculated per 100,000 per year and are age-adjusted to the 1970 US population. Rates based on small numbers of deaths should be interpreted with caution.

Age-Adjusted Kidney & Renal Pelvis Cancer Mortality Rates, By IHS Area, Both Sexes, 1989-1993



Rate per 100,000 per year, adjusted to 1970 U.S. population

§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 27

The 1989 to 1993 age-adjusted cancer mortali rate for both sexes, per-taining to kidney & rena pelvis cancer, is 5.1 per 100,000 over the entire IHS service population. Without the 3 IHS Areas with apparent problems underreporting of India race on death certificat the rate is 6.7 per 100,0 The IHS (9 Areas) rate i significantly higher tha the US rate for both sexes.

None of the IHS Areas h a rate that is significant different from the US b sexes rate.

Total Number of Deaths and Age-Adjusted Cancer Mortality Rates, Kidney & Renal Pelvis, By IHS Area, 1989-1993

	Both Sexes			Males		Females	
	N	Rate		N	Rate	N	Rate
US. All Races		3.5			5.0		2.3
All IHS Areas	192	5.1		112	6.8	80	3.8
IHS (9 Areas) §	135	6.7	**	75	8.3	60	5.4
Aberdeen	11	5.3		6	6.1	5	4.4
Alaska	29	13.0		15	14.1	14	11.9
Albuquerque	16	8.4		8	9.1	8	7.9
Bemidji	10	7.5		7	9.2	3	6.1
Billings	14	8.0		7	11.8	7	4.5
California §	5	1.5		3	1.9	2	1.2
Nashville	7	4.0		5	6.2	2	2.1
Navajo	28	5.3		16	6.7	12	4.1
Oklahoma §	38	3.6		25	5.7	13	2.0
Phoenix	14	4.7		8	6.4	6	3.3
Portland §	14	3.9		9	5.5	5	2.8
Tucson	6	9.0		3	10.0	3	8.2

§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

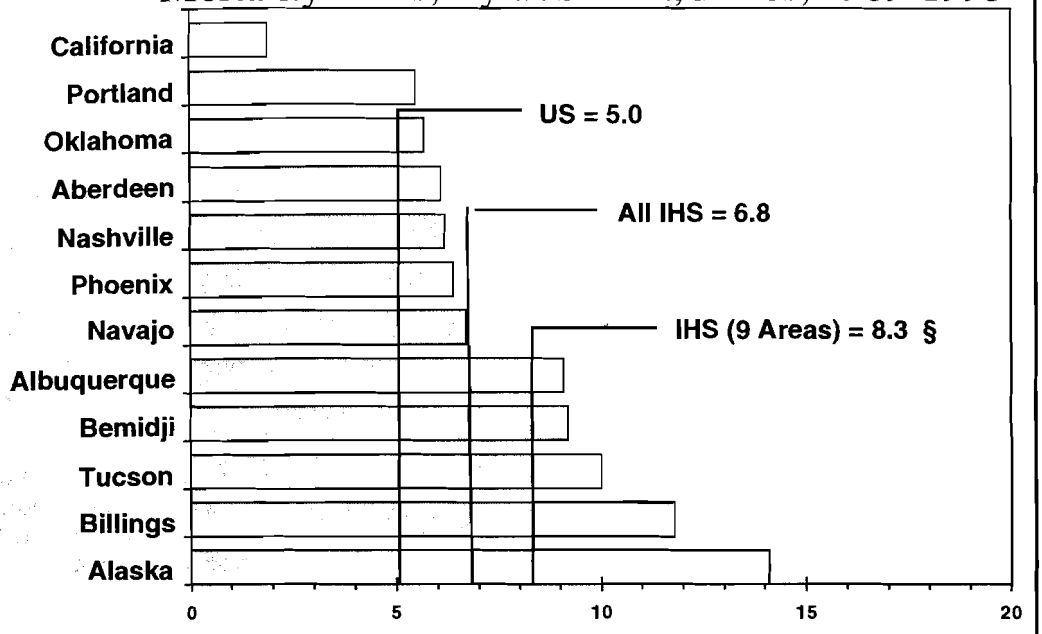
** Denotes a rate significantly different from the US rate.

