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# A manual on adolescents and adults with fetal alcohol syndrome with special reference to American Indians.

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## Indian Health Focus

# Youth

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**1997**



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# *Introduction*

**The Indian Health Service (IHS) is an agency of the Department of Health and Human Services. The IHS goal is to raise the health status of American Indians and Alaska Natives to the highest possible level. The mission is to provide a comprehensive health services delivery system for American Indians and Alaska Natives with opportunity for maximum Tribal involvement in developing and managing programs to meet their needs.**

**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 IHS is concerned with the health of American Indians and Alaska Natives of all ages. The IHS presents an overview of the health status of Indians in its annual publication, *Trends in Indian Health*. However, IHS recognizes that there are segments of the Indian population that require special attention, such as infants, youth, women, and the elderly. This publication examines the health status of Indian youth beginning with birth. It is based on data published in the 1997 *Trends in Indian Health*.**

**The population of interest for this publication is American Indian and Alaska Native youth residing in the IHS service area. The IHS service area comprises the geographic areas in which IHS has responsibility (on and near reservations). Approximately 60 percent of American Indians and Alaska Natives in the U.S. reside in the IHS service area. In 1998, there were 1.46 million Indians in the IHS service area compared to 2.41 million in the entire U.S.**



## Summary of Data Shown

The American Indian and Alaska Native population is a younger population than the general U.S. population. In 1990, according to the U.S. census, 33 percent of the population was younger than 15 years in contrast to 22 and 20 percent for the U.S. All Races and White populations, respectively. Indians also have less education and income than the general population. According to the 1990 census, 65.3 percent of Indians age 25 and older are high school graduates or higher, compared with 75.2 and 77.9 percent for the U.S. All Races and White populations, respectively. The 1990 census indicates that 37.7 percent of Indians age 6 to 11 years live below the poverty level in contrast to 18.3 and 12.5 percent for the U.S. All Races and White populations, respectively. For 12- to 17-year-old youth, the corresponding percentages are 33.1, 16.3, and 11.0, respectively.

Indian women become mothers at relatively young ages. For Indians, 45.2 percent of mothers having their first child are under age 20. This compares to 24.2 percent for the U.S. All Races population and 21.3 percent for the U.S. White population. The infants of Indian mothers are more likely to die before their first birthday than those of All

Races or White mothers. However, the distribution of infant deaths by age differs for the Indian population in comparison to the All Races and White populations. That is, Indian infants are more likely to die during the postneonatal period (28 days to 1 year after birth) than the neonatal period (birth to under 28 days), whereas the risks are reversed for the other two population groups.

Indians die at relatively younger ages than the general population. Thirteen percent of Indian deaths pertain to ages under 25 compared to 4 and 3 percent for the U.S. All Races and White populations, respectively. Indian males die at relatively younger ages than Indian females. The percentage of Indian male deaths pertaining to ages under 25 is 15 in contrast to 11 for females. These Indian counts are adjusted for miscoding of Indian race on death certificates.

The top two leading causes of Indian infant deaths are sudden infant death syndrome and congenital anomalies; the order is reversed for All Races and Whites. Accidents are the leading cause of death among age groups, 1 to 4, 5 to 14, and 15 to 24 years, for the Indian and U.S. All Races and White





populations. For 1- to 4-year-old youth of these three population groups, the second leading cause of death is congenital anomalies. Malignant neoplasms is the second leading cause of death for 5- to 14-year-old youth in all three population groups. The second and third leading causes for Indians and Whites age 15 to 24 years are suicide and homicide. For the U.S. All Races population, the order is reversed. These Indian counts are adjusted for miscoding of Indian race on death certificates.

Substance abuse, especially alcohol, among youth is a serious problem in many Indian communities. The problem is already manifesting itself through alcoholism death rates for Indians, 15 to 24 years of age. The Indian rate is 5.5 deaths per 100,000 population compared to 0.3 for the U.S. All Races and White populations of this age group. It is a greater problem for Indian males than Indian females. The Indian male death rate due to alcoholism for 15- to 24-year-old youth is 4.2 times the female rate. In comparison to alcoholism, there is a smaller gap in the drug-related death rates for Indians and All Races and Whites. The Indian rate for 15- to 24-year-old youth is 3.3 deaths per 100,000 population

compared to 3.0 for U.S. All Races and 2.3 for U.S. Whites. These Indian rates are adjusted for miscoding of Indian race on death certificates.

Indian youth are more likely to die from accidents, homicide, and suicide than youth in the general population. The accident death rate for Indians age 5 to 14 years is 2.2 and 2.4 times the corresponding rates for the U.S. All Races and White populations, respectively. For 15- to 24-year-old youth, these ratios are 2.9 to 1 and 2.8 to 1. Likewise, the Indian suicide death rate for 15- to 24-year-old youth is 2.7 times the corresponding rates for the U.S. All Races and White populations. Indian youth under 15 years old die from homicide at a greater rate than the general population. However, for 15- to 24-year-old youth, the Indian rate is 4 percent less than the All Races rate, but more than twice the White rate. Indian male youth are at greater risk than Indian female youth, dying at higher rates (except for homicide deaths under 1 year) for accidents, suicides, and homicides. These Indian rates are adjusted for miscoding of Indian race on death certificates.

The youngest Indian children, those under 1 year of age, have

the highest health care utilization rates among young Indians. They comprise 1.5 percent of the IHS user population but consume considerably higher percentages of IHS health services, i.e., 4.5 percent of the ambulatory medical clinical impressions, 5.7 percent of the inpatient discharges, and 4.7 percent of the inpatient days.

Respiratory system diseases are the leading cause of hospitalization for Indian patients in age groups under 15 years for both sexes together, as well as for Indian males and females separately in these age groups. Obstetric deliveries and complications of pregnancy are the leading cause of hospitalization for the 15 to 24 year Indian age group. Obviously, this is the leading cause for Indian female patients in this age group; for Indian male patients, the leading cause is injury and poisoning. Injury and poisoning is the second leading cause of hospitalization for Indian age groups (both sexes) 1 to 24 years of age, for Indian males in age groups 1 to 14 years, and for Indian females 5 to 14 years of age. Other primary causes of hospitalization for Indian youth are perinatal period conditions (under 1 year) and digestive system diseases (over 1 year).






Supplementary classification conditions (e.g., other preventive health services, well child care, physical examination, tests only, hospital/medical/surgical follow-up) is the leading cause of ambulatory medical visits for Indian patients under 1 year of age (both sexes, males, and females). For Indian patients in age groups 1 to 14 years, the leading cause is respiratory system diseases (both sexes, males,

and females). Complications of pregnancy, childbirth, and the puerperium are the leading cause for Indians 15 to 24 years of age, both sexes and females. For Indian males in this age group, supplementary classification conditions are the leading cause. Nervous system and sense organ diseases are the second leading cause of ambulatory medical visits for Indians of both sexes together and Indian males and

females separately for patients in age groups under 5 years. Supplementary classification conditions are the second leading cause for Indians 5 to 14 years of age (both sexes, males, and females) and 15 to 24 years of age (both sexes and females). Injury and poisoning are the second leading cause for Indian males in the 15 to 24 year age group.



## Sources and Limitations of Data

### Population Statistics


The IHS service population consists of American Indians and Alaska Natives identified to be eligible for IHS services. IHS service population estimates are based on official U.S. Bureau of the Census county data. The Census Bureau enumerates those individuals who identify themselves as being American Indian, Eskimo, or Aleut. The IHS service population is estimated by counting those American Indians, Eskimos, and Aleuts (as identified during the census) who reside in the geographic areas in which IHS has responsibilities ("on or near" reservations, i.e., contract health service delivery areas). These people may or may not use IHS services.

IHS user population estimates are based on data from the IHS Patient Registration System. Patients who receive direct or contract health services from IHS or Tribally operated programs are registered in the Patient Registration System. Those registered Indian patients that had at least one direct or contract inpatient stay, ambulatory medical visit, or dental

visit during the last 3 years are defined as users. IHS user population figures are used for calculating IHS patient care rates. In contrast, IHS service population figures are used in calculating Indian vital event rates since State birth and death certificates do not provide information on use of IHS services.

IHS service populations between census years (e.g., 1980 and 1990) are estimated by a smoothing technique in order to show a gradual transition between census years. IHS service populations beyond the latest census year (1990) are projected through linear regression techniques, using the most current 10 years of Indian birth and death data provided by the National Center for Health Statistics. The natural change (estimated number of births minus estimated number of deaths) is applied to the latest census enumeration.

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



### Vital Event Statistics

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

It is known that there is miscoding of Indian race on State death certificates, especially in areas distant from traditional Indian reservations. In order to determine the degree and scope of the miscoding, IHS conducted a study utilizing the National

Death Index (NDI) maintained by the 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 American Indian or Alaska Native. 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 overall, and selected age groups. In addition to these adjustments based on the study findings, IHS assumed the following: a) the results from 1986-88 apply to years beyond 1988, 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 10 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, IHS felt that it was necessary to adjust all of the death rates in this publication to provide a meaningful and comprehensive look at health status. IHS also believes that they are reasonable adjustments.

These NDI adjustments are used for the first time in this edition. 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 under 1 year. These are derived from the linked birth/infant death data sets produced by the NCHS. Starting with this edition, unadjusted and adjusted infant mortality rates will be shown. IHS is assuming that data years 1992-94 can be adjusted based on the results from prior years of the linked data sets, which is not statistically sound but reasonable. For the under 1 year age group, these adjustments for 1992-94 take precedence over the NDI adjustments described above.



**Patient Care Statistics**

Patient care statistics are derived from IHS reporting systems. There are four main patient care reporting systems. The Monthly Inpatient Services Report is a patient census report that is prepared by each IHS hospital. It indicates the number of discharges and days by type of service (e.g., adult, pediatric, obstetric, newborn), and is used

for the direct inpatient workload statistics. The Inpatient Care System is the source of IHS hospital inpatient data pertaining to various patient characteristics (age, sex, principal diagnoses, other diagnoses, community of residence, etc.). The data are collected daily, one record per discharge. The Contract Care System is the source of similar contract hospital inpatient data.

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



## Sources of Additional Information

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

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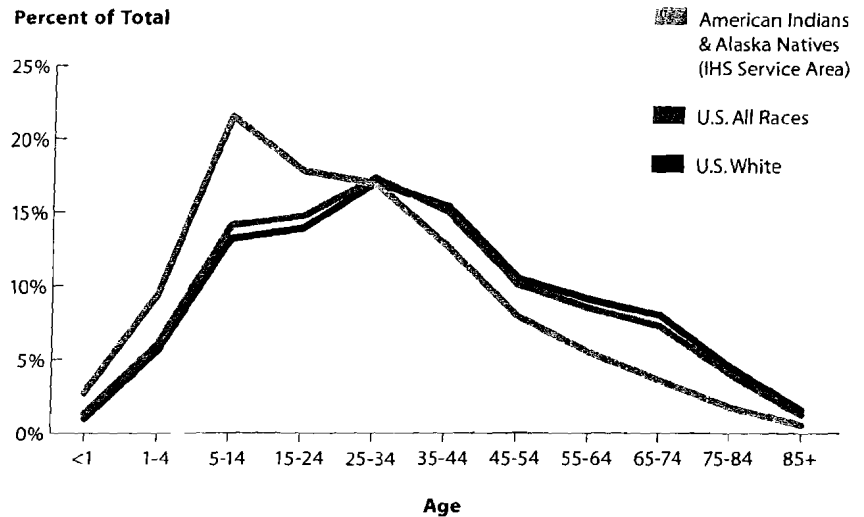
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This publication, other IHS publications, and additional information about the IHS are available on the IHS Homepage on the World Wide Web.

The address is: <http://www.ihs.gov/>

### Chart 1 Population by Age, 1990

The Indian population is considerably younger than the general population. According to the 1990 census, the median age of the Indian population is 24.2 years compared to 32.9 for the U.S. All Races population and 34.4 for the U.S. White population. For Indians, 33 percent of the population is younger than 15 years in contrast to 22 and 20 percent for the U.S. All Races and White populations, respectively.



**Table 1 Percent Age Distribution**

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1990 Census Data

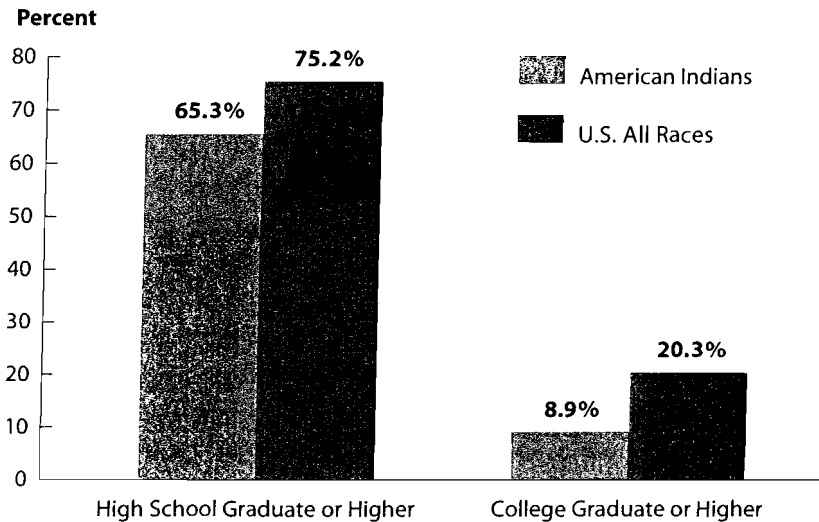
Age Group	American Indian and Alaska Native <sup>1</sup>	U.S. All Races	U.S. White
All Ages	100.000	100.000	100.000
Under 1 year	2.616	1.294	1.204
1-4 years	9.390	6.086	5.631
5-9 years	11.239	7.277	6.819
10-14 years	10.251	6.881	6.437
15-19 years	9.470	7.138	6.682
20-24 years	8.286	7.647	7.273
25-29 years	8.729	8.569	8.332
30-34 years	8.198	8.791	8.690
35-39 years	6.971	8.027	8.053
40-44 years	5.740	7.083	7.265
45-49 years	4.353	5.578	5.802
50-54 years	3.577	4.564	4.760
55-59 years	2.965	4.235	4.491
60-64 years	2.485	4.268	4.613
65-69 years	2.077	4.066	4.457
70-74 years	1.466	3.215	3.569
75-79 years	1.090	2.461	2.747
80-84 years	0.619	1.582	1.779
85 years & over	0.478	1.238	1.396
Median Age	24.2 yrs.	32.9 yrs.	34.4 yrs.

<sup>1</sup> Based upon data from the 1990 Census modified age, race, and sex file and current IHS service area boundaries. Percentage point distribution was adjusted for errors due to rounding. More recent population estimates for the American Indian and Alaska Native population by age and sex are unavailable at the county level. As a result, IHS service area estimates by age and sex, which need to be based on county level data, could not be prepared.



