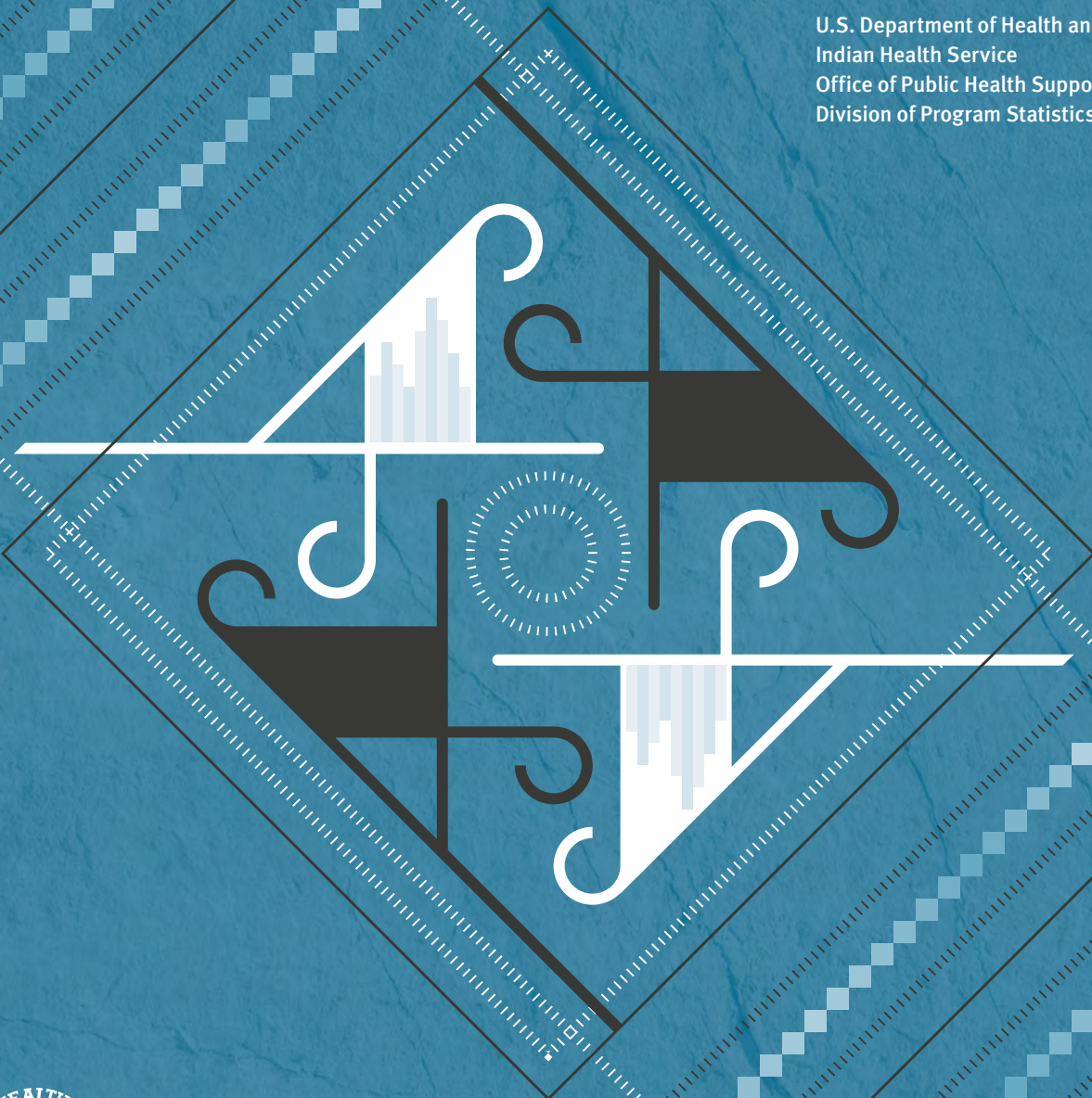


# TRENDS IN INDIAN HEALTH 2014 EDITION

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





**INDIAN HEALTH SERVICE  
TRENDS IN INDIAN HEALTH  
2014 EDITION**

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## PREFACE

*Since 1955, the Indian Health Service (IHS) has had the responsibility for upholding the Federal Government's obligations to promote healthy American Indian and Alaska Native people, communities, and cultures, while honoring and protecting each Tribe's inherent sovereign rights. The IHS mission is to raise the physical, mental, social, and spiritual health of American Indians and Alaska Natives to the highest level.*

*"Trends in Indian Health" provides narrative, tables, and charts that describe IHS programs and the health status of American Indians and Alaska Natives. The Report presents a structural overview of the Agency, along with demographic data on American Indians and Alaska Natives and patient care delivery services. Current and trend information are detailed and comparisons made to the U.S. population at large, where appropriate.*

*The IHS remains committed to our goal of assuring that comprehensive, culturally acceptable personal and public health services are available and accessible to American Indian and Alaska Native people. The data contained within this Report advances our ongoing efforts to achieve this vital health care goal.*

*/ Robert G. McSwain /  
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## CONTENTS

<b>Overview</b>	<b>1</b>
<b>Trends in Indian Health</b>	<b>3</b>
Introduction	3
Scope and Organization of this Report	3
<b>Summary of Data Shown</b>	<b>4</b>
Indian Health Service Organizational Structure	4
Population Statistics	4
Natality and Infant/Maternal Mortality Statistics	5
General Mortality Statistics	5
Patient Care Statistics	6
Community Health Statistics	6
<b>Sources and Limitations of Data</b>	<b>8</b>
Population Statistics	8
IHS Service Population	8
Definition	8
Description of Service Population Calculation	8
Changes in Methodology	10
ICD-9 Conversion to ICD-10	10
2000 U.S. Census Populations with Bridged Race Categories (2000 Census Bridged File)	10
Age-Adjustment Based on the 2000 Standard Population	10
Vital Event Statistics	11
Patient Care Statistics	13
Community Health Statistics	13
<b>Glossary</b>	<b>16</b>
<b>Sources of Copies and Additional Information</b>	<b>18</b>
<b>Part 1: Indian Health Service Structure</b>	
Chart 1.1 Indian Health Service	19
Chart 1.2 Indian Health Service Area Offices	19
Chart 1.3 American Indian and Alaska Native Tribal Governments	20
Chart 1.4 Indian Health Care Improvement Act, Title V Urban Health Services	20
Chart 1.5 Number of Facilities Operated by Indian Health Service and Tribes as of October 1, 2013	21
Chart 1.6 Trend in Indian Health Service Budget	21
Table 1.6 Trend in Indian Health Service Budget	22

Chart 1.7	Accreditation Status of Selected Health Facilities, July 2014	23
Table 1.7	Accreditation Status of Hospitals, Health Centers, and Youth Regional Treatment Centers, July 2014	23
Chart 1.8	Accreditation Status of IHS Laboratories, July 2014	24
Table 1.8	Indian Health Service Laboratory Accreditation Status, July 2014	24

**Part 2: Population Statistics**

Chart 2.1	American Indians and Alaska Native IHS Service Population	25
Chart 2.2	Indian Health Service—Service Population by Area, Calendar Year 2014	25
Table 2.1	IHS Service Population by Area, 2000-2020	26
Chart 2.3	Population by Age and Sex, 2000 Census with Bridged Race Categories	27
Table 2.3	Age and Sex Percent Distribution	28
Chart 2.4	Population by Age, 2000 Census with Bridged Race Categories	29
Table 2.4	Percent Age Distribution	29
Chart 2.5	Educational Attainment	30
Chart 2.6	Employment Status by Sex	30
Chart 2.7	Income Status in 1999	31
Table 2.5	Selected Economic Profiles for the United States, 2000 Census	31
Chart 2.8	Urban Indian Health Programs Service Area Population by Category	32
Table 2.8	Urban Indian Health Programs Service Area Population by Category	32

**Part 3: Natality and Infant/Maternal Mortality Statistics**

Chart 3.1	Birth Rates	33
Table 3.1	Number and Rate of Live Births	34
Chart 3.2	Low Birthweight (less than 2,500 grams) as a Percent of Total Live Births by Age of Mother	35
Table 3.2	Low Birthweight (less than 2,500 grams) by Age of Mother	36
Chart 3.3	High Birthweight (4,000 grams or more) as a Percent of Total Live Births by Age of Mother	37
Table 3.3	High Birthweight (4,000 grams or more) by Age of Mother	38
Chart 3.4	Birth Order by Age of Mother, Percent within Birth Order, American Indians and Alaska Natives	39
Chart 3.5	Birth Order by Age of Mother, Percent within Birth Order, U.S. All Races	39
Chart 3.6	Birth Order by Age of Mother, Percent within Birth Order, U.S. White	39
Table 3.4	Number and Percent Distribution of Live Births by Age of Mother within Birth Order	40
Chart 3.7	Maternal Death Rates	41
Table 3.7	Maternal Death Rates	42



Chart 3.8	Infant Mortality Rates	43
Table 3.8	Infant Mortality Rates	44
Chart 3.9	Infant Mortality Rates by Age	45
Table 3.9	Infant Mortality Rates by Age	46
Chart 3.10	Leading Causes of Infant Deaths (Birth to Under 1 Year)	47
Chart 3.11	Leading Causes of Neonatal Deaths (Under 28 Days)	47
Chart 3.12	Leading Causes of Postneonatal Deaths (28 Days to Under 1 Year)	48
Table 3.10	Leading Causes of Infant Deaths by Age	49

#### Part 4: General Mortality Statistics

Chart 4.1	Death Rates, Leading Causes: Ages 1 to 4 Years	50
Table 4.1	Ten Leading Causes of Death for Decedents for 1 to 4 Years of Age	50
Chart 4.2	Death Rates, Leading Causes: Ages 5 to 14 Years	51
Table 4.2	Ten Leading Causes of Death for Decedents for 5 to 14 Years of Age	51
Chart 4.3	Death Rates, Leading Causes: Ages 15 to 24 Years	52
Table 4.3	Ten Leading Causes of Death for Decedents for 15 to 24 Years of Age	52
Chart 4.4	Death Rates, Leading Causes: Ages 25 to 44 Years	53
Table 4.4	Ten Leading Causes of Death for Decedents for 25 to 44 Years of Age	53
Chart 4.5	Death Rates, Leading Causes: Ages 45 to 54 Years	54
Table 4.5	Ten Leading Causes of Death for Decedents for 45 to 54 Years of Age	54
Chart 4.6	Death Rates, Leading Causes: Ages 55 to 64 Years	55
Table 4.6	Ten Leading Causes of Death for Decedents for 55 to 64 Years of Age	55
Chart 4.7	Death Rates, Leading Causes: 65 Years of Age and Older	56
Table 4.7	Ten Leading Causes of Death for Decedents for 65 Years of Age and Older	56
Chart 4.8	Death Rates for Leading Causes of All Ages	57
Table 4.8	Ten Leading Causes of Death for Decedents of All Ages	57
Chart 4.9	Death Rates, Leading Causes: Males	58
Chart 4.10	Death Rates, Leading Causes: Females	58
Table 4.9	Leading Causes of Death by Sex	59
Chart 4.11	Selected Age-Adjusted Death Rates, Ratio of AI/AN (2007-2009) to U.S. All Races (2008)	60
Table 4.11	Age-Adjusted Death Rates	60
Chart 4.12	Age-Specific Death Rates, Ratio of AI/AN (2007-2009) to U.S. All Races (2008)	61
Chart 4.13	Age-Specific Death Rates, Ratio of AI/AN (2007-2009) to U.S. White (2008)	61
Table 4.12	Age-Specific Death Rates	62
Chart 4.14	Deaths by Age	62
Chart 4.15	Deaths by Age and Race	63
Chart 4.16	Deaths by Age and Sex	63

Table 4.14	Number and Percent Distribution of Deaths by Age and Sex	64
Chart 4.17	Age-Adjusted Poisoning Death Rates	65
Table 4.17	Poisoning Deaths and Death Rates	66
Chart 4.18	Poisoning Death Rates by Age and Sex	67
Table 4.18	Poisoning Death Rates by Age and Sex	68
Chart 4.19	Age-Adjusted Unintentional Injury Death Rates	69
Table 4.19	Unintentional Injury Deaths and Death Rates	70
Chart 4.20	Unintentional Injury Death Rates by Age and Sex	71
Table 4.20	Unintentional Injury Death Rates by Age and Sex	72
Chart 4.21	Age-Adjusted Suicide Death Rates	73
Table 4.21	Suicide Deaths and Death Rates	74
Chart 4.22	Suicide Death Rates by Age and Sex	75
Table 4.22	Suicide Death Rates by Age and Sex	76
Chart 4.23	Age-Adjusted Homicide Death Rates	77
Table 4.23	Homicide Deaths and Death Rate	78
Chart 4.24	Homicide Death Rates by Age and Sex	79
Table 4.24	Homicide Death Rates by Age and Sex	80
Chart 4.25	Age-Adjusted Firearm Injury Death Rates	81
Table 4.25	Firearm Injury Deaths and Death Rates	82
Chart 4.26	Firearm Injury Death Rates by Age and Sex	83
Table 4.26	Firearm Injury Death Rates by Age and Sex	84
Chart 4.27	Age-Adjusted Alcohol-Related Death Rates	85
Table 4.27	Alcohol-Related Deaths and Death Rates	86
Chart 4.28	Alcohol-Related Death Rates by Age and Sex	87
Table 4.28	Alcohol-Related Death Rates by Age and Sex	88
Chart 4.29	Age-Adjusted Chronic Liver Disease and Cirrhosis Death Rates	89
Table 4.29	Chronic Liver Disease and Cirrhosis Deaths and Death Rates	90
Chart 4.30	Chronic Liver Disease and Cirrhosis Death Rates by Age and Sex	91
Table 4.30	Chronic Liver Disease and Cirrhosis Death Rates by Age and Sex	92
Chart 4.31	Age-Adjusted Malignant Neoplasm Death Rates	93
Table 4.31	Malignant Neoplasm Deaths and Death Rates	94
Chart 4.32	Malignant Neoplasm Death Rates by Age and Sex	95
Table 4.32	Malignant Neoplasm Death Rates by Age and Sex	96
Chart 4.33	Age-Adjusted Lung Cancer Death Rates	97
Table 4.33	Lung Cancer Deaths and Death Rates	98
Chart 4.34	Lung Cancer Death Rates by Age and Sex	99
Table 4.34	Lung Cancer Death Rates by Age and Sex	100

Chart 4.35	Death Rates for Leading Cancer Sites	101
Table 4.35	Leading Sites for Cancer Deaths for Decedents of All Ages	102
Chart 4.36	Death Rates, Leading Cancer Sites: Males	103
Table 4.36	Leading Sites for Cancer Deaths for Males	104
Chart 4.37	Death Rates, Leading Cancer Sites: Females	105
Table 4.37	Leading Sites for Cancer Deaths for Females	106
Chart 4.38	Death Rates, Leading Cancer Sites: 55 Years of Age and Older	107
Table 4.38	Leading Sites for Cancer Deaths for Decedents 55 Years of Age and Older	108
Chart 4.39	Death Rates, Leading Cancer Sites: Males, 55 Years of Age and Older	109
Chart 4.40	Death Rates, Leading Cancer Sites: Females, 55 Years of Age and Older	109
Table 4.39	Leading Sites for Cancer Deaths by Sex, 55 Years of Age and Older	110
Chart 4.41	Age-Adjusted Pneumonia and Influenza Death Rates	111
Table 4.41	Pneumonia and Influenza Deaths and Death Rates	112
Chart 4.42	Pneumonia and Influenza Death Rates by Age and Sex	113
Table 4.42	Pneumonia and Influenza Death Rates by Age and Sex	114
Chart 4.43	Age-Adjusted Tuberculosis Death Rates	115
Table 4.43	Tuberculosis Deaths and Death Rates	116
Chart 4.44	Age-Adjusted Diabetes Mellitus Death Rates	117
Table 4.44	Diabetes Mellitus Deaths and Death Rates	118
Chart 4.45	Diabetes Mellitus Death Rates by Age and Sex	119
Table 4.45	Diabetes Mellitus Death Rates by Age and Sex	120
Chart 4.46	Age-Adjusted Heart Disease Death Rates	121
Table 4.46	Heart Disease Deaths and Death Rates	122
Chart 4.47	Heart Disease Death Rates by Age and Sex	123
Table 4.47	Heart Disease Death Rates by Age and Sex	124
Chart 4.48	Age-Adjusted Cerebrovascular Diseases Death Rate	125
Table 4.48	Cerebrovascular Diseases Deaths and Death Rates	126
Chart 4.49	Cerebrovascular Diseases Death Rates by Age and Sex	127
Table 4.49	Cerebrovascular Diseases Death Rates by Age and Sex	128
Chart 4.50	Age-Adjusted Alzheimer's Disease Death Rates	129
Table 4.50	Alzheimer's Disease Deaths and Death Rates	130
Chart 4.51	Alzheimer's Disease Death Rates by Age and Sex	131
Table 4.51	Alzheimer's Disease Death Rates by Age and Sex	132
Chart 4.52	Parkinson's Disease Deaths and Death Rates	133
Table 4.52	Parkinson's Disease Deaths and Death Rates	133
Chart 4.53	Age-Adjusted Enterocolitis Due to Clostridium Difficile Death Rates	134
Table 4.53	Enterocolitis Due to Clostridium Difficile Deaths and Death Rates	134

Chart 4.54	Human Immunodeficiency Virus (HIV) Disease Death Rates	135
Table 4.54	Human Immunodeficiency Virus (HIV) Disease Deaths and Death Rates	136
Chart 4.55	Human Immunodeficiency Virus (HIV) Disease Death Rates by Age and Sex	137
Table 4.55	Human Immunodeficiency Virus (HIV) Disease Death Rates by Age and Sex	138
Chart 4.56	Age-Adjusted Asthma Death Rates	139
Table 4.56	Asthma Deaths and Death Rates	140
Chart 4.57	Age-Adjusted Mortality for All Causes Death Rates	141
Table 4.57	Mortality for All Causes Deaths and Death Rates	142
Chart 4.58	Life Expectancy at Birth	143
Chart 4.59	Years of Potential Life Lost (YPLL)	144
Chart 4.60	Age-Adjusted Death Rates	144
Table 4.58	Overall Measures of Indian Health	145
Chart 4.61	IHS Program Accomplishments Since 1973 (Adjusted Mortality Data)	146
Chart 4.62	IHS Program Accomplishments Since 1997 (Adjusted Mortality Data)	146
Table 4.61	IHS Program Accomplishments, IHS Service Area	147

#### Part 5: Patient Care Statistics

Chart 5.1	IHS Tribal and Urban Health Contract, Grant, and Compact Awards	148
Table 5.1	IHS Tribal and Urban Health Contract, Grant, and Compact Awards, Fiscal Year 1990-2013	149
Chart 5.2	IHS Tribal and Urban Health Contract and Compact Awards by Type, Fiscal Year 2013	150
Chart 5.3	Indian Health Service Tribal and Urban Health Grant and Compact Awards by Type, Fiscal Year 2013	150
Table 5.2	IHS Tribal Health Contract and Grant Awards by Type, Fiscal Year 2013	151
Chart 5.4	Urban Indian Health Program Workload and Appropriation	152
Table 5.4	Urban Indian Health Program Workload and Appropriation, FY 1985-2013	153
Chart 5.5	Number of Hospital Admissions	154
Table 5.5	Number of Hospital Admissions	155
Chart 5.6	Average Daily Hospital Patient Load	156
Table 5.6	Average Daily Hospital Patient Load	157
Chart 5.7	Leading Causes of Hospitalization: Ages Under 1 Year	158
Table 5.7	Ten Leading Causes of Hospitalization for GM&S Patients Under 1 Year of Age	158
Chart 5.8	Leading Causes of Hospitalization: Ages 1 to 4 Years	159
Table 5.8	Ten Leading Causes of Hospitalization for GM&S Patients 1 to 4 Years of Age	159
Chart 5.9	Leading Causes of Hospitalization: Ages 5 to 14 Years	160
Table 5.9	Ten Leading Causes of Hospitalization for GM&S Patients 5 to 14 Years of Age	160
Chart 5.10	Leading Causes of Hospitalization: Ages 15 to 24 Years	161
Table 5.10	Ten Leading Causes of Hospitalization for GM&S Patients 15 to 24 Years of Age	161

Chart 5.11	Leading Causes of Hospitalization: Ages 25 to 44 Years	162
Table 5.11	Ten Leading Causes of Hospitalization for GM&S Patients 25 to 44 Years of Age	162
Chart 5.12	Leading Causes of Hospitalization: Ages 45 to 54 Years	163
Table 5.12	Ten Leading Causes of Hospitalization for GM&S Patients 45 to 54 Years of Age	163
Chart 5.13	Leading Causes of Hospitalization: Ages 55 to 64 Years	164
Table 5.13	Ten Leading Causes of Hospitalization for GM&S Patients 55 to 64 Years of Age	164
Chart 5.14	Leading Causes of Hospitalization: 65 Years of Age and Older	165
Table 5.14	Ten Leading Causes of Hospitalization for GM&S Patients 65 Years of Age and Older	165
Chart 5.15	Leading Causes of Hospitalization for GM&S Patients by Sex	166
Table 5.15	Ten Leading Causes of Hospitalization for GM&S Patients by Sex	166
Chart 5.16	Leading Causes of Hospitalization for Males	167
Chart 5.17	Leading Causes of Hospitalization for Females	167
Table 5.16	Ten Leading Causes of Hospitalization by Sex	168
Chart 5.18	Hospital Discharge Rates by Age	169
Table 5.18	Comparison of Indian Health Service and U.S. Hospital Discharge Rates by Age	169
Chart 5.19	Beds per Hospital, IHS (FY 2013) Versus U.S. Short-Stay (CY 2012)	170
Table 5.19	Comparison of Indian Health Service and U.S. Hospitals by Bed Size	170
Chart 5.20	Number of Ambulatory Medical Visits	171
Table 5.20	Number of Ambulatory Medical Visits	172
Chart 5.21	Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages Under 1 Year	173
Table 5.21	Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients Under 1 Year of Age	173
Chart 5.22	Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 1 to 4 Years	174
Table 5.22	Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 1 to 4 Years of Age	174
Chart 5.23	Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 5 to 14 Years	175
Table 5.23	Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 5 to 14 Years of Age	175
Chart 5.24	Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 15 to 24 Years	176
Table 5.24	Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 15 to 24 Years of Age	176
Chart 5.25	Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 25 to 44 Years	177
Table 5.25	Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 25 to 44 Years of Age	177

Chart 5.26	Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 45 to 54 Years	178
Table 5.26	Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 45 to 54 Years of Age	178
Chart 5.27	Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 55 to 64 Years	179
Table 5.27	Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 55 to 64 Years of Age	179
Chart 5.28	Leading Causes of Ambulatory Medical Clinical Impressions Visits: 65 Years of Age and Older	180
Table 5.28	Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 65 Years of Age and Older	180
Chart 5.29	Leading Causes of Ambulatory Medical Clinical Impressions Visits	181
Table 5.29	Ten Leading Causes of Ambulatory Medical Visits for All Sexes	181
Chart 5.30	Leading Causes of Ambulatory Medical Clinical Impressions Visits for Males	182
Chart 5.31	Leading Causes of Ambulatory Medical Clinical Impressions Visits for Females	182
Table 5.30	Ten Leading Causes of Ambulatory Medical Clinical Impressions Visits by Sex	183
Chart 5.32	Percent Distributions for Population and Patient Care Workloads, Ages Under 25, Fiscal Year 2013	184
Chart 5.33	Percent Distributions for Population and Patient Care Workloads, Ages 25 and Over, Fiscal Year 2013	185
Table 5.32	Percent Distributions for Estimated Population, Ambulatory Medical Clinical Impressions, and Inpatient Discharges and Days, Fiscal Year 2013	185
Chart 5.34	Percent Distribution of Ambulatory Medical Visits by Type of Provider	186
Table 5.34	Number of Ambulatory Medical Visits by Type of Provider	186
Chart 5.35	Trend in Average Daily Patient Load	187
Chart 5.36	Trend in Number of Ambulatory Medical Visits	187
Chart 5.37	Trend in Preventive Ambulatory Medical Clinical Impressions Visits	188
Chart 5.38	Dental Services Provided	188
Chart 5.39	Dental Services Provided by Tribal/Urban Programs	189
Table 5.38	Number of Dental Services Provided	190

**Part 6: Community Health Statistics**

Chart 6.1	Age-Adjusted Drug-Related Death Rates	191
Table 6.1	Drug-Related Deaths and Death Rates	192
Chart 6.2	Drug-Related Death Rates by Age and Sex	193
Table 6.2	Drug-Related Death Rates by Age and Sex	194
Chart 6.3	Alcohol-Related Discharge Rates (First-Listed Diagnosis)	195
Table 6.3	Number and Rate for Discharges with a First-Listed Alcohol-Related Diagnosis of Persons 15 Years Old and Older	195

Chart 6.4	Hospitalizations for Injuries and Poisonings	196
Chart 6.5	Age-Adjusted Motor Vehicle Death Rates for Males	196
Table 6.5	Motor Vehicle Deaths and Death Rates for Males	197
Chart 6.6	Age-Adjusted Motor Vehicle Death Rates for Females	198
Table 6.6	Motor Vehicle Deaths and Death Rates for Females	199
Chart 6.7	IHS Public Health Nursing—Percent of Visits by Program Area, Fiscal Year 2013	200
Table 6.7	IHS Public Health Nursing Visits by Program Area, Fiscal Year 2013	200
Chart 6.8	IHS Public Health Nursing—Percent of PHN Visits by Type of Activity, Fiscal Year 2013	201
Table 6.8	IHS Public Health Nursing Visits Worked by Type of Activity, Fiscal Year 2013	201
Chart 6.9	IHS Public Health Nursing—Percent Visits by Age and Sex, Fiscal Year 2013	202
Table 6.9	IHS Public Health Nursing Visits by Age and Sex of Patients, Fiscal Year 2013	202
Chart 6.10	IHS Public Health Nursing Visits by Age, Fiscal Year 2013 versus 2000 Census	203
Table 6.10	IHS Public Health Nursing Visits by Age of Patients	203
Chart 6.11	Distribution of CHR Client Contacts by Setting, October 1, 2007 to September 30, 2013	204
Table 6.11	Community Health Representative Client Contacts by Setting, October 1, 2007 to September 30, 2013	204
Chart 6.12	CHR Client Contacts by Leading Detailed Activities, October 1, 2007 to September 30, 2013	205
Table 6.12	Community Health Representative Client Contacts by Leading Detailed Activities, October 1, 2007 to September 30, 2013	205
Chart 6.13	Leading Health Problems for CHR Client Contacts, October 1, 2007 to September 30, 2013	206
Table 6.13	Community Health Representative Client Contacts by Leading Health Problems, October 1, 2007 to September 30, 2013	206
Chart 6.14	Leading Health Problems for CHR Client Contacts by Age, October 1, 2007 to September 30, 2013	207
Table 6.14	Community Health Representative Client Contacts by Leading Health Problems by Age, October 1, 2007 to September 30, 2013	207
Chart 6.15	Leading Types of CHR Incoming Client Referrals, Fiscal Years 2007-2013	208
Chart 6.16	Leading Types of CHR Ongoing Client Referrals, Fiscal Years 2007-2013	208
Chart 6.17	Types of Indian Homes Provided with Sanitation Facilities by IHS Through 2013	209
Table 6.17	Indian Home Provided with Sanitation Facilities by IHS, FYs 1960-2013	210
Chart 6.18	Contributions to Indian Health Service Sanitation Facilities Projects, Fiscal Year 2013	211
Table 6.18	P.L. 86-121 Program—Summary of Cash Contributions Received in Fiscal Year 2013 by Contributor	211
Chart 6.19	Sanitation Facilities Deficiencies, Fiscal Year 2013—Costs	212
Chart 6.20	Sanitation Facilities Deficiencies, Fiscal Year 2013—Units	212
Table 6.19	Sanitation Facilities Deficiency Summary, Fiscal Year 2013	213

Chart 6.21	IHS Clinicians Documenting Patient Education, Fiscal Year 2013	214
Table 6.21	IHS Clinicians Documenting Patient Education, Fiscal Year 2013	214
Chart 6.22	IHS Clients Served by IHS Areas, Fiscal Year 2013	215
Chart 6.23	IHS Patient Education, Percent of Clients Served by Location, Fiscal Year 2013	215
Tables 6.22	IHS Clients Served by Location, Fiscal Year 2013	216
Chart 6.24	Top 25 IHS Patient and Family Education Code Documented by All IHS Areas, Fiscal Year 2013	217
Table 6.24	Top 25 IHS Patient and Family Education Code Documented by All IHS Areas, FY 2013	217
<b>Glossary of ICD-10 Codes</b>		<b>219</b>
	List of 113 Causes of Death (1999-present)	219
	List of 130 Causes of Infant Death (1999-present)	223
	Additional causes of death and their corresponding ICD-10 Codes (1999-present)	228
	List of ICD-9-CM Codes used in Patient Care Charts and Tables	229
<b>Methods Used to Rank Leading Sites of Cancer Deaths</b>		<b>230</b>
<b>Index to Charts and Tables</b>		<b>232</b>



## OVERVIEW

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

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

The IHS is the federal health care provider and health advocate for AI/AN people and its goal is to assure that comprehensive, culturally-acceptable personal and public health services are available and accessible to AI/AN people. The mission of the IHS, in partnership with AI/AN people, is to raise their physical, mental, social, and spiritual health to the highest level. It is also the responsibility of the IHS to work with the people involved in the health delivery programs so they may be cognizant of entitlements of AI/AN people, as American citizens, to all federal, state, and local health programs, in addition to IHS and Tribal services. The IHS also acts as the principal federal health advocate for AI/AN people in the building of health coalitions, networks, and partnerships with Tribal nations and other government agencies as well as with non-federal organizations, e.g., academic medical centers and private foundations.