Table 14

Table 14 lists the total number of deaths due all cancers from 1989 t 1993 in addition to the mortality rate by IHS A for both sexes combin males, and females.

Mortality rates are calc lated per 100,000 per y and are age-adjusted t the 1970 US populatio Rates based on small numbers of deaths sh be interpreted with caution.

Age-Adjusted Kidney & Renal Pelvis Cancer Mortality Rates, By IHS Area, Males, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

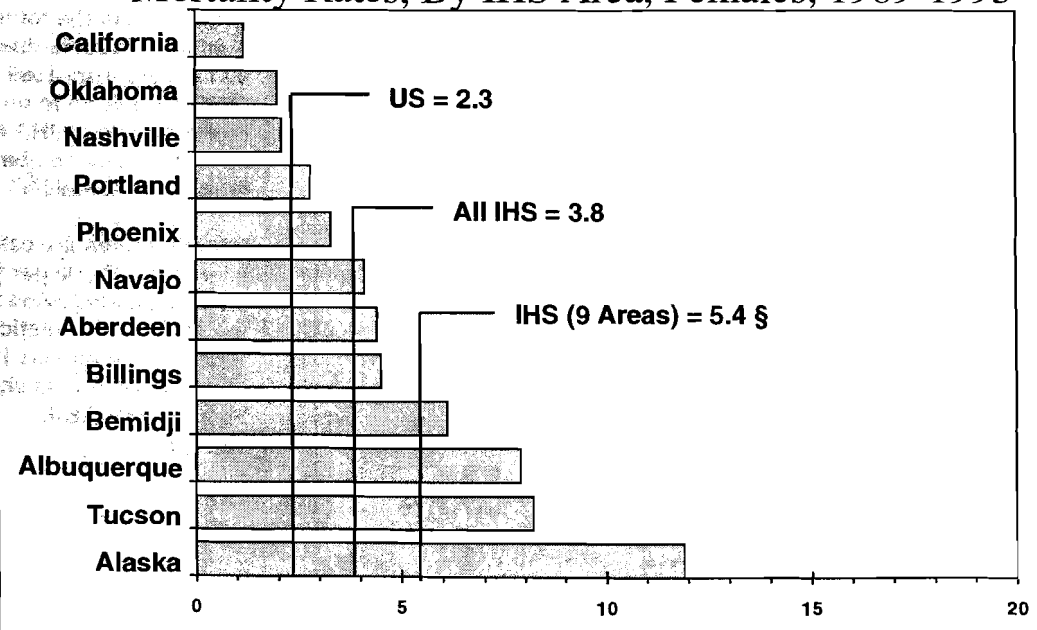
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 28

The 1989 to 1993 male age-adjusted cancer mortality rate for kidney & renal pelvis cancer is 6.8 per 100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 8.3/100,000.

None of the IHS Areas had cancer mortality rates significantly different from the US rate, for males.

Age-Adjusted Kidney & Renal Pelvis Cancer Mortality Rates, By IHS Area, Females, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