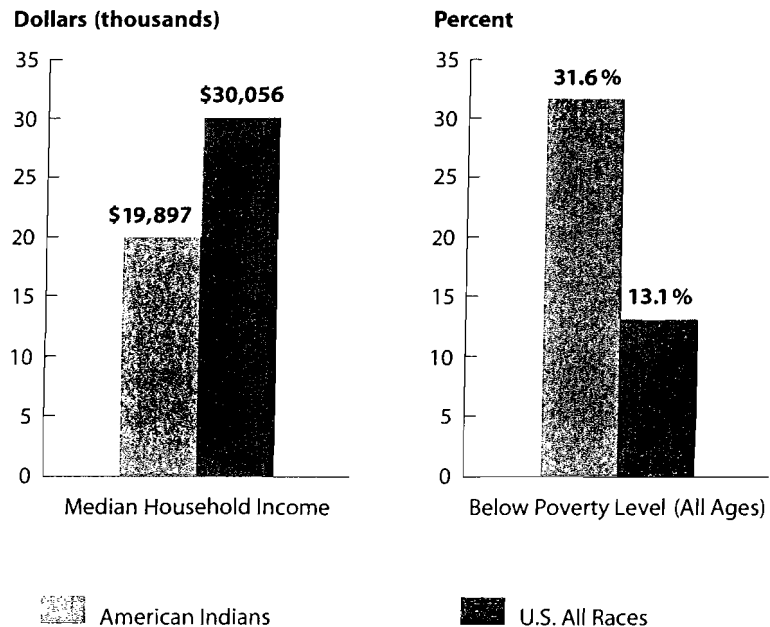
**Chart 2.1 Educational Attainment, American Indians and U.S. All Races, 1990 Census**

Indian youth enter the job market with a lower educational level than youth in the general population. According to the 1990 census, 65.3 percent of Indians age 25 and older are high school graduates or higher, compared with 75.2 and 77.9 percent for the U.S. All Races and White populations, respectively. For bachelor's degree or higher, the corresponding percentages are 8.9, 20.3, and 21.5.



**Chart 2.2 Income Status in 1989, American Indians and U.S. All Races, 1990 Census**

Indian youth have a lower economic status than youth in the general population. According to the 1990 census, the median household income for Indians is \$19,897, for U.S. All Races it is \$30,056, and for U.S. Whites it is \$31,435. During this same period, 31.6 percent of Indians of all ages live below the poverty level in contrast to 13.1 and 9.8 percent for the U.S. All Races and White populations, respectively. For 6- to 11-year-old persons, the corresponding percentages are 37.7, 18.3, and 12.5. For 12- to 17-year-old persons, the corresponding percentages are 33.1, 16.3, and 11.0.





**Table 2 Selected Economic Profiles for the United States, 1990 Census**

	American Indian and Alaska Native	All Races	White	Black	Asian and Pacific Islander	Hispanic
<b>Educational Attainment</b>						
(Persons 25 years and older):						
Percent less than 9th grade	14.1	10.4	8.9	13.8	12.9	30.7
Percent 9th to 12th grade, no diploma	20.6	14.4	13.1	23.2	9.5	19.5
Percent high school grad or higher	65.3	75.2	77.9	63.1	77.5	49.8
Percent bachelor's degree or higher	8.9	20.3	21.5	11.4	36.6	9.2
<b>Employment Status by Sex</b>						
(Persons 16 years and older):						
Percent unemployed, males	16.2	6.4	5.3	13.7	5.1	9.8
Percent unemployed, females	13.4	6.2	5.0	12.2	5.5	11.2
<b>Household Income in 1989:</b>						
Median household income	\$19,897	\$30,056	\$31,435	\$19,758	\$36,784	\$24,156
<b>Percent Below the Poverty Level by Age:</b>						
All ages	31.6	13.1	9.8	29.5	14.1	25.3
Under 5 years	43.1	20.1	13.8	44.0	17.5	33.4
5 years	41.6	19.7	13.6	42.8	18.0	33.9
6 to 11 years	37.7	18.3	12.5	39.8	17.3	32.6
12 to 17 years	33.1	16.3	11.0	35.5	16.3	30.3
18 to 64 years	27.7	11.0	8.5	23.4	13.0	21.3
65 to 74 years	26.9	10.4	8.4	28.6	11.3	21.9
75 years and older	33.3	16.5	14.6	37.3	13.5	27.8

NOTE: American Indian data are for residents of the 35 Reservation States. (South Carolina was added as a Reservation State in FY 1994. Indiana was added as a Reservation State in 1995.)

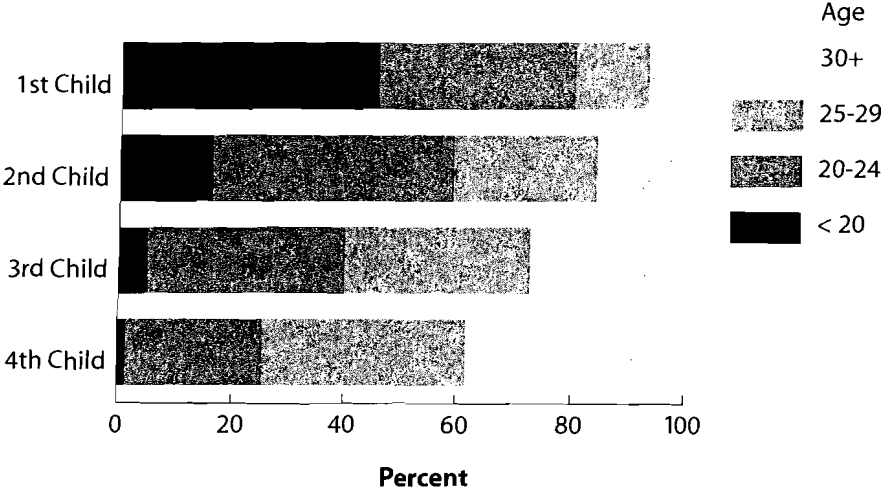
SOURCE: U.S. Bureau of the Census, Minority Economic Profiles, July 24, 1992, Tables CPH-L-92, 93, 94, and 95, and unpublished data from the U.S. Bureau of the Census.





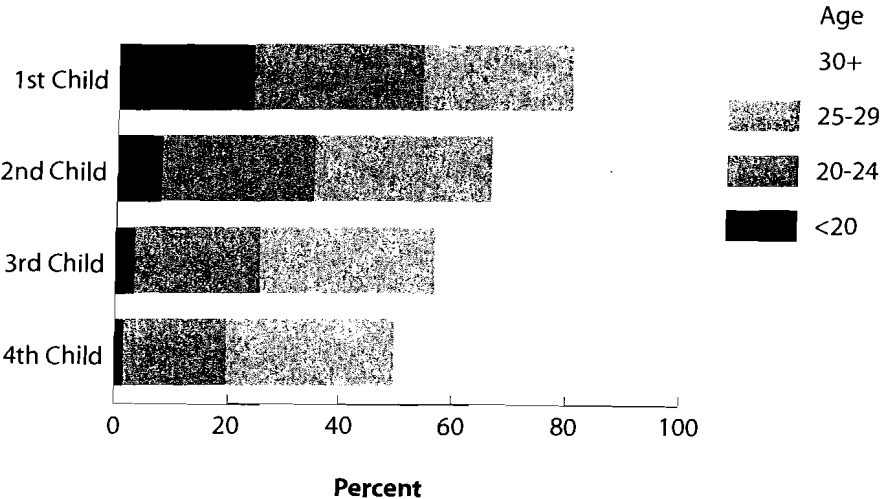
**Chart 3.1 Birth Order by Age of Mother, Percent Within Birth Order, American Indians and Alaska Natives**

The number of teenage mothers is a concern in the Indian community. For the Indian population, 45.2 percent of mothers having their first child are under age 20. The percentage of mothers under age 20 is still relatively high for Indians having their second (16.0) and third (4.9) child.



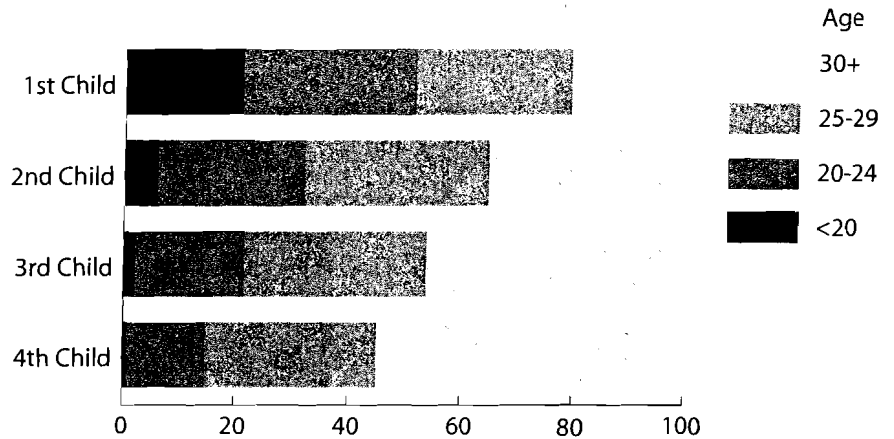
**Chart 3.2 Birth Order by Age of Mother, Percent Within Birth Order, U.S. All Races**

Teenage pregnancy is also a problem for the general population, but to a lesser degree than in the Indian population. For mothers having their first child, 24.2 percent are under age 20. For the second child this percentage is 7.5, and for the third child it is 3.0.



**Chart 3.3 Birth Order by Age of Mother, Percent Within Birth Order, U.S. White**

The U.S. White population is not far behind the general population in terms of teenage pregnancy levels. The percentage of mothers under age 20 having their first child is 21.3. The percentages for the second child and the third child are 5.7 and 1.9, respectively.



**Table 3 Number and Percent Distribution of Live Births by Age of Mother Within Birth Order**

Age Group	Total Live Births	Live Birth Order					
		1st Child	2nd Child	3rd Child	4th Child	5th Child	6th+ Child
<b>American Indian and Alaska Native, IHS Service Area, 1992-94</b>							
ALL AGES	100,199 <sup>1</sup>	33,581	26,307	18,016	10,555	5,779	5,606
ALL AGES	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 years	20.5	45.2	16.0	4.9	1.3	0.3	—
20-24 years	33.0	34.6	42.9	35.0	24.2	14.6	5.1
25-29 years	24.1	13.0	25.0	32.7	36.3	34.8	25.5
30-34 years	15.0	5.4	11.8	19.1	25.8	31.2	37.1
35-39 years	6.2	1.5	3.7	7.2	10.5	16.1	25.1
40-49 years	1.2	0.3	0.6	1.1	1.9	3.0	7.2
<b>U.S. All Races, 1993</b>							
ALL AGES	3,982,169 <sup>2</sup>	1,619,840	1,289,326	645,596	253,619	96,154	77,634
ALL AGES	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 years	12.8	24.2	7.5	3.0	1.3	0.5	0.1
20-24 years	26.0	29.9	26.8	21.7	17.6	13.4	5.9
25-29 years	28.3	25.5	30.7	30.6	29.3	27.5	21.2
30-34 years	22.5	14.9	25.1	30.0	32.0	33.2	33.4
35-39 years	8.9	4.7	8.7	12.8	16.7	20.6	28.5
40-49 years	1.5	0.8	1.2	1.9	3.1	4.8	10.8
<b>U.S. White, 1993</b>							
ALL AGES	3,135,975 <sup>3</sup>	1,294,431	1,038,865	503,392	186,085	65,184	48,018
ALL AGES	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 years	11.0	21.3	5.7	1.9	0.6	0.2	0.1
20-24 years	25.1	30.2	25.7	19.1	13.7	8.9	3.4
25-29 years	29.2	27.0	31.9	31.2	29.2	25.8	16.8
30-34 years	23.8	15.7	26.5	32.2	34.9	36.3	34.2
35-39 years	9.3	5.0	9.0	13.6	18.3	23.4	32.8
40-49 years	1.6	0.8	1.2	2.0	3.3	5.4	12.7

<sup>1</sup> Excludes 387 American Indian and Alaska Native births (0.4 percent) with birth order not reported.

<sup>2</sup> Excludes 18,071 U.S. All Races births (0.5 percent) with birth order not reported.

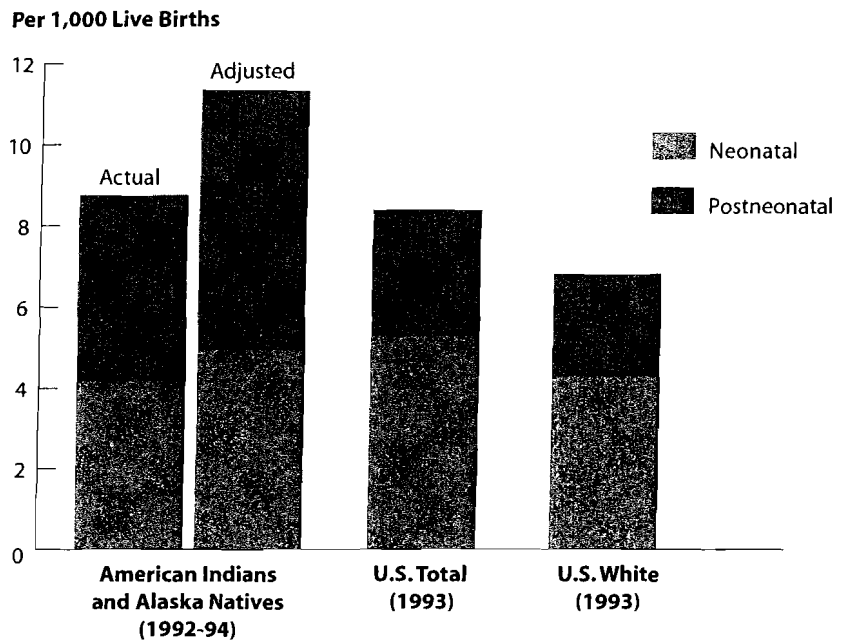
<sup>3</sup> Excludes 13,858 U.S. White births (0.4 percent) with birth order not reported.

NOTE: Where needed, percents were adjusted to sum to 100.0 due to rounding. Adjustments were made in the largest age category within a birth order group and did not exceed 0.1 percent for any age category shown.



**Chart 4 Infant Mortality Rates by Age**

The Indian infant mortality rate of 10.9 deaths per 1,000 live births (this is the rate adjusted for miscoding of Indian race on death certificates) is 30 percent higher than the U.S. All Races rate (8.4) and 60 percent higher than the U.S. White rate (6.8). However, the Indian population has a different type of distribution of infant deaths by age compared to these U.S. population groups. The Indian postneonatal mortality rate is 12 percent greater than the Indian neonatal mortality rate. In contrast, for the All Races and White populations, the neonatal rates are greater than the post-neonatal rates — for All Races, 71 percent greater and for Whites, 72 percent greater.