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

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

US Code Title 25 Chapter 18, the Indian Health Care Improvement Act (IHCIA) became the cornerstone legal authority for the provision of health care to American Indians and Alaska Natives when it was made permanent on March 23, 2010, as part of the Patient Protection and Affordable Care Act. The authorization of appropriations for the IHCIA had expired in 2000, and while various versions of the bill were considered by Congress since then, the act now has no expiration date. The new law permanently reauthorizes the IHS and it contains numerous provisions to modernize and update

the IHS. These included an enhancement of the authority of the IHS Director, including the responsibility to facilitate advocacy and promote consultation on matters relating to Indian health within the Department of Health and Human Services. In addition, IHClA provides authorization for hospice, assisted living, long-term, and home- and community-based care, extends the ability to recover costs from third parties to Tribally operated facilities, and updates current law regarding collection of reimbursements from Medicare, Medicaid, and CHIP (Children's Health Insurance Program) by Indian health facilities. It also allows tribes and tribal organizations to purchase health benefits coverage for IHS beneficiaries. Other changes also occurred. IHS was authorized to enter into arrangements with the Departments of Veterans Affairs and Defense to share medical facilities and services. The Act allowed a Tribe or Tribal organization carrying out a program under the Indian Self-Determination and Education Assistance Act and an urban Indian organization carrying out a program under Title V of IHClA to purchase coverage for its employees from the Federal Employees Health Benefits Program. The Community Health Representative program was authorized for urban Indian organizations to train and employ Indians to provide health care services. IHS was directed to establish comprehensive behavioral health, prevention, and treatment programs for Indians.

The operation of the IHS health services delivery system is managed through local administrative units called service units. A service unit is the primary level of health organization for a geographic area served by the IHS program, just as a county or city health department in a state health department.

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

## **TRENDS IN INDIAN HEALTH**

### **Introduction**

“*Trends in Indian Health*” provides basic statistical information to the IHS and its programs, Tribes, other federal and state government agencies, as well as other customers interested in the IHS. This publication uses narrative, charts, and tables to describe the IHS program and the health status of AI/AN people residing in the IHS service area. The IHS service area consists of counties “on” or “near” federal Indian reservations, i.e. contract health service delivery areas (CHSDAs). As of CY 2014 the Indians residing in the service area comprise about 58 percent of all AI/AN people (alone) residing in the U.S. Information pertaining to the IHS organizational structure, AI/AN demography, and patient care is included. Historical trends are depicted, and comparisons to other population groups are made, when appropriate.

### **Scope and Organization of this Report**

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

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

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

## SUMMARY OF DATA SHOWN

### Indian Health Service Organizational Structure

The IHS is comprised of 12 regional administrative units called Area Offices. As of October 1, 2013, the Area Offices consisted of 168 basic administrative units called service units. Of the 168 service units, 107 were operated by Tribes.

The IHS operated 28 hospitals, 61 health centers, three school health centers, and 34 health stations. Tribes have two different vehicles for exercising their self-determination—they can choose to take over the operation of an IHS facility through a P.L. 93-638 self-determination contract (Title I) or a P.L. 93-638 self-governance compact, as amended (Title V). A distinction is made in this publication regarding these two Tribal modes of operation, i.e., Title I and Title V. A non-638 contract mechanism is used by Alaska to provide funding to several tribally operated village clinics. Tribes operated 17 hospitals (Title I, two hospital and Title V, 15 hospitals), 249 health centers (Title I, 95 and Title V, 154), 6 school health centers (Title I, three and Title V, three), 70 health stations (Title I, 39; Title V, 30; and Other, one), and 164 Alaska village clinics (Title I, eight and Title V, 150, and Other, six).

Urban Indian Health Programs operated 33 Urban Indian Organizations of which there were 21 full ambulatory care programs, 6 limited ambulatory care programs, and 6 outreach and referral programs as of July 1, 2014.

As of July 2014, all IHS hospitals and eligible IHS-operated health centers were accredited by the Joint Commission, Centers for Medicare and Medicaid Services (CMS), and the Accreditation Association for Ambulatory Healthcare (AAAHHC). Ninety (90) percent of Youth Regional Treatment Centers (YRTCs) were accredited by Joint Commission and the Commission on the Accreditation of Rehabilitation Facilities (CARF) as of October 10, 2014.

### Population Statistics

In Calendar Year (CY) 2014, the IHS service population (a count of those AI/AN people who are eligible for IHS services) will be approximately 2.1 million. Since 2000, the IHS service population has been increasing at a rate of about 1.8 percent per year.

The AI/AN population residing in the IHS service area is younger than the U.S. all races population, based on the 2000 Census with bridged-race categories. For AI/AN, 31 percent of the population was younger than 15 years, and six percent was older than 64 years. For the U.S. all races population, the corresponding values were 21 and 12 percent respectively. The AI/AN median age was 25.0 years compared to 34.9 years for U.S. all races. The estimated CY 2015 population was 2,161,310 AI/AN residing in the Urban Indian Health Programs service area.

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

### Nativity and Infant/Maternal Mortality Statistics

The birth rate for AI/AN people residing in the IHS service area was 25.4 (rate per 1,000 population) in 2007-2009. It is 1.8 times the 2008 birth rate of 14.0 for the U.S. all races population.

The maternal mortality rate for AI/AN people residing in the IHS service area dropped from 28.5 (rate per 100,000 live births) in 1972-1974 to 23.2 in 2007-2009, a decrease of 19 percent. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

The infant mortality rate for AI/AN people residing in the IHS service area dropped from 25.0 (rate per 1,000 live births) in 1972-1974 to 8.3 in 2007-2009, a decrease of 67 percent. These rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates. The 2007-2009 rate (8.3) is 26 percent higher than the U.S. all races rate (6.6) for 2008.

### General Mortality Statistics

The leading cause of death for AI/AN people residing in the IHS service area (2007-2009) was from diseases of the heart followed by malignant neoplasms. (This is the same as for the total U.S. all races population in 2008). However, the cause-of-death ranking differs by sex. For AI/AN males, the top two leading causes of death were diseases of the heart and malignant neoplasms. For AI/AN females, the top two leading causes of death were reversed compared to males malignant neoplasms and diseases of the heart.

In 2007-2009, the AI/AN (IHS service area) age adjusted death rates for the following causes were considerably higher than those for the U.S. all races population in 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates. The following list is a comparison of AI/AN age adjusted rate (using data that are also adjusted for misreporting of AI/AN race on the state death certificates) to the U.S. rate where there are substantial differences.

Comparison of 2007-2009 AI/AN death rates to 2008 U.S. all races death rates.

- Alcohol related—520 percent greater;
- Tuberculosis—450 percent greater;
- Chronic liver disease and cirrhosis—368 percent greater
- Motor Vehicle Crashes—207 percent greater;
- Diabetes mellitus—177 percent greater;
- Unintentional injuries—141 percent greater;
- Poisoning— 118 percent greater;
- Homicide—86 percent greater;
- Suicide—60 percent greater;
- Pneumonia and influenza—37 percent greater; and
- Firearm injury—16 percent greater;

### Patient Care Statistics

In FY 2013, there were 70,673 admissions to IHS and Tribal direct and contract general hospitals. The leading cause of hospitalization was supplementary classification, followed by obstetric deliveries and complications of pregnancy and puerperium.

The total number of ambulatory medical visits (IHS and Tribal direct and contract facilities) was almost fourteen million in FY 2013, an increase of more than 660 percent since FY 1970. The leading cause of ambulatory medical visits in IHS and Tribal direct and contract facilities was supplementary classification conditions. The supplementary classification category includes such clinical impressions as other preventive health services, well child care, physical examination, tests only (lab, x-ray, screening), and hospital, medical, or surgical follow up.

The number of direct and contract dental services provided by Indian Health Service, Tribal, and Urban Programs, as reported to the IHS central database, has increased almost 2,000 percent (from under 0.2 million in FY 1955 to about 3.7 million in FY 2013).

### Community Health Statistics

The community health representatives (CHR) program reported approximately 5.7 million client services during FY 2007. This number reflects about a third of the 264 tribal CHR Programs submitting data. Most of these services took place in the home (37 percent) and community (27 percent). During FY 2007-2013, the leading service category was Case Management (23 percent), followed by Health Education (15 percent), Patient Care (15 percent), and Case Finding/Screening (13 percent). It is important to note that while transportation is typically the first service that most people think CHRs provide, in fact it ranks seventh in leading services (detailed activities) representing only 8 percent of services provided nationwide. During FY 2007-2013, the top six Health problems/issues were: Diabetes Mellitus (15 percent); Hypertension (10 percent); Other Health Promotion/Disease Prevention (10 percent); Heart (5 percent); Nutrition (4 percent); and Dialysis (4 percent). A majority of services delivered in those top six Health Problems were to patients age 60 and over (see graphs).

For people accepted for treatment into the IHS substance abuse treatment program, most initial contacts are for alcohol addiction only. However, the number of initial contacts involving other drugs has been increasing. Also, the age adjusted drug related death rate for AI/AN residing in the IHS service area increased from 4.1 deaths per 100,000 population in 1979-1981 to 22.7 in 2007-2009. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates. The 2007-2009 AI/AN rate (22.7) is 1.8 times greater than the U.S. all races rate (12.6) for 2008.

The IHS Injury Prevention (IP) Program promotes a comprehensive public health approach to prevent injuries. Evidence-based projects are used to reduce motor vehicle injuries and fatalities by increasing occupant restraint use through Tribal motor vehicle occupant restraint policy development; supporting tribal law enforcement in deterring drunk drives (DUI policy development); and highway environmental modifications (street lights, guard rails, highway stripping, etc). Injuries are the leading cause of death for American Indians and Alaska Natives from ages 1-44 years, and the third leading cause of death overall. Unintentional injury mortality rates for Indian people are approximately 2.4 times higher than the combined all-U.S. rates rate (CY 2007-2009).

Effective community-based injury prevention initiatives use multiple strategies to reduce and prevent injuries and fatalities. The IHS Injury Prevention Program promotes building the capacity of Tribes and communities by increasing understanding about the injury problem, sharing effective solutions, and assisting communities in implementing programs. As a result of these efforts, unintentional injury deaths to American Indian and Alaska Native people, while still high, decreased by 58% between 1973 and 2003. Some of the successful initiatives that IHS employs include: Tribal Injury Prevention Cooperative Agreement Program (TIPCAP), Ride Safe (targets motor vehicle related injuries to children ages 3-5 years), and Sleep Safe (targets fire and burn injuries to children ages 3-5 years).

The final PHN performance result for FY 2013 was 388,590 encounters, but several large service units did move away from the IHS Resource Patient Management System (RPMS) to the use of commercial off the shelf packages which changed the way PHN visits were coded, exported and compiled in FY 2013 (some PHN data was not included in the FY 2013 results due to this situation). The FY 2015 target is set at 425,679 encounters as identified data concerns in FY 2013 are resolved in 2014. The PHN program will continue to work to report the most accurate information to describe the important services provided by the national PHN Program.

With completion of all projects approved through FY 2013, over 302,000 AI/AN homes have been provided first service sanitation facilities since 1960. As of the end of FY 2013, there were over 176,000 AI/AN homes in need of sanitation facilities, including over 30,000 AI/AN homes without potable water.

The FY 2013 economically feasible sanitation deficiencies to serve existing AI/AN homes and communities totals \$1,717 million. This amount is to provide first service sanitation facilities, to upgrade existing facilities, to provide solid waste facilities, as well as to provide assistance to operation and maintenance organizations.

In FY 2013, 4,800,312 patient education codes were documented for 3,695,117 patients. Areas documenting the highest levels of patient education are: Oklahoma City (28 percent), Navajo (17 percent), and Phoenix (16 percent). Areas with the greatest improvement in documentation as compared to FY 2007 are: California (increase of 69.9 percent), Bemidji (increase of 65.4 percent), Great Plains (increase of 57.9 percent), and Navajo (increase of 54.6 percent). Nashville (decrease of 10.2 percent) and Alaska (decrease of 12.4 percent) were the only areas that documented less patient education in FY 2014 than FY 2007. All healthcare disciplines are encouraged to provide and document patient education.

In FY 2013, pharmacists documented 25 percent of the patient education provided to patients, followed by clinical nurses (23 percent), physicians (12 percent), LPNs (nine percent), nursing assistants (seven percent), public health nurses and nurse practitioners (five percent). Other disciplines provided less than five percent and are grouped together in the other category, which altogether provided 14 percent of patient education. Most patient education is provided in the hospital (51 percent) or health center (42 percent) location. Health locations, health stations, and village clinics, account for approximately seven percent of health education provided and the remaining one percent of health education is provided in other health care related settings.

The top two patient education codes in FY 2013 comprised 81 percent of all patient education codes provided (4,596,740 codes out of a total 5,643,613). The top 25 education codes are grouped in six categories. The most education was provided on medications (60 percent), immunizations (22 percent), tobacco (eight percent), health promotion/disease prevention (six percent), diabetes (three percent), and flu (one percent).

## SOURCES AND LIMITATIONS OF DATA

### Population Statistics

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

The service population estimates are based on official U.S. Census Bureau county data, representing self-identified AI/AN people who may or may not use IHS services. IHS service populations between census years (e.g., 1990 and 2000) are estimated using a smoothing technique in order to show a gradual transition between census years. This normally results in upward revisions to service population figures projected prior to a census, since each Census tends to do a better job in enumerating AI/AN people. IHS service populations beyond the latest census year with available data are projected through linear regression techniques, using the most current ten years of AI/AN birth and death data provided by the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC).

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

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

### IHS Service Population

#### *Definition*

The IHS service population is based on the 2000 census bridged-race file (developed by the Census Bureau and NCHS, CDC). It consists of AI/AN and serves as a measure of those eligible for IHS services. Those AI/AN eligible are estimated by counting AI/AN who reside in geographic areas in which IHS has responsibilities (“on or near” reservations) and is comprised of approximately 58 percent of all AI/AN residing in the U.S. These people **may** or **may not** use IHS health services. (Migration is not a factor when developing the IHS service population).

#### *Description of Service Population Calculation*

Since state birth and death certificates do not provide information on use of IHS services, the IHS service population counts are used as the denominator when calculating AI/AN vital event rates for the IHS service areas.

IHS service populations between census years (e.g., 1990 and 2000) are estimated using a smoothing technique in order to illustrate a gradual transition between census years. This normally results in upward revisions to service population



figures projected prior to a census, since each census tends to conduct a better job in enumerating AI/AN people. IHS service populations beyond the 2000 census are projected through linear regression techniques, using the most current ten years of AI/AN birth and death data provided by NCHS.

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

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

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

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

Addressing the inconsistencies in the denominators produced based on the latest 2010 bridged population, the IHS determined that since this publication uses vital event years prior to the 2010 Census, specifically prior to 2007-2009, the more reliable bridged-race file based on the 2000 census should continue to be used. The IHS is continuing to conduct a detailed evaluation of the methodologies used when developing the 2010 bridged-race file. This is as a result of the AI/AN population being highly affected by the enormous increase in population counts when answering “self-identification” as an AI/AN and a combination of at least one other race (combination).

Additional information may be attained by viewing: [http://www.cdc.gov/nchs/nvss/bridged\\_race.htm](http://www.cdc.gov/nchs/nvss/bridged_race.htm)

*Source: National Center for Health Statistics. Estimates of the July 1, 2000-July 1, 2009, United States resident population from the Vintage 2004 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the U.S. Census Bureau. Available on the Internet at: [http://www.cdc.gov/nchs/nvss/bridged\\_race/data\\_documentation.htm#JULY2009](http://www.cdc.gov/nchs/nvss/bridged_race/data_documentation.htm#JULY2009). Accessed January 13, 2015*

Using the 2000 Census with bridged-race categories increased the AI/AN population denominators resulting in slightly decreased IHS mortality rates. The 2000 Census with bridged-race categories population for all AI/AN in the U.S. is 3.3 million. This falls between the population of all AI/AN in the U.S. of 2.5 million who identified themselves as an AI/AN race (alone) and the population of all AI/AN in the U.S. of 4.2 million who identified themselves as an AI/AN and a combination of at least one other race (combination).

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

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

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

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

### Changes in Methodology

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

The three major updated methodologies applied by DPS include:

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

Beginning with the 1999 mortality data, a new classification system was implemented to categorize causes of death. The International Classification of Diseases, Version 10 (ICD-10) was used by the states and NCHS to code all causes of death for years 1999 and onward. The ICD-10 classification system consists of a new nomenclature scheme with new and revised categories for some causes of death. Comparability ratios are applied when appropriate, i.e., to adjust data analyzed using the past classification system (ICD-9). Such revisions are noted on the data when applicable.

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

The 2000 U.S. Census Population with Bridged-Race Categories (2000 Census Bridged File) for AI/ANs was used by IHS to calculate mortality and natality age-adjusted rates. The 2000 Census allowed respondents to report more than one race category to describe their race. The birth and death certificates (vital events) used by the states for years 2007-2009 allow only a **single race** category to be reported. Vital event totals are used in the numerator and the 2000 Census bridged population is used as the denominator to produce the birth or death rates that occur in the population of interest. The denominator data are based on the 2000 Census bridge file, which re-categorizes responses to a single race where more than one race was reported. This corresponds to the single race categories used on birth and death certificates.

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

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

### Vital Event Statistics

Vital event statistics for the U.S. population were derived from data reported in various NCHS publications<sup>1,2,3,4,5</sup> as well as from some unpublished data from IHS.<sup>1</sup> NCHS obtains birth and death records for all U.S. residents from state health departments, based on information reported on official state birth and death certificates. The records NCHS provides to IHS contain the same basic demographic items as the vital event records maintained by NCHS for all U.S. residents, but with names, addresses, and record identification numbers deleted. It should be noted that Tribal identity is not recorded on these records.

The natality and mortality data are only as accurate as the reporting by the states to NCHS. NCHS does perform numerous edit checks, applies verification methods, and imputes values for non-responses.<sup>4,5</sup>

Misreporting of AI/AN race on state death certificates occurs, especially in areas distant from traditional AI/AN reservations. In order to determine the degree and scope of the misreporting, IHS conducted a study utilizing the National Death Index (NDI) maintained by NCHS. The study involved matching IHS patient records of those patients who could have died during 1986 through 1988 with all death records of U.S. residents for 1986 through 1988 as contained on the NDI. The results were published in a document entitled, *Adjusting for Miscoding of Indian Race on State Death Certificates*, November 1996. The study revealed that on 10.9 percent of the matched IHS-NDI records, the race reported for the decedent was other than AI/AN. The percentage of records with inconsistent classification of race ranged from 1.2 percent in the Navajo Area to 28.0 and 30.4 percent in the Oklahoma and California Areas, respectively.<sup>1</sup>

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

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

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

<sup>1</sup> Indian Health Service, Department of Health and Human Services. *Adjusting for Miscoding on Indian Race on the State Death Certificate*. November 1996.

<sup>2</sup> Fay MP, Feuer EJ. Confidence intervals for directly adjusted rates: a method based on the gamma distribution. *Stat Med* 16:791-801, 1997.

<sup>3</sup> Mathews TJ, MacDorman MF. Infant mortality statistics from the 2008 period linked birth/infant death dataset. *National vital statistics reports*; vol 60 no 5. Hyattsville, MD: National Center for Health Statistics. 2012.

<sup>4</sup> Minino AM, Murphy SL, Xu Jq, Kochanek KD. Deaths: Final data for 2008. *National vital statistics reports*; vol 59 no 10. Hyattsville, MD: National Center for Health Statistics, 2011.

<sup>5</sup> Martin JA, Hamilton BE, Sutton PD, et al. Births: Final data for 2008. *National vital statistics reports*; vol 59 no 1. Hyattsville, MD: National Center for Health Statistics. 2010.

adjustments based on the linked data sets take precedent over the NDI adjustments for the under one-year age group, described above.

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

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

The AI/AN vital event statistics in this publication pertain only to AI/AN people residing in the counties that make up the IHS service area, in contrast to earlier editions of the *Trends in Indian Health* publication which showed vital event statistics for all AI/AN people residing in the Reservation States. Calculations done on a Reservation State basis include all counties within the State, even those outside the IHS service area. Reservation State vital event rates tend to be lower in value (i.e., lower birth rates, lower death rates) than IHS service area rates. Since prior to 1972, only Reservation State data were available; these data were used to show trends going back to 1955, the inception of the IHS. However, now that sufficient vital event data are available for the IHS service area to show meaningful trends, the *Trends in Indian Health*, beginning with the 1992 edition, shows vital event statistics for the IHS service population. IHS service area data are more indicative of the health status of the AI/AN people that IHS serves.

The AI/AN population is considerably younger than the U.S. all races population. Death rates presented in this publication have been age-adjusted to the 2000 standard population, where applicable, so that appropriate comparisons can be made between these population groups. One exception is the information presented for leading causes of death.<sup>6</sup> In order to determine the leading causes of death for a population group, it is necessary to rank causes of death without any adjustment for age. However, it should be kept in mind that the ranking of causes of death for a population group is affected by its age composition.

All age-adjusted death rates calculated using a small number of deaths should be interpreted with caution as the observed rate may be quite different from the true underlying rate. This occasionally occurred when an Area rate was calculated for a specific cause of death. Any rate based upon fewer than 20 deaths may not be reliable as the sample will be too small.

The NCHS definition of alcohol-related deaths includes all of these ICD-10 codes groups and that are used in all IHS publications. (*NOTE: The category "alcohol-induced causes" includes not only deaths from dependent and nondependent use of alcohol, but also accidental poisoning by alcohol. It excludes unintentional injuries, homicides, and other causes indirectly related to alcohol use as well as deaths due to fetal alcohol syndrome.*)<sup>4</sup>

#### *Age-Adjustment*

The age adjusted death rates presented in this publication were computed by the direct method, that is, by applying the age specific death rate for a given cause of death to the standard population distributed by age. The total population as enumerated in 2000 was selected as the standard since this is the standard used by NCHS.<sup>7</sup> The rates for the total population and for each race-sex group were adjusted

<sup>6</sup> <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/leadingdeaths03/leadingdeaths03.htm>

<sup>7</sup> Anderson RN, Rosenberg, HM. Age Standardization of Death Rates: Implementation of the Year 2000 Standard; National Vital Statistics Reports, vol 47 no 3. Hyattsville, Maryland: National Center for Health Statistics. 1998.

separately, by using the same standard population. The age adjusted rates were based on ten year age groups. It is important not to compare age-adjusted death rates with crude rates.