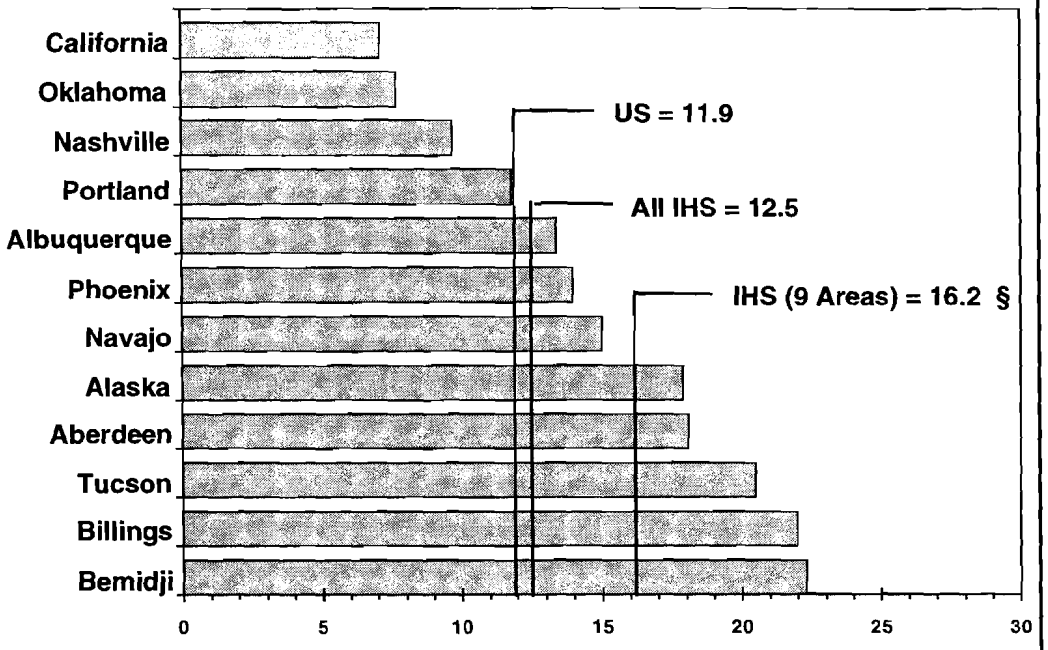
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 29

The 1989 to 1993 female age-adjusted cancer mortality rate for kidney & renal pelvis cancer is 3.8 per 100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 5.4 per 100,000.

None of the IHS Areas had a rate that is significantly different from the US rate for females.

Age-Adjusted Ill Defined & Unspecified Cancer Mortality Rates, By IHS Area, Both Sexes, 1989-1993



Rate per 100,000 per year, adjusted to 1970 U.S. population

§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 30

The 1989 to 1993 age-adjusted cancer mortal rate for both sexes, pe taining to ill defined & unspecified cancer, is 12.5 per 100,000 over t entire IHS service pop lation. Without the 3 II Areas with apparent pr blems in underreportir of Indian race on deatl certificates, the rate is 16.2 per 100,000. The IHS (9 Areas) rate is significantly higher th the US rate for both se

One IHS Area (Oklaho had a rate that is signi cantly lower than the both sexes rate.

Total Number of Deaths and Age-Adjusted Cancer Mortality Rates, Ill Defined & Unspecified, By IHS Area, 1989-1993

	Both Sexes			Males			Females		
	N	Rate		N	Rate		N	Rate	
US. All Races		11.9			14.9			9.7	
All IHS Areas	470	12.5		224	13.5		246	11.7	
IHS (9 Areas) §	326	16.2	**	153	16.8		173	15.7	**
Aberdeen	35	18.1		16	19.6		19	17.0	
Alaska	44	17.9		24	20.1		20	15.8	
Albuquerque	28	13.4		19	19.5		9	8.6	
Bemidji	40	22.3		20	24.1		20	20.6	
Billings	27	22.0		12	23.7		15	21.1	
California §	23	7.1		11	7.0		12	7.0	
Nashville	17	9.7		9	11.5		8	8.1	
Navajo	77	15.0		30	13.0		47	16.7	
Oklahoma §	82	7.7	**	41	9.3		41	6.5	
Phoenix	44	14.0		16	10.3		28	16.9	
Portland §	39	11.8		19	12.7		20	10.9	
Tucson	14	20.5		7	24.1		7	17.7	

§ Three IHS Areas (California, Oklahoma, Portland) often underreport Indian race on death certificates. Therefore, the IHS (9 Areas) total is presented excluding these 3 Areas.