**Table 4 Infant Mortality Rates by Age**

American Indians and Alaska Natives, IHS Service Area, 1992-94, and U.S. All Races and White Populations, 1993 (Rate per 1,000 Live Births)

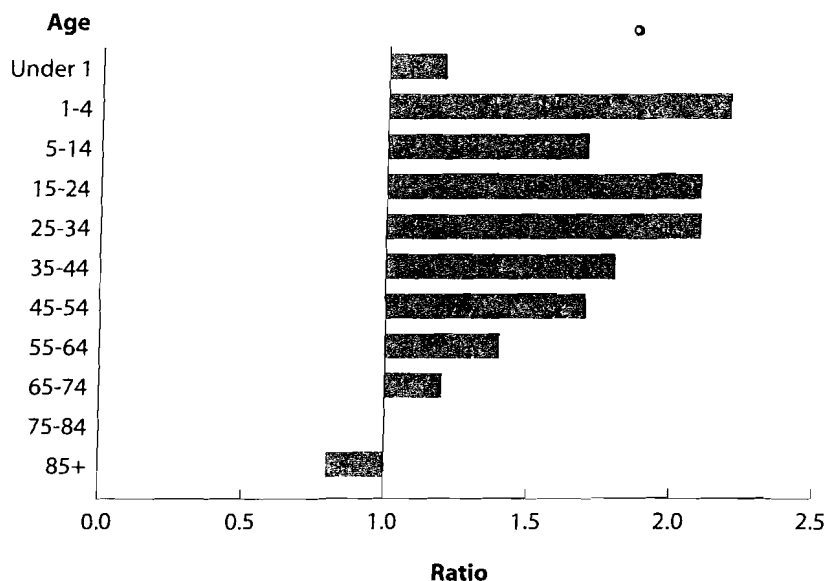
	Infant Mortality Rates		Neonatal Under 28 Days		Postneonatal 28 Days-11 Months	
American Indians and Alaska Natives	8.7	10.9 (Adj)	4.1	5.2 (Adj)	4.6	5.8 (Adj)
U.S. All Races	8.4		5.3		3.1	
U.S. White	6.8		4.3		2.5	

Adj - specifies a number, rate, or ratio of rates adjusted to compensate for miscoding of Indian race on death certificates.



**Chart 5 Age-Specific Death Rates, Ratio of American Indians and Alaska Natives (1992-94) to U.S. All Races (1993)**

Indian youth die at considerably greater rates than youth in the general population. The age-specific death rate for Indians in the age group 1 to 4 years (96.8 deaths per 100,000 population) is 2.2 times the corresponding rate for U.S. All Races (44.8) and 2.5 times the rate for U.S. Whites (38.3). For 5- to 14-year-old persons, the Indian rate (39.3) is 1.7 and 1.8 times the rates for the U.S. All Races (23.4) and White (21.4) populations, respectively. The gap for the 15-24-year-old age group is similar to the one for 1- to 4-year-old children; the Indian to All Races ratio is 2.1 to 1 and Indian to White is 2.4 to 1. These Indian rates are adjusted for miscoding of Indian race on death certificates.



**Table 5 Age-Specific Death Rates**

American Indians and Alaska Natives, IHS Service Area, 1992-1994, and Selected U.S. Populations, 1993 (Rate per 100,000 Population)

Age Group	American Indian and Alaska Native		U.S. Rate			Ratio <sup>1</sup> of American Indian and Alaska Native to:			
	Number	Rate	Actual	Adj <sup>1</sup>	All Races	White	Black	U.S. All Races	U.S. White
Under 1	872	1,096	848.2	1,066.1	854.4	697.3	1,735.6	1.2	1.5
1-4	304	357	82.5	96.8	44.8	38.3	79.1	2.2	2.5
5-14	298	331	35.4	39.3	23.4	21.4	35.0	1.7	1.8
15-24	1,180	1,406	170.3	202.9	98.5	84.7	181.2	2.1	2.4
25-34	1,681	1,951	254.6	295.5	142.4	122.2	290.0	2.1	2.4
35-44	1,854	2,128	374.7	430.1	235.5	202.2	489.3	1.8	2.1
45-54	2,148	2,471	696.3	801.1	460.0	413.8	919.4	1.7	1.9
55-64	2,995	3,450	1,409.3	1,623.5	1,154.7	1,090.9	1,867.1	1.4	1.5
65-74	3,799	4,363	2,749.1	3,157.2	2,617.1	2,546.7	3,659.0	1.2	1.2
75-84	3,511	4,022	5,266.2	6,032.6	5,951.6	5,899.1	7,010.8	1.0	1.0
85+	2,233	2,324	11,960.4	12,447.8	15,481.7	15,625.4	14,418.1	0.8	0.8

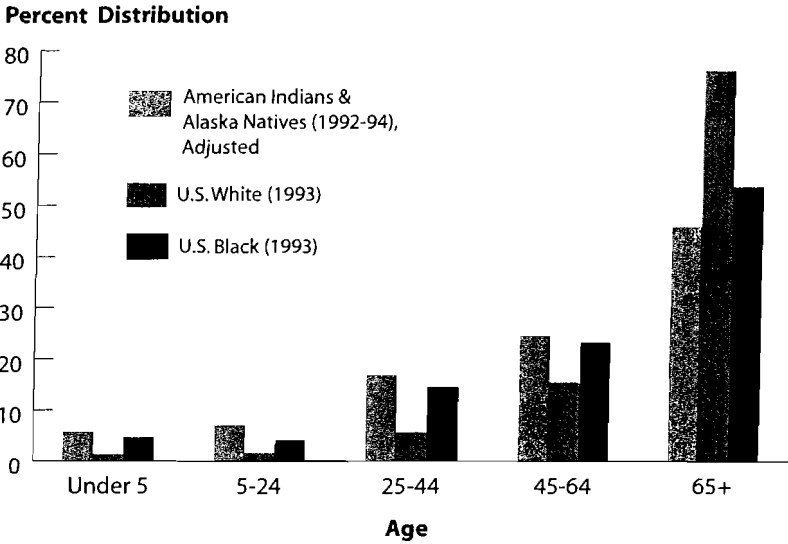
<sup>1</sup> Adjusted to compensate for miscoding of Indian race on death certificates.

SOURCE: U.S. Data by Age: NCHS, DHHS, Advance Report of Final Mortality Statistics, 1993, Vol. 44, No. 7, Supplement, February 29, 1996, Tables 7 and 8.



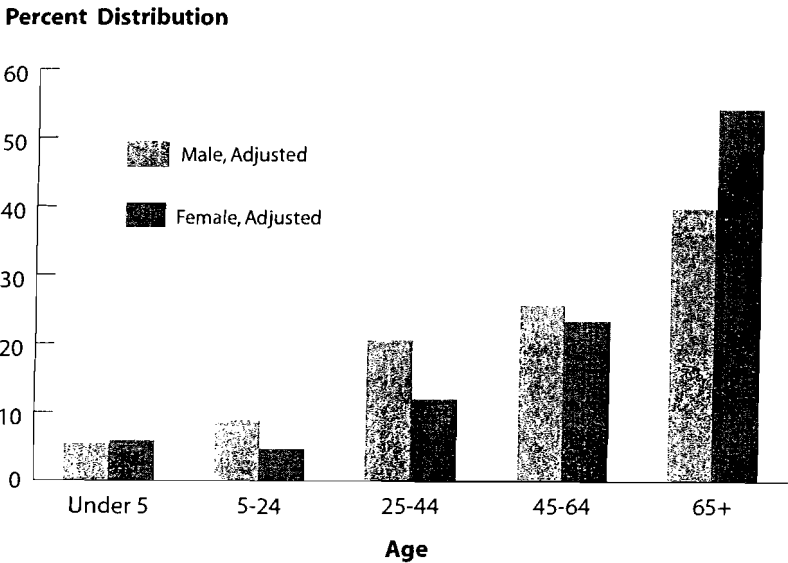
**Chart 6.1 Deaths by Age and Race**

Indians die at relatively younger ages than the general population. Seven percent of Indian deaths pertain to ages under 15, and 13 percent of deaths pertain to ages under 25. For the U.S. All Races population, these percentages are 2 and 4, and for U.S. Whites they are 2 and 3. These Indian counts are adjusted for miscoding of Indian race on death certificates.



**Chart 6.2 Deaths by Age and Sex, American Indians and Alaska Natives (1992-94)**

Indian males die at relatively younger ages than Indian females. The percentage of deaths pertaining to ages under 15 is similar for Indian males (8 percent) and females (7 percent). However, when the age group is expanded to under 25, the male percentage jumps to 15 compared to the female percentage of 11. These Indian counts are adjusted for miscoding of Indian race on death certificates.



**Table 6 Number and Percent Distribution of Deaths by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1992-94, and Selected U.S. Populations, 1993

Age Group	American Indian and Alaska Native											
	Both Sexes				Male				Female			
	Number		Percent		Number		Percent		Number		Percent	
	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>
All Ages	20,893	23,917	100.0	100.0	12,071	13,778	100.0	100.0	8,822	10,139	100.0	100.0
Under 1	872	1,096	4.2	4.6	486	634	4.0	4.6	386	462	4.4	4.6
1 to 4	304	357	1.5	1.5	170	200	1.4	1.5	134	157	1.5	1.5
5 to 14	298	331	1.4	1.4	187	206	1.5	1.5	111	125	1.3	1.2
15 to 24	1,180	1,406	5.6	5.9	878	1,005	7.3	7.3	302	401	3.4	4.0
25 to 34	1,681	1,951	8.0	8.2	1,208	1,360	10.0	9.9	473	591	5.4	5.8
35 to 44	1,854	2,128	8.9	8.9	1,269	1,422	10.5	10.3	585	706	6.6	7.0
45 to 54	2,148	2,471	10.3	10.3	1,360	1,537	11.3	11.2	788	934	8.9	9.2
55 to 64	2,995	3,450	14.3	14.4	1,726	1,980	14.3	14.4	1,269	1,470	14.4	14.5
65 to 74	3,799	4,363	18.2	18.2	2,072	2,383	17.2	17.3	1,727	1,980	19.6	19.5
75 to 84	3,511	4,022	16.8	16.8	1,786	2,069	14.8	15.0	1,725	1,953	19.6	19.3
85 and over	2,233	2,324	10.7	9.7	916	969	7.6	7.0	1,317	1,355	14.9	13.4
Age Not Stated	18	18	0.1	0.1	13	13	0.1	0.1	5	5	0.1	0.1

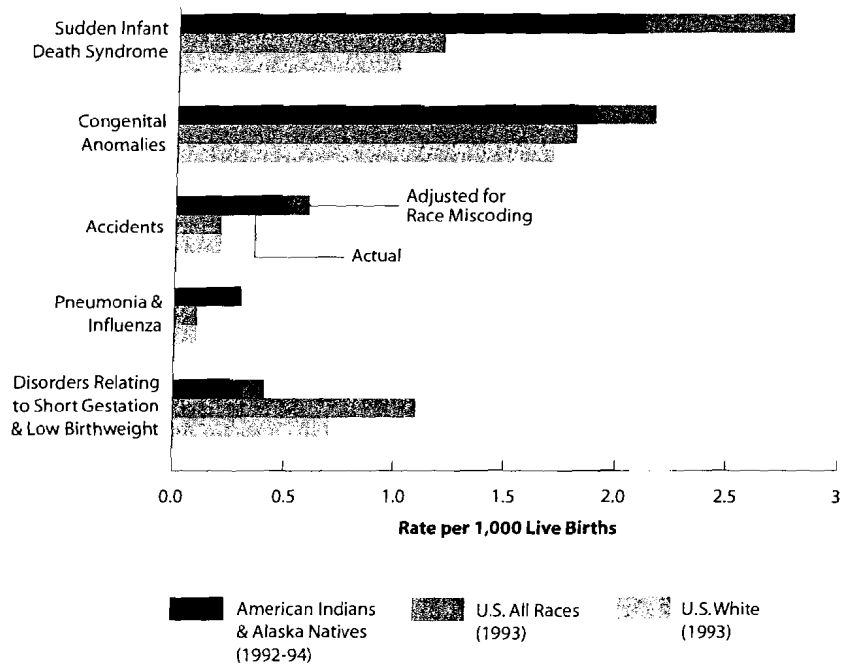
Age Group	United States		
	All Races	White	Black
Number of Deaths, All Ages	2,268,553	1,951,437	282,151
Percent Distribution, All Ages	100.0	100.0	100.0
Under 1	1.5	1.1	3.9
1 to 4	0.3	0.2	0.7
5 to 14	0.4	0.3	0.7
15 to 24	1.6	1.3	3.4
25 to 34	2.6	2.2	5.7
35 to 44	4.2	3.5	8.8
45 to 54	5.8	5.2	9.5
55 to 64	10.6	10.2	13.7
65 to 74	21.5	21.7	20.5
75 to 84	28.1	29.4	19.9
85 and over	23.3	24.9	13.1
Age Not Stated	0.0	0.0	0.0

<sup>1</sup> Adjusted to compensate for miscoding of Indian race on death certificates.

NOTE: 0.0 Rounds to zero.

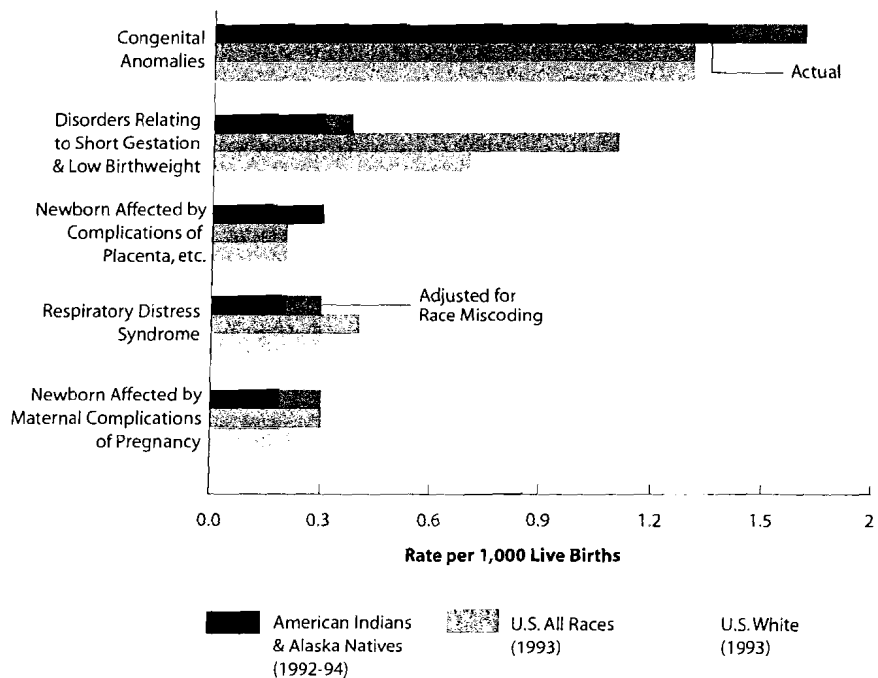
**Chart 7.1 Leading Causes of Infant Deaths (Birth to Under 1 Year)**

The top two leading causes of Indian infant deaths are sudden infant death syndrome and congenital anomalies. These Indian counts are adjusted for miscoding of Indian race on death certificates. For the U.S. All Races and White populations, the order is reversed.