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

### Patient Care Statistics

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

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

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

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

### Community Health Statistics

Data on the IHS Community Health Representatives (CHR) Program is obtained only from the CHR Patient Care Component (PCC) application in the IHS Resource Patient Management System (RPMS). While the primary focus of CHR PCC is documentation of patient services, it can also record all services and activities to provide a complete accounting picture of CHR functions and services for program management and administration. Roughly a third of CHR Programs report annually, reflecting the transfer of resources to Tribes as part of Self Determination choices and geographic

and security-related challenges just to access and use the CHR data application. The data is derived from CHR Programs which enter and export data through CHR PCC and fluctuates annually, ranging between 133 to 148 of approximately 300 CHR programs reporting nationwide. Data presented herein are primarily aggregate patient data over six fiscal years (FY 2007-2013). Data from CHR Programs utilizing “regular” RPMS PCC, also known as the electronic health record (EHR), is not accessible through the reporting mechanism used at present. Future data based on improvements to the CHR PCC should reflect enhanced capacity and more specificity to better classify health problems and services delivery; and discussions to allow CHRs access to EHR are ongoing.

Case Management in CHR PCC can include services such as making medical appointments or scheduling check-ups or other activities on behalf of patients to ensure they receive health or socio-economic services and care needed. Health Education includes planning, preparing or providing education to patients on health and wellness. Patient care services provided by CHRs includes hands-on care such as checking vital signs, providing emotional support, delivering medications/supplies/equipment, etc., and applies only to those patients who have a known illness as diagnosed by medical professionals. Case Finding and Screening is performed to find, discover or detect health problems for clients not known to be diagnosed with a health problem. Monitoring patients includes following up on health and well-being of clients pursuant to clinician referrals or as part of regularly scheduled work activities or care plans, ensuring that patients have enough food, medications, and a safe living environment. Transport Patients includes conveying patients to medical appointments when patients in mostly remote or rural areas do not have resources to get to health care or in the absence of public or tribally sponsored transportation systems.

IHS continues to encourage Tribal governments to utilize the CHR PCC data application for its 1) user-friendliness, 2) functionality and capacity to yield reports to supply needed patient information and track individual Tribal CHR program effectiveness along with 3) identification of health trends and 4) baseline information for grant justifications. Historically and anecdotally patients, providers, tribal leaders and community members have viewed “transportation” as the primary service provided by CHRs. It is important to note that while transportation is typically the first (and sometimes only) service that most people believe CHRs provide, in fact, it ranks fifth in leading services (detailed activities) representing only 8 percent of services provided nationwide. CHRs verbally report that they often take advantage of an hour of transport time to provide health education or emotional support to patients but then often do not report other services provided during transport or while waiting for a patient in CHR PCC.

Ongoing plans for the CHR Program include increased integration of CHRs into the patient-centered medical home health care team through collaboration with improvement initiatives within the Indian Health System, enhanced education and skills based competencies through online educational modules, and increased functionality and accessibility of RPMS CHR PCC to ensure program accountability and effectiveness.

The IHS Public Health Nursing (PHN) Program is a community health nursing program that focuses on the goals of promoting health and quality of life, and preventing disease and disability. The PHN Program provides quality, culturally sensitive health promotion and disease prevention nursing care services through primary, secondary and tertiary prevention services to individuals, families, and community groups. PHN home visiting nursing services include services for: Maternal and pediatric populations, including childhood obesity prevention through breastfeeding

promotion, screening for early identification of developmental problems, and parenting education; Elder care services, including safety and health maintenance care; Chronic disease care management; and Communicable disease investigation, treatment, and public health.

Public Health Nurses are licensed, professional nursing staff who are available to support a smooth transition as the patient transfers from the clinic/hospital setting into the community. The PHN Program aligns with the Agency's priorities and works to integrate sustained progress towards all GPRA measures. For example, breastfeeding is an important practice for American Indian/Alaska Native families in at-risk communities for childhood obesity and diabetes as this is an effective prevention strategy. The IHS PHN Program participates in this Agency's initiative to decrease childhood obesity and prevent diabetes by supporting the Baby Friendly Hospital Initiative activity in the community.

Public Law 86-121 authorizes IHS to provide essential sanitation facilities to Indian homes and communities (P.L. 86-121; 42 U.S.C. § 2004a). The HIS Sanitation Facilities Construction (SFC) Program, an integral component of the IHS disease prevention activity, has carried out those authorities since 1959 using both contributed funds and funds appropriated for SFC to provide potable water and waste disposal facilities for American Indian/Alaska Native (AI/AN) people. The provision of safe water and wastewater disposal not only plays a significant day to day role in improving the quality of life for AI/AN people.

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

## GLOSSARY

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

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

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

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

**Cause of Death**—For the purpose of national mortality statistics, every death is attributed to one underlying condition, based on information reported on the death certificate and using the international rules for selecting the underlying cause of death from the conditions stated on the death certificate. The underlying cause is defined by the World Health Organization (WHO) as the disease or injury that initiated the train of events leading directly to death, or the circumstances of the accident or violence, which produced the fatal injury. Generally, more medical information is reported on death certificates than is directly reflected in the underlying cause of death. The conditions that are not selected as underlying cause of death constitute the non-underlying cause of death, also known as multiple cause of death. Cause of death is coded according to the appropriate revision of the International Classification of Diseases (ICD). Effective with deaths occurring in 1999, the United States began using the Tenth Revision of the ICD (ICD-10); during the period 1979-98, causes

of death were coded and classified according to the Ninth Revision (ICD-9). Each of these revisions has produced discontinuities in cause-of-death trends. These discontinuities are measured using comparability ratios.

**Census Definitions**—Definitions for census information including: unemployment, median household income, and poverty can be found on the census website.<sup>1</sup>

**Comparability Ratios**—Adjustment factors designed to measure the effects of a new revision of the ICD on the comparability with the previous revision of mortality statistics cause of death.<sup>2</sup>

**Contract Care**—Services not available directly from IHS or Tribes that are purchased under contract from community hospitals and practitioners. May also be referred to as “purchased referred care”.

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

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

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

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

<sup>1</sup> <http://www.census.gov>

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



**Infant Mortality Rate**—A rate based on period files calculated by dividing the number of infant deaths during a calendar year by the number of live births reported in the same year. It is expressed as the number of infant deaths per 1,000 live births.<sup>3</sup>

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

**Life Expectancy**—Life expectancy is the average number of years of life remaining to a person at a particular age and is based on a given set of **age-specific death rates**, generally the mortality conditions existing in the period mentioned. Life expectancy may be determined by race, sex, or other characteristics using age-specific death rates for the population with that characteristic.<sup>4</sup>

**Live Birth**—In the **WHO's** definition, also adopted by the United Nations and the NCHS, a live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life such as heartbeat, umbilical cord pulsation, or definite movement of voluntary muscles, whether the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered live born.<sup>5</sup>

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

**Maternal Death**—The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy. Maternal death is one for which the certifying physician has designated a maternal condition as the underlying cause of death. Maternal conditions are those assigned to Complications of Pregnancy, Childbirth, and the Puerperium, (ICD-10 codes A34, O00-O95.9, O98-O99.9).<sup>6</sup>

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

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

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

**Race**—Federal Register Notice (October 30, 1997), Revision to the Standards for the Classification of Federal Data on Race and Ethnicity. The revised standards have five minimum categories for data on race: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. There will be two categories for data on ethnicity: “Hispanic or Latino” and “Not Hispanic or Latino.” Persons are offered the option to select one or more races.<sup>7</sup>

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

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

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

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

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

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

**Years of Potential Life Lost (YPLL)**—A mortality indicator that measures the burden of premature deaths, calculated by subtracting the age at death from age 65 and summing the result over all deaths.<sup>8</sup>

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

<sup>4</sup> <http://www.cdc.gov/nchs/deaths.htm>

<sup>5</sup> <http://www.cdc.gov/nchs/births.htm>

<sup>6</sup> <http://www.cdc.gov/nchs/deaths.htm>

<sup>7</sup> <http://www.whitehouse.gov/omb/fedreg/1997standards.html>

<sup>8</sup> <http://webapp.cdc.gov/sasweb/ncipc/ypll9.html>

## SOURCES OF COPIES AND ADDITIONAL INFORMATION

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

### General Information

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

### Demographic Statistics

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

### Patient Care Statistics

Ying Zhang, Senior Health Statistician

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

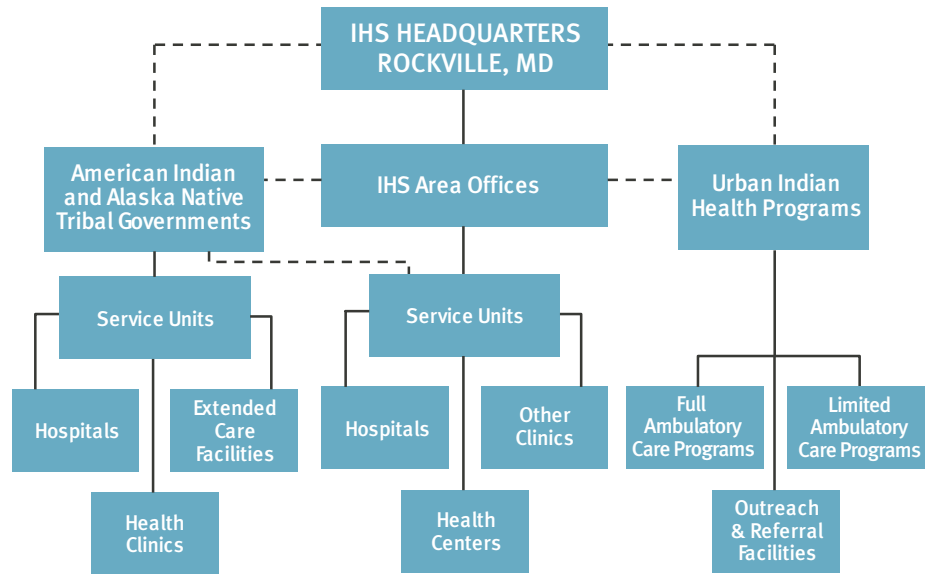
Indian Health Service  
Office of Public Health Support  
Division of Program Statistics  
801 Thompson Building Suite 120  
Rockville, Maryland 20852

Phone: 301-443-1180

Email: *DPS.Publications@ihs.gov*

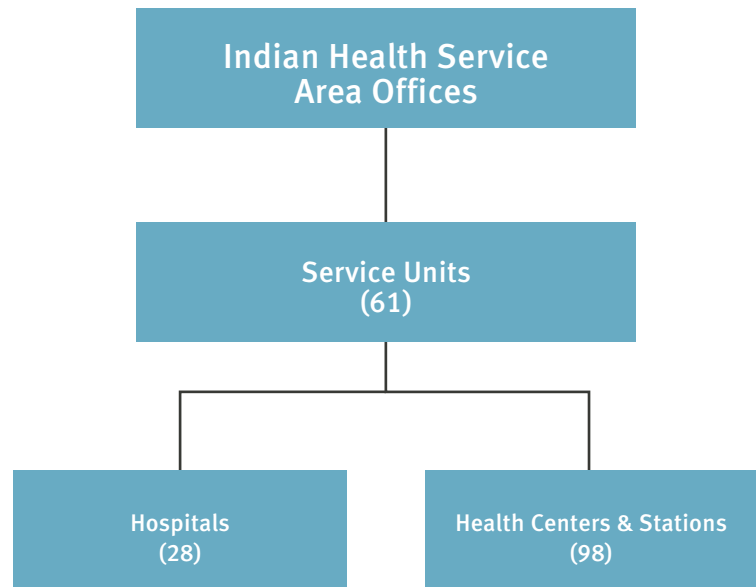
The Indian Health Service is composed of twelve regional administrative units called Area Offices. Some of the health programs are operated by Tribes, and there are a limited number of projects to serve Indians living in urban areas.

**Chart 1.1 Indian Health Service – DHHS**



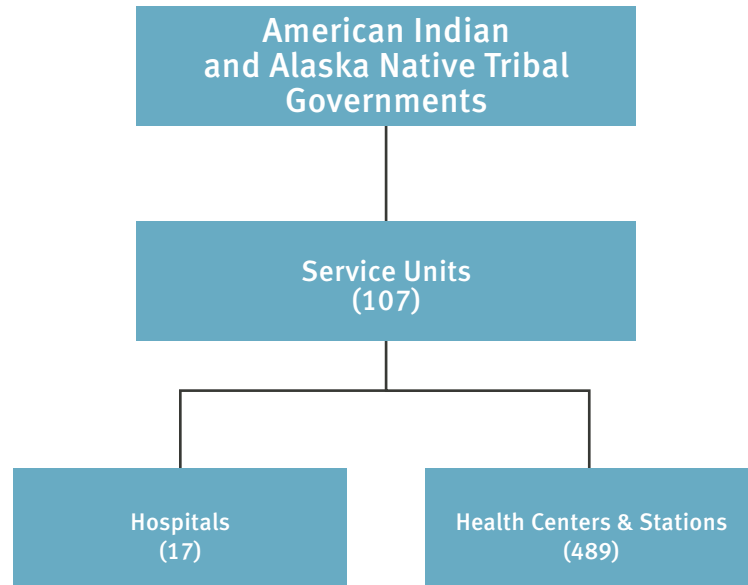
There were 61 Indian Health Service-operated service units that administered 28 hospitals and 98 health centers, school health centers, and health stations as of October 1, 2013.

**Chart 1.2 Indian Health Service Area Offices**



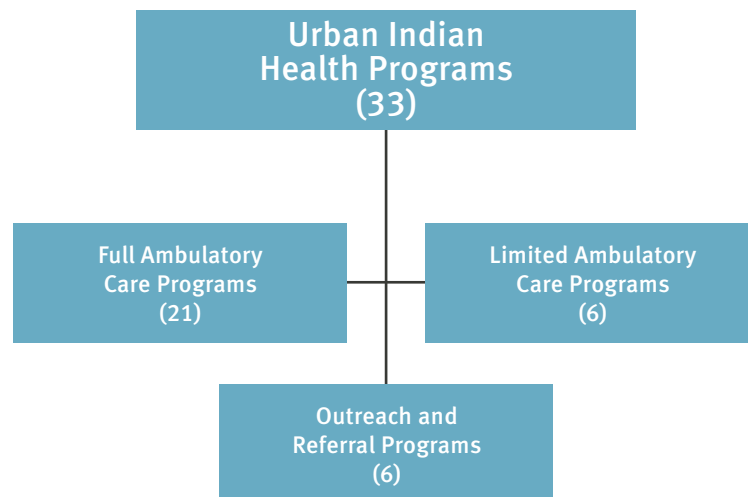
There were 107 Tribally operated service units that administered 17 hospitals and 489 health centers, school health centers, health stations, and Alaska village clinics as of October 1, 2013.

Chart 1.3 American Indian and Alaska Native Tribal Governments



As of July 1, 2014, there are 33 Urban Indian Organizations. The Urban Indian Organizations consisted of 21 full ambulatory care, 6 limited ambulatory care, and 6 outreach and referral programs.

Chart 1.4 Indian Health Care Improvement Act, Title V Urban Health Services



Indian Health Service operated 28 hospitals, 61 health centers, 3 school health centers, and 34 health stations as of October 1, 2013. Tribes can operate a facility under a P.L. 93-638 self determination contract (Title I) or self-governance compact (Title V). Tribes operated 17 hospitals (Title I, 2 hospitals and Title V, 15 hospitals), 249 health centers (Title I, 95 and Title V, 154), 6 school health centers (Title I, 3 and Title V, 3), 70 health stations (Title I, 39; Title V, 30; and Other, 1), and 164 Alaska village clinics (Title I, 8; Title V, 150; and Other, 6).

**Chart 1.5** Number of Facilities Operated by IHS and Tribes as of October 1, 2013

Type of Facility	Total	IHS	TRIBAL			
			Total	I	V	Other
<b>Hospitals</b>	<b>45</b>	<b>28</b>	<b>17</b>	<b>2</b>	<b>15</b>	<b>—</b>
<b>Ambulatory Facilities</b>	<b>587</b>	<b>98</b>	<b>489</b>	<b>145</b>	<b>337</b>	<b>7</b>
Health Centers	310	61	249	95	154	—
School Health Centers	9	3	6	3	3	—
Health Stations	104	34	70	39	30	1
Alaska Village Clinics	164	—	164	8	150	6

I—operated under Title I, P.L. 93-638 Self-Determination Contracts  
 V—operated under Title V, P.L. 106-260 Tribal Self-Governance Amendment of 2000  
 Other—operated by a local government, not a tribe, for some Alaska Native villages through a standard procurement contract

The Indian Health Service budget (appropriations and collections) has increased 56 percent from FY 2006 to FY 2015. However, in constant 2001 dollars, the budget has only increased 33 percent.

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

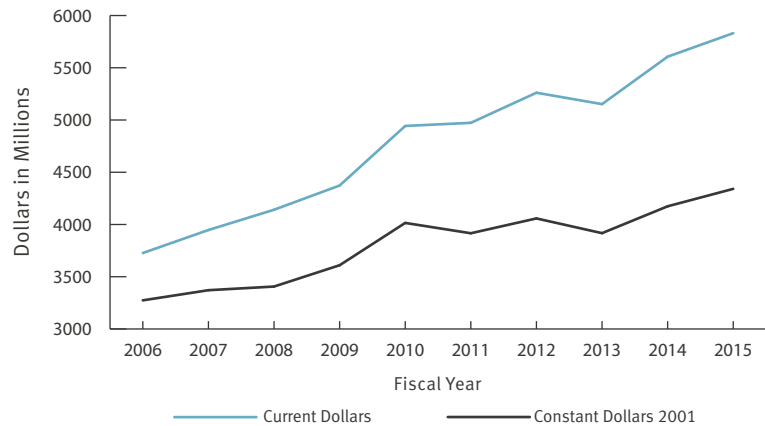


Table 1.6 Trend in Indian Health Service Budget

(Dollars in Thousands)

Category	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
<i>Clinical Services</i>	2,176,220	2,288,939	2,433,761	2,625,707	2,953,559	2,962,621
<i>Preventive Health Services</i>	117,110	123,304	127,587	135,227	144,315	144,027
<i>Other Services</i>						
Urban Health	32,744	33,691	34,547	36,189	43,139	43,053
Indian Health Professions	31,039	31,375	36,291	37,500	40,743	40,661
Tribal Management	2,394	2,438	2,490	2,586	2,586	2,581
Direct Operations/Agency Management	62,194	63,631	63,624	65,345	68,720	68,583
Self Governance	5,668	5,763	5,835	6,004	6,066	6,054
Contract Support Cost	264,730	269,730	267,398	282,398	398,490	397,693
Sub-Total Other	398,769	406,628	410,185	430,022	559,744	558,625
Total Services	2,692,099	2,818,871	2,971,533	3,190,956	3,657,618	3,665,273
<i>Facilities</i>	353,211	361,226	374,646	390,168	394,757	403,947
<b>TOTAL SERVICES &amp; FACILITIES<sup>1</sup></b>	<b>3,045,310</b>	<b>3,180,097</b>	<b>3,346,179</b>	<b>3,581,124</b>	<b>4,052,375</b>	<b>4,069,220</b>
Medicare/Medicaid Collections	606,324	676,797	700,538	719,586	809,987	823,688
Private Insurance Collections	75,101	90,151	94,042	72,598	81,006	80,467
VA Reimbursement <sup>3</sup>	0	0	0	0	0	0
Quarters Collections	6,288	6,288	6,288	6,288	6,288	6,288
Advance Transfer Approp: Diabetes	150,000	150,000	150,000	150,000	150,000	150,000
<b>TOTAL IHS<sup>4</sup> - CURRENT \$s</b>	<b>3,726,735</b>	<b>3,947,045</b>	<b>4,140,759</b>	<b>4,373,308</b>	<b>4,943,368</b>	<b>4,973,375</b>
<b>TOTAL IHS<sup>4</sup> - CONSTANT \$s<sup>5</sup></b>	<b>3,273,833</b>	<b>3,371,346</b>	<b>3,406,030</b>	<b>3,610,160</b>	<b>4,014,888</b>	<b>3,915,660</b>
<b>Category</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>		
<i>Clinical Services</i>	3,083,867	2,966,268	3,099,127	3,243,045		
<i>Preventive Health Services</i>	147,022	142,963	148,081	155,857		
<i>Other Services</i>						
Urban Health	42,984	40,729	40,729	41,375		
Indian Health Professions	40,596	38,467	33,466	38,466		
Tribal Management	2,577	2,442	1,442	2,442		
Direct Operations/Agency Management	71,653	67,894	67,894	68,065		
Self Governance	6,044	5,727	4,727	5,727		
Contract Support Cost	471,437	447,788	587,376	617,205		
Sub-Total Other	635,292	603,047	735,634	773,280		
Total Services	3,866,181	3,712,278	3,982,842	4,172,182		
<i>Facilities</i>	440,346	418,570	451,673	461,995		
<b>TOTAL SERVICES &amp; FACILITIES<sup>1</sup></b>	<b>4,306,528</b>	<b>4,130,847</b>	<b>4,434,515</b>	<b>4,634,177</b>		
Medicare/Medicaid Collections	868,682	935,439	1,045,658	1,067,658 <sup>2</sup>		
Private Insurance Collections	85,370	85,303	90,303	90,303 <sup>2</sup>		
VA Reimbursement <sup>3</sup>	0	341	36,000	39,000		
Quarters Collections	7,500	8,000	8,000	8,000		
Advance Transfer Approp: Diabetes	150,000	147,000	147,000	150,000		
<b>TOTAL IHS<sup>4</sup> - CURRENT \$s</b>	<b>5,260,580</b>	<b>5,151,930</b>	<b>5,606,476</b>	<b>5,831,138</b>		
<b>TOTAL IHS<sup>4</sup> - CONSTANT \$s<sup>5</sup></b>	<b>4,057,810</b>	<b>3,916,632</b>	<b>4,173,631</b>	<b>4,340,877</b>		

<sup>1</sup> Total IHS appropriations.<sup>2</sup> Estimated collections.<sup>3</sup> The FY 2014 President's Budget estimated reimbursements from the Department of Veterans Affairs at \$52 million. Estimates are revised to \$36 million for FY 2014 and \$39 million for FY 2015.

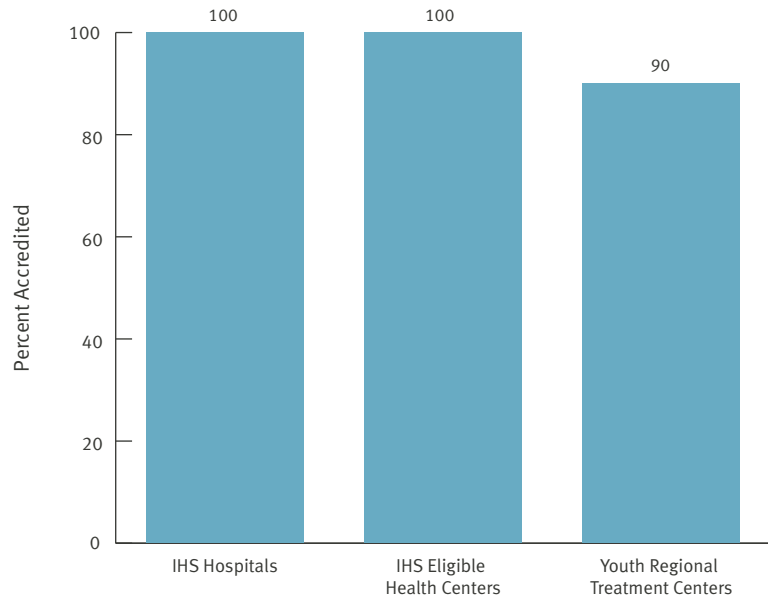
The FY 2013 and FY 2014 actual collections to date may be an indication that the FY 2014 and FY 2015 collections are overestimated and future year estimates will need to be adjusted accordingly.

<sup>4</sup> Total dollars available to spend.<sup>5</sup> Bureau of Labor Statistics Consumer Price Index Calculator, 2001 Constant US dollars. FY 2015 and FY 2014 calculated based on 2014 information: <http://1.usa.gov/1pmwGPT>

SOURCE: IHS HQ/OFA/Division of Budget Formulation

As of July 2014, all IHS hospitals and eligible IHS-operated health centers were accredited by the Joint Commission, Centers for Medicare and Medicaid Services (CMS), and the Accreditation Association for Ambulatory Healthcare (AAAHC). Nine of ten Youth Regional Treatment Centers (YRTC) were accredited by Joint Commission and the Commission on the Accreditation of Rehabilitation Facility (CARF). The tenth center was in the process of receiving accreditation as of October 2014.

**Chart 1.7** Accreditation Status of Selected Health Facilities, July 2014



**Table 1.7** Accreditation Status of Hospitals, Health Centers, and Youth Regional Treatment Centers, July 2014

Type of Facility	Total	Accredited <sup>1</sup>	Not Accredited	Percent Accredited
IHS Hospitals	28	28	0	100
IHS Eligible Health Centers	49 <sup>2</sup>	49	0	100
Youth Regional Treatment Centers <sup>3</sup>	10	9 <sup>4</sup>	0	90

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

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

<sup>3</sup> Provide alcohol and substance abuse treatment. Source: YRTC website: <http://bit.ly/1oqZR1b>

<sup>4</sup> Accreditation of these facilities is a combination of Joint Commission and the Commission on Accreditation of Rehabilitation Facilities (CARF). One center is in the process of receiving accreditation.

NOTE: IHS does not track Tribal Hospitals.

SOURCE: Office of Resource Access and Partnerships

One hundred percent of health center laboratories and 100 percent of hospital laboratories operated by the Indian Health Service were accredited as of July 2014.