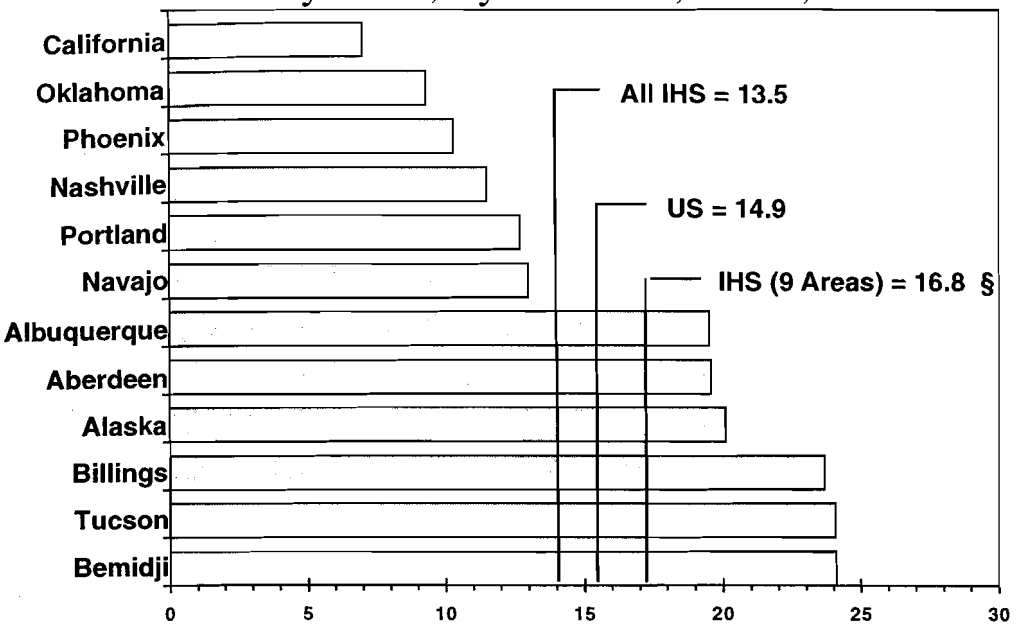
** Denotes a rate significantly different from the US rate.

Table 15

Table 15 lists the tota number of deaths due all cancers from 1989 1993 in addition to th mortality rate by IHS for both sexes combi males, and females.

Mortality rates are ca lated per 100,000 per and are age-adjusted the 1970 US populati Rates based on smal numbers of deaths sl be interpreted with caution.

Age-Adjusted Ill Defined & Unspecified Cancer Mortality Rates, By IHS Area, Males, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

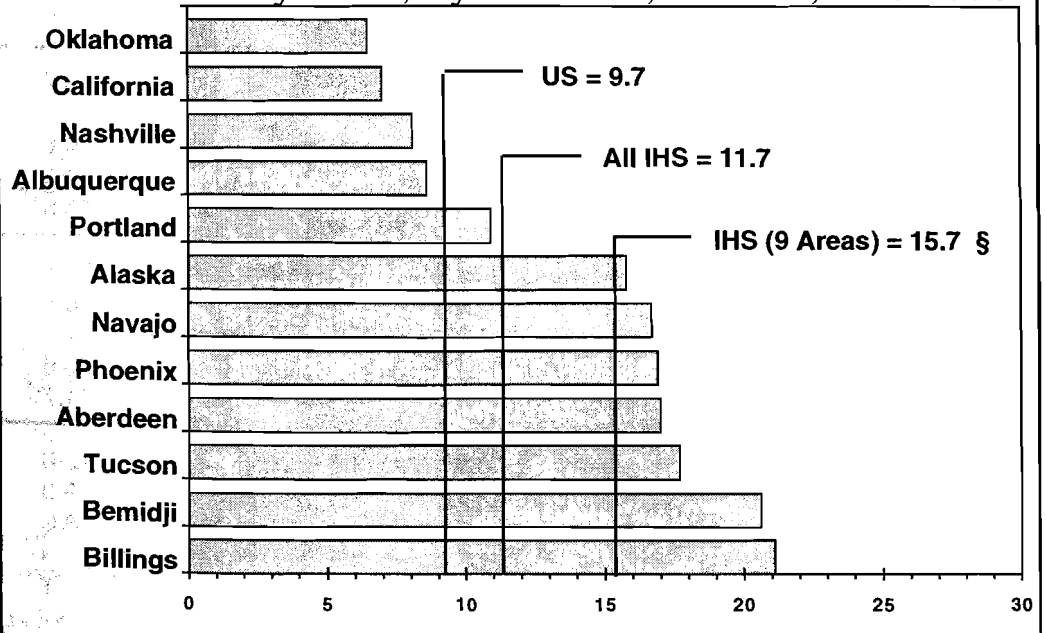
§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 31