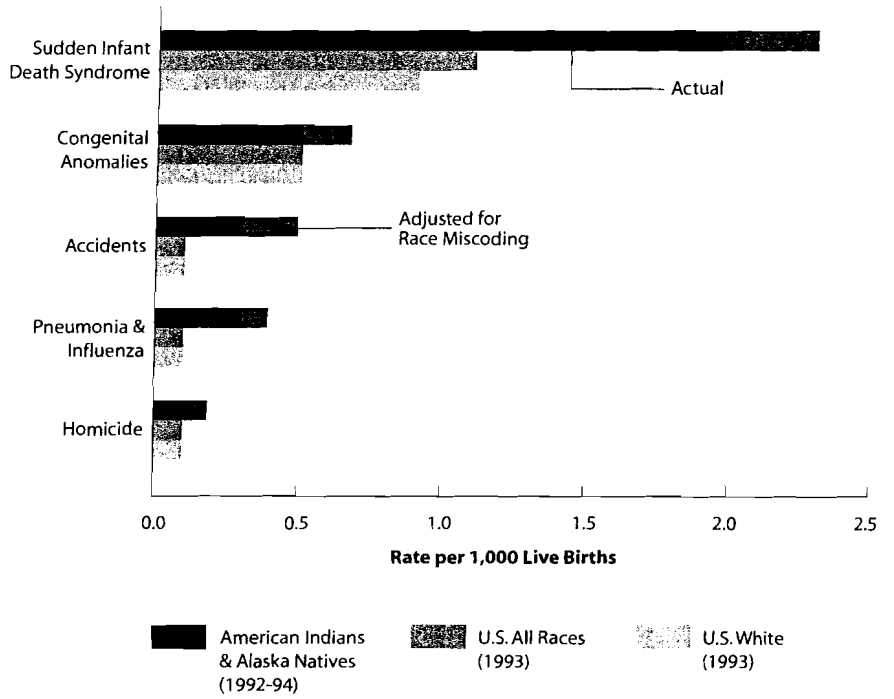
**Chart 7.2 Leading Causes of Neonatal Deaths (Under 28 Days)**

The top two leading causes of Indian neonatal deaths are congenital anomalies and disorders relating to short gestation and low birthweight. These Indian counts are adjusted for miscoding of Indian race on death certificates. These are also the top two leading causes for the U.S. All Races and White populations.



**Chart 7.3 Leading Causes of Postneonatal Deaths (28 Days to Under 1 Year)**

The top two leading causes of Indian postneonatal deaths are sudden infant death syndrome and congenital anomalies. These Indian counts are adjusted for miscoding of Indian race on death certificates. These are also the top two leading causes for the U.S. All Races and White populations.





**Table 7 Leading Causes of Infant Deaths by Age**

American Indians and Alaska Natives, IHS Service Area, 1992-94, and U.S. All Races and White Populations, 1993 (Rate per 1,000 Live Births)

Cause of Death	American Indian and Alaska Native				U.S.	U.S.	Ratio <sup>1</sup> of American Indian and Alaska Native to:	
	Number		Rate		All Races	White	U.S.	U.S.
	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>	Rate	Rate	All Races	White
<b>Total Infant Deaths</b>								
All Causes	872	1,096	8.7	10.9	8.4	6.8	1.3	1.6
Sudden infant death syndrome	210	277	2.1	2.8	1.2	1.0	2.3	2.8
Congenital anomalies	193	229	1.9	2.3	1.8	1.7	1.3	1.4
Accidents	49	58	0.5	0.6	0.2	0.2	3.0	3.0
Pneumonia and influenza	37	44	0.4	0.4	0.1	0.1	4.0	4.0
Disorders relating to short gestation and low birthweight	31	38	0.3	0.4	1.1	0.7	0.4	0.6
Respiratory distress syndrome	27	36	0.3	0.4	0.5	0.3	0.8	1.3
Newborn affected by complications of placenta, cord, and membranes	26	33	0.3	0.3	0.2	0.2	1.5	1.5
Newborn affected by maternal complications of pregnancy	17	27	0.2	0.3	0.3	0.3	1.0	1.0
Intrauterine hypoxia and birth asphyxia	15	17	0.1	0.2	0.1	0.1	2.0	2.0
Homicide	15	16	0.1	0.2	0.1	0.1	2.0	2.0
All other causes	252	321						
<b>Neonatal Deaths</b>								
All Causes	409	517	4.1	5.2	5.3	4.3	1.0	1.2
Congenital anomalies	138	163	1.4	1.6	1.3	1.3	1.2	1.2
Disorders relating to short gestation and low birthweight	30	37	0.3	0.4	1.1	0.7	0.4	0.6
Newborn affected by complications of placenta, cord, and membranes	26	33	0.3	0.3	0.2	0.2	1.5	1.5
Respiratory distress syndrome	23	30	0.2	0.3	0.4	0.3	0.8	1.0
Newborn affected by maternal complications of pregnancy	16	26	0.2	0.3	0.3	0.3	1.0	1.0
Sudden infant death syndrome	14	18	0.1	0.2	0.1	0.1	2.0	2.0
Intrauterine hypoxia and birth asphyxia	14	16	0.1	0.2	0.1	0.1	2.0	2.0
Infections specific to the perinatal period	14	15	0.1	0.2	0.2	0.1	1.0	2.0
Newborn affected by maternal conditions that may be unrelated to present pregnancy	7	8	0.1	0.1	0.0	0.0	*	*
Pneumonia and influenza	6	7	0.1	0.1	0.0	0.0	*	*
All other causes	121	164						
<b>Postneonatal Deaths</b>								
All Causes	463	579	4.6	5.8	3.1	2.5	1.9	2.3
Sudden infant death syndrome	196	259	2.0	2.6	1.1	0.9	2.4	2.9
Congenital anomalies	55	66	0.5	0.7	0.5	0.5	1.4	1.4
Accidents	26	54	0.3	0.5	0.1	0.1	5.0	5.0
Pneumonia and influenza	31	37	0.3	0.4	0.1	0.1	4.0	4.0
Homicide	14	15	0.1	0.2	0.1	0.1	2.0	2.0
Septicemia	5	6	0.0	0.1	0.1	0.0	1.0	1.0
Bronchitis and bronchiolitis	5	6	0.0	0.1	0.0	0.0	*	*
Respiratory distress syndrome	4	6	0.0	0.1	0.0	0.0	*	*
Viral diseases	4	5	0.0	0.1	0.0	0.0	*	*
Gastritis and duodenitis	3	5	0.0	0.1	0.0	0.0	*	*
All other causes	120	120						

<sup>1</sup> Adjusted to compensate for miscoding of Indian race on death certificates.

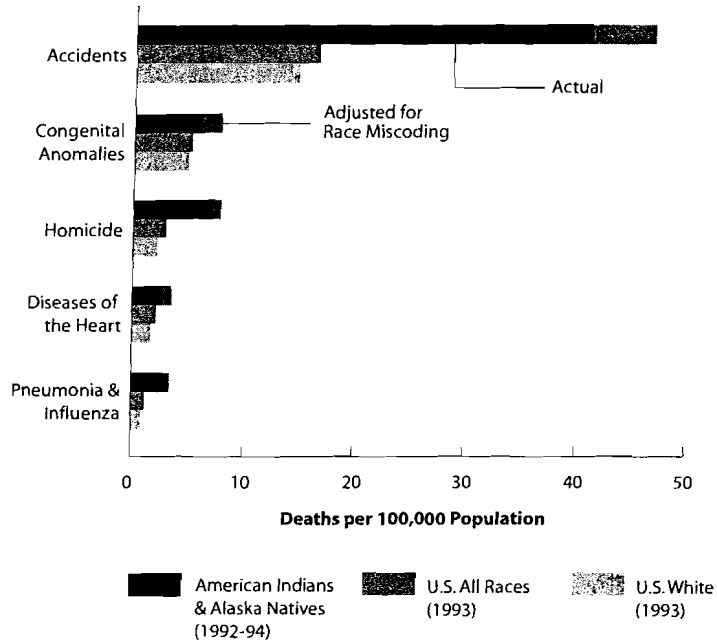
NOTE: 0.0 Rounds to zero. \* Not applicable. Causes of death are listed based upon the order of adjusted number of deaths.

SOURCE: National Center for Health Statistics (NCHS), U.S. infant mortality rates (all ages) — Monthly Vital Statistics Report, Advance Report of Final Mortality Statistics, 1993, Vol. 44 No. 7, Supplement, February 29, 1996, Table 28; and Infant mortality rates by age and race, 1993, unpublished, from NCHS.



**Chart 8 Death Rates, Leading Causes: Ages 1 to 4 Years**

Accidents are the leading cause of death among youth, ages 1 to 4, for the Indian and U.S. All Races and White populations. For this age group in all three populations, the second leading cause of death is congenital anomalies. These Indian counts are adjusted for miscoding of Indian race on death certificates.



**Table 8 Ten Leading Causes of Death for Decedents 1 to 4 Years of Age**

American Indians and Alaska Natives, IHS Service Area, 1992-94, and U.S. All Races and White Populations, 1993 (Rate per 100,000 Population)

Cause of Death	American Indian & Alaska Native Number		American Indian & Alaska Native Rate		U.S. All Races Rate	U.S. White Rate	Ratio <sup>1</sup> of American Indian and Alaska Native to:	
	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>			U.S. All Races	U.S. White
All Causes	304	357	82.5	96.8	44.8	38.3	2.2	2.5
Accidents	151	176	41.0	47.7	16.4	14.6	2.9	3.3
Motor vehicle	69	76	18.7	20.6	5.6	5.1	3.7	4.0
Other accidents	82	100	22.2	27.1	10.8	9.5	2.5	2.9
Congenital anomalies	22	31	6.0	8.4	5.1	4.8	1.6	1.8
Homicide and legal intervention	26	29	7.1	7.9	2.9	1.8	2.7	4.4
Diseases of the heart	9	14	2.4	3.8	1.9	1.5	2.0	2.5
Pneumonia and influenza	11	13	3.0	3.5	1.2	0.9	2.9	3.9
Malignant neoplasms	10	10	2.7	2.7	3.3	3.4	0.8	0.8
Chronic obstructive pulmonary diseases and allied conditions	4	5	1.1	1.4	0.3	0.2	4.7	7.0
Meningitis	4	4	1.0	1.1	0.2	0.2	5.5	5.5
Certain conditions originating in the perinatal period	2	3	0.5	0.8	0.6	0.5	1.3	1.6
Benign neoplasms	2	2	0.5	0.5	0.5	0.5	1.0	1.0
All other causes	63	70						

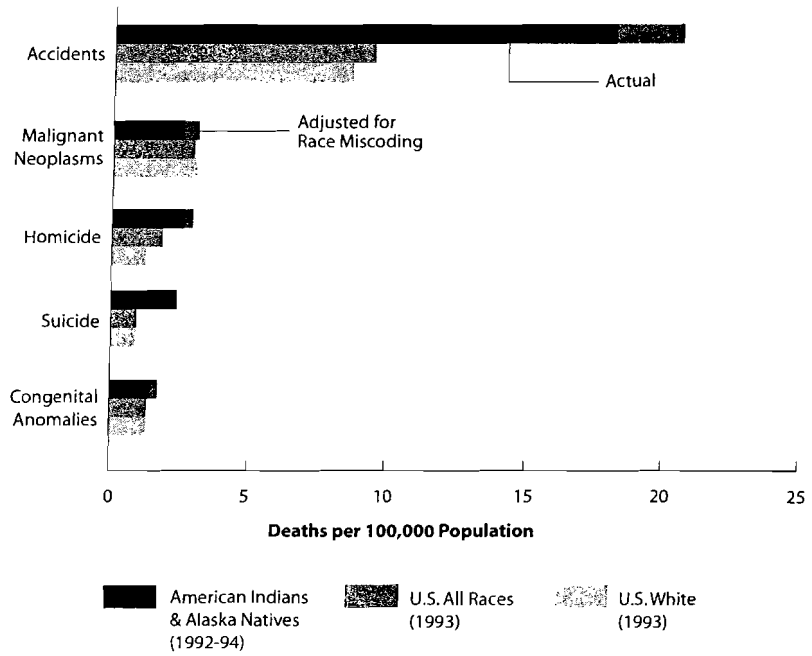
<sup>1</sup> Adjusted to compensate for miscoding of Indian race on death certificates.

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



**Chart 9 Death Rates, Leading Causes: Ages 5 to 14 Years**

Accidents are the leading cause of death for the 5 to 14 year old age group among the Indian, U.S. All Races, and White populations. Malignant neoplasms are the second leading cause of death for this age group in all three populations. These Indian counts are adjusted for miscoding of Indian race on death certificates.



**Table 9 Ten Leading Causes of Death for Decedents 5 to 14 Years of Age**

American Indians and Alaska Natives, IHS Service Area, 1992-94, and U.S. All Races and White Populations, 1993 (Rate per 100,000 Population)

Cause of Death	American Indian & Alaska Native Number		American Indian & Alaska Native Rate		U.S. All Races Rate	U.S. White Rate	Ratio <sup>1</sup> of American Indian and Alaska Native to: U.S.	
	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>			All Races	White
All Causes	298	331	35.4	39.3	23.4	21.4	1.7	1.8
Accidents	152	175	18.1	20.8	9.4	8.6	2.2	2.4
Motor vehicle	74	88	8.8	10.5	5.3	5.1	2.0	2.1
Other accidents	78	87	9.3	10.3	4.1	3.5	2.5	2.9
Malignant neoplasms	21	26	2.5	3.1	2.9	3.0	1.1	1.0
Homicide and legal intervention	22	24	2.6	2.9	1.8	1.2	1.6	2.4
Suicide	21	21	2.5	2.5	0.9	0.9	2.8	2.8
Congenital anomalies	13	14	1.5	1.7	1.3	1.3	1.3	1.3
Diseases of the heart	8	9	1.0	1.1	0.8	0.7	1.4	1.6
Pneumonia and influenza	6	6	0.7	0.7	0.4	0.4	1.8	1.8
Septicemia	5	5	0.6	0.6	0.2	0.1	3.0	6.0
Meningitis	4	5	0.5	0.6	0.1	0.1	6.0	6.0
Viral hepatitis	2	2	0.2	0.2	0.0	0.0	NA	NA
All other causes	44	44						

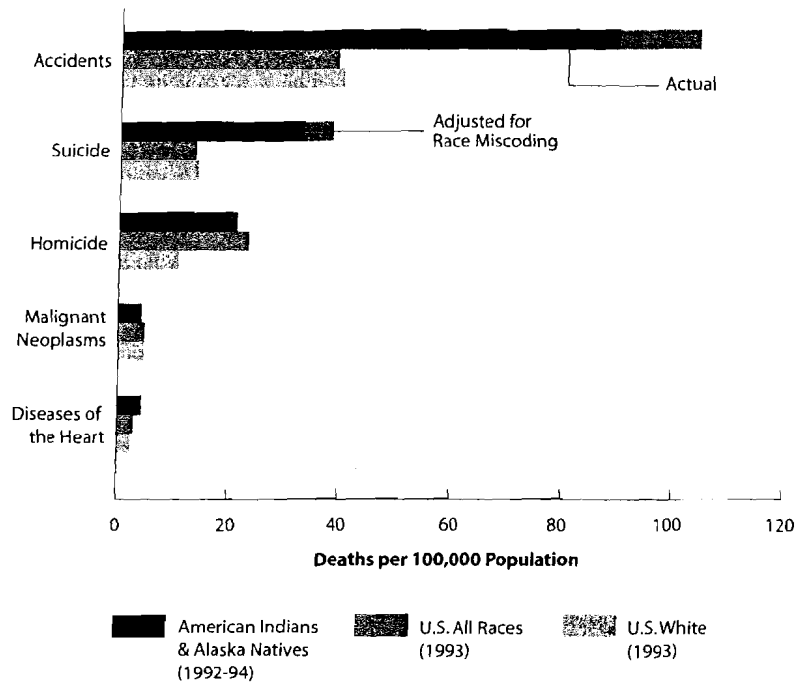
<sup>1</sup> Adjusted to compensate for miscoding of Indian race on death certificates.