Chart 1.8 Accreditation Status of IHS Laboratories, July 2014

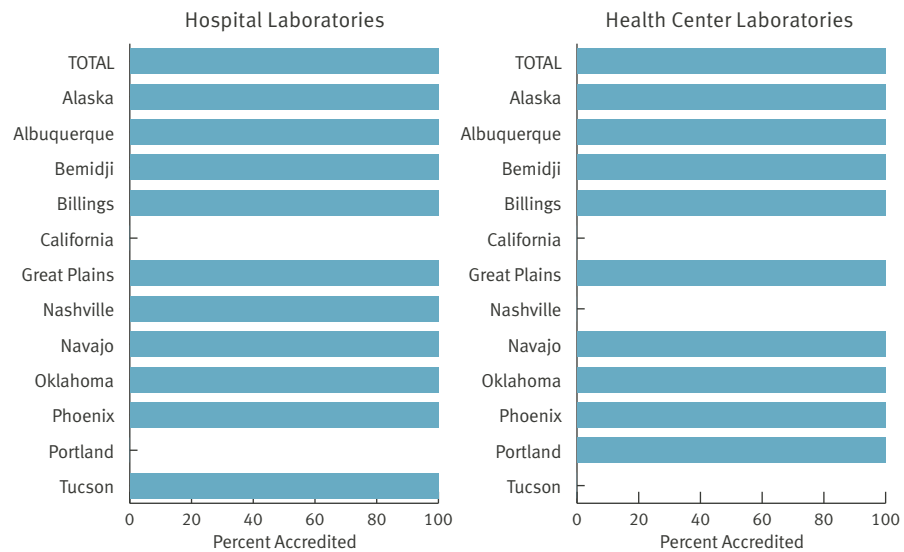


Table 1.8 Indian Health Service Laboratory Accreditation Status, July 2014

Area	IHS Hospital Laboratories			IHS Health Center Laboratories		
	Total	Accredited <sup>1</sup>	Percent Accredited	Total	Accredited <sup>1</sup>	Percent Accredited
<b>All Areas</b>	<b>39</b>	<b>39</b>	<b>100</b>	<b>82</b>	<b>82</b>	<b>100</b>
Alaska	7	7	100	16	16	100
Albuquerque	4	4	100	10	10	100
Bemidji	2	2	100	6	6	100
Billings	1	1	100	8	8	100
California	—	—	—	—	—	—
Great Plains	8	8	100	2	2	100
Nashville	1	1	100	—	—	—
Navajo	6	6	100	10	10	100
Oklahoma	3	3	100	6	6	100
Phoenix	6	6	100	14	14	100
Portland	—	—	—	10	10	100
Tucson	1	1	100	—	—	—

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

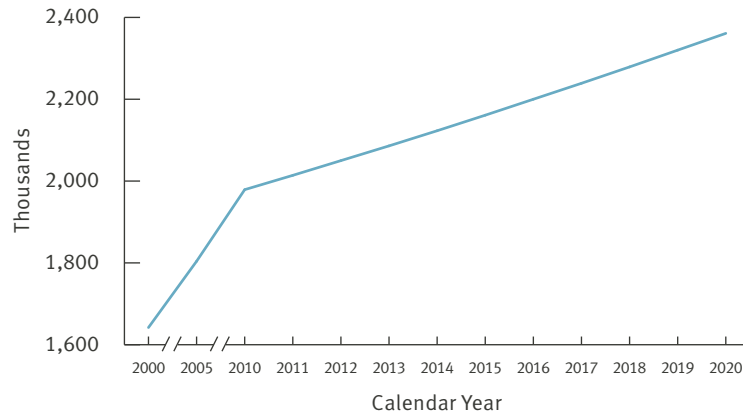
NOTE: California and Portland Areas had no inpatient facilities as of July, 2014.

SOURCE: National Laboratory Consultant



The IHS service population is increasing at an average rate of about 1.8 percent per year, excluding the impact of new Tribes. It is estimated to be approximately 2.1 million in CY 2014.

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



The largest percentage of the CY 2014 service population, 19, is located in the Oklahoma City Area, followed by the Navajo Area with 13. The Tucson Area has the smallest percentage, 2.

**Chart 2.2 Indian Health Service – Service Population by Area, Calendar Year 2014**

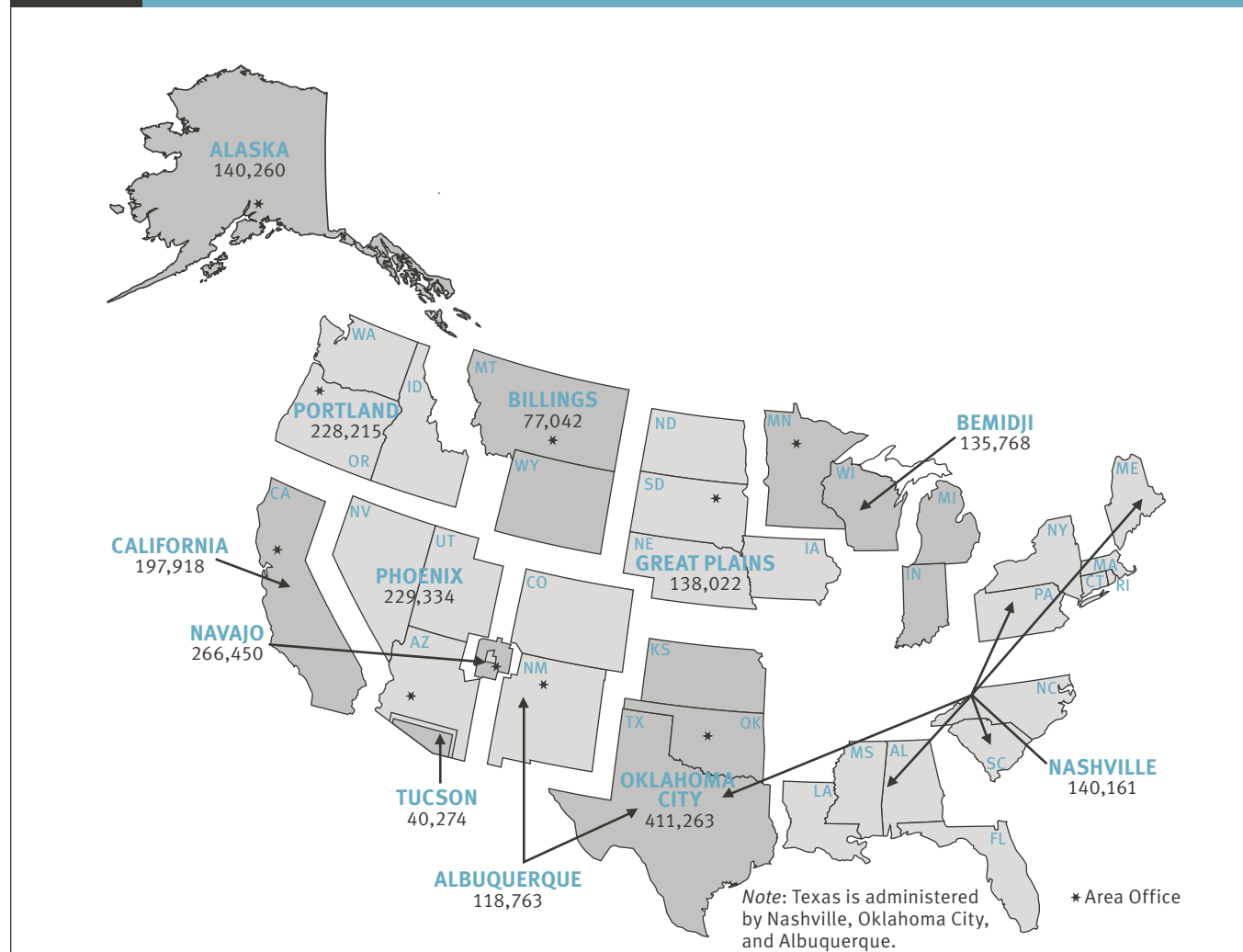


Table 2.1 IHS Service Population by Area, 2000-2020

Area	2000 (Census)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>All Areas</b>	<b>1,641,828</b>	<b>1,670,097</b>	<b>1,708,398</b>	<b>1,743,523</b>	<b>1,773,292</b>	<b>1,803,526</b>	<b>1,834,767</b>	<b>1,866,886</b>	<b>1,910,088</b>	<b>1,943,672</b>	<b>1,979,297</b>
(% Growth Rate)		1.72	2.29	2.06	1.71	1.70	1.73	1.75	2.31	1.76	1.83
Alaska	107,715	109,779	111,894	114,038	116,203	118,451	120,727	123,007	125,349	127,757	130,168
Albuquerque	95,385	96,813	98,275	99,777	101,320	102,852	104,469	106,125	107,812	109,543	111,310
Bemidji	106,551	108,181	109,881	111,647	113,483	115,405	117,378	119,419	121,542	123,744	126,010
Billings	58,476	59,648	60,843	62,061	63,305	64,573	65,865	67,178	68,517	69,879	71,264
California	166,665	168,401	170,213	172,100	174,067	176,106	178,224	180,420	182,688	185,037	187,454
Great Plains	100,853	103,043	105,305	107,642	110,046	112,528	115,078	117,694	120,382	123,142	125,973
Nashville	93,138	94,906	106,841	109,034	110,924	112,803	114,650	116,492	128,932	130,849	132,748
Navajo	218,455	221,747	225,047	228,404	231,747	235,129	238,538	241,979	245,372	248,862	252,297
Oklahoma	318,344	323,957	329,727	335,654	341,733	347,975	354,378	360,941	367,657	374,529	381,558
Phoenix	175,342	178,438	181,647	184,982	188,424	191,997	195,662	199,486	203,373	207,409	211,559
Portland	168,199	171,995	175,040	183,989	187,324	190,791	194,337	198,126	201,875	205,748	211,189
Tucson	32,705	33,189	33,685	34,195	34,716	34,916	35,461	36,019	36,589	37,173	37,767

Area	2011	2012	2013	2014	2015*	2016*	2017*	2018*	2019*	2020*
<b>All Areas</b>	<b>2,014,280</b>	<b>2,049,961</b>	<b>2,086,381</b>	<b>2,123,470</b>	<b>2,161,310</b>	<b>2,199,830</b>	<b>2,239,089</b>	<b>2,279,064</b>	<b>2,319,746</b>	<b>2,361,144</b>
(% Growth Rate)	1.77	1.77	1.78	1.78	1.78	1.78	1.78	1.79	1.79	1.78
Alaska	132,621	135,143	137,688	140,260	142,897	145,565	148,257	151,009	153,800	156,620
Albuquerque	113,116	114,960	116,842	118,763	120,723	122,718	124,752	126,825	128,934	131,080
Bemidji	128,338	130,742	133,223	135,768	138,376	141,057	143,815	146,641	149,533	152,500
Billings	72,675	74,108	75,564	77,042	78,545	80,072	81,626	83,201	84,798	86,422
California	189,956	192,534	195,185	197,918	200,727	203,606	206,562	209,597	212,703	215,894
Great Plains	128,877	131,857	134,903	138,022	141,210	144,472	147,805	151,210	154,689	158,237
Nashville	134,625	136,492	138,334	140,161	141,969	143,756	145,531	147,277	149,007	150,722
Navajo	255,830	259,334	262,894	266,450	270,045	273,646	277,284	280,931	284,604	288,295
Oklahoma	388,749	396,094	403,600	411,263	419,083	427,060	435,198	443,493	451,944	460,552
Phoenix	215,832	220,217	224,723	229,334	234,076	238,927	243,895	248,984	254,193	259,521
Portland	215,286	219,485	223,796	228,215	232,726	237,348	242,078	246,914	251,851	256,891
Tucson	38,375	38,995	39,629	40,274	40,933	41,603	42,286	42,982	43,690	44,410

\*Projected figure.

SOURCE: Estimated American Indian and Alaska Native service population by Area based on 2000-2009 vital events and the 2000 census bridged-race file.

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

**Chart 2.3 Population by Age and Sex**

*2000 Census with Bridged Race Categories*

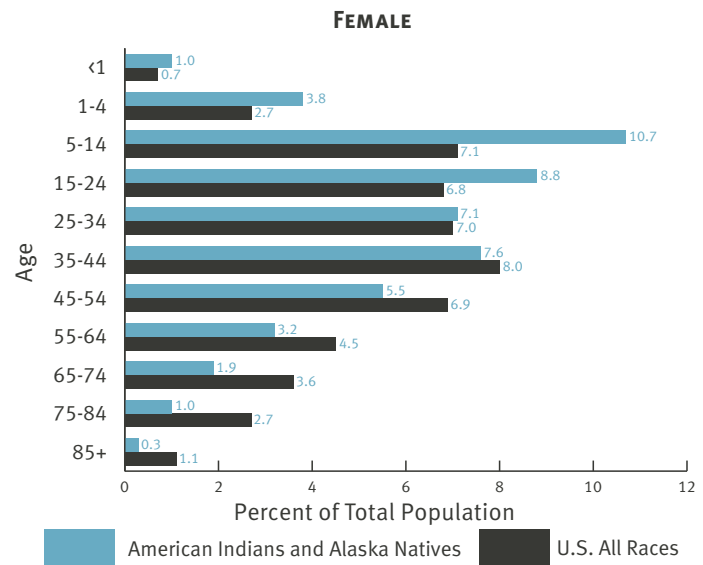
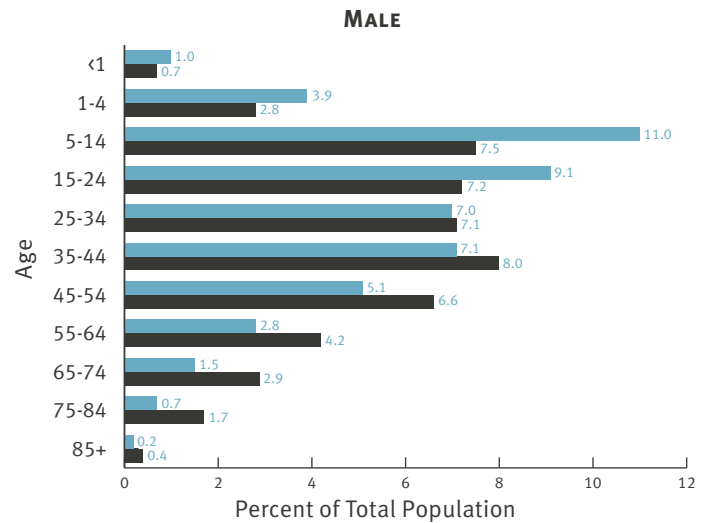


Table 2.3 Age and Sex Percent Distribution

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

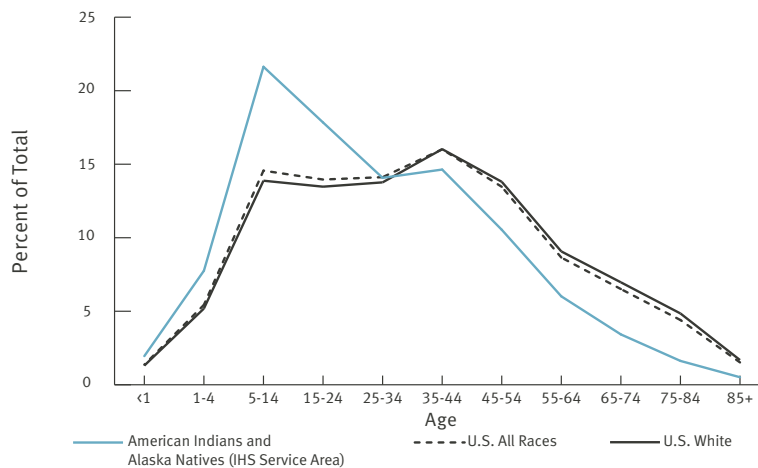
Age Group	American Indian and Alaska Native, IHS Service Area <sup>1</sup>		U.S. All Races		U.S. White	
	Male	Female	Male	Female	Male	Female
<b>Percent of Both Sexes:</b>						
<i>All Ages</i>	<i>49.335</i>	<i>50.665</i>	<i>49.071</i>	<i>50.930</i>	<i>49.321</i>	<i>50.681</i>
Under 1 year	0.998	0.953	0.700	0.667	0.669	0.636
1-4 years	3.947	3.806	2.779	2.654	2.657	2.526
5-14 years	10.969	10.660	7.460	7.103	7.123	6.755
15-24 years	9.060	8.780	7.158	6.801	6.953	6.519
25-34 years	7.008	7.066	7.125	6.995	7.029	6.737
35-44 years	7.084	7.553	7.963	8.049	8.054	7.971
45-54 years	5.060	5.484	6.611	6.854	6.849	6.957
55-64 years	2.846	3.167	4.152	4.500	4.391	4.677
65-74 years	1.539	1.886	2.941	3.568	3.181	3.787
75-84 years	0.653	0.970	1.740	2.662	1.927	2.922
85 years and over	0.171	0.340	0.442	1.077	0.488	1.194
<b>Percent of Within Each Sex:</b>						
<i>All Ages</i>	<i>100.000</i>	<i>100.000</i>	<i>100.000</i>	<i>100.000</i>	<i>100.000</i>	<i>100.000</i>
Under 1 year	2.023	1.881	1.427	1.310	1.356	1.255
1-4 years	8.000	7.512	5.663	5.211	5.387	4.984
5-14 years	22.234	21.040	15.202	13.947	14.442	13.328
15-24 years	18.364	17.330	14.587	13.354	14.097	12.863
25-34 years	14.205	13.947	14.520	13.735	14.252	13.293
35-44 years	14.359	14.908	16.228	15.804	16.330	15.728
45-54 years	10.256	10.824	13.472	13.458	13.887	13.728
55-64 years	5.769	6.251	8.461	8.836	8.903	9.228
65-74 years	3.119	3.722	5.993	7.006	6.450	7.472
75-84 years	1.324	1.915	3.546	5.227	3.907	5.765
85 years and over	0.347	0.671	0.901	2.115	0.989	2.356

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

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

**Chart 2.4** Population by Age

*2000 Census with Bridged Race Categories*



**Table 2.4** Percent Age Distribution

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

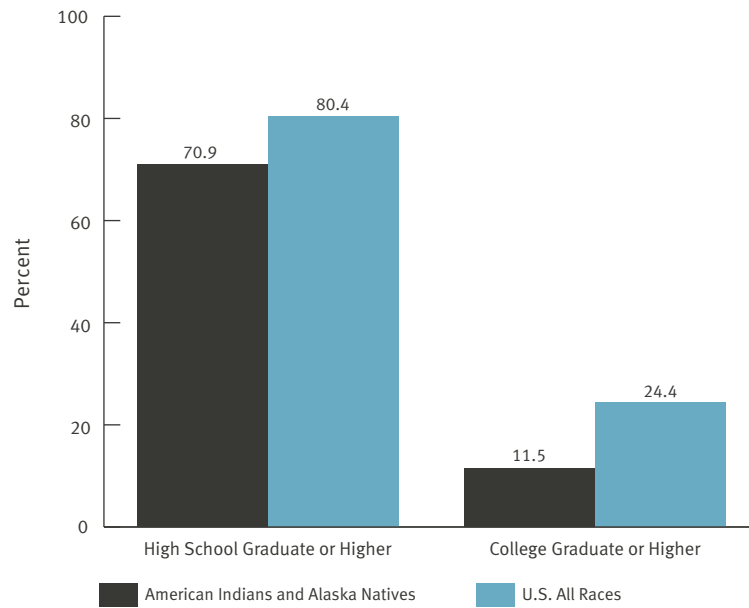
Age Group	American Indian and Alaska Native <sup>1</sup>	U.S. All Races	U.S. White
<b>All Ages</b>	<b>100.000</b>	<b>100.000</b>	<b>100.000</b>
Under 1 year	1.951	1.366	1.305
1-4 years	7.754	5.433	5.182
5-9 years	10.642	7.256	6.887
10-14 years	10.986	7.307	6.991
15-19 years	10.023	7.180	6.924
20-24 years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

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

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

**Chart 2.5** Educational Attainment

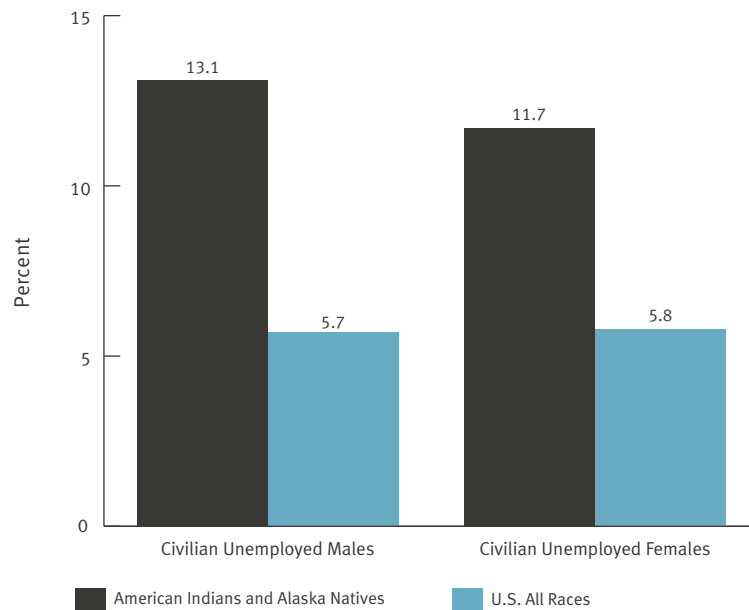
*American Indians and Alaska Natives (alone) and U.S. All Races, 2000 Census*



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

**Chart 2.6** Employment Status by Sex

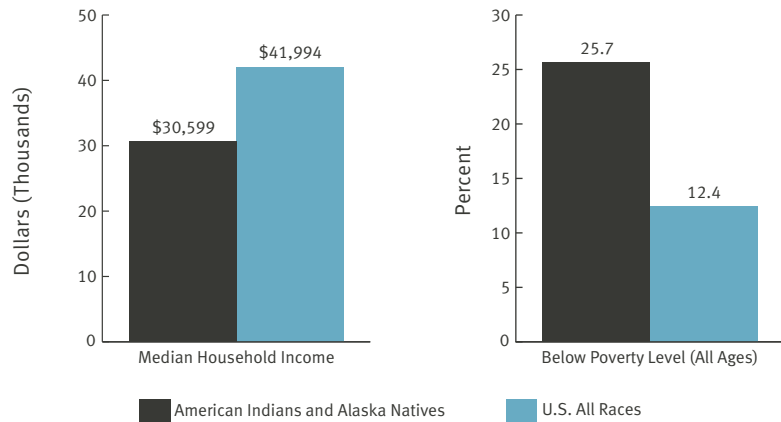
*American Indians and Alaska Natives (alone) and U.S. All Races, 2000 Census*



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

**Chart 2.7** Income Status in 1999

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



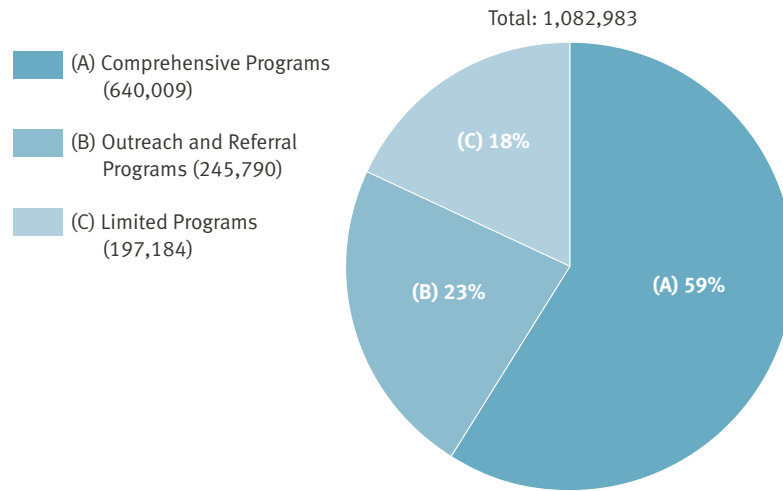
**Table 2.5** Selected Economic Profiles for the United States, 2000 Census

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

<sup>1</sup> Data for Hispanic persons are not tabulated separately by race. Data shown for Hispanic persons include all persons of Hispanic origin of any race.  
 NOTE: Selected Population Groups: American Indian and Alaska Native (alone); White (alone), Black or African American (alone); Asian (alone); and Native Hawaiian and other Pacific Islander (alone); and Hispanic (alone).  
 SOURCE: U.S. Bureau of the Census, Census 2000 Summary File 3

The estimated CY 2015 population was 1,082,983 AI/AN people residing in the Urban Indian Health Programs service area. Of these, 59 percent resided within comprehensive programs, 23 percent in urban programs offering outreach and referral programs, and 18 percent in limited programs.

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



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

Traditional Urban Indian Health Programs	Estimated CY 2015 Population	Percent of Total American Indians in Urban Projects
<b>Total</b>	<b>1,082,983</b>	<b>100.0</b>
Comprehensive Programs	640,009	59.1
Outreach and Referral Programs	245,790	22.7
Limited Programs	197,184	18.2
Demonstration	NA	NA

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

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



The birth rate for the IHS service population in 2007-2009 was 1.8 times the rate for the U.S. all races population in 2008, (25.4 and 14.0, respectively). The AI/AN birth rate is 90 percent greater than the rate for the U.S. white population of 13.4.