The 1989 to 1993 male age-adjusted cancer mortality rate for ill defined & unspecified cancer is 13.5/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 16.8/100,000.

None of the IHS Areas had a cancer mortality rate that is significantly different from the US rate for males.

Age-Adjusted Ill Defined & Unspecified Cancer Mortality Rates, By IHS Area, Females, 1989-1993



Rate per 100,000 per year, adjusted to the 1970 U.S. population

§ Excludes California, Oklahoma, and Portland Areas in calculation of rate.

Chart 32

The 1989 to 1993 female age-adjusted cancer mortality rate for ill defined & unspecified cancer is 11.7/100,000 for the entire IHS service population. Excluding the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates, the rate is 15.7/100,000. The IHS (9 Areas) rate is significantly higher than the US rate for females.

None of the IHS Areas had a rate that is significantly different than the US rate for females.

Table 16
Five Leading Causes of Cancer Mortality
by Average Annual Age-Adjusted Rates*,1989-1993, by IHS Area and Sex,
IHS Areas Compared to U.S. All Races

	Both Sexes		Males		Females	
	Cancer Site	Rate	Cancer Site	Rate	Cancer Site	Rate
US All Races	Lung	49.6	Lung	74.4	Lung	31.4
	Colon/Rectum	18.7	Prostate	26.0	Breast	27.1
	Breast	15.2	Colon/Rectum	23.1	Colon/Rectum	15.6
	Ill Defined/Unk	11.9	Ill Defined/Unk	14.9	Ill Defined/Unk	9.7
	Prostate	9.9	Pancreas	10.0	Ovary	7.8
Aberdeen	Lung	69.2	Lung	88.2	Lung	54.6
	Colon/Rectum	24.2	Colon/Rectum	27.5	Breast	26.3
	Ill Defined/Unk	18.1	Prostate	22.3	Colon/Rectum	21.3
	Breast	14.5	Ill Defined/Unk	19.6	Ill Defined/Unk	17.0
	Pancreas	9.6	Pancreas	16.6	Cervix	15.6
	Prostate	9.6				
	Stomach	9.6				
Alaska	Lung	57.2	Lung	70.3	Lung	46.5
	Colon/Rectum	25.8	Colon/Rectum	27.0	Colon/Rectum	24.3
	Ill Defined/Unk	17.9	Ill Defined/Unk	20.1	Breast	21.4
	Kidney	13.0	Stomach	18.9	Ill Defined/Unk	15.8
	Stomach	11.7	Nasopharynx	14.8	Pancreas	12.9
Albuquerque	Ill Defined/Unk	13.4	Prostate	21.0	Lung	11.5
	Lung	10.4	Ill Defined/Unk	19.5	Breast	10.3
	Colon/Rectum	10.1	Colon/Rectum	15.8	Ovary	9.(
	Prostate	9.2	Liver/Intrahep.	12.0	Ill Defined/Unk	8.(
	Kidney/Renal	8.4	Kidney/Renal	9.2	Pancreas	8.3
Bemidji	Lung	70.4	Lung	95.7	Lung	48.
	Colon/Rectum	23.3	Ill Defined/Unk	24.1	Colon/Rectum	22.
	Ill Defined/Unk	22.3	Colon/Rectum	23.7	Ill Defined/Unk	20.
	Liver/Intrahep.	10.3	Prostate	22.9	Breast	14.
	Pancreas	10.2	Liver/Intrahep.	16.6	Pancreas	12.
Billings	Lung	55.4	Lung	80.7	Lung	34
	Ill Defined/Unk	22.0	Prostate	36.2	Breast	25
	Colon/Rectum	21.6	Ill Defined/Unk	23.7	Ill Defined/Unk	21
	Prostate	15.4	Colon/Rectum	22.8	Colon/Rectum	20
	Pancreas	14.9	Pancreas	18.4	Pancreas	11
California	Lung	16.7	Lung	20.9	Lung	19
	Colon/Rectum	10.0	Colon/Rectum	11.7	Breast	9
	Ill Defined/Unk	7.1	Prostate	10.1	Colon/Rectum	8
	Breast	5.0	Ill Defined/Unk	7.0	Ill Defined/Unk	7
	Stomach	4.2	Stomach	5.6	Pancreas	4