NOTE: 0.0 Rounds to zero. NA—Not applicable. Causes of death are listed based upon the order of adjusted number of deaths.



**Chart 10 Death Rates, Leading Causes: Ages 15 to 24 Years**

As it is for the 1 to 14 years age groups, accidents are the leading cause of death for Indians, U.S. All Races, and U.S. Whites ages 15 to 24 years. The second and third leading causes for this age group for Indians and Whites are suicide and homicide. For the All Races population, the order is reversed. These Indian counts are adjusted for miscoding of Indian race on death certificates.



**Table 10 Ten Leading Causes of Death for Decedents 15 to 24 Years of Age**

American Indians and Alaska Natives, IHS Service Area, 1992-94, and U.S. All Races and White Populations, 1993 (Rate per 100,000 Population)

Cause of Death	American Indian & Alaska Native		U.S. All Races		U.S. White		Ratio <sup>1</sup> of American Indian and Alaska Native to:	
	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>	All Races Rate	White Rate	U.S. All Races	U.S. White
All Causes	1,180	1,406	170.3	202.9	98.5	84.7	2.1	2.4
Accidents	621	767	89.6	110.1	38.8	40.0	2.8	2.8
Motor vehicle	457	574	66.0	82.9	29.1	30.8	2.8	2.7
Other accidents	164	193	23.7	27.9	9.6	9.2	2.9	3.0
Suicide	228	257	32.9	37.1	13.5	14.0	2.7	2.7
Homicide and legal intervention	135	155	19.5	22.4	23.4	10.8	1.0	1.8
Malignant neoplasms	26	29	3.8	4.2	4.8	4.7	0.9	0.9
Diseases of the heart	22	27	3.2	3.9	2.7	2.2	1.4	1.8
Cerebrovascular diseases	7	8	1.0	1.2	0.6	0.5	2.0	2.4
Pneumonia and influenza	7	7	1.0	1.0	0.7	0.6	1.4	1.7
Human immunodeficiency virus (HIV) infection	5	6	0.7	0.9	1.7	1.0	0.5	0.9
Complications of pregnancy, childbirth, and the puerperium	4	5	0.6	0.7	0.2	0.1	3.5	7.0
Chronic liver disease and cirrhosis	4	4	0.6	0.6	0.1	0.1	6.0	6.0
Congenital anomalies	4	4	0.6	0.6	1.3	1.3	0.5	0.5
All other causes	117	137						

<sup>1</sup> Adjusted to compensate for miscoding of Indian race on death certificates.

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



**Chart 11 Alcoholism Death Rates by Age and Sex, American Indians and Alaska Natives (1992-94)**

Alcohol abuse among youth is a serious problem in many Indian communities. The problem is already manifesting itself through alcoholism death rates for Indians 15 to 24 years of age. The Indian rate is 5.5 deaths per 100,000 population compared to 0.3 for the U.S. All Races and White populations of this age group. It is a greater problem for Indian males than Indian females. The Indian male death rate due to alcoholism for 15- to 24-year-old persons is over 4 times the female rate, 8.8 to 2.1. These Indian rates are adjusted for miscoding of Indian race on death certificates.



**Table 11 Alcoholism<sup>1</sup> Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1992-94, and U.S. All Races and White Populations, 1993 (Rate per 100,000 population)

Age Group	American Indian and Alaska Native						U.S. All Races			U.S. White		
	Both Sexes		Male		Female		Both Sexes	Male	Female	Both Sexes	Male	Female
	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>						
Under 1 year	—	—	—	—	—	—	0.0	0.0	—	0.0	0.1	—
1-4 years	—	—	—	—	—	—	0.0	0.0	—	—	—	—
5-14 years	—	—	—	—	—	—	0.0	—	0.0	—	—	—
15-24 years	5.2	5.5	8.8	8.8	1.5	2.1	0.3	0.5	0.1	0.3	0.5	0.1
25-34 years	27.3	30.7	32.8	35.3	21.9	26.4	2.4	3.5	1.4	2.2	3.2	1.1
35-44 years	73.8	85.3	96.6	107.9	52.4	64.2	10.1	15.3	4.9	8.7	13.3	3.9
45-54 years	108.3	128.1	149.2	172.2	70.8	87.6	16.9	23.7	6.3	14.7	23.6	6.0
55-64 years	85.6	97.4	123.5	138.7	52.7	61.5	22.2	35.8	9.9	20.7	32.9	9.4
65-74 years	71.6	80.3	106.4	119.4	44.1	49.3	18.8	32.1	8.3	17.9	30.3	8.0
75-84 years	39.0	48.0	70.8	89.4	17.6	20.1	11.1	21.1	4.9	10.8	20.4	4.8
85 years+	10.7	10.7	29.2	29.2	—	—	4.6	12.3	1.6	4.1	11.0	1.6

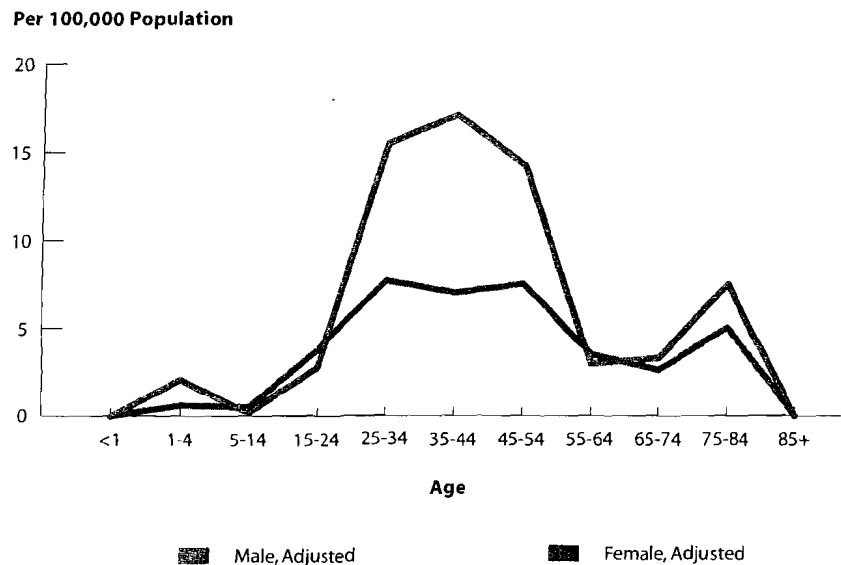
<sup>1</sup> Adjusted to compensate for miscoding of Indian race on death certificates.

NOTE: — Represents zero. 0.0 Rounds to zero.



**Chart 12 Drug-Related Death Rates by Age and Sex, American Indians and Alaska Natives (1992-94)**

Drug abuse continues to be a problem among youth of all races. The drug-related death rate for Indians, 15 to 24 years of age, is 3.3 deaths per 100,000 population. This compares to 3.0 for U.S. All Races and 2.3 for U.S. Whites of the same age group. Unlike alcoholism death rates, the Indian female drug-related death rate for this age group is higher than the Indian male rate, 3.8 to 2.8. These Indian rates are adjusted for miscoding of Indian race on death certificates.



**Table 12 Drug-Related Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1992-94, and U.S. All Races and White Populations, 1993 (Rate per 100,000 population)

Age Group	American Indian and Alaska Native						U.S. All Races			U.S. White		
	Both Sexes		Male		Female		Both Sexes	Male	Female	Both Sexes	Male	Female
	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>						
Under 1 year	—	—	—	—	—	—	1.2	0.5	0.9	0.7	0.9	0.5
1-4 years	0.8	1.4	1.1	2.1	0.6	0.6	0.2	0.2	0.2	0.2	0.2	0.2
5-14 years	0.4	0.4	0.2	0.2	0.5	0.5	0.1	0.2	0.1	0.1	0.1	0.2
15-24 years	2.9	3.3	2.5	2.8	3.2	3.8	3.0	1.7	2.4	2.3	2.9	1.7
25-34 years	9.5	11.5	13.3	15.5	5.9	7.7	12.1	4.3	8.2	7.9	11.8	3.9
35-44 years	10.1	11.9	14.6	17.1	5.9	7.0	19.5	6.7	13.1	11.8	17.4	6.1
45-54 years	10.1	10.7	12.9	14.2	7.5	7.5	7.7	4.0	6.6	5.9	7.4	4.5
55-64 years	3.3	3.3	3.0	3.0	3.5	3.5	3.5	3.2	3.3	3.3	3.2	3.4
65-74 years	2.9	2.9	3.3	3.3	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.6
75-84 years	4.5	6.0	3.7	7.5	5.0	5.0	3.0	2.9	2.9	3.0	3.0	3.0
85 years+	—	—	—	—	—	—	6.4	5.1	5.4	5.3	6.2	4.9

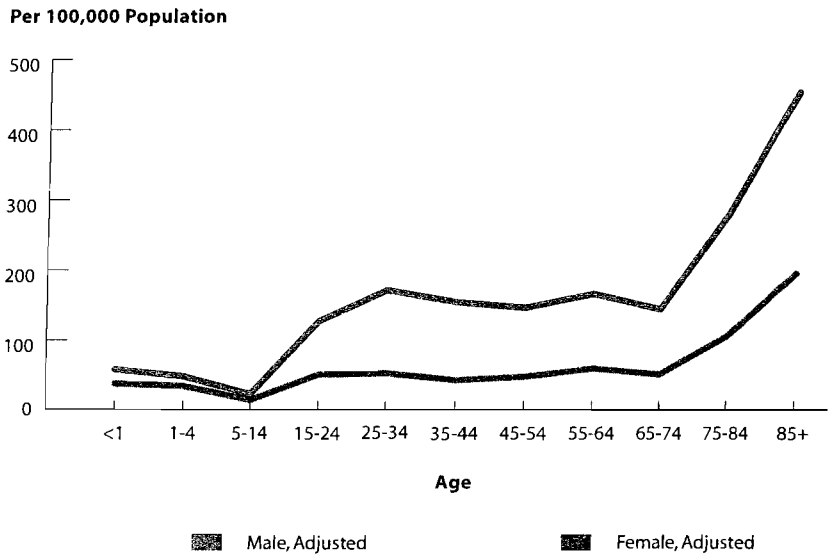
<sup>1</sup> Adjusted to compensate for miscoding of Indian race on death certificates.

NOTE: — Represents zero.



**Chart 13 Accident Death Rates by Age and Sex, American Indians and Alaska Natives (1992-94)**

Indian youth are much more likely to die from accidents than youth in the general population. The accident death rate for Indians ages 1 to 4 years (47.7 deaths per 100,000 population) is 2.9 and 3.3 times the corresponding rates for the U.S. All Races (16.4) and White (14.6) populations, respectively. For 5- to 14-year-old persons, these comparisons yield ratios of 2.2 to 1 (20.8 to 9.4) and 2.4 to 1 (20.8 to 8.6). For 15- to 24-year-old persons, these ratios are 2.9 to 1 (110.7 to 38.8) and 2.8 to 1 (110.7 to 40.0). Accidents are a greater problem for Indian males than Indian females. This disparity increases with age excluding infants; the male to female death rate ratio ranges from 1.4 to 1 for the 1 to 4 age group to 2.1 to 1 for the 15 to 24 age group. These Indian rates are adjusted for miscoding of Indian race on death certificates.



**Table 13 Accident Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1992-94, and U.S. All Races and White Populations, 1993 (Rate per 100,000 population)

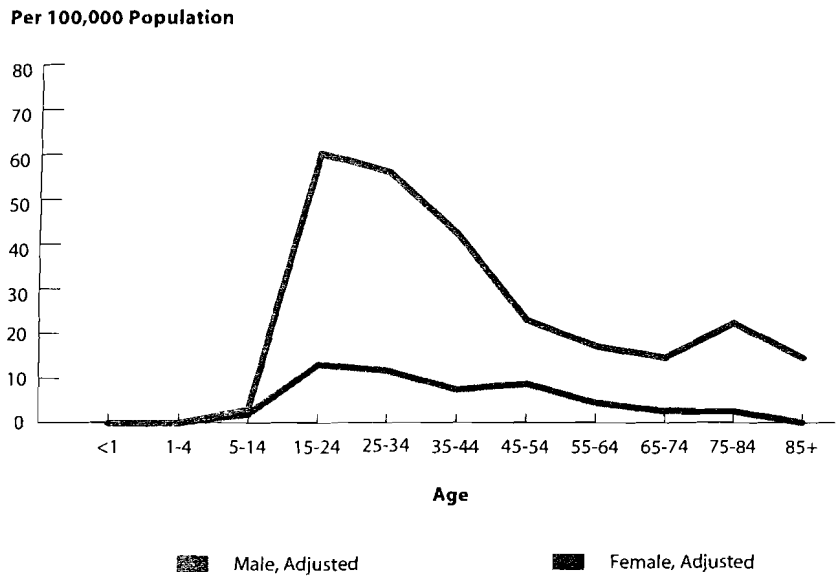
Age Group	American Indian and Alaska Native						U.S. All Races			U.S. White		
	Both Sexes		Male		Female		Both Sexes	Male	Female	Both Sexes	Male	Female
	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>						
Under 1 year	47.7	56.4	57.8	71.3	37.3	41.3	22.9	25.1	20.6	19.4	21.1	17.6
1-4 years	41.0	47.7	48.0	56.0	33.7	39.2	16.4	19.1	13.6	14.6	17.1	11.9
5-14 years	18.1	20.8	22.4	25.5	13.5	15.9	9.4	11.8	6.7	8.6	11.0	6.0
15-24 years	89.6	110.7	127.4	150.0	50.4	69.8	38.8	57.6	19.1	40.0	58.9	20.1
25-34 years	110.7	130.1	171.6	197.3	52.5	65.8	33.5	51.9	15.0	33.3	51.7	14.6
35-44 years	96.8	110.6	154.7	175.6	42.6	49.7	32.5	50.5	14.9	30.8	47.4	14.1
45-54 years	94.7	104.7	146.4	160.0	47.2	54.0	28.0	36.9	12.7	26.3	38.8	14.0
55-64 years	108.7	114.8	166.0	176.2	58.9	61.5	30.6	43.9	18.6	29.0	40.8	18.0
65-74 years	91.9	96.2	144.0	152.2	50.6	51.9	43.6	59.0	31.4	42.0	56.0	30.7
75-84 years	175.5	193.5	279.5	313.0	105.5	113.0	99.5	133.5	78.6	99.2	131.9	78.5
85 years+	289.2	289.2	452.9	452.9	194.5	194.5	263.5	366.9	223.8	266.8	369.6	227.9

<sup>1</sup> Adjusted to compensate for miscoding of Indian race on death certificates.



**Chart 14 Suicide Rates by Age and Sex, American Indians and Alaska Natives (1992-94)**

Indian youth, especially Indian males, are committing suicide at a considerably greater rate than youth in the general population. The Indian suicide death rate for 15- to 24-year-old persons (37.1 deaths per 100,000 population) is 2.7 times the corresponding rates for the U.S. All Races (13.5) and White (14.0) populations. This comparison for Indian males versus Indian females yields a high ratio of 4.6 to 1 (60.3 to 13.0). These Indian rates are adjusted for miscoding of Indian race on death certificates.