Chart 3.1 Birth Rates

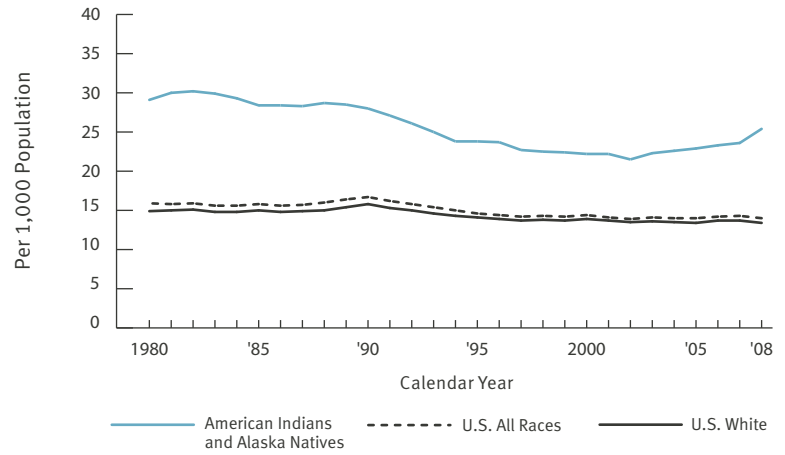


Table 3.1 Number and Rate of Live Births

*American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1955-2008 (Rate per 1,000 Population)*

Calendar Year(s)	American Indian and Alaska Native		U.S. All Races		U.S. White
	Number	Rate	Number	Rate	Rate <sup>1</sup>
(2009)	44,312				
2007-2009 (2008)	44,959	25.4	4,247,694	14.0	13.4
2006-2008 (2007)	44,483	23.6	4,316,233	14.3	13.7
2005-2007 (2006)	43,164	23.3	4,265,555	14.2	13.7
2004-2006 (2005)	41,000	22.9	4,138,349	14.0	13.4
2003-2005 (2004)	39,927	22.6	4,112,052	14.0	13.5
2002-2004 (2003)	38,658	22.3	4,089,950	14.1	13.6
2001-2003 (2002)	37,624	21.5	4,021,726	13.9	13.5
2000-2002 (2001)	36,930	22.2	4,025,933	14.1	13.7
1999-2001 (2000)	36,599	22.2	4,058,814	14.4	13.9
1998-2000 (1999)	35,559	22.4	3,959,417	14.2	13.7
1997-1999 (1998)	35,680	22.5	3,941,553	14.3	13.8
1996-1998 (1997)	33,923	22.7	3,880,894	14.2	13.7
1995-1997 (1996)	33,599	23.7	3,891,494	14.4	13.9
1994-1996 (1995)	32,548	23.8	3,899,589	14.6	14.1
1993-1995 (1994)	32,876	23.8	3,952,767	15.0	14.3
1992-1994 (1993)	33,429	25.0	4,000,240	15.4	14.6
1991-1993 (1992)	33,894	26.1	4,065,014	15.8	15.0
1990-1992 (1991)	34,083	27.1	4,110,907	16.2	15.3
1989-1991 (1990)	33,554	28.0	4,158,212	16.7	15.8
1984-1986 (1985)	30,194	28.4	3,760,561	15.8	15.0
1979-1981 (1980)	25,346	29.1	3,612,258	15.9	14.9
1972-1974 (1973)	50,562	29.2	3,136,965	14.8	13.8
1954-1956 (1955)	17,028	37.5	4,097,000	25.0	23.8

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

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

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

For 2007-2009, 7.1 percent of all AI/AN births in the IHS service area were considered low birthweight (less than 2,500 grams). This was better than the figure for the U.S. all races population (8.2 percent in 2008). For AI/AN mothers under the age of 15 the percent of low birthweight is 1.5 times less than U.S. all races (8.1 and 12.4 respectively).

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

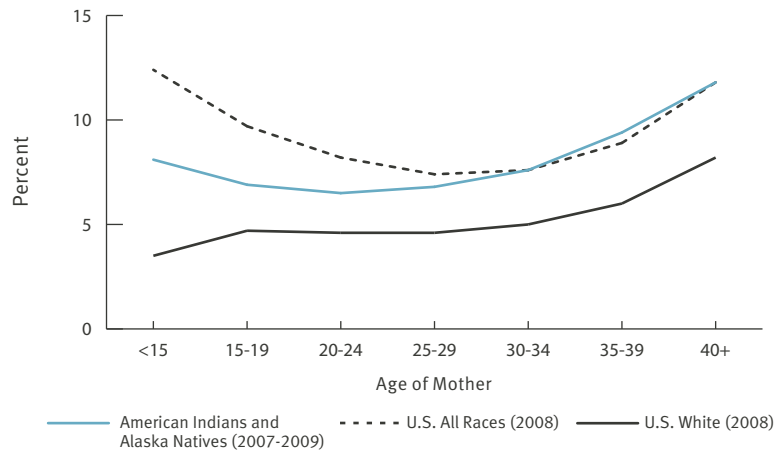


Table 3.2 Low Birthweight (less than 2,500 grams) by Age of Mother

*American Indians and Alaska Natives, IHS Service Area, 2007-2009, and  
U.S. All Races and White Populations, 2008*

Age of Mother	Total Live Births	Number Low Birthweight	Percent Low Birthweight
<b>American Indian and Alaska Native</b>			
<i>All Ages</i>	<i>133,754<sup>1</sup></i>	<i>9,469</i>	<i>7.1</i>
Under 20 years	23,936	1,661	6.9
Under 15 years	283	23	8.1
15-19 years	23,653	1,638	6.9
20-24 years	45,759	2,973	6.5
25-29 years	34,647	2,354	6.8
30-34 years	18,986	1,450	7.6
35-39 years	8,423	795	9.4
40 years and over	2,003	236	11.8
<b>U.S. All Races</b>			
<i>All Ages</i>	<i>4,247,694<sup>2</sup></i>	<i>347,209</i>	<i>8.2</i>
Under 20 years	440,522	42,987	9.8
Under 15 years	5,764	712	12.4
15-19 years	434,758	42,275	9.7
20-24 years	1,052,184	86,419	8.2
25-29 years	1,195,774	88,381	7.4
30-34 years	956,716	72,527	7.6
35-39 years	488,875	43,473	8.9
40 years and over	113,623	13,422	11.8
<b>U.S. White</b>			
<i>All Ages</i>	<i>3,274,163<sup>3</sup></i>	<i>163,561</i>	<i>5.0</i>
Under 20 years	309,714	14,638	4.7
Under 15 years	3,312	117	3.5
15-19 years	306,402	14,521	4.7
20-24 years	791,852	36,713	4.6
25-29 years	942,837	43,801	4.6
30-34 years	757,815	38,086	5.0
35-39 years	383,486	23,080	6.0
40 years and over	88,459	7,243	8.2

<sup>1</sup> Excludes 150 AI/AN live births with birthweight not stated.

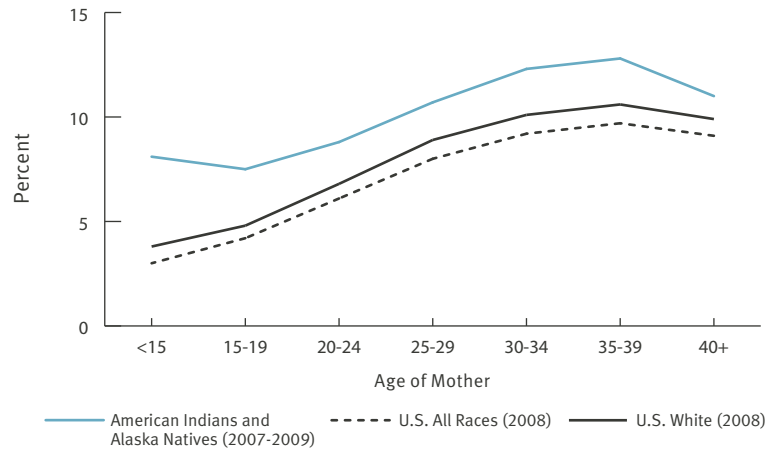
<sup>2</sup> Excludes 4,361 U.S. all races live births with birthweight not stated.

<sup>3</sup> Excludes 1,942 U.S. white live births with birthweight not stated.

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

The AI/AN population experiences more birth of high birthweights than the U.S. all races population. Gestational diabetes often accompanies high birthweight pregnancy. In 2007-2009, 9.8 percent of all babies in the IHS service area were high birthweight (4,000 grams or more). In contrast, the U.S. all races percentage was 2.2 percentage points lower (7.6 percent) in 2008. For AI/AN mothers under the age of 15 the percent of high birthweight is 2.7 times greater than U.S. all races (8.1 and 3.0 respectively).

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



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

*American Indians and Alaska Natives, IHS Service Area, 2007-2009 and  
U.S. All Races and White Populations, 2008*

Age of Mother	Total Live Births	Number High Birthweight	Percent High Birthweight
<b>American Indian and Alaska Native</b>			
<i>All Ages</i>	<i>133,754<sup>1</sup></i>	<i>13,148</i>	<i>9.8</i>
Under 20 years	23,936	1,792	7.5
Under 15 years	283	23	8.1
15-19 years	23,653	1,769	7.5
20-24 years	45,759	4,016	8.8
25-29 years	34,647	3,697	10.7
30-34 years	18,986	2,344	12.3
35-39 years	8,423	1,078	12.8
40 years and over	2,003	221	11.0
<b>U.S. All Races</b>			
<i>All Ages</i>	<i>4,247,694<sup>2</sup></i>	<i>323,822</i>	<i>7.6</i>
Under 20 years	440,522	18,505	4.2
Under 15 years	5,764	175	3.0
15-19 years	434,758	18,330	4.2
20-24 years	1,052,184	63,754	6.1
25-29 years	1,195,774	95,853	8.0
30-34 years	956,716	88,093	9.2
35-39 years	488,875	47,294	9.7
40 years and over	113,623	10,323	9.1
<b>U.S. White</b>			
<i>All Ages</i>	<i>3,274,163<sup>3</sup></i>	<i>278,946</i>	<i>8.5</i>
Under 20 years	309,402	14,957	4.8
Under 15 years	3,312	125	3.8
15-19 years	306,402	14,832	4.8
20-24 years	791,852	53,945	6.8
25-29 years	942,837	83,573	8.9
30-34 years	757,815	76,864	10.1
35-39 years	383,486	40,808	10.6
40 years and over	88,459	8,799	9.9

<sup>1</sup> Excludes 150 AI/AN live births with birthweight not stated.

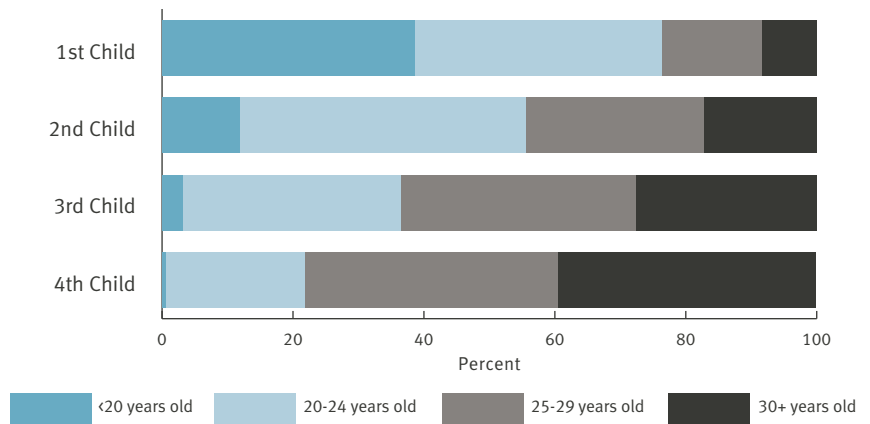
<sup>2</sup> Excludes 4,361 U.S. all races live births with birthweight not stated.

<sup>3</sup> Excludes 1,942 U.S. white live births with birthweight not stated.

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

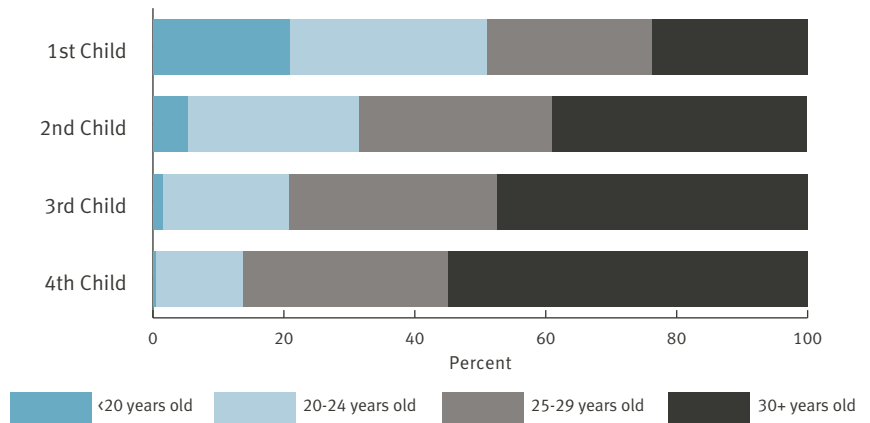
During 2007-2009, 39 percent of AI/AN mothers were under the age of 20 when their first child was born and 12 percent were under the age of 20 when their second child was born.

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



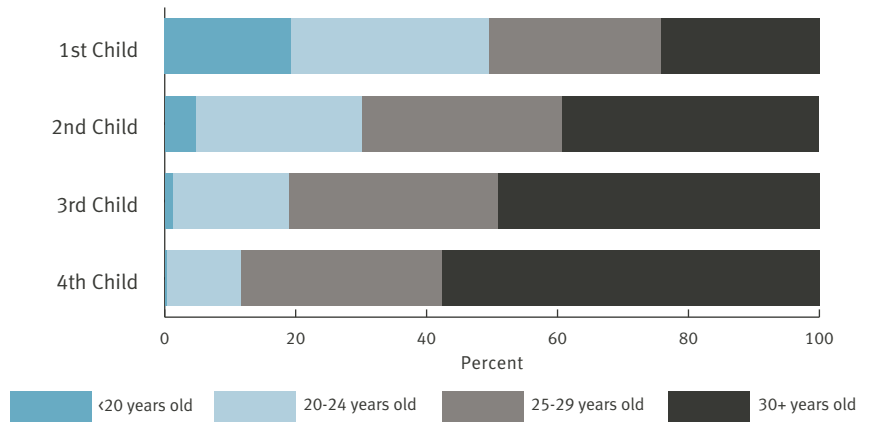
For the U.S. all races population, 21 percent of mothers were under age 20 when they had their first child. The percent of mothers under the age of 20 who gave birth to their second child dropped dramatically to 5 percent.

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



For the U.S. white population, 19 percent of mothers were under age 20 when they had their first child. The percent of mothers under the age of 20 who gave birth to their second child dropped to 5 percent.

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



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

*American Indians and Alaska Natives, IHS Service Area, 2007-2009 and U.S. All Races and White Populations, 2008*

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</b>							
<i>All Ages</i>	<i>133,754<sup>1</sup></i>	<i>48,515</i>	<i>36,090</i>	<i>23,636</i>	<i>12,875</i>	<i>6,277</i>	<i>5,678</i>
<i>All Ages</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Under 20 years	17.9	38.5	11.9	3.2	0.6	0.1	0.0
20-24 years	34.2	37.8	43.6	33.2	21.2	11.3	3.6
25-29 years	25.9	15.3	27.3	35.9	38.7	36.9	24.7
30-34 years	14.2	5.8	12.0	18.6	25.4	31.4	36.9
35-39 years	6.3	2.2	4.4	7.6	11.4	16.1	25.7
40-44 years	1.4	0.4	0.8	1.4	2.5	4.0	8.3
45-54 years	0.1	0.0	0.0	0.1	0.1	0.2	0.7
<b>U.S. All Races</b>							
<i>All Ages</i>	<i>4,247,694<sup>2</sup></i>	<i>1,703,921</i>	<i>1,330,540</i>	<i>705,117</i>	<i>291,351</i>	<i>108,138</i>	<i>82,051</i>
<i>All Ages</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Under 20 years	10.4	20.8	5.3	1.5	0.4	0.1	5.0
20-24 years	24.8	30.1	26.1	19.2	13.3	8.5	3.2
25-29 years	28.2	25.3	29.6	31.8	31.4	29.3	20.0
30-34 years	22.5	15.9	24.7	28.2	30.9	33.1	33.3
35-39 years	11.5	6.5	11.9	16.0	19.1	22.3	29.9
40-44 years	2.5	1.3	2.2	3.1	4.6	6.3	12.4
45-54 years	0.2	0.1	0.1	0.2	0.3	0.5	1.2
<b>U.S. White</b>							
<i>All Ages</i>	<i>3,274,163<sup>3</sup></i>	<i>1,307,615</i>	<i>1,040,996</i>	<i>551,853</i>	<i>221,546</i>	<i>78,475</i>	<i>56,354</i>
<i>All Ages</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Under 20 years	9.5	19.3	4.7	1.2	0.3	0.1	0.0
20-24 years	24.2	30.1	25.4	17.7	11.3	6.8	2.6
25-29 years	28.8	26.4	30.5	32.0	30.8	27.5	16.8
30-34 years	23.1	16.2	25.1	29.5	32.5	34.3	33.0
35-39 years	11.7	6.6	11.9	16.3	20.1	24.0	32.3
40-44 years	2.5	1.4	2.2	3.1	4.7	6.8	14.0
45-54 years	0.2	0.1	0.1	0.2	0.3	0.5	1.3

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup> Excludes 683 AI/AN births with birth order not reported.

<sup>2</sup> Excludes 26,576 U.S. all races births with birth order not reported.

<sup>3</sup> Excludes 17,324 U.S. white births with birth order not reported.

NOTE: Percents may not sum to 100.0 due to rounding.

SOURCE: Rates for U.S. All Races and U.S. White: Martin JA, Hamilton BE, Sutton PD, et al. Births: Final data for 2008. National vital statistics reports; vol 59 no 1. Hyattsville, MD: National Center for Health Statistics. 2010.



The maternal mortality rate for AI/AN dropped from 28.5 (rate per 100,000 live births) in 1972-1974 to 23.2 in 2007-2009, a decrease of 19 percent. The AI/AN 2007-2009 rate (23.2) is 90.2 percent higher than the U.S. white rate of 12.2 for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 3.7 Maternal Death Rates

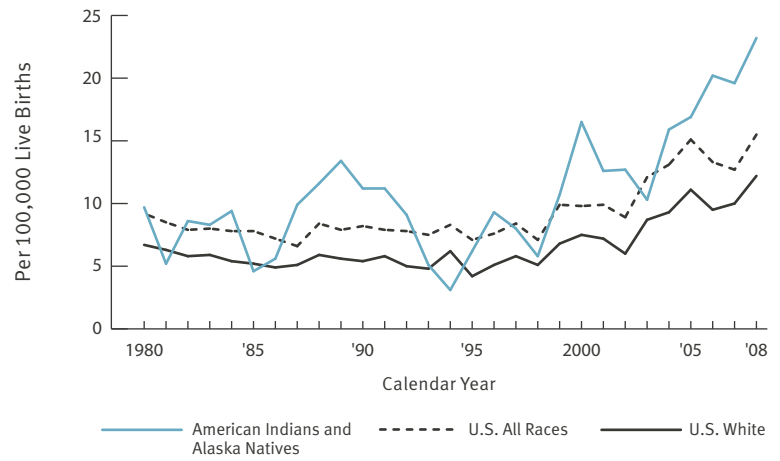


Table 3.7 Maternal Death Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1958-2008 (Rate per 100,000 Live Births)*

Calendar Year(s)	American Indian and Alaska Native		U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>				
2007-2009 (2008)	19.4	23.2	15.5	12.2	1.5	1.9
2006-2008 (2007)	15.8	19.6	12.7	10.0	1.5	2.0
2005-2007 (2006)	14.8	20.2	13.3	9.5	1.5	2.1
2004-2006 (2005)	11.3	16.9	15.1	11.1	1.1	1.5
2003-2005 (2004)	10.9	15.9	13.1	9.3	1.2	1.7
2002-2004 (2003)	6.9	10.3	12.1	8.7	0.9	1.2
2001-2003 (2002)	10.0	12.7	8.9	6.0	1.4	2.1
2000-2002 (2001)	9.0	12.6	9.9	7.2	1.3	1.8
1999-2001 (2000)	12.8	16.5	9.8	7.5	1.7	2.2
1998-2000 (1999)	8.7	10.7	9.9	6.8	1.1	1.6
1997-1999 (1998)	5.8	5.8	7.1	5.1	0.8	1.1
1996-1998 (1997)	7.0	8.0	8.4	5.8	1.0	1.4
1995-1997 (1996)	8.2	9.3	7.6	5.1	1.2	1.8
1994-1996 (1995)	6.2	6.2	7.1	4.2	0.9	1.5
1993-1995 (1994)	3.1	3.1	8.3	6.2	0.4	0.5
1992-1994 (1993)	4.1	5.1	7.5	4.8	0.7	1.1
1991-1993 (1992)	7.1	9.1	7.8	5.0	1.2	1.8
1990-1992 (1991)	9.1	11.2	7.9	5.8	1.4	1.9
1989-1991 (1990)	10.1	11.2	8.2	5.4	1.4	2.1
1984-1986 (1985)	4.6	4.6	7.8	5.2	0.6	0.9
1979-1981 (1980)	9.7	9.7	9.2	6.7	1.1	1.4
1972-1974 (1973)	28.5	28.5	15.2	10.7	1.9	2.7
1957-1959 (1958)	82.6	82.6	37.6	26.3	2.2	3.1

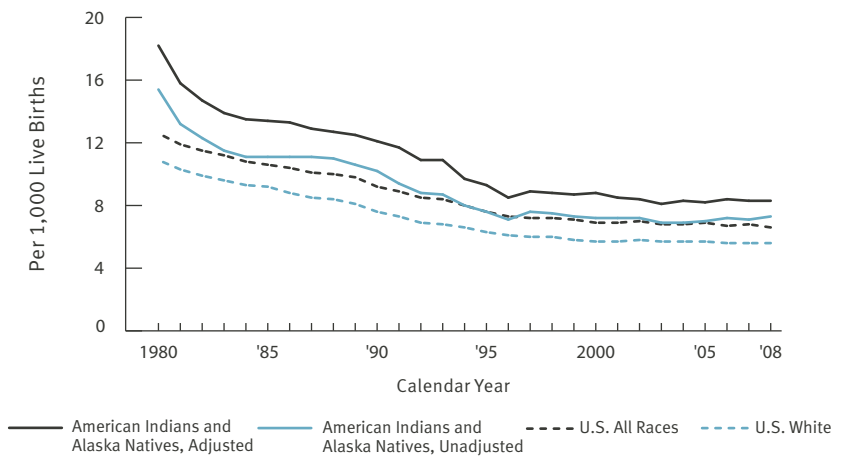
<sup>1</sup> Adjusted - specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

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

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

The infant mortality rate for AI/AN dropped from 25.0 (rate per 1,000 live births) in 1972-1974 to 8.3 in 2007-2009, a decrease of 67 percent. The 2007-2009 rate is 26 percent higher than the U.S. all races rate of 6.6 for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 3.8** Infant Mortality Rates



**Table 3.8** Infant Mortality Rates

*American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1955-2008 (Rate per 1,000 Live Births)*

Calendar Year(s)	American Indian and Alaska Native		U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>				
2007-2009 (2008)	7.3	8.3	6.6	5.6	1.3	1.5
2006-2008 (2007)	7.1	8.3	6.8	5.6	1.2	1.5
2005-2007 (2006)	7.2	8.4	6.7	5.6	1.3	1.5
2004-2006 (2005)	7.0	8.2	6.9	5.7	1.2	1.4
2003-2005 (2004)	6.9	8.3	6.8	5.7	1.2	1.5
2002-2004 (2003)	6.9	8.1	6.9	5.7	1.2	1.5
2001-2003 (2002)	7.2	8.4	7.0	5.8	1.2	1.5
2000-2002 (2001)	7.2	8.5	6.9	5.7	1.2	1.5
1999-2001 (2000)	7.2	8.8	6.9	5.7	1.3	1.5
1998-2000 (1999)	7.3	8.7	7.1	5.8	1.2	1.5
1997-1999 (1998)	7.5	8.8	7.2	6.0	1.2	1.5
1996-1998 (1997)	7.6	8.9	7.2	6.0	1.2	1.5
1995-1997 (1996)	7.1	8.5	7.3	6.1	1.2	1.4
1994-1996 (1995)	7.6	9.3	7.6	6.3	1.2	1.5
1993-1995 (1994)	8.0	9.7	8.0	6.6	1.2	1.5
1992-1994 (1993)	8.7	10.9	8.4	6.8	1.3	1.6
1991-1993 (1992)	8.8	10.9	8.5	6.9	1.3	1.6
1990-1992 (1991)	9.4	11.7	8.9	7.3	1.3	1.6
1989-1991 (1990)	10.2	12.1	9.2	7.7	1.3	1.6
1984-1986 (1985)	11.1	13.4	10.6	9.3	1.3	1.4
1979-1981 (1980)	15.4	18.2	12.6	11.0	1.4	1.7
1972-1974 (1973)	22.2	25.0	17.7	15.8	1.4	1.6
1954-1956 (1955)	62.7		26.4	23.6		

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

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

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

The neonatal mortality rate for AI/AN in 2007-2009 (4.1 deaths per 1,000 live births) was 5 percent lower than the U.S. all races rate (4.3) and 12 percent higher than the U.S. white rate (3.6) for 2008. AI/AN fare much worse in comparison during the postneonatal period. The postneonatal rate for AI/AN (4.2) was 1.8 and 2.3 times the U.S. all races (2.3) and U.S. white (2.0) populations rates, respectively. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 3.9 Infant Mortality Rates by Age

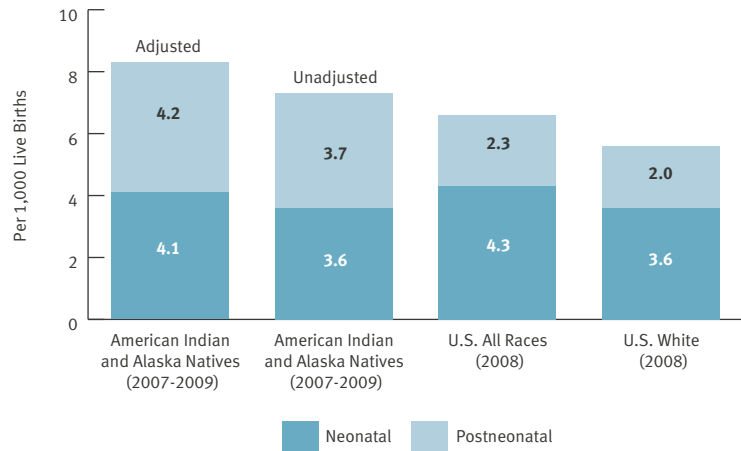


Table 3.9 Infant Mortality Rates by Age

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1973-2008 (Rate per 1,000 Live Births)