* All rates per 100,000 per year, adjusted to the 1970 U.S. standard population.

Table 16 (Con't)

Five Leading Causes of Cancer Mortality

by Average Annual Age-Adjusted Rates*,1989-1993, by IHS Area and Sex,

IHS Areas Compared to U.S. All Races

	Both Sexes		Males		Females	
	Cancer Site	Rate	Cancer Site	Rate	Cancer Site	Rate
Nashville	Lung	38.1	Lung	52.3	Lung	27.2
	Colon/Rectum	14.2	Prostate	22.9	Breast	20.0
	Breast	11.1	Colon/Rectum	16.4	Colon/Rectum	12.3
	Ill Defined/Unk	9.7	Ill Defined/Unk	11.5	Ill Defined/Unk	8.1
	Prostate	9.1	Brain/Nervous	7.3	Ovary	5.1
Navajo	Ill Defined/Unk	15.0	Prostate	19.2	Ill Defined/Unk	16.7
	Stomach	9.0	Ill Defined/Unk	13.0	Gallbladder	10.4
	Prostate	8.7	Stomach	12.0	Cervix	9.9
	Liver/Intrahep.	7.1	Lung	9.8	Breast	9.4
	Gallbladder	6.9	Liver/Intrahep.	9.3	Ovary	6.6
Oklahoma	Lung	27.6	Lung	43.3	Lung	16.1
	Colon/Rectum	9.9	Prostate	15.1	Breast	13.3
	Ill Defined/Unk	7.7	Colon/Rectum	10.9	Colon/Rectum	9.4
	Breast	7.4	Ill Defined/Unk	9.3	Ill Defined/Unk	6.5
	Prostate	5.8	Stomach	6.1	Ovary	5.1
Phoenix	Lung	16.8	Lung	22.9	Ill Defined/Unk	16.9
	Ill Defined/Unk	14.0	Prostate	14.1	Lung	11.7
	Liver/Intrahep.	7.0	Ill Defined/Unk	10.3	Breast	11.5
	Breast	6.2	Liver/Intrahep.	7.9	Pancreas	7.0
	Prostate	6.0	Colon/Rectum	7.4	Liver/Intrahep.	6.2
Portland	Lung	42.9	Lung	54.9	Lung	34.2
	Colon/Rectum	15.2	Prostate	22.4	Breast	18.8
	Ill Defined/Unk	11.8	Colon/Rectum	13.8	Colon/Rectum	16.4
	Breast	10.3	Ill Defined/Unk	12.7	Ill Defined/Unk	10.9
	Prostate	9.5	Non-Hogkin's	5.8	Pancreas	6.0
Tucson	Ill Defined/Unk	20.5	Ill Defined/Unk	24.1	Ill Defined/Unk	17.7
	Pancreas	11.7	Pancreas	12.4	Liver/Intrahep.	10.8
	Liver/Intrahep.	10.4	Stomach	10.5	Pancreas	10.7
	Stomach	9.1	Kidney/Renal	10.0	Cervix	8.2
	Kidney/Renal	9.0	Liver/Intrahep.	9.8	Kidney/Renal	8.2
All IHS	Lung	30.5	Lung	41.9	Lung	21.7
	Ill Defined/Unk	12.5	Prostate	17.3	Breast	14.3
	Colon/Rectum	12.1	Ill Defined/Unk	13.5	Ill Defined/Unk	11.7
	Breast	7.8	Colon/Rectum	13.2	Colon/Rectum	11.2
	Prostate	7.3	Stomach	8.3	Pancreas	6.5
IHS (9 Areas) §	Lung	32.3	Lung	42.6	Lung	23.8
	Ill Defined/Unk	16.2	Prostate	18.6	Ill Defined/Unk	15.7
	Colon/Rectum	13.1	Ill Defined/Unk	16.8	Breast	15.2
	Breast	8.2	Colon/Rectum	14.5	Colon/Rectum	11.9
	Prostate	8.2	Stomach	10.5	Pancreas	7.9