**Table 14 Suicide Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1992-94, and U.S. All Races and White Populations, 1993 (Rate per 100,000 population)

Age Group	American Indian and Alaska Native						U.S. All Races			U.S. White		
	Both Sexes		Male		Female		Both Sexes	Male	Female	Both Sexes	Male	Female
	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>						
Under 1 year	—	—	—	—	—	—	—	—	—	—	—	—
1-4 years	—	—	—	—	—	—	—	—	—	—	—	—
5-14 years	2.5	2.5	3.0	3.0	1.9	1.9	0.9	1.2	0.5	0.9	1.2	0.5
15-24 years	32.9	37.1	54.4	60.3	10.6	13.0	13.5	22.4	4.1	14.0	23.1	4.3
25-34 years	29.8	33.3	50.8	56.1	9.8	11.6	15.1	24.9	5.2	15.8	25.9	5.5
35-44 years	21.8	24.3	38.5	42.2	6.3	7.4	15.1	24.0	6.5	16.4	25.5	7.1
45-54 years	14.6	15.6	22.4	23.1	7.5	8.7	14.5	19.6	6.2	15.7	23.9	7.8
55-64 years	9.9	10.4	16.2	17.2	4.4	4.4	14.6	23.9	6.3	15.9	25.7	6.8
65-74 years	7.2	8.0	13.1	14.7	2.6	2.6	16.3	29.4	5.9	17.4	31.4	6.2
75-84 years	10.5	10.5	22.4	22.4	2.5	2.5	22.3	49.0	5.8	23.7	51.8	6.1
85 years+	5.4	5.4	14.6	14.6	—	—	22.8	68.3	5.4	24.2	73.6	5.5

<sup>1</sup> Adjusted to compensate for miscoding of Indian race on death certificates.

NOTE: — Represents zero.





**Chart 15 Homicide Death Rates by Age and Sex, American Indians and Alaska Natives (1992-94)**

Indian youth under 15 years old die from homicide at a greater rate than the general population. The homicide death rate for Indian age groups under 15 years ranges from 1.6 to 2.7 times the corresponding rate for U.S. All Races. Likewise, the Indian rate ranges from 2.4 to 4.4 times the U.S. rate for these age groups. For 15- to 24-year-old persons, the Indian rate (22.4 deaths per 100,000 population) is 4 percent less than the All Races rate (23.4), but more than double the White rate (10.9). The Indian male homicide death rate is close to the Indian female rate for ages under 5. However, it is 3.7 times the female rate for ages 5 to 14 and 5.2 times for ages 15 to 24. These Indian rates are adjusted for miscoding of Indian race on death certificates.



**Table 15 Homicide Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1992-94, and U.S. All Races and White Populations, 1993 (Rate per 100,000 population)

Age Group	American Indian and Alaska Native						U.S. All Races			U.S. White		
	Both Sexes		Male		Female		Both Sexes	Male	Female	Both Sexes	Male	Female
	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>	Actual	Adj <sup>1</sup>						
Under 1 year	14.6	15.6	15.4	15.4	13.8	15.7	8.8	9.6	7.9	6.4	7.0	5.9
1-4 years	7.1	7.9	7.5	8.5	6.6	7.2	2.9	3.4	2.5	1.8	2.2	1.4
5-14 years	2.6	2.9	4.2	4.4	1.0	1.2	1.8	2.2	1.4	1.2	1.3	1.0
15-24 years	19.5	22.4	32.8	37.1	5.6	7.1	23.4	39.2	6.9	10.9	17.3	4.2
25-34 years	22.6	24.8	35.6	39.0	10.1	11.3	17.4	27.2	7.6	9.7	14.5	4.7
35-44 years	20.0	23.6	32.6	38.5	8.2	9.8	11.1	17.2	5.2	6.9	10.2	3.7
45-54 years	11.0	12.3	19.7	21.7	3.1	3.7	7.2	10.0	2.7	5.1	7.8	2.5
55-64 years	8.0	8.5	14.2	15.2	2.6	2.6	4.7	7.4	2.2	3.5	5.2	1.9
65-74 years	5.1	5.1	6.5	6.5	3.9	3.9	3.7	5.3	2.5	2.8	5.0	2.1
75-84 years	6.0	6.0	14.9	14.9	—	—	3.5	4.5	3.0	2.7	3.1	2.4
85 years+	5.4	5.4	—	—	8.5	8.5	4.1	5.7	3.4	3.1	4.0	2.8

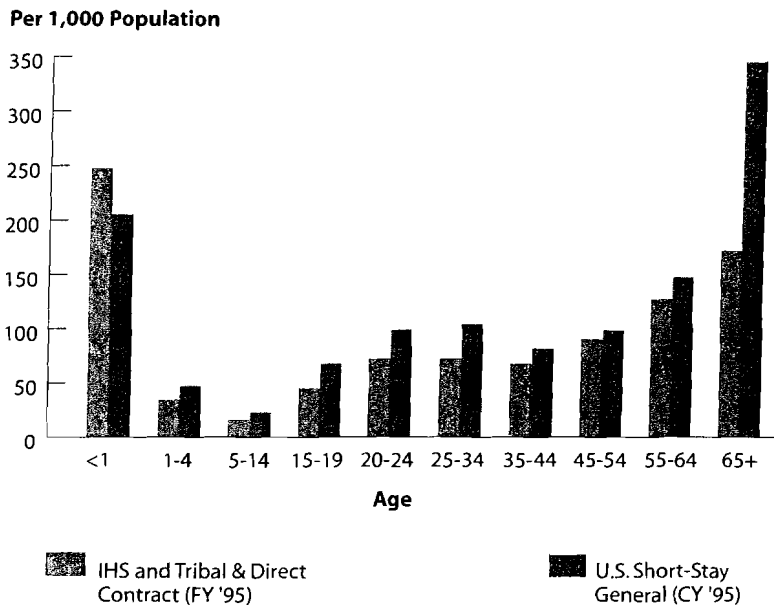
<sup>1</sup> Adjusted to compensate for miscoding of Indian race on death certificates.

NOTE: — Represents zero.



**Chart 16 Hospital Discharge Rates by Age**

The IHS hospital (IHS and Tribal direct and contract general hospitals) discharge rate, all ages, is considerably less than the rate for U.S. general short-stay hospitals, i.e., 64.5 discharges per 1,000 population compared to 117.5, or 45 percent less. The rates are somewhat closer for age groups 1 to 19 years; the Indian rate ranges 28 to 34 percent less than the U.S. rate. On the contrary, for persons under 1 year old, the Indian rate is 20 percent greater than the U.S. rate.



**Table 16 Comparison of IHS and U.S. Hospital Discharge Rates by Age**

Indian Health Service and Tribal Direct and Contract General Hospitals, FY 1995, and U.S. General Short-Stay Hospitals, CY 1995

Age at Admission	Discharges per 1,000 Population		Percent Difference IHS Rate to U.S. Rate
	IHS	U.S.	
All Ages	64.5	117.5	-45.1
Under 1 year	247.3	205.3	20.4
1-4 years	33.9	47.2	-28.1
5-14 years	15.5	22.9	-32.3
15-19 years	44.6	67.7	-34.1
20-24 years	71.5	98.9	-27.7
25-34 years	71.9	104.1	-31.0
35-44 years	67.2	81.7	-17.7
45-54 years	89.7	98.6	-9.1
55-64 years	126.4	147.0	-14.0
65 years and over	171.4	344.6	-50.3

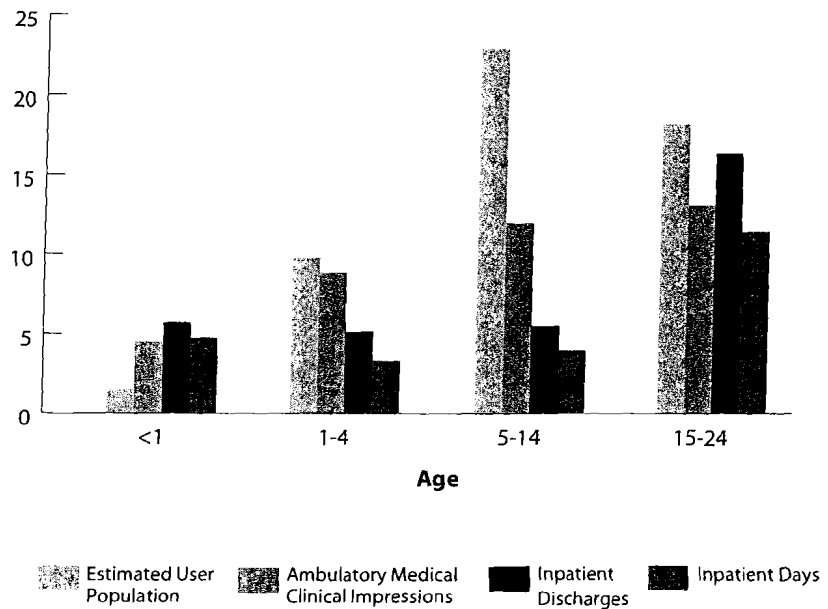
NOTE: IHS discharge rates were calculated using the IHS FY 1995 user population.  
 SOURCE: IHS - Annual Reports 2C and 3I  
 U.S. - Utilization of Short-Stay Hospitals, Annual Summary of the U.S., NCHS



**Chart 17.1 Percent Distribution for Population and Patient Care Workloads, Ages Under 25, FY 1995**

Indian children under 1 year of age comprise 1.5 percent of the IHS user population but consume considerably higher percentages of IHS health services, i.e., 4.5 percent of the ambulatory medical clinical impressions, 5.7 percent of the inpatient discharges, and 4.7 percent of the inpatient days. Indian children, 1 to 4 years of age, utilize a lower percentage of IHS services than their user population percentage (9.8). They utilize 8.9 percent of the ambulatory medical clinical impressions, 5.1 percent of the inpatient discharges, and 3.3 percent of the inpatient days. The 5- to 14-year-old age group consumes the least IHS services relative to their proportion of the IHS user population. They comprise 22.9 percent of the user population, but only consume 12.0 percent of the ambulatory medical clinical impressions, 5.5 percent of the inpatient discharges, and 4.0 percent of the inpatient days.

**Percent Distribution**

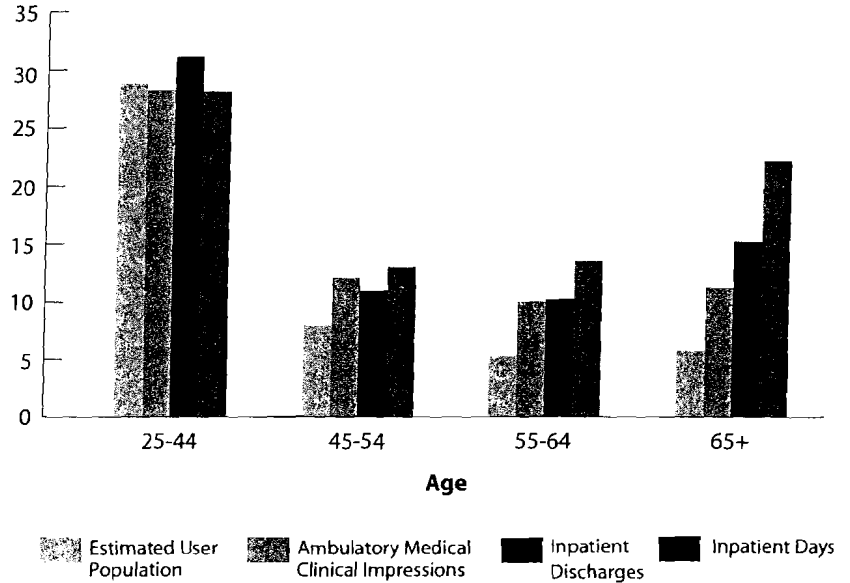




**Chart 17.2 Percent Distribution for Population and Patient Care Workloads, Ages Over 24, FY 1995**

Indians ages 15 to 24 years make up 18.2 percent of the IHS user population. Their proportion of inpatient discharges (16.3 percent) is somewhat less than their population proportion, but their share of inpatient days (11.4) is considerably less indicating a relatively short average length of stay. For ambulatory medical clinical impressions, their percentage (13.1) is also small relative to their population proportion.

**Percent Distribution**



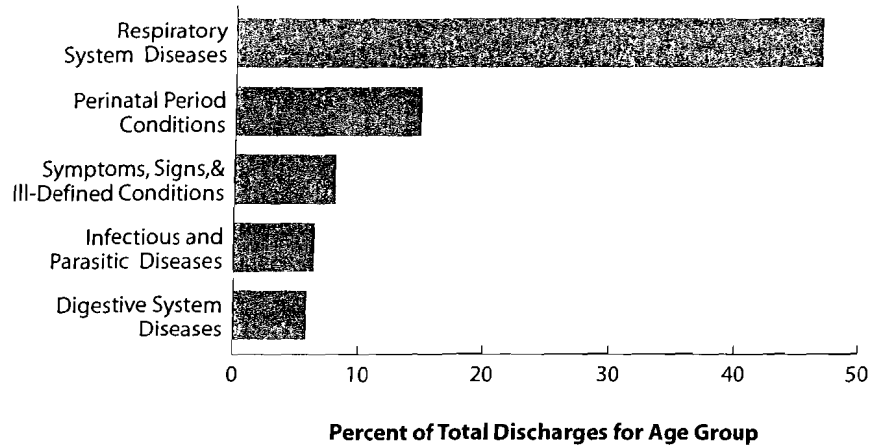
**Table 17 Percent Distribution for Estimated Population, Ambulatory Medical Clinical Impressions, and Inpatient Discharges and Days, F Y 1995**

Percent Distribution	Age								
	All Ages	Under 1 year	1-4 years	5-14 years	15-24 years	25-44 years	45-54 years	55-64 years	65 years & over
Estimated user population	100.0	1.5	9.8	22.9	18.2	28.8	7.9	5.2	5.7
Ambulatory medical clinical impressions	100.0	4.5	8.9	12.0	13.1	28.2	12.0	10.0	11.2
Inpatient discharges	100.0	5.7	5.1	5.5	16.3	31.1	10.9	10.2	15.1
Inpatient days	100.0	4.7	3.3	4.0	11.4	28.1	12.9	13.5	22.1



**Chart 18 Leading Causes of Hospitalization: Ages Under 1 Year IHS and Tribal Direct and Contract Hospitals, FY 1995**

Respiratory system diseases are the leading cause of hospitalization for patients under 1 year of age in IHS and Tribal direct and contract general hospitals. The second leading cause of hospitalization is perinatal period conditions. These are also the top two leading causes for both males and females in this age group.