Calendar Years	American Indian and Alaska Native					
	Infant Mortality Rates		Neonatal Under 28 Days		Postneonatal 28 Days-11 Months	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
2007-2009	7.3	8.3	3.6	4.1	3.7	4.2
2006-2008	7.1	8.3	3.5	4.2	3.7	4.1
2005-2007	7.2	8.4	3.5	4.2	3.7	4.3
2004-2006	7.0	8.2	3.5	4.2	3.5	4.0
2003-2005	6.9	8.3	3.3	4.1	3.6	4.1
2002-2004	6.9	8.1	3.7	4.5	3.7	4.2
2001-2003	7.2	8.4	3.5	4.3	3.9	4.4
2000-2002	7.2	8.5	3.6	4.4	3.6	4.1
1999-2001	7.2	8.8	3.5	4.3	3.8	4.3
1998-2000	7.3	8.7	3.6	4.2	3.7	4.2
1997-1999	7.5	8.8	3.5	4.3	3.8	4.3
1996-1998	7.6	8.9	3.6	4.4	3.9	4.4
1995-1997	7.1	8.5	3.4	4.0	3.7	4.4
1994-1996	7.6	9.3	3.6	4.5	4.0	4.8
1993-1995	8.0	9.7	3.8	4.6	4.2	5.1
1992-1994	8.7	10.9	4.1	5.2	4.6	5.8
1991-1993	8.8	10.9	4.0	4.9	4.9	6.0
1990-1992	9.4	11.7	4.3	5.3	5.1	6.4
1989-1991	10.2	12.1	4.7	5.4	5.5	6.7
1988-1990	10.6	12.5	4.8	5.6	5.8	7.0
1987-1989	11.0	12.7	5.1	5.5	5.9	7.1
1986-1988	11.1	12.9	5.2	5.2	5.9	5.9
1985-1987	11.1	13.3	5.3	5.3	5.9	5.9
1984-1986	11.1	13.4	5.0	5.0	6.0	6.0
1983-1985	11.1	13.5	5.1	5.1	6.0	6.0
1982-1984	11.5	13.9	5.1	5.1	6.4	6.4
1981-1983	12.3	14.7	5.3	5.3	7.0	7.0
1980-1982	13.2	15.8	5.9	5.9	7.3	7.3
1979-1981	15.4	18.2	7.2	7.2	8.1	8.1
1972-1974	22.2	25.0	10.2	10.2	12.0	12.0

Calendar Year	U.S. All Races			U.S. White		
	Infant Mortality Rates	Neonatal Under 28 Days	Postneonatal 28 Days-11 Months	Infant Mortality Rates	Neonatal Under 28 Days	Postneonatal 28 Days-11 Months
2008	6.6	4.3	2.3	5.6	3.6	2.0
2007	6.8	4.4	2.3	5.6	3.7	1.9
2006	6.7	4.5	2.2	5.6	3.7	1.9
2005	6.9	4.5	2.3	5.7	3.8	1.9
2004	6.8	4.5	2.3	5.7	3.8	1.9
2003	6.9	4.6	2.2	5.7	3.9	1.8
2002	7.0	4.7	2.3	5.8	3.9	1.9
2001	6.9	4.5	2.3	5.7	3.8	1.9
2000	6.9	4.6	2.3	5.7	3.8	1.9
1999	7.1	4.7	2.3	5.8	3.8	1.9
1998	7.2	4.8	2.4	6.0	3.9	2.0
1997	7.2	4.8	2.5	6.0	4.0	2.0
1996	7.3	4.8	2.6	6.1	4.0	2.1
1995	7.6	4.9	2.7	6.3	4.1	2.2
1994	8.0	5.1	2.9	6.6	4.2	2.4
1993	8.4	5.3	3.1	6.8	4.3	2.5
1992	8.5	5.4	3.1	6.9	4.4	2.6
1991	8.9	5.6	3.4	7.3	4.5	2.8
1990	9.2	5.9	3.4	7.7	4.8	2.8
1989	9.8	6.2	3.6	8.2	5.2	2.9
1988	10.0	6.3	3.6	8.5	5.3	3.1
1987	10.1	6.5	3.6	8.6	5.4	3.1
1986	10.4	6.7	3.6	8.9	5.7	3.1
1985	10.6	7.0	3.7	9.3	6.0	3.2
1984	10.8	7.0	3.8	9.4	6.1	3.2
1983	11.2	7.3	3.9	9.7	6.3	3.3
1982	11.5	7.7	3.8	10.1	6.7	3.3
1981	11.9	8.0	3.9	10.5	7.0	3.4
1980	12.6	8.5	4.1	11.0	7.4	3.5
1973	17.7	13.0	4.7	15.8	11.8	4.0

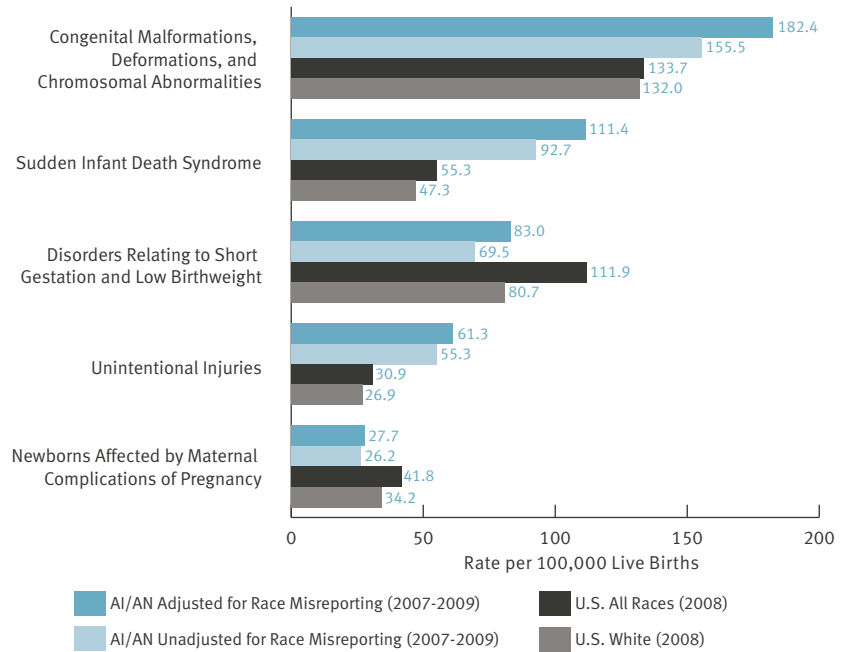
<sup>1</sup> Adjusted – specifies a rate or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

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

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

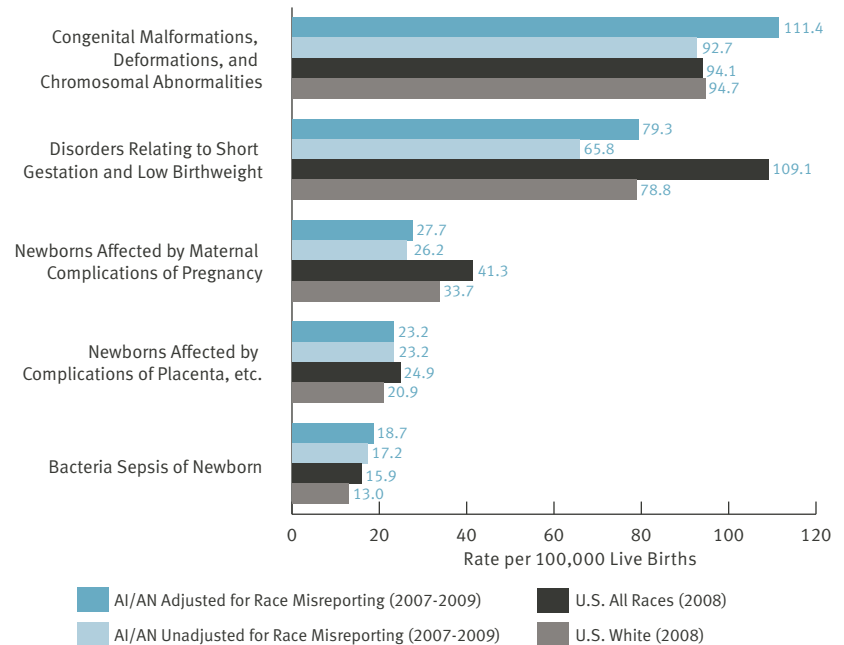
The two leading causes of AI/AN infant deaths (2007-2009) were congenital malformations, deformations, and chromosomal abnormalities followed by sudden infant death syndrome (SIDS). For the U.S. all races population (2008), they were congenital malformations, deformations, and chromosomal abnormalities followed by disorders relating to short gestation and low birthweight, and for the U.S. white population (2008), they were congenital malformations, deformations, and chromosomal abnormalities followed by disorders relating to short gestation and low birthweight.

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



The two leading causes of AI/AN neonatal deaths (2007-2009) and the U.S. all races and white populations in 2008 were congenital malformations, deformations, and chromosomal abnormalities followed by disorders relating to short gestation and low birthweight. For the U.S. all races population (2008), they were disorders relating to short gestation and low birthweight followed by congenital malformations, deformations, and chromosomal abnormalities, and for the U.S. white population (2008), they were congenital malformations, deformations, and chromosomal abnormalities followed by disorders relating to short gestation and low birthweight.

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



The two leading causes of AI/AN postneonatal deaths (2007-2009) and the U.S. all races and white populations in 2008 were sudden infant death syndrome (SIDS) and congenital malformations, deformations, and chromosomal abnormalities.

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

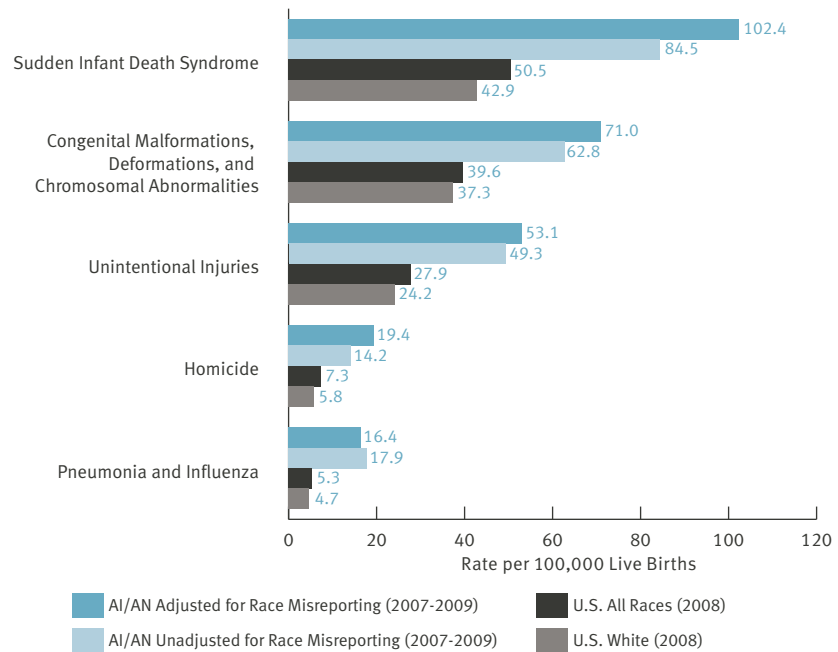




Table 3.10 Leading Causes of Infant Deaths by Age

American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008  
(Rate per 100,000 Live Births)

Cause of Death	American Indian and Alaska Native		U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:			
	Rate				U.S. All Races	U.S. White		
	Number	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>			Rate	Rate
<b>Total Infant Deaths</b>								
<i>All Causes</i>	<b>967</b>	<b>1,112</b>	<b>723.0</b>	<b>831.4</b>	<b>600.6</b>	<b>554.8</b>	<b>1.4</b>	<b>1.5</b>
Congenital malformations, deformations, and chromosomal abnormalities	208	244	155.5	182.4	133.7	132.0	1.4	1.4
Sudden infant death syndrome	124	149	92.7	111.4	55.3	47.3	2.0	2.4
Disorders relating to short gestation and low birthweight	93	111	69.5	83.0	111.9	80.7	0.7	1.0
Unintentional injuries	74	82	55.3	61.3	30.9	26.9	2.0	2.3
Newborns affected by maternal complications of pregnancy	35	37	26.2	27.7	41.8	34.2	0.7	0.8
Newborns affected by complications of placenta, cord, and membranes	31	31	23.2	23.2	25.1	21.2	0.9	1.1
Disease of the circulatory system	26	29	19.4	21.7	14.0	11.5	1.6	1.9
Bacteria sepsis of newborn	26	27	19.4	20.2	16.5	13.4	1.2	1.5
Homicide	20	26	14.9	19.4	7.8	6.3	2.5	3.1
Necrotizing enterocolitis of newborn	20	24	14.9	17.9	8.9	9.6	2.0	1.9
Pneumonia and influenza	24	22	17.9	16.4	5.5	4.7	3.0	3.5
Diseases of the digestive system	17	22	12.7	16.4	8.3	5.7	2.0	2.9
<i>All other causes</i>	<b>269</b>	<b>308</b>						
<b>Neonatal Deaths</b>								
<i>All Causes</i>	<b>400</b>	<b>470</b>	<b>299.1</b>	<b>351.4</b>	<b>428.7</b>	<b>362.0</b>	<b>0.8</b>	<b>1.0</b>
Congenital malformations, deformations, and chromosomal abnormalities	124	149	92.7	111.4	94.1	94.7	1.2	1.2
Disorders relating to short gestation and low birthweight	88	106	65.8	79.3	109.1	78.8	0.7	1.0
Newborns affected by maternal complications of pregnancy	35	37	26.2	27.7	41.3	33.7	0.7	0.8
Newborns affected by complications of placenta, cord, and membranes	31	31	23.2	23.2	24.9	20.9	0.9	1.1
Bacteria sepsis of newborn	23	25	17.2	18.7	15.9	13.0	1.2	1.4
Necrotizing enterocolitis of newborn	16	20	12.0	15.0	11.0	8.4	1.4	1.8
Respiratory distress syndrome	12	16	9.0	12.0	14.7	11.9	0.8	1.0
Neonatal hemorrhage	11	14	8.2	10.5	12.7	10.7	0.8	1.0
Atelectasis	9	11	6.7	8.2	7.7	6.7	1.1	1.2
Intrauterine hypoxia and birth asphyxia	7	9	5.2	6.7	8.4	7.5	0.8	0.9
<i>All other causes</i>	<b>44</b>	<b>52</b>						
<b>Postneonatal Deaths</b>								
<i>All Causes</i>	<b>420</b>	<b>492</b>	<b>314.0</b>	<b>359.6</b>	<b>231.8</b>	<b>193.1</b>	<b>1.6</b>	<b>1.9</b>
Sudden infant death syndrome	113	137	84.5	102.4	50.5	42.9	2.0	2.4
Congenital malformations, deformations, and chromosomal abnormalities	84	95	62.8	71.0	39.6	37.3	1.8	1.9
Unintentional injuries	66	71	49.3	53.1	27.9	24.2	1.9	2.2
Homicide	19	26	14.2	19.4	7.3	5.8	2.7	3.3
Pneumonia and influenza	24 <sup>2</sup>	22 <sup>2</sup>	17.9 <sup>2</sup>	16.4 <sup>2</sup>	5.3	4.7	3.1	3.5
Diseases of the circulatory system	20	22	14.9	16.4	11.5	9.2	1.4	1.8
Diseases of the digestive system	17	20	12.7	15.0	12.2	8.8	1.2	1.7
Diseases of the nervous system (including meningitis)	16	16	12.0	12.0	7.8	7.3	1.5	1.6
Other and unspecified diseases of respiratory system	9	13	6.7	9.7	5.6	4.0	1.7	2.4
Certain infectious and parasitic diseases (including septicemia)	12	13	9.0	6.8	5.1	5.1	1.3	1.3
<i>All other causes</i>	<b>40</b>	<b>57</b>						

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

<sup>2</sup> The AI/AN adjusted numbers and rates for pneumonia and influenza is lower than the unadjusted rate because the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) had fewer deaths for this cause than did the unadjusted mortality file (2007-2009 data).

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

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

The two leading causes of AI/AN deaths (2007-2009) for ages 1 to 4 were unintentional injuries and homicide. Unintentional injury deaths were 3.9 times higher for AI/AN than U.S. all races and 4 times higher than U.S. white populations.

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

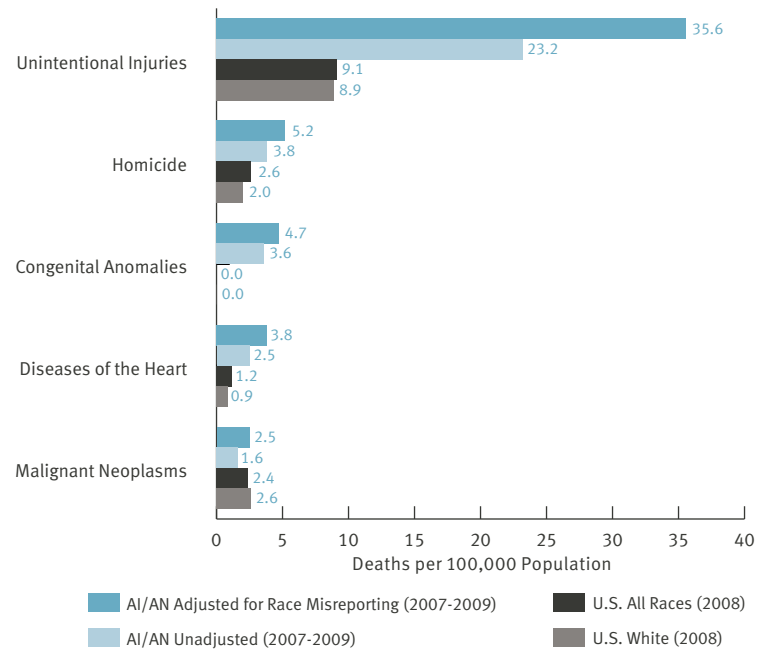


Table 4.1 Ten Leading Causes of Death for Decedents 1 to 4 Years of Age

American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008  
(Rate per 100,000 Population)

Cause of Death	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>All Causes</b>	<b>234</b>	<b>337</b>	<b>52.7</b>	<b>75.9</b>	<b>29.3</b>	<b>27.2</b>	<b>2.6</b>	<b>2.8</b>
Unintentional injuries	103	158	23.2	35.6	9.1	8.9	3.9	4.0
Motor vehicle	49	72	11.0	16.2	2.6	2.5	6.2	6.5
Other unintentional injuries	54	86	12.2	19.4	6.5	6.4	3.0	3.0
Homicide	17	23	3.8	5.2	2.6	2.0	2.0	2.6
Congenital abnormalities	16	21	3.6	4.7	0.0	0.0	*	*
Diseases of the heart	11	17	2.5	3.8	1.2	0.9	3.2	4.2
Malignant neoplasms	7	11	1.6	2.5	2.4	2.6	1.0	1.0
Pneumonia and influenza	6	7	1.4	1.6	0.9	0.7	1.8	2.3
Cerebrovascular	2	3	0.5	0.7	0.4	0.4	1.8	1.8
Meningococcal infections	2	3	0.5	0.7	0.0	0.0	*	*
Conditions originating in prenatal period	2	2	0.5	0.5	0.3	0.3	1.7	1.7
Chronic lower respiratory diseases	2	2	0.5	0.5	0.3	0.3	1.7	1.7
<b>All other causes</b>	<b>66</b>	<b>90</b>						

<sup>1</sup> Figure does not meet standard of reliability or precision.

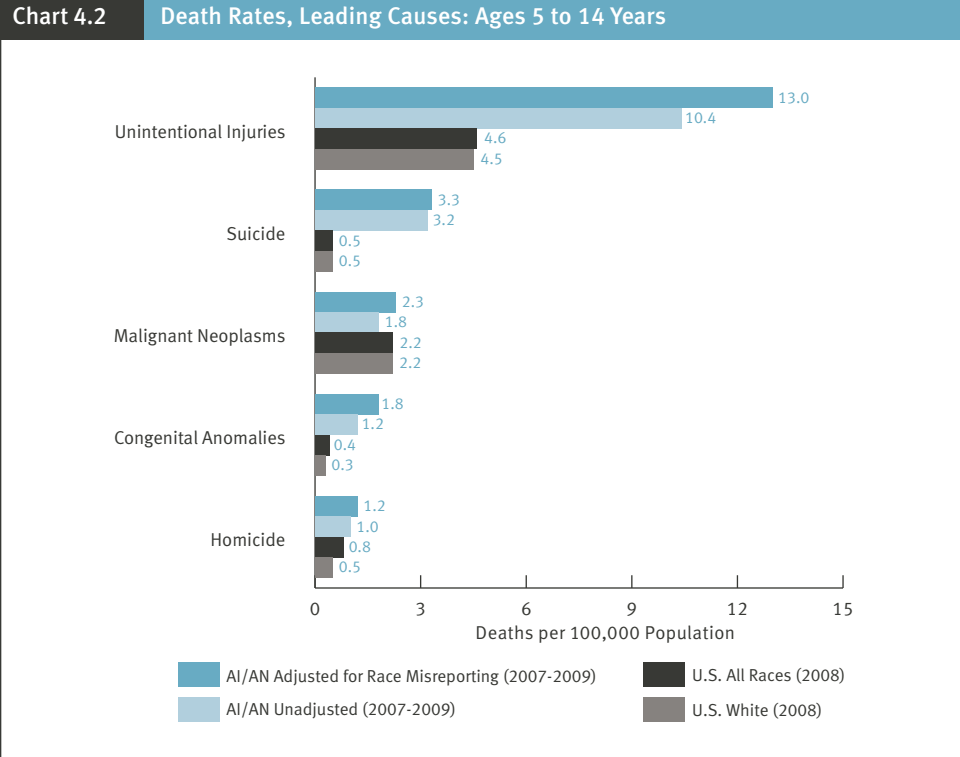
0.0 Quantity more than zero but less than 0.05.

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

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

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

The two leading causes of AI/AN deaths (2007-2009) for ages 5 to 14 years were unintentional injuries and suicide. For the U.S. all races and white populations (2008) the two leading causes of death were unintentional injuries and malignant neoplasms.



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

American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)

Cause of Death	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>All Causes</b>	<b>261</b>	<b>324</b>	<b>26.4</b>	<b>32.8</b>	<b>13.9</b>	<b>13.0</b>	<b>2.4</b>	<b>2.5</b>
Unintentional injuries	103	129	10.4	13.0	4.6	4.5	2.8	2.9
Motor vehicle	58	76	5.9	7.7	2.5	2.6	3.1	3.0
Other unintentional injuries	45	53	4.5	5.3	2.1	1.9	2.5	2.8
Suicide	32	33	3.2	3.3	0.5	0.5	6.6	6.6
Malignant neoplasms	18	23	1.8	2.3	2.2	2.2	1.0	1.0
Congenital anomalies	12	18	1.2	1.8	0.4	0.3	4.5	6.0
Homicide	10	12	1.0	1.2	0.8	0.5	1.5	2.4
Septicemia	8	9	0.8	0.9	0.2	0.1	4.5	9.0
Pneumonia and influenza	7	9	0.7	0.9	0.2	0.2	4.5	4.5
Diseases of the heart	6	8	0.6	0.8	0.6	0.5	1.3	1.6
Chronic lower respiratory disease	3	3	0.3	0.3	0.3	0.1	1.0	3.0
Aortic aneurysm and dissection	3	3	0.3	0.3	0.1	0.1	3.0	3.0
<b>All other causes</b>	<b>59</b>	<b>77</b>	<b>5.7</b>	<b>6.6</b>				

<sup>1</sup> Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.  
 NOTE: Causes of death listed are based on the order of adjusted number of deaths.  
 SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>

The two leading causes of AI/AN deaths (2007-2009) and the U.S. white populations (2008) for ages 15 to 24 years were unintentional injuries and suicide. For the U.S. all races population (2008) the two leading causes of death were unintentional injuries and homicide.