§ Excluding California, Oklahoma, and Portland Areas

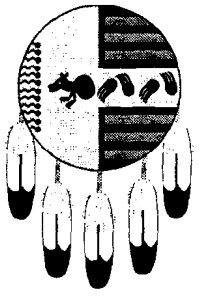


Table 17

Aberdeen Area

Number of Deaths and Cancer Mortality Rates

per 100,00 population, 1989 - 1993, age-adjusted to 1970 US standard

Site	Both Sexes			Males			Females		
	Aberdeen		US *	Aberdeen		US *	Aberdeen		US *
	N	Rate	Rate	N	Rate	Rate	N	Rate	Rate
Oral Cavity & Pharynx	11	5.3	2.9	7	7.4	4.6	4	3.5	1.7
Lip	0	0.0	0.0	0	0.0 **	0.1	0	0.0	0.0
Tongue	4	2.0	0.7	2	2.4	1.0	2	1.8	0.4
Salivary Gland	0	0.0 **	0.2	0	0.0 **	0.3	0	0.0 **	0.1
Floor of mouth	0	0.0 **	0.1	0	0.0 **	0.2	0	0.0 **	0.1
Gingiva & other mouth	1	0.5	0.5	0	0.0 **	0.7	1	0.9	0.3
Nasopharynx	2	0.9	0.3	2	1.8	0.4	0	0.0 **	0.1
Tonsil	0	0.0 **	0.2	0	0.0 **	0.3	0	0.0 **	0.1
Oropharynx	0	0.0 **	0.2	0	0.0 **	0.3	0	0.0 **	0.1
Hypopharynx	2	0.9	0.2	1	1.1	0.3	1	0.8	0.1
Other oral cavity & pharynx	2	1.0	0.6	2	2.2	0.9	0	0.0 **	0.3
Digestive System	118	57.7	40.3	64	72.3	52.3	54	46.8	31.3
Esophagus	5	2.5	3.5	3	3.8	6.0	2	1.7	1.5
Stomach	21	9.6	4.7	10	10.4	6.8	11	9.0	3.1
Small intestine	1	0.5	0.3	0	0.0 **	0.4	1	0.9	0.3
Colon & Rectum	49	24.2	18.7	25	27.5	23.1	24	21.3	15.6
Anus, anal canal & anorectum	0	0.0 **	0.1	0	0.0 **	0.1	0	0.0 **	0.1
Liver & Intrahepatic ducts	10	4.9	2.9	5	5.9	4.2	5	4.1	1.9
Gallbladder	8	4.0	0.7	4	5.0	0.5	4	3.5	0.9
Other biliary	4	1.9	0.6	2	2.0	0.7	2	1.7	0.5
Pancreas	19	9.6	8.4	14	16.6	10.0	5	4.5	7.2
Other digestive system	0	0.0 **	0.1	0	0.0 **	0.2	0	0.0 **	0.1
Respiratory System	150	74.3	51.4	85	96.4	77.6	65	57.3	32.2
Nose, Nasal cavity & middle ear	1	0.5	0.2	1	1.3	0.2	0	0.0 **	0.1
Larynx	7	3.6	1.4	5	5.8	2.5	2	1.8	0.5
Lung	140	69.2	49.6	78	88.2	74.4	62	54.6	31.4
Trachea & other respiratory system	1	0.5	0.1	0	0.0 **	0.2	1	0.9	0.1