**Table 18 Ten Leading Causes of Hospitalization for GM&S Patients Under 1 Year of Age**

Indian Health Service and Tribal Direct and Contract General Hospitals, FY 1995

Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
All categories	4,607	2,611	1,996	100.0	56.7	43.3
Respiratory system diseases	2,158	1,285	873	46.8	49.2	43.7
Perinatal period conditions	683	354	329	14.8	13.6	16.5
Symptoms, signs, & ill-defined conditions	374	201	173	8.1	7.7	8.7
Infectious and parasitic diseases	300	155	145	6.5	5.9	7.3
Digestive system diseases	274	161	113	5.9	6.2	5.7
Supplementary classification	152	76	76	3.3	2.9	3.8
Nervous system & sense organ diseases	141	87	54	3.1	3.3	2.7
Genitourinary system diseases	139	67	72	3.0	2.6	3.6
Congenital anomalies	104	61	43	2.3	2.3	2.2
Injury & poisoning	76	44	32	1.6	1.7	1.6
All other	206	120	86	4.5	4.6	4.3

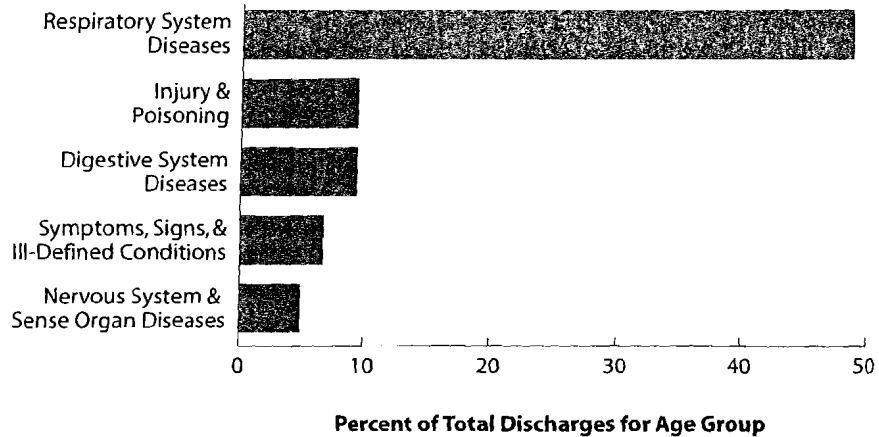
SOURCE: Direct: Annual Report 2C  
Contract: Annual Report 3I





**Chart 19 Leading Causes of Hospitalization: Ages 1 to 4 Years  
IHS and Tribal Direct and Contract Hospitals, FY 1995**

Respiratory system diseases are the leading cause of hospitalization for patients, ages 1 to 4 years (both sexes, males, and females), in IHS and Tribal direct and contract general hospitals. The second leading cause of hospitalization for all patients is a tie between injury and poisoning and digestive system diseases. Injury and Poisoning is the second leading cause followed by digestive system diseases for males in this age group, whereas for females the order is reversed.



**Table 19 Ten Leading Causes of Hospitalization for GM&S Patients 1 to 4 Years of Age**

Indian Health Service and Tribal Direct and Contract General Hospitals, FY 1995

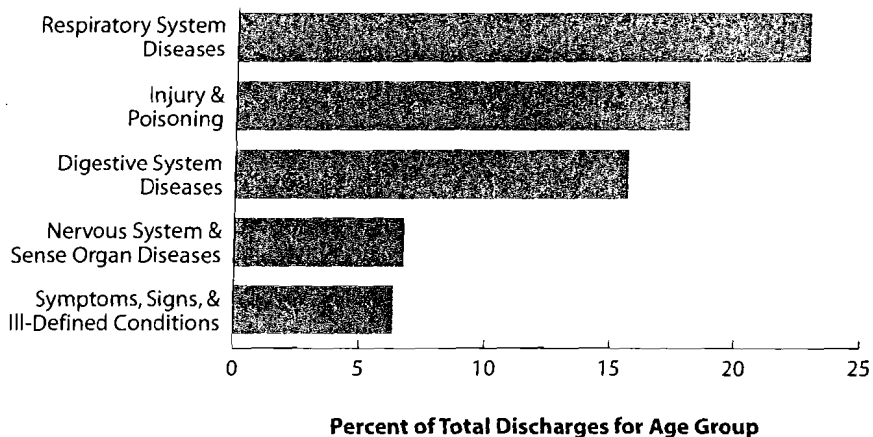
Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
All categories	4,126	2,235	1,891	100.0	54.2	45.8
Respiratory system diseases	2,007	1,099	908	48.6	49.2	48.0
Injury & poisoning	385	226	159	9.3	10.1	8.4
Digestive system diseases	385	219	166	9.3	9.8	8.8
Symptoms, signs, & ill-defined conditions	277	158	119	6.7	7.1	6.3
Nervous system & sense organ diseases	203	111	92	4.9	5.0	4.9
Infectious and parasitic diseases	198	106	92	4.8	4.7	4.9
Skin and subcutaneous tissue diseases	166	80	86	4.0	3.6	4.5
Endocrine, nutritional, & metabolic disorders	151	73	78	3.7	3.3	4.1
Genitourinary system diseases	129	38	91	3.1	1.7	4.8
Blood and blood-forming organs diseases	71	43	28	1.7	1.9	1.5
All other	154	82	72	3.7	3.7	3.8

SOURCE: Direct: Annual Report 2C  
Contract: Annual Report 3I



**Chart 20 Leading Causes of Hospitalization: Ages 5 to 14 Years  
IHS and Tribal Direct and Contract Hospitals, FY 1995**

Respiratory system diseases are the leading cause of hospitalization for patients, ages 5 to 14 years, in IHS and Tribal direct and contract general hospitals. The second leading cause of hospitalization is injury and poisoning. These are also the top two leading causes for both males and females in this age group.



**Table 20 Ten Leading Causes of Hospitalization for GM&S Patients 5 to 14 Years of Age**

Indian Health Service and Tribal Direct and Contract General Hospitals, FY 1995

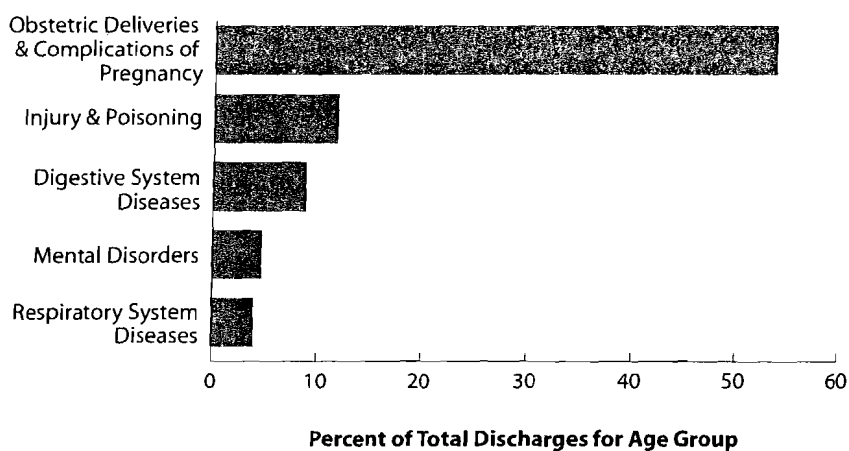
Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
All categories	4,427	2,401	2,026	100.0	54.2	45.8
Respiratory system diseases	1,015	533	482	22.9	22.2	23.8
Injury & poisoning	800	487	313	18.1	20.3	15.4
Digestive system diseases	697	403	294	15.7	16.8	14.5
Nervous system & sense organ diseases	303	156	147	6.8	6.5	7.3
Symptoms, signs, & ill-defined conditions	282	150	132	6.4	6.2	6.5
Skin and subcutaneous tissue diseases	250	149	101	5.6	6.2	5.0
Infectious and parasitic diseases	243	127	116	5.5	5.3	5.7
Genitourinary system diseases	176	40	136	4.0	1.7	6.7
Endocrine, nutritional, & metabolic disorders	136	86	50	3.1	3.6	2.5
Mental disorders	134	57	77	3.0	2.4	3.8
All other	391	213	178	8.8	8.9	8.8

SOURCE: Direct: Annual Report 2C  
Contract: Annual Report 3I



**Chart 21 Leading Causes of Hospitalization: Ages 15 to 24 Years  
IHS and Tribal Direct and Contract Hospitals, FY 1995**

Obstetric deliveries and complications of pregnancy are the leading cause of hospitalization for patients, ages 15 to 24 years, in IHS and Tribal direct and contract general hospitals. Obviously, this is the leading cause for female patients; for male patients, the leading cause is injury and poisoning. The second leading cause of hospitalization for all patients in this age group is injury and poisoning due to the high number of discharges for male patients. However, this is not the second leading cause for either sex; it is digestive system diseases.



**Table 21 Ten Leading Causes of Hospitalization for GM&S Patients 15 to 24 Years of Age**

Indian Health Service and Tribal Direct and Contract General Hospitals, FY 1995

Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
All categories	13,038	2,877	10,161	100.0	22.1	77.9
Obstetric deliveries and complications of pregnancy & puerperium	7,008	0	7,008	53.8	0.0	69.0
Injury & poisoning	1,548	1,055	493	11.9	36.7	4.9
Digestive system diseases	1,161	390	771	8.9	13.6	7.6
Mental disorders	631	322	309	4.8	11.2	3.0
Respiratory system diseases	531	218	313	4.1	7.6	3.1
Genitourinary system diseases	476	50	426	3.7	1.7	4.2
Symptoms, signs, & ill-defined conditions	335	121	214	2.6	4.2	2.1
Skin and subcutaneous tissue diseases	268	184	84	2.1	6.4	0.8
Supplementary classification	235	124	111	1.8	4.3	1.1
Endocrine, nutritional, & metabolic disorders	182	86	96	1.4	3.0	0.9
All other	663	327	336	5.1	11.4	3.3

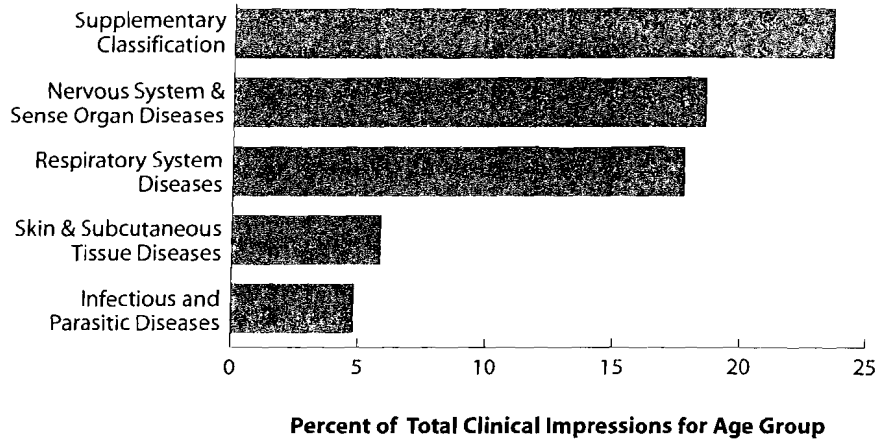
SOURCE: Direct: Annual Report 2C  
Contract: Annual Report 3I





**Chart 22 Leading Causes of Ambulatory Medical Visits: Ages Under 1 Year  
IHS and Tribal Direct and Contract Facilities, FY 1995**

Supplementary classification conditions (e.g., other preventive health services, well child care, physical examination, tests only, hospital/medical/surgical follow-up) are the leading cause of ambulatory medical visits for patients under 1 year of age in IHS and Tribal direct and contract general facilities. The second leading cause of ambulatory medical visits is nervous system and sense organ diseases. These are also the top two leading causes for both males and females in this age group.



**Table 22 Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients Under 1 Year of Age**

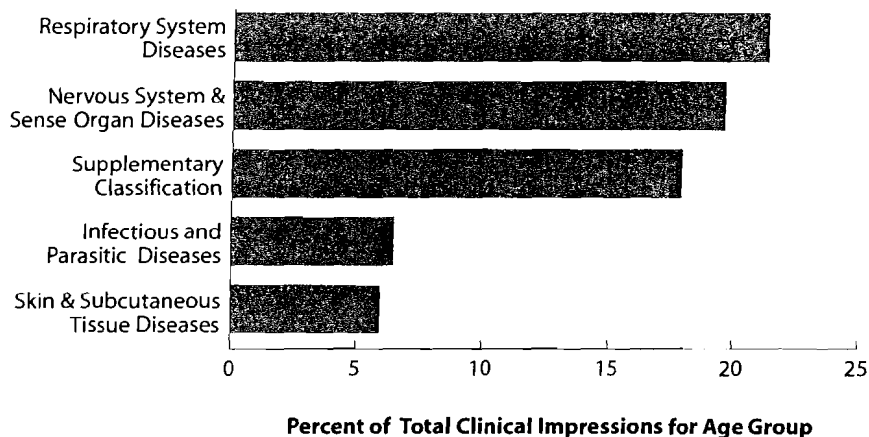
Indian Health Service and Tribal Direct and Contract Facilities, FY 1995

Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
All categories	393,699	204,746	188,953	100.0	52.0	48.0
Supplementary classification	92,369	46,471	45,898	23.5	22.7	24.3
Nervous system & sense organ diseases	72,659	38,361	34,298	18.5	18.7	18.2
Respiratory system diseases	69,784	37,343	32,441	17.7	18.2	17.2
Skin and subcutaneous tissue diseases	22,664	11,529	11,135	5.8	5.6	5.9
Infectious and parasitic diseases	19,025	9,803	9,222	4.8	4.8	4.9
Symptoms, signs, & ill-defined conditions	16,636	8,841	7,795	4.2	4.3	4.1
Digestive system diseases	7,398	3,906	3,492	1.9	1.9	1.8
Perinatal period conditions	6,355	3,486	2,869	1.6	1.7	1.5
Injury & poisoning	3,891	2,109	1,782	1.0	1.0	0.9
Congenital anomalies	2,560	1,422	1,138	0.7	0.7	0.6
All other	80,358	41,475	38,883	20.4	20.3	20.6

SOURCE: Direct: Annual Report 1C  
Contract: Annual Report 3A

**Chart 23 Leading Causes of Ambulatory Medical Visits: Ages 1 to 4 Years  
IHS and Tribal Direct and Contract Facilities, FY 1995**

Respiratory system diseases are the leading cause of ambulatory medical visits for patients, ages 1 to 4 years, in IHS and Tribal direct and contract general facilities. The second leading cause of ambulatory medical visits is nervous system and sense organ diseases. These are also the top two leading causes for both males and females in this age group.