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

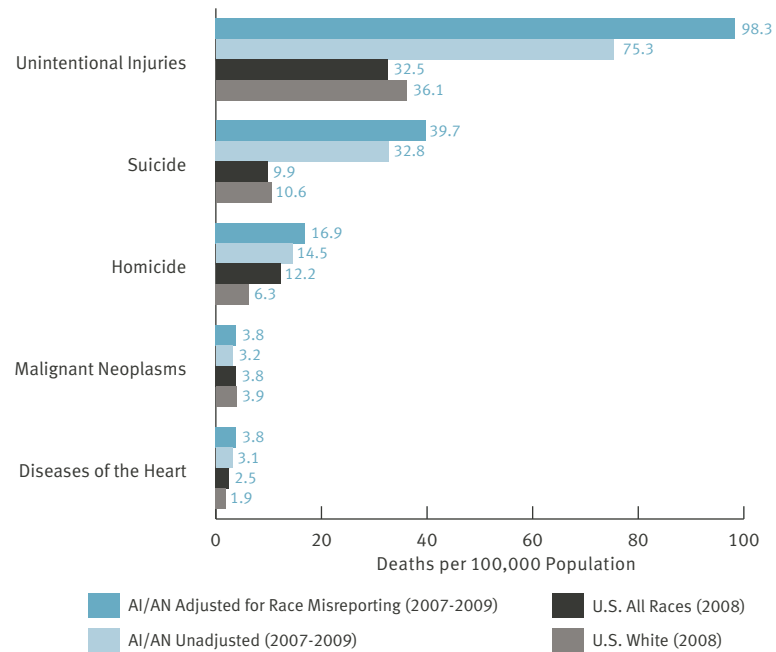


Table 4.3 Ten Leading Causes of Death for Decedents 15 to 24 Years of Age

American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008  
(Rate per 100,000 Population)

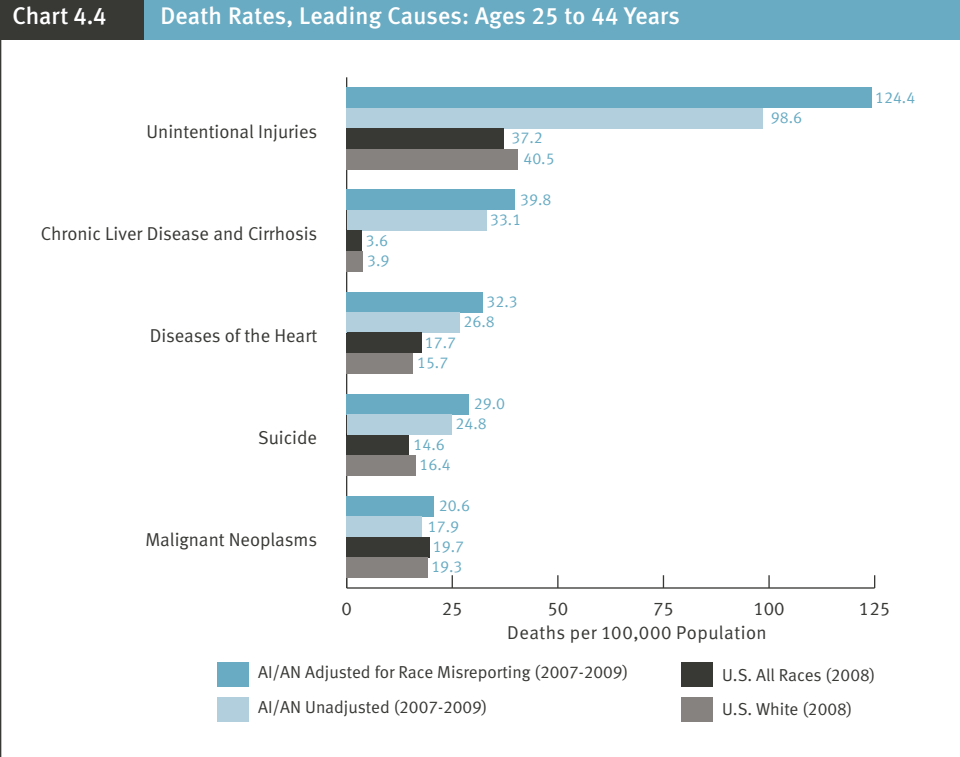
Cause of Death	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>All Causes</b>	<b>1,599</b>	<b>2,013</b>	<b>150.0</b>	<b>188.9</b>	<b>74.2</b>	<b>71.0</b>	<b>2.5</b>	<b>2.7</b>
Unintentional injuries	802	1047	75.3	98.3	32.5	36.1	3.0	2.7
Motor vehicle	538	723	50.5	67.9	20.6	22.4	3.3	3.0
Other unintentional injuries	264	324	24.8	30.4	11.9	13.7	2.6	2.2
Suicide	350	423	32.8	39.7	9.9	10.6	4.0	3.7
Homicide	154	180	14.5	16.9	12.2	6.3	1.4	2.7
Malignant neoplasms	34	41	3.2	3.8	3.8	3.9	1.0	1.0
Diseases of the heart	33	41	3.1	3.8	2.5	1.9	1.5	2.0
Congenital anomalies	20	25	1.9	2.3	0.4	0.3	5.8	7.7
Pneumonia and influenza	11	16	1.0	1.5	0.5	0.5	3.0	3.0
Chronic liver disease and cirrhosis	8	10	0.8	0.9	0.1	0.1	9.0	9.0
Cerebrovascular	5	8	0.5	0.7	0.4	0.4	1.8	1.8
Pregnancy childbirth puerperium	6	6	0.6	0.6	0.4	0.3	1.5	2.0
<b>All other causes</b>	<b>176</b>	<b>215</b>						

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

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

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

The two leading causes of AI/AN deaths (2007-2009) for ages 25 to 44 years were unintentional injuries and chronic liver disease and cirrhosis. For the U.S. all races and U.S. white populations (2008) the two leading causes of death were unintentional injuries and malignant neoplasms.



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

*American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)*

Cause of Death	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>All Causes</b>	<b>4,763</b>	<b>5,768</b>	<b>308.0</b>	<b>373.0</b>	<b>144.0</b>	<b>137.7</b>	<b>2.6</b>	<b>2.7</b>
Unintentional injuries	1,525	1,924	98.6	124.4	37.2	40.5	3.3	3.1
Motor vehicle	695	880	44.9	56.9	14.8	15.4	3.8	3.7
Other unintentional injuries	830	1,044	53.7	67.5	22.4	25.1	3.0	2.7
Chronic liver disease and cirrhosis	512	615	33.1	39.8	3.6	3.9	11.1	10.2
Diseases of the heart	415	499	26.8	32.3	17.7	15.7	1.8	2.1
Suicide	384	448	24.8	29.0	14.6	16.4	2.0	1.8
Malignant neoplasms	275	318	17.9	20.6	19.7	19.3	1.0	1.1
Homicide	258	302	16.7	19.5	9.1	5.5	2.1	3.5
Diabetes mellitus	136	173	8.8	11.2	2.9	2.5	3.9	4.5
Pneumonia and influenza	85	97	5.5	6.3	1.5	1.4	4.2	4.5
Septicemia	62	68	4.0	4.4	1.5	1.3	2.9	3.4
HIV	61	68	3.9	4.4	4.6	2.4	1.0	1.8
<b>All other causes</b>	<b>1,050</b>	<b>1,256</b>						

<sup>1</sup> Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.  
 NOTE: Causes of death listed are based on the order of adjusted number of deaths.  
 SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>

The two leading causes of AI/AN deaths (2007-2009) for ages 45 to 54 years were diseases of the heart and malignant neoplasms. In 2008, the U.S. all races and U.S. white populations; the two leading causes of death were malignant neoplasms and diseases of the heart.

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

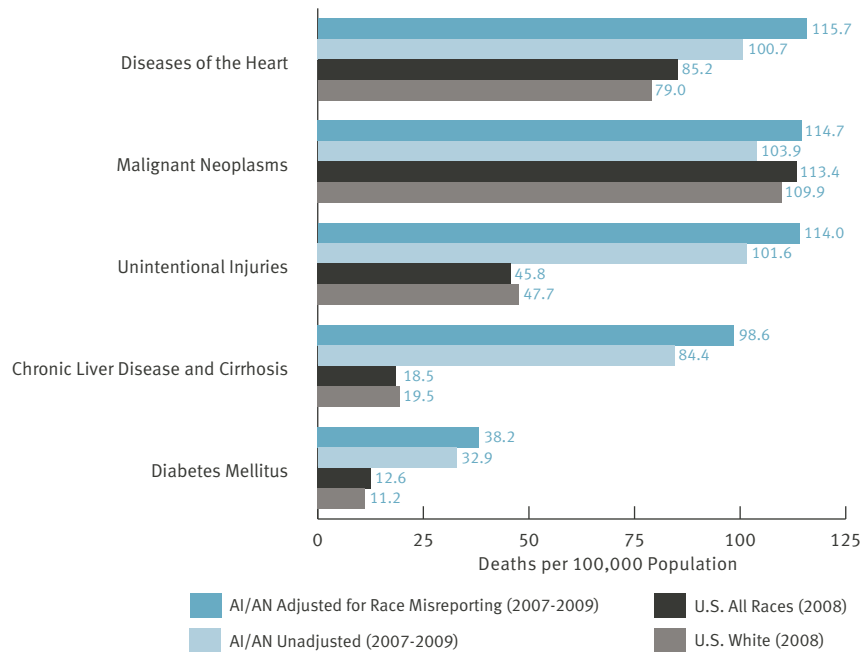


Table 4.5 Ten Leading Causes of Death for Decedents 45 to 54 Years of Age

American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008  
(Rate per 100,000 Population)

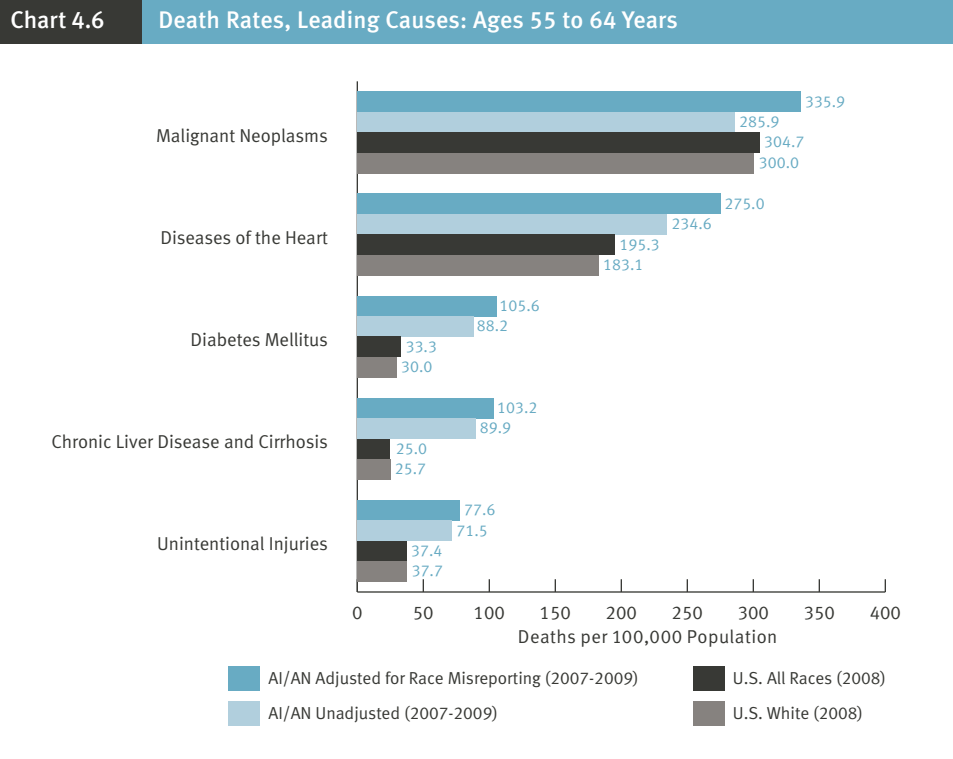
Cause of Death	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>All Causes</b>	<b>4,625</b>	<b>5,225</b>	<b>661.6</b>	<b>747.4</b>	<b>419.6</b>	<b>399.8</b>	<b>1.8</b>	<b>1.9</b>
Diseases of the heart	704	809	100.7	115.7	85.2	79.0	1.4	1.5
Malignant neoplasms	726	802	103.9	114.7	113.4	109.9	1.0	1.0
Unintentional injuries	710	797	101.6	114.0	45.8	47.7	2.5	2.4
Motor vehicle	231	258	33.0	36.9	13.7	14.0	2.7	2.6
Other unintentional injuries	479	539	68.6	77.1	32.1	33.7	2.4	2.3
Chronic liver disease and cirrhosis	590	689	84.4	98.6	18.5	19.5	5.3	5.1
Diabetes mellitus	230	267	32.9	38.2	12.6	11.2	3.0	3.4
Cerebrovascular diseases	122	139	17.5	19.9	13.7	10.7	1.5	1.9
Suicide	111	115	15.9	16.5	18.6	21.4	0.9	0.8
Septicemia	98	109	14.0	15.6	5.7	4.8	2.7	3.3
Vital hepatitis	88	106	12.6	15.2	6.1	6.3	2.5	2.4
Pneumonia and influenza	97	105	13.9	15.0	5.1	4.7	2.9	3.2
<b>All other causes</b>	<b>1,149</b>	<b>1,287</b>						

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

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

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

The two leading causes of AI/AN deaths (2007-2009) for ages 55 to 64 years were malignant neoplasms and diseases of the heart. In 2008, the two leading causes of death for both the U.S. all races and U.S. white populations (2008) were malignant neoplasm and diseases of the heart.



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

American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)

Cause of Death	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>All Causes</b>	<b>5,332</b>	<b>6,170</b>	<b>1,158.3</b>	<b>1,340.4</b>	<b>867.1</b>	<b>833.5</b>	<b>1.5</b>	<b>1.6</b>
Malignant neoplasms	1,316	1,546	285.9	335.9	304.7	300.0	1.1	1.1
Diseases of the heart	1,080	1,266	234.6	275.0	195.3	183.1	1.4	1.5
Diabetes mellitus	406	486	88.2	105.6	33.3	30.0	3.2	3.5
Chronic liver disease and cirrhosis	414	475	89.9	103.2	25.0	25.7	4.1	4.0
Unintentional injuries	329	357	71.5	77.6	37.4	37.7	2.1	2.1
Motor vehicle	113	121	24.5	26.3	12.7	13.0	2.1	2.0
Other unintentional injuries	216	236	47.0	51.3	24.7	24.7	2.1	2.1
Chronic lower respiratory diseases	204	241	44.3	52.4	41.1	43.5	1.3	1.2
Cerebrovascular diseases	170	201	36.9	43.7	30.6	25.8	1.4	1.7
Nephritis, nephrotic syndrome, and nephrosis	128	146	27.8	31.7	14.1	10.9	2.2	2.9
Pneumonia and influenza	104	113	22.6	24.5	10.9	10.1	2.2	2.4
Septicemia	91	98	19.8	21.3	13.3	11.7	1.6	1.8
<b>All other causes</b>	<b>1,093</b>	<b>1,241</b>						

<sup>1</sup> Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.  
 NOTE: Causes of death listed are based on the order of adjusted number of deaths.  
 SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>

The two leading causes of AI/AN deaths (2007-2009) for 65 years of age and older were diseases of the heart and malignant neoplasms. For the U.S. all races and U.S. white populations (2008) diseases of the heart and malignant neoplasms were also the two leading causes of death. Diabetes mellitus was the third leading cause of death for AI/AN.

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

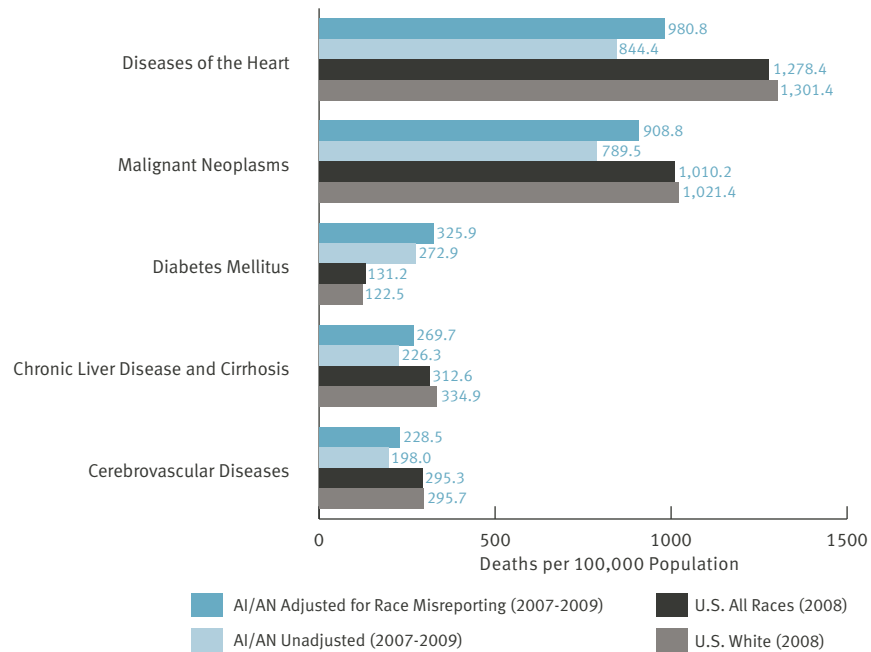


Table 4.7 Ten Leading Causes of Death for Decedents 65 Years of Age and Older

American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008  
(Rate per 100,000 Population)

Cause of Death	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>All Causes</b>	<b>15,086</b>	<b>17,218</b>	<b>3,682.7</b>	<b>4,203.2</b>	<b>4,641.4</b>	<b>4,728.6</b>	<b>0.9</b>	<b>0.9</b>
Diseases of the heart	3,459	4,018	844.4	980.8	1,278.4	1,301.4	0.8	0.8
Malignant neoplasms	3,234	3,721	789.5	908.8	1,010.2	1,021.4	0.9	0.9
Diabetes mellitus	1,118	1,335	272.9	325.9	131.2	122.5	2.5	2.7
Chronic lower respiratory disease	927	1,105	226.3	269.7	312.6	334.9	0.9	0.8
Cerebrovascular diseases	811	936	198.0	228.5	295.3	295.7	0.8	0.8
Pneumonia and influenza	472	513	115.2	125.2	124.8	127.1	1.0	1.0
Unintentional injuries	480	507	117.2	123.8	101.5	107.0	1.2	1.2
Motor vehicle	110	119	26.9	29.1	16.8	17.1	1.7	1.7
Other unintentional injuries	370	388	90.3	94.7	84.7	89.9	1.1	1.1
Nephritis, nephrotic syndrome, and nephrosis	451	506	110.1	123.5	102.9	98.0	1.2	1.3
Alzheimer's disease	376	419	91.8	102.3	210.4	223.3	0.5	0.5
Septicemia	313	342	76.4	83.5	69.7	66.3	1.2	1.3
<b>All other causes</b>	<b>3,445</b>	<b>3,816</b>						

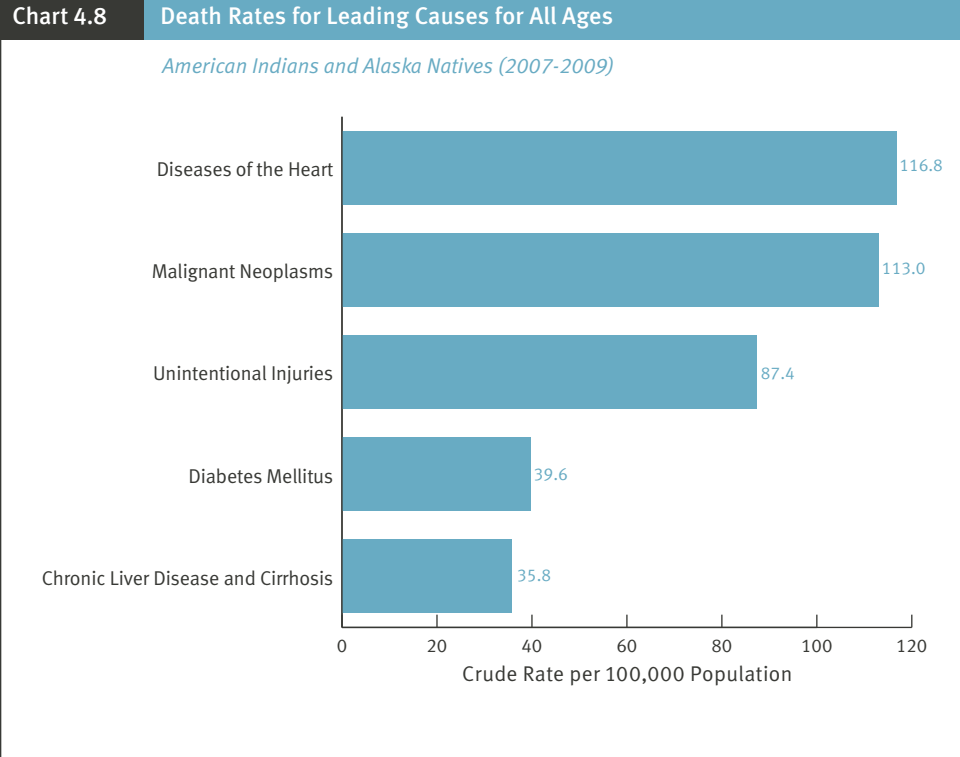
<sup>1</sup> Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

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

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



The two leading causes of AI/AN deaths (2007-2009) for all ages were diseases of the heart and malignant neoplasms.



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

*American Indians and Alaska Natives, IHS Service Area, 2007-2009*  
(Crude Rate per 100,000 Population)

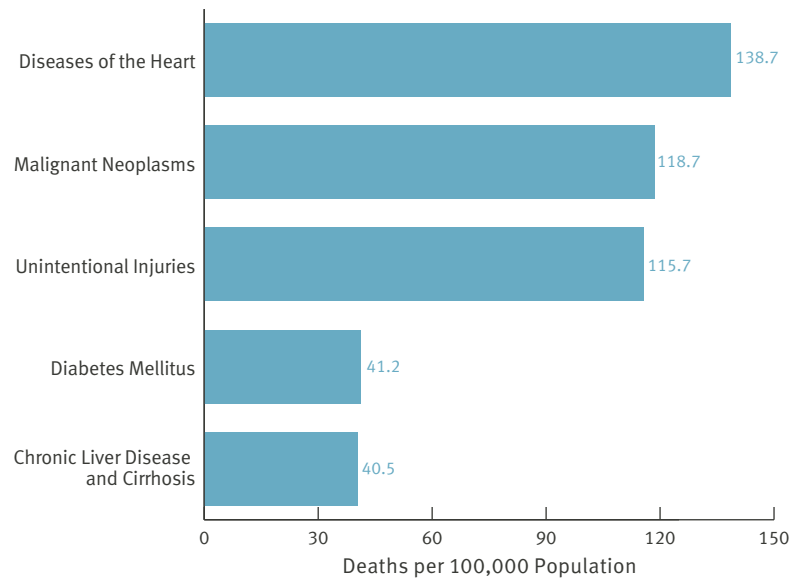
Cause of Death	Number		Rate	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<b>All Causes</b>	<b>32,867</b>	<b>38,170</b>	<b>574.5</b>	<b>667.2</b>
Diseases of the heart	5,729	6,679	100.2	116.8
Malignant neoplasms	5,612	6,464	98.1	113.0
Unintentional injuries	4,128	5,001	72.2	87.4
Motor vehicle	1,809	2,262	31.6	39.5
Other unintentional injuries	2,319	2,739	40.6	47.9
Diabetes mellitus	1,894	2,267	33.1	39.6
Chronic liver disease and cirrhosis	1,764	2,046	30.8	35.8
Chronic lower respiratory diseases	1,250	1,492	22.0	26.1
Cerebrovascular diseases	1,162	1,347	20.3	23.5
Suicide	950	1,096	16.6	19.2
Pneumonia and influenza	805	881	14.1	15.4
Nephritis	700	647	12.4	14.0
<b>All other causes</b>	<b>8,873</b>	<b>10,250</b>		

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

The two leading causes of deaths for AI/AN males (2007-2009) were diseases of the heart and malignant neoplasms.

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

*American Indians and Alaska Natives (2007-2009)*



The two leading causes of deaths for AI/AN females (2007-2009) were malignant neoplasms and diseases of the heart.

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

*American Indians and Alaska Natives (2007-2009)*

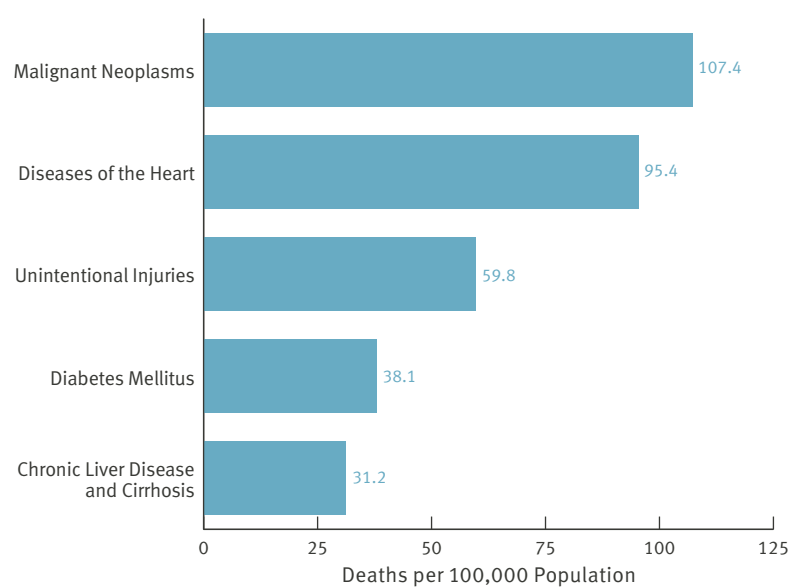


Table 4.9 Leading Causes of Death by Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009  
(Rate per 100,000 Population)*

Cause of Death	Number		Rate	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<b>MALE</b>				
<i>All Causes</i>	<i>18,084</i>	<i>20,998</i>	<i>640.3</i>	<i>743.5</i>
Diseases of the heart	3,314	3,916	117.3	138.7
Malignant neoplasms	2,898	3,352	102.6	118.7
Unintentional injuries	2,775	3,268	98.3	115.7
Motor vehicle	1,185	1,441	42.0	51.0
Other unintentional injuries	1,590	1,827	56.3	64.7
Diabetes mellitus	969	1,163	34.3	41.2
Chronic liver disease and cirrhosis	988	1,143	35.0	40.5
Suicide	725	829	25.7	29.4
Chronic lower respiratory diseases	615	732	21.8	25.9
Cerebrovascular diseases	531	629	18.8	22.3
Homicide	436	503	15.4	17.8
Pneumonia and influenza	395	438	14.0	15.5
<i>All other causes</i>	<i>4,438</i>	<i>5,025</i>		
<b>FEMALE</b>				
<i>All Causes</i>	<i>14,787</i>	<i>17,173</i>	<i>510.5</i>	<i>592.9</i>
Malignant neoplasms	2,714	3,112	93.7	107.4
Diseases of the heart	2,415	2,763	83.4	95.4
Unintentional injuries	1,353	1,733	46.7	59.8
Motor vehicle	624	821	21.5	28.3
Other unintentional injuries	729	912	26.4	33.1
Diabetes mellitus	925	1,104	31.9	38.1
Chronic liver disease and cirrhosis	776	903	26.8	31.2
Chronic lower respiratory diseases	643	760	22.2	26.2
Cerebrovascular diseases	631	718	21.8	24.8
Nephritis, nephrotic syndrome, and nephrosis	413	466	14.3	16.1
Pneumonia and influenza	410	443	14.2	15.3
Septicemia	317	349	10.9	12.1
<i>All other causes</i>	<i>3,830</i>	<i>4,822</i>		

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

The AI/AN age-adjusted death rates for all causes of death for years 2007-2009 is 1.2 times the rate for U.S. all races (2008); tuberculosis (5.5 times), chronic liver disease and cirrhosis (4.7 times), diabetes (3.1 times), unintentional injuries (2.4) and homicide (1.9). AI/AN rates were below those of the U.S. all races for Alzheimer's disease (0.5 times), HIV infection (0.9 times), and major cardiovascular disease (0.9 times). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

Chart 4.11 Selected Age-Adjusted Death Rates

Ratio of American Indians and Alaska Natives (2007-2009) to U.S. All Races (2008)