* US All Races mortality rates, 1988-1992 ** Denotes a rate significantly different from the US rate. Rates based on small numbers of deaths should be interpreted with caution.

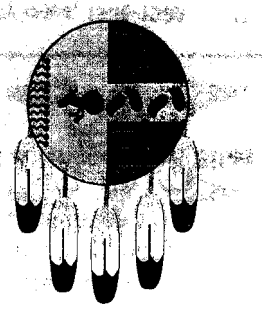


Table 17 (con't)

Aberdeen Area

Number of Deaths and Cancer Mortality Rates

per 100,00 population, 1989 - 1993, age-adjusted to 1970 US standard

Site	Both Sexes			Males			Females		
	Aberdeen		US *	Aberdeen		US *	Aberdeen		US *
	N	Rate	Rate	N	Rate	Rate	N	Rate	Rate
Bone & Joints	2	0.9	0.4	1	0.9	0.5	1	0.8	0.3
Soft Tissue (including heart)	4	2.0	1.2	1	1.2	1.3	3	2.6	1.1
Malignant Melanoma	2	1.0	3.0	1	0.9	4.4	1	0.9	1.9
Breast	33	14.5	15.2	0	0.0 **	0.2	33	26.3	27.1
Female Genital System	29	13.5	8.4	0	0.0	0.0	29	24.2	14.9
Cervix uteri	19	8.6	1.6	0	0.0	0.0	19	15.6	3.0
Corpus uterus	1	0.5	1.0	0	0.0	0.0	1	0.9	1.8
Uterus, NOS	4	1.8	1.0	0	0.0	0.0	4	3.2	1.7
Ovary	5	2.6	4.4	0	0.0	0.0	5	4.5	7.8
Vagina	0	0.0 **	0.1	0	0.0	0.0	0	0.0 **	0.2
Vulva	0	0.0 **	0.2	0	0.0	0.0	0	0.0 **	0.3
Other female genital sytem	0	0.0 **	0.1	0	0.0	0.0	0	0.0 **	0.2
Male Genital System	20	10.1	10.1	20	23.6	26.5	0	0.0	0.0
Prostate	19	9.6	9.9	19	22.3	26.0	0	0.0	0.0
Testis	0	0.0 **	0.1	0	0.0 **	0.3	0	0.0	0.0
Penis	1	0.5	0.1	1	1.3	0.2	0	0.0	0.0
Other male genital system	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Urinary System	13	6.2	6.9	8	7.9	10.8	5	4.4	4.1
Urinary bladder	2	0.9	3.3	2	1.8	5.6	0	0.0 **	1.7
Kidney & renal pelvis	11	5.3	3.5	6	6.1	5.0	5	4.4	2.3
Ureter	0	0.0 **	0.1	0	0.0 **	0.1	0	0.0 **	0.1
Other urinary system	0	0.0 **	0.1	0	0.0 **	0.1	0	0.0 **	0.1

* US All Races mortality rates, 1988-1992 ** Denotes a rate significantly different from the US rate. Rates based on small numbers of deaths should be interpreted with caution.