**Table 23 Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 1 to 4 Years of Age**

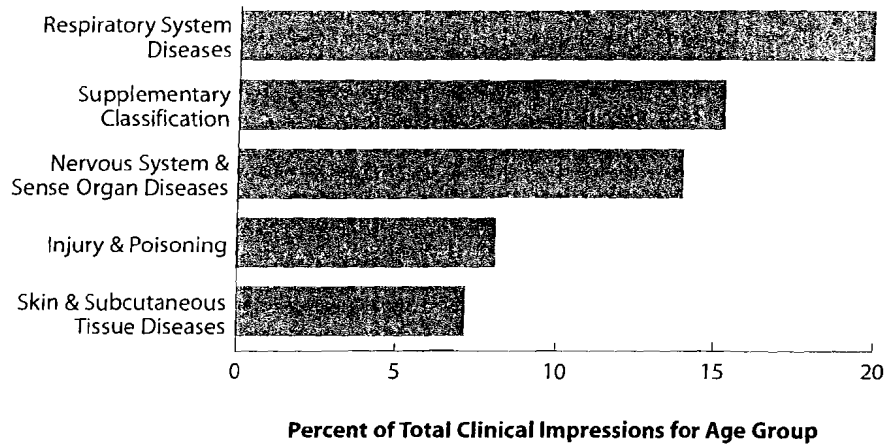
Indian Health Service and Tribal Direct and Contract Facilities, FY 1995

Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
All categories	776,861	398,277	378,584	100.0	51.3	48.7
Respiratory system diseases	165,808	85,950	79,858	21.3	21.6	21.1
Nervous system & sense organ diseases	152,439	79,988	72,451	19.6	20.1	19.1
Supplementary classification	138,670	70,211	68,459	17.9	17.6	18.1
Infectious and parasitic diseases	50,145	24,813	25,332	6.5	6.2	6.7
Skin and subcutaneous tissue diseases	46,510	22,987	23,523	6.0	5.8	6.2
Symptoms, signs, & ill-defined conditions	33,636	17,228	16,408	4.3	4.3	4.3
Injury & poisoning	31,897	17,816	14,081	4.1	4.5	3.7
Digestive system diseases	13,448	6,829	6,619	1.7	1.7	1.7
Genitourinary system diseases	7,787	2,496	5,291	1.0	0.6	1.4
Blood and blood-forming organs diseases	5,186	2,768	2,418	0.7	0.7	0.6
All other	131,335	67,191	64,144	16.9	16.9	16.9

SOURCE: Direct: Annual Report 1C  
Contract: Annual Report 3A

**Chart 24 Leading Causes of Ambulatory Medical Visits: Ages 5 to 14 Years  
IHS and Tribal Direct and Contract Facilities, FY 1995**

Respiratory system diseases are the leading cause of ambulatory medical visits for patients, ages 5 to 14 years, in IHS and Tribal direct and contract general facilities. The second leading cause of ambulatory medical visits is supplementary classification conditions (e.g., other preventive health services, well child care, physical examination, tests only, hospital/medical/surgical follow-up). These are also the top two leading causes for both males and females in this age group.



**Table 24 Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 5 to 14 Years of Age**

Indian Health Service and Tribal Direct and Contract Facilities, FY 1995

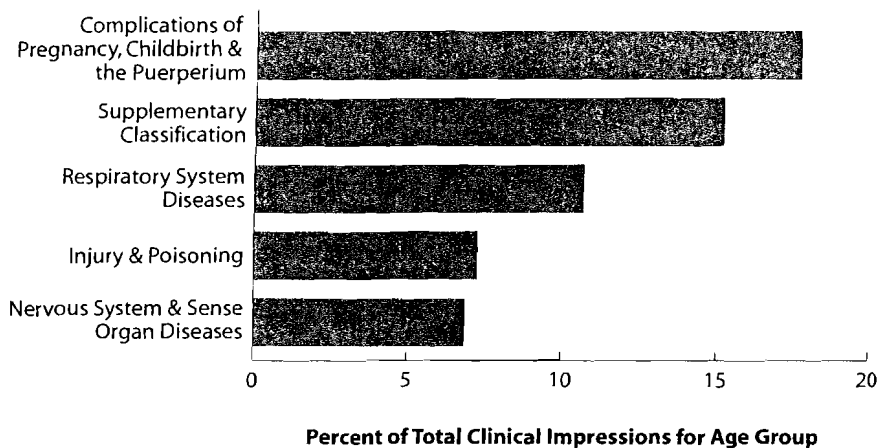
Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
All categories	1,057,784	525,335	532,449	100.0	49.7	50.3
Respiratory system diseases	210,443	102,127	108,316	19.9	19.4	20.3
Supplementary classification	161,619	82,735	78,884	15.3	15.7	14.8
Nervous system & sense organ diseases	148,122	70,278	77,844	14.0	13.4	14.6
Injury & poisoning	85,501	48,496	37,005	8.1	9.2	6.9
Skin and subcutaneous tissue diseases	75,768	37,170	38,598	7.2	7.1	7.2
Infectious and parasitic diseases	72,741	32,016	40,725	6.9	6.1	7.6
Symptoms, signs, & ill-defined conditions	50,679	24,263	26,416	4.8	4.6	5.0
Mental disorders	48,694	32,064	16,630	4.6	6.1	3.1
Musculoskeletal system diseases	18,341	8,571	9,770	1.7	1.6	1.8
Digestive system diseases	17,590	8,267	9,323	1.7	1.6	1.8
All other	168,286	79,348	88,938	15.9	15.1	16.7

SOURCE: Direct: Annual Report 1C  
Contract: Annual Report 3A



**Chart 25 Leading Causes of Ambulatory Medical Visits: 15 to 24 Years  
IHS and Tribal Direct and Contract Facilities, FY 1995**

Complications of pregnancy, childbirth, and the puerperium are the leading cause of ambulatory medical visits for patients, ages 15 to 24 years, in IHS and Tribal direct and contract general facilities. The second leading cause of ambulatory medical visits is supplementary classification conditions (e.g., other preventive health services, well child care, physical examination, tests only, hospital/medical/surgical follow-up). These are also the top two leading causes for females in this age group. For males, the top two leading causes are supplementary classification conditions and injury and poisoning.



**Table 25 Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 15 to 14 Years of Age**

Indian Health Service and Tribal Direct and Contract Facilities, FY 1995

Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
All categories	1,161,972	344,530	817,442	100.0	29.7	70.3
Complications of pregnancy, childbirth, & the puerperium	205,781	0	205,781	17.7	0.0	25.2
Supplementary classification	176,259	55,522	120,737	15.2	16.1	14.8
Respiratory system diseases	123,911	44,847	79,064	10.7	13.0	9.7
Injury & poisoning	85,115	50,254	34,861	7.3	14.6	4.3
Nervous system & sense organ diseases	80,262	31,030	49,232	6.9	9.0	6.0
Skin and subcutaneous tissue diseases	61,924	26,493	35,431	5.3	7.7	4.3
Genitourinary system diseases	54,023	2,937	51,086	4.6	0.9	6.2
Mental disorders	52,204	24,236	27,968	4.5	7.0	3.4
Symptoms, signs, & ill-defined conditions	49,737	14,982	34,755	4.3	4.3	4.3
Musculoskeletal system diseases	37,966	16,249	21,717	3.3	4.7	2.7
All other	234,790	77,980	156,810	20.2	22.6	19.2

SOURCE: Direct: Annual Report 1C  
Contract: Annual Report 3A



# Glossary of ICD-9 Codes

## *List of 72 Selected Causes of Death (1979-Present)*

<b>Cause of death</b>	<b>ICD-9 Codes</b>
Shigellosis and amebiasis .....	004, 006
Certain other intestinal infections .....	007-009
Tuberculosis .....	010-018
Tuberculosis of respiratory system .....	010-012
Other tuberculosis .....	013-018
Whooping cough .....	033
Streptococcal sore throat, scarlatina, and erysipelas .....	034-035
Meningococcal infection .....	036
Septicemia .....	038
Acute poliomyelitis .....	045
Measles .....	055
Viral hepatitis .....	070
Syphilis .....	090-097
All other infectious and parasitic diseases .....	001-003, 005, 020-032, 037, 039-041, 042-044, 046-054, 056-066, 071-088, 098-139
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues .....	140-208
Malignant neoplasms of lip, oral cavity, and pharynx .....	140-149
Malignant neoplasms of digestive organs and peritoneum .....	150-159
Malignant neoplasms of respiratory and intrathoracic organs .....	160-165
Malignant neoplasm of breast .....	174-175
Malignant neoplasms of genital organs .....	179-187
Malignant neoplasms of urinary organs .....	188-189
Malignant neoplasms of all other and unspecified sites .....	170-173, 190-199
Leukemia .....	204-208
Other malignant neoplasms of lymphatic and hematopoietic tissues .....	200-203
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature .....	210-239
Diabetes mellitus .....	250
Nutritional deficiencies .....	260-269
Anemias .....	280-285
Meningitis .....	320-322
Major cardiovascular diseases .....	390-448
Diseases of heart .....	390-398, 402, 404-429
Rheumatic fever and rheumatic heart disease .....	390-398
Hypertensive heart disease .....	402
Hypertensive heart and renal disease .....	404
Ischemic heart disease .....	410-414
Acute myocardial infarction .....	410
Other acute and subacute forms of ischemic heart disease .....	411
Angina pectoris .....	413
Old myocardial infarction and other forms of chronic ischemic heart disease .....	412, 414
Other diseases of endocardium .....	424
All other forms of heart disease .....	415-423, 425-429





## *List of 72 Selected Causes of Death (1979-Present)*

<b>Cause of death</b>	<b>ICD-9 Codes</b>
Hypertension with or without renal disease	401, 403
Cerebrovascular diseases	430-438
Intracerebral and other intracranial hemorrhage	431-432
Cerebral thrombosis and unspecified occlusion of cerebral arteries	434.0, 434.9
Cerebral embolism	434.1
All other and late effects of cerebrovascular diseases	430, 433, 435-438
Atherosclerosis	440
Other diseases of arteries, arterioles, and capillaries	441-448
Acute bronchitis and bronchiolitis	466
Pneumonia and influenza	480-487
Pneumonia	480-486
Influenza	487
Chronic obstructive pulmonary diseases and allied conditions	490-496
Bronchitis, chronic and unspecified	490-491
Emphysema	492
Asthma	493
Other chronic obstructive pulmonary diseases and allied conditions	494-496
Ulcer of stomach and duodenum	531-533
Appendicitis	540-543
Hernia of abdominal cavity and intestinal obstruction without mention of hernia	550-553, 560
Chronic liver disease and cirrhosis	571
Cholelithiasis and other disorders of gallbladder	574-575
Nephritis, nephrotic syndrome, and nephrosis	580-589
Acute glomerulonephritis and nephrotic syndrome	580-581
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified	582-583, 587
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause	584-586, 588-589
Infections of kidney	590
Hyperplasia of prostate	600
Complications of pregnancy, childbirth, and the puerperium	630-676
Pregnancy with abortive outcome	630-638
Other complications of pregnancy, childbirth, and the puerperium	640-676
Congenital anomalies	740-759
Certain conditions originating in the perinatal period	760-779
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome	767-769
Other conditions originating in the perinatal period	760-766, 770-779
Symptoms, signs, and ill-defined conditions	780-799
All other diseases	Residual
Accidents and adverse effects	E800-E949
Motor vehicle accidents	E810-E825
All other accidents and adverse effects	E800-E807, E826-E949
Suicide	E950-E959
Homicide and legal intervention	E960-E978
All other external causes	E980-E999



**List of 61 Selected Causes of Infant Death (1979-Present)**

<b>Cause of death</b>	<b>ICD-9 Codes</b>
Certain intestinal infections .....	008-009
Whooping cough .....	033
Meningococcal infection .....	036
Septicemia .....	038
Viral diseases .....	045-079
Congenital syphilis .....	090
Remainder of infectious and parasitic diseases .....	001-007, 010-032, 034-035, 037, 039-041, 042-044, 080-088, 091-139
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues .....	140-208
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature .....	210-239
Diseases of thymus gland .....	254
Cystic fibrosis .....	277.0
Diseases of blood and blood-forming organs .....	280-289
Meningitis .....	320-322
Other diseases of nervous system and sense organs .....	323-389
Acute upper respiratory infections .....	460-465
Bronchitis and bronchiolitis .....	466, 490-491
Pneumonia and influenza .....	480-487
Pneumonia .....	480-486
Influenza .....	487
Remainder of diseases of respiratory system .....	470-478, 492-519
Hernia of abdominal cavity and intestinal obstruction without mention of hernia .....	550-553, 560
Gastritis, duodenitis, and noninfective enteritis and colitis .....	535, 555-558
Remainder of diseases of digestive system .....	520-534, 536-543, 562-579
Congenital anomalies .....	740-759
Anencephalus and similar anomalies .....	740
Spina bifida .....	741
Congenital hydrocephalus .....	742.3
Other congenital anomalies of central nervous system and eye .....	742.0-742.2, 742.4-742.9, 743
Congenital anomalies of heart .....	745-746
Other congenital anomalies of circulatory system .....	747
Congenital anomalies of respiratory system .....	748
Congenital anomalies of digestive system .....	749-751
Congenital anomalies of genitourinary system .....	752-753
Congenital anomalies of musculoskeletal system .....	754-756
Down's syndrome .....	758.0
Other chromosomal anomalies .....	758.1-758.9
All other and unspecified congenital anomalies .....	744, 757, 759
Certain conditions originating in the perinatal period .....	760-779
Newborn affected by maternal conditions that may be unrelated to present pregnancy .....	760
Newborn affected by maternal complications of pregnancy .....	761
Newborn affected by complications of placenta, cord, and membranes .....	762
Newborn affected by other complications of labor and delivery .....	763
Slow fetal growth and fetal malnutrition .....	764
Disorders relating to short gestation and unspecified low birthweight .....	765
Disorders relating to long gestation and high birthweight .....	766





**List of 61 Selected Causes of Infant Death (1979-Present)**

<b>Cause of death</b>	<b>ICD-9 Codes</b>
Birth trauma .....	767
Intrauterine hypoxia and birth asphyxia .....	768
Fetal distress in liveborn infant .....	768.2-768.4
Birth asphyxia .....	768.5-768.9
Respiratory distress syndrome .....	769
Other respiratory conditions of newborn .....	770
Infections specific to the perinatal period .....	771
Neonatal hemorrhage .....	772
Hemolytic disease of newborn, due to isoimmunization, and other perinatal jaundice .....	773-774
Syndrome of "infant of a diabetic mother" and neonatal diabetes mellitus .....	775.0-775.1
Hemorrhagic disease of newborn .....	776.0
All other and ill-defined conditions originating in the perinatal period .....	775.2-775.9, 776.1-779
Symptoms, signs, and ill-defined conditions .....	780-799
Sudden infant death syndrome .....	798.0
Symptoms, signs, and all other ill-defined conditions .....	780-797, 798.1-799
Accidents and adverse effects .....	E800-E949
Inhalation and ingestion of food or other object causing obstruction of respiratory tract or suffocation .....	E911-E912
Accidental mechanical suffocation .....	E913
Other accidental causes and adverse effects .....	E800-E910, E914-E949
Homicide .....	E960-E969
Child battering and other maltreatment .....	E967
Other homicide .....	E960-E966, E968-E969
All other causes .....	Residual

**Additional Causes of Death and Their Corresponding ICD-9 Codes Which May Be Found in This Publication**

*(These categories are not included as part of the 72 causes of death or 61 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.)*

<b>Cause of death</b>	<b>ICD-9 Codes</b>
Alcoholism deaths .....	291, 303, 305.0, 357.5, 425.5, 535.3, 571.0-571.3, 790.3, E860
Breast cancer (females) .....	174
Cervical cancer .....	180
Colon-rectal cancer .....	153.0-154.3, 154.8, 159.0
Drug-related deaths .....	292, 304, 305.2-305.9, E850-E858, E950-E950.5, E962.0, E980.0-E980.5
Gastroenteric deaths .....	004, 006-009, 535, 555-556, 558, 562
Human immunodeficiency virus (HIV) infection .....	042-044
Injury by firearms .....	E922, E955.0-E955.4, E965.0-E965.4, E970, E985.0-E985.4
Injury and poisoning .....	E800-E807, E810-E825, E826-E949, E950-E959, E960-E978, E980-E989, E990-E999
Other injuries .....	E980-E989, E990-E999
Lung cancer .....	162.2-162.9
Maternal deaths .....	630-676
Prostate cancer .....	185







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

<b>Cause of death</b>	<b>ICD-9 Codes</b>
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 .....	.630-676
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) .....	E01-E99