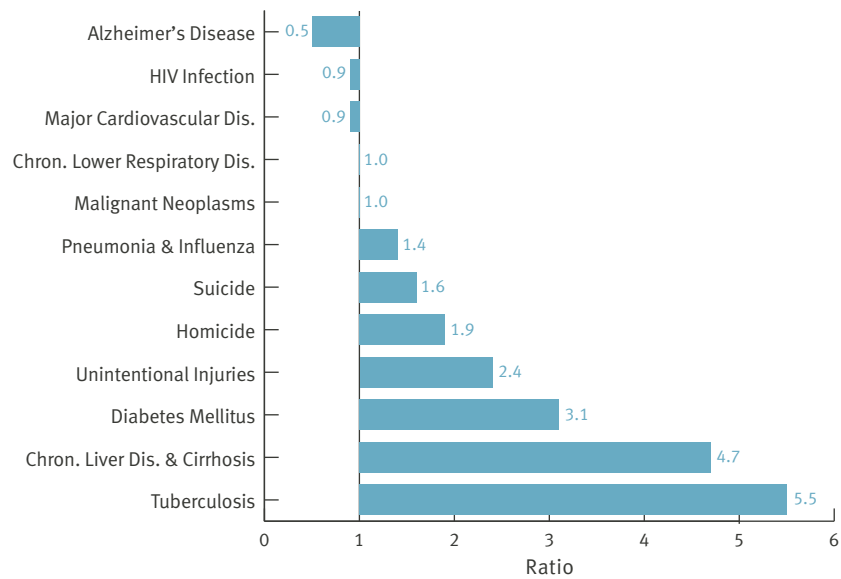


Table 4.11 Age-Adjusted Death Rates

American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008  
(Rate per 100,000 Population)

Cause of Death	American Indian and Alaska Native		U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Unadjusted	Adjusted <sup>1</sup>	Rate	Rate	U.S. All Races	U.S. White
<b>All Causes</b>	<b>818.0</b>	<b>943.0</b>	<b>774.9</b>	<b>767.2</b>	<b>1.2</b>	<b>1.2</b>
Major cardiovascular diseases	204.1	235.9	250.9	298.9	0.9	0.8
Diseases of the heart	156.9	182.4	192.1	189.3	0.9	1.0
Cerebrovascular diseases	33.8	39.1	42.1	40.4	0.9	1.0
Atherosclerosis	2.0	2.4	2.4	2.5	1.0	1.0
Hypertension	8.1	9.0	10.0	8.6	0.9	1.0
Malignant neoplasms	148.7	170.8	176.4	175.9	1.0	1.0
Unintentional injuries	79.5	94.5	38.8	40.7	2.4	2.3
Motor vehicle	32.0	39.3	12.9	13.3	3.0	3.0
Other unintentional injuries	47.5	55.2	25.9	27.4	2.1	2.0
Diabetes mellitus	51.0	61.0	20.0	20.2	3.1	3.0
Chronic lower respiratory diseases	36.5	43.2	44.7	47.1	1.0	0.9
Chronic liver disease and cirrhosis	37.4	43.1	9.2	9.6	4.7	4.5
Pneumonia and influenza	22.1	24.1	16.9	16.7	1.4	1.4
Suicide	16.2	18.5	11.6	12.9	1.6	1.4
Alzheimer's disease	13.1	11.6	24.4	26.7	0.5	0.4
Homicide	9.6	11.0	5.9	3.7	1.9	3.0
Human immunodeficiency virus (HIV) infection	2.8	3.0	3.3	1.7	0.9	1.8
Tuberculosis, all forms	1.1	1.1	0.2	0.1	5.5	11.0

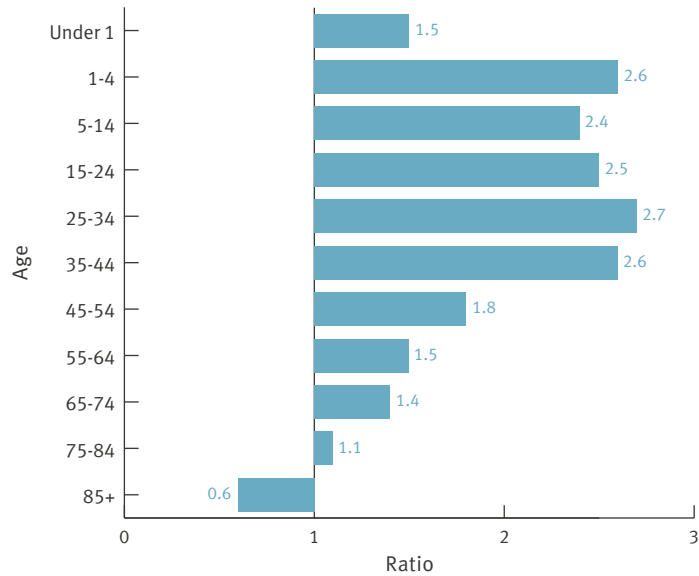
<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.

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

The age-specific death rate for AI/AN (2007-2009) was more than double the U.S. all races rate (2008) for age groups 1 through 44. The AI/AN rate was less than the U.S. all races rate for only one age group, 85 years and older. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.12** Age-Specific Death Rates

*Ratio of American Indians and Alaska Natives (2007-2009) to U.S. All Races (2008)*



The age-specific death rate for AI/AN (2007-2009) was more than double the U.S. white rate (2008) for age groups 1 through 44. The AI/AN rate was less than the U.S. white rate for only one age group, 85 years and older. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.13** Age-Specific Death Rates

*Ratio of American Indians and Alaska Natives (2007-2009) to U.S. White (2008)*

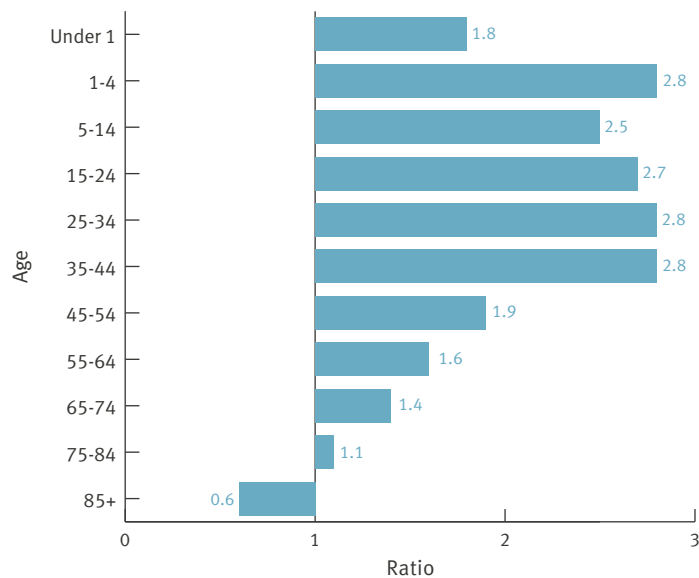


Table 4.12 Age-Specific Death Rates

American Indians and Alaska Natives, IHS Service Area, 2007-2009, and Selected U.S. Populations, 2008  
(Rate per 100,000 Population)

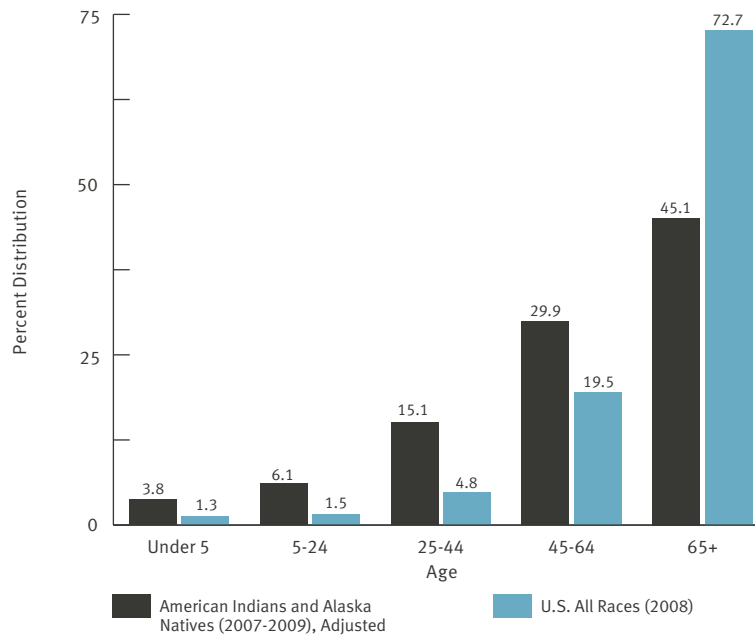
Age Group	American Indian and Alaska Native				U.S. Rate			Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		All Races	White	Black	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>					
Under 1	967	1,112	908.7	1,045.0	678.9	581.6	1,225.8	1.5	1.8
1-4	234	337	52.7	75.9	29.3	27.2	42.4	2.6	2.8
5-14	261	324	26.4	32.8	13.9	13.0	19.3	2.4	2.5
15-24	1,599	2,013	150.1	188.9	74.2	71.0	102.3	2.5	2.7
25-34	1,843	2,340	222.0	281.9	105.1	100.0	163.0	2.7	2.8
35-44	2,920	3,428	407.7	478.6	181.0	172.9	276.5	2.6	2.8
45-54	4,625	5,225	661.6	747.4	419.6	399.8	644.3	1.8	1.9
55-64	5,332	6,170	1,158.3	1,340.4	867.1	833.5	1,328.1	1.5	1.6
65-74	5,754	6,772	2,365.7	2,784.3	1,958.4	1,927.3	2,630.9	1.4	1.4
75-84	5,499	6,435	4,532.9	5,304.4	4,998.1	5,017.4	5,663.6	1.1	1.1
85+	3,833	4,014	8,497.0	8,898.2	14,332.4	14,530.0	13,786.7	0.6	0.6

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

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

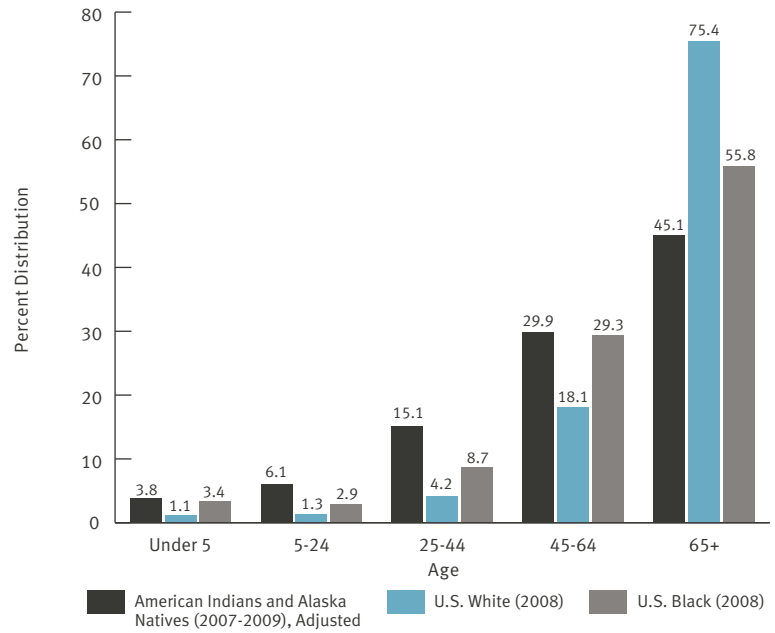
Of all AI/AN people who died during 2007-2009, 25 percent were under 45 years of age. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates. This compared to 8 percent for the U.S. all races population (2008).

Chart 4.14 Deaths by Age



Twenty-five (25) percent of AI/AN deaths (2007-2009) were for those with ages under 45. This compared with fifteen (15) percent of black decedents and seven (7) percent of white decedents in 2008 who were under 45 years of age. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.15** Deaths by Age and Race



Twenty-nine (29) percent of AI/AN male deaths (2007-2009) pertained to ages under 45. This compared with 21 percent for AI/AN female deaths. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

**Chart 4.16** Deaths by Age and Sex

*American Indians and Alaska Natives (2007-2009)*

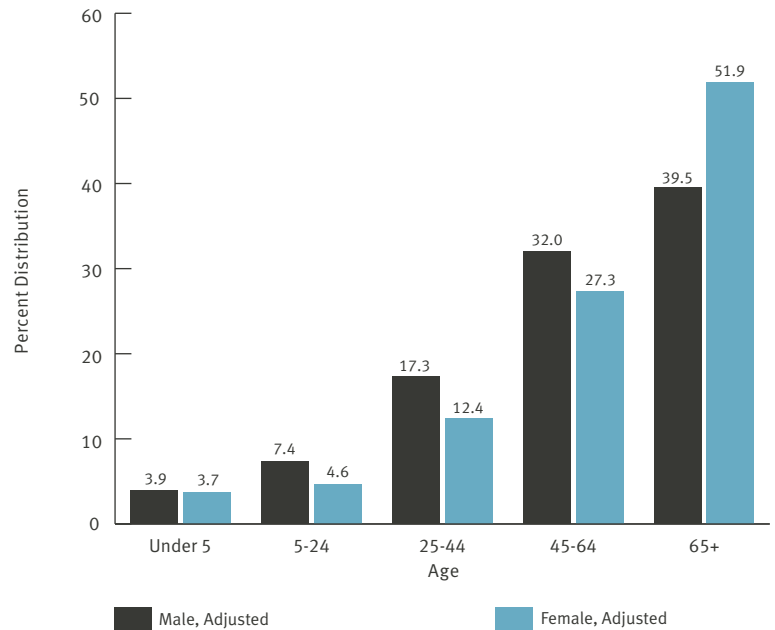


Table 4.14 Number and Percent Distribution of Deaths by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009, and Selected U.S. Populations, 2008*

Age Ggroup	American Indian and Alaska Native											
	Both Sexes				Male				Female			
	Number		Percent		Number		Percent		Number		Percent	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<b>All Ages</b>	<b>32,871</b>	<b>38,178</b>	<b>100.0</b>	<b>100.0</b>	<b>18,084</b>	<b>20,998</b>	<b>100.0</b>	<b>100.0</b>	<b>14,787</b>	<b>17,173</b>	<b>100.0</b>	<b>100.0</b>
Under 1	967	1,112	2.9	2.9	544	626	3.0	3.0	423	486	2.9	2.8
1 to 4	234	337	0.7	0.9	130	188	0.7	0.9	104	149	0.7	0.9
5 to 14	261	324	0.8	0.8	147	181	0.8	0.9	114	143	0.8	0.8
15 to 24	1,599	2,013	4.9	5.3	1,135	1,360	6.3	6.5	464	653	3.1	3.8
25 to 34	1,843	2,340	5.6	6.1	1,261	1,535	7.0	7.3	582	805	3.9	4.7
35 to 44	2,920	3,428	8.9	9.0	1,821	2,100	10.1	10.0	1,099	1,328	7.4	7.7
45 to 54	4,625	5,225	14.1	13.7	2,811	3,141	15.5	15.0	1,814	2,084	12.3	12.1
55 to 64	5,332	6,170	16.2	16.2	3,100	3,563	17.1	17.0	2,232	2,607	15.1	15.2
65 to 74	5,754	6,772	17.5	17.7	3,083	3,641	17.0	17.3	2,671	3,131	18.1	18.2
75 to 84	5,499	6,435	16.7	16.9	2,682	3,193	14.8	15.2	2,817	3,239	19.1	18.9
85 and over	3,833	4,014	11.7	10.5	1,369	1,469	7.6	7.0	2,464	2,545	16.7	14.8
Age Not Stated	4	4	0.0	0.0	1	1	0.0	0.0	3	3	0.0	0.0

Age Ggroup	United States		
	All Races	White	Black
<b>Number of Deaths, All Ages</b>	<b>2,471,984</b>	<b>2,120,233</b>	<b>289,072</b>
<b>Percent Distribution, All Ages</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Under 1	1.1	0.9	3.0
1 to 4	0.2	0.2	0.4
5 to 14	0.2	0.2	0.4
15 to 24	1.3	1.1	2.5
25 to 34	1.7	1.5	3.2
35 to 44	3.1	2.7	5.5
45 to 54	7.5	6.8	12.4
55 to 64	12.0	11.3	16.9
65 to 74	16.2	16.0	17.9
75 to 84	26.4	27.3	20.5
85 and over	30.1	32.1	17.4
Age Not Stated	0.0	0.0	0.0

0.0 Quantity more than zero but less than 0.05.

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



The AI/AN age-adjusted death rate due to poisoning in 2007-2009 (29.3 deaths per 100,000 population) is 2.7 times higher than what it was in 1972-1974 (10.9). The 2007-2009 rate is 2.2 times the U.S. all races rate of 13.4 for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

Chart 4.17 Age-Adjusted Poisoning Death Rates

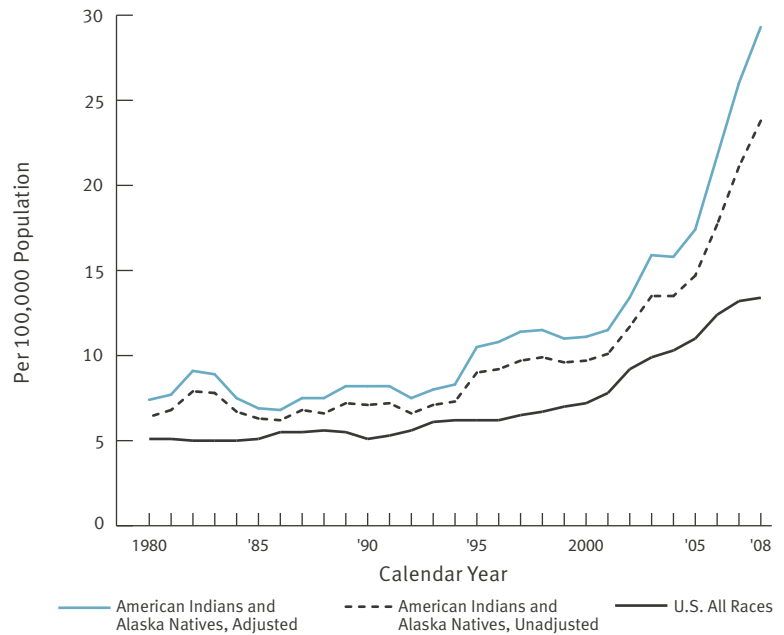


Table 4.17 Poisoning Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1972-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	466	573						
2007-2009 (2008)	447	550	23.8	29.3	13.4	14.9	2.2	2.0
2006-2008 (2007)	345	436	21.1	26.0	13.2	14.5	2.0	1.8
2005-2007 (2006)	313	384	17.7	21.7	12.4	13.4	1.8	1.6
2004-2006 (2005)	253	309	14.7	17.4	11.0	11.8	1.6	1.5
2003-2005 (2004)	252	304	13.5	15.8	10.3	11.2	1.5	1.4
2002-2004 (2003)	217	252	13.5	15.9	9.9	10.6	1.6	1.5
2001-2003 (2002)	178	210	11.7	13.4	9.2	9.7	1.5	1.4
2000-2002 (2001)	147	166	10.1	11.5	7.8	8.1	1.5	1.4
1999-2001 (2000)	137	154	9.7	11.1	7.2	7.4	1.5	1.5
1998-2000 (1999)	154	185	9.6	11.0	7.0	7.2	1.6	1.5
1997-1999 (1998)	135	154	9.9	11.5	6.7	6.8	1.7	1.7
1996-1998 (1997)	130	153	9.7	11.4	6.5	6.5	1.8	1.8
1995-1997 (1996)	129	162	9.2	10.8	6.2	6.2	1.7	1.7
1994-1996 (1995)	97	109	9.0	10.5	6.2	6.1	1.7	1.7
1993-1995 (1994)	96	109	7.3	8.3	6.2	6.1	1.3	1.4
1992-1994 (1993)	74	86	7.1	8.0	6.1	6.0	1.3	1.3
1991-1993 (1992)	81	94	6.6	7.5	5.6	5.6	1.3	1.3
1990-1992 (1991)	72	83	7.2	8.2	5.3	5.2	1.5	1.6
1989-1991 (1990)	83	95	7.1	8.2	5.1	5.1	1.6	1.6
1988-1990 (1989)	73	85	7.2	8.2	5.5	5.4	1.5	1.5
1987-1989 (1988)	69	79	6.6	7.5	5.6	5.5	1.3	1.4
1986-1988 (1987)	62	71	6.8	7.5	5.5	5.5	1.4	1.4
1985-1987 (1986)	72	77	6.2	6.8	5.5	5.7	1.2	1.2
1984-1986 (1985)	50	54	6.3	6.9	5.1	5.3	1.4	1.3
1983-1985 (1984)	57	66	6.7	7.5	5.0	5.1	1.5	1.5
1982-1984 (1983)	65	75	7.8	8.9	5.0	5.2	1.8	1.7
1981-1983 (1982)	61	67	7.9	9.1	5.0	5.1	1.8	1.8
1980-1982 (1981)	47	57	6.8	7.7	5.1	5.2	1.5	1.5
1979-1981 (1980)	44	47	6.4	7.4	5.1	5.2	1.5	1.4
1972-1974 (1973)	158	174	9.8	10.9	6.1	6.2	1.8	1.8

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

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

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

The age-specific death rate due to poisoning for AI/AN males (2007-2009) was higher than AI/AN females. The AI/AN male rate was higher for all age groups except those males ages under 1, 1 to 4, and 85 years and older. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

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

*American Indians and Alaska Natives (2007-2009)*

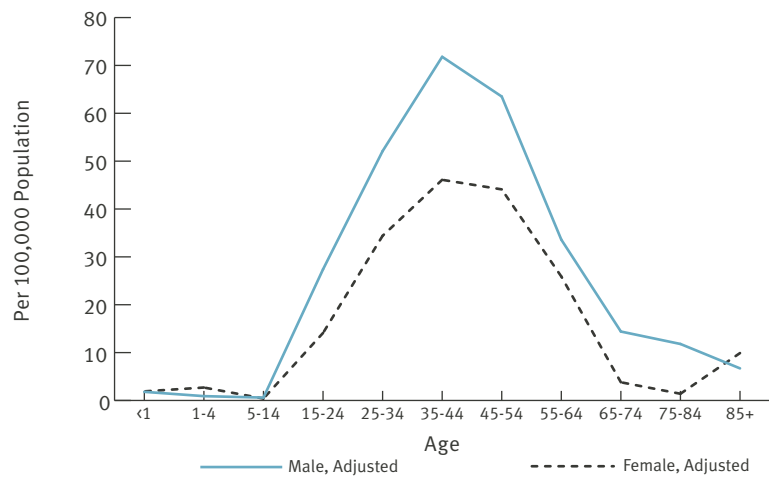


Table 4.18 Poisoning Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)*

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	3.8 <sup>2</sup>	1.9 <sup>2</sup>	3.7 <sup>2</sup>	1.8 <sup>2</sup>	3.8 <sup>2</sup>	1.9 <sup>2</sup>
1-4 years	1.1	1.8	0.4	0.9	1.8	2.7
5-14 years	0.5	0.5	0.6	0.6	0.4	0.4
15-24 years	16.1	20.8	22.8	27.4	9.3	14.1
25-34 years	31.7	43.4	40.4	52.1	22.7	34.4
35-44 years	47.3	58.8	59.1	71.8	35.8	46.1
45-54 years	45.6	53.4	55.4	63.5	36.7	44.1
55-64 years	25.9	29.5	29.9	33.6	22.2	25.9
65-74 years	8.6	8.6	14.4	14.4	3.8	3.8
75-84 years	5.8	5.8	11.8	11.8	1.4	1.4
85 years +	8.9	8.9	6.7	6.7	9.9	9.9

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	0.0	0.0	0.0	0.0	0.0	0.0
1-4 years	0.2	0.3	0.0	0.2	0.0	0.0
5-14 years	0.2	0.2	0.1	0.1	0.2	0.0
15-24 years	8.1	12.4	3.7	9.8	15.0	4.3
25-34 years	15.7	23.4	8.0	18.5	27.3	9.4
35-44 years	19.0	25.0	13.1	21.3	27.6	14.8
45-54 years	22.7	28.8	16.7	24.1	30.0	18.2
55-64 years	11.4	14.9	8.1	11.2	14.1	8.5
65-74 years	4.2	5.3	3.3	4.1	4.9	3.4
75-84 years	3.4	4.0	2.9	3.4	4.0	3.0
85 years +	4.2	4.3	4.2	4.2	4.3	4.2

0.0 Quantity more than zero but less than 0.05.

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

<sup>2</sup> The adjusted rate for age less than one year is the **same** or **lower** than the unadjusted rate because the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) had the **same** or **fewer** deaths for this cause than did the unadjusted mortality file (2007-2009 data).

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

The AI/AN age-adjusted unintentional injury death rate (156.4) was 66 percent greater for years 1979-1981 than the 2007-2009 rate (94.5). The 2007-2009 rate is 2.4 times the U.S. all races rate (39.2) for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

Chart 4.19 Age-Adjusted Unintentional Injury Death Rates

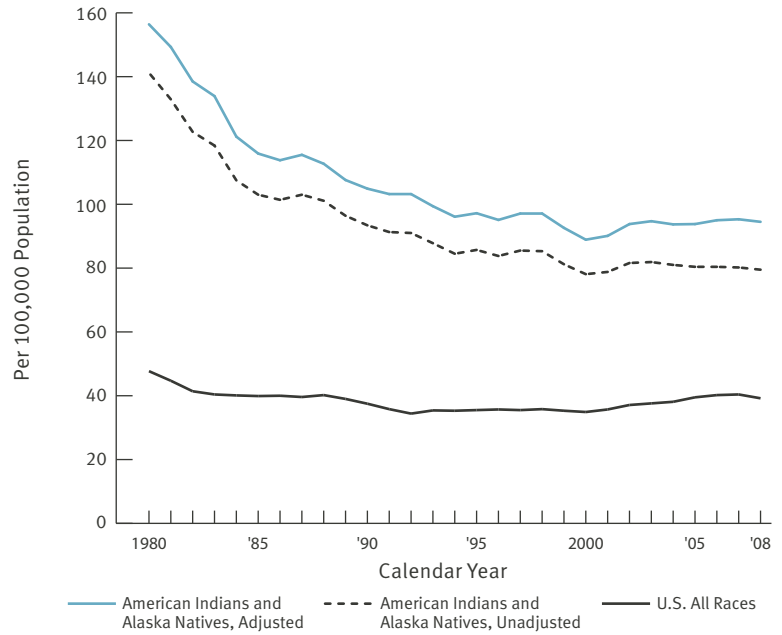


Table 4.19 Unintentional Injury Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1955-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native						U.S. All Races Rate		U.S. White Rate	
	Total Death Number		All Unintentional Injuries Rate		Motor Vehicle Rate		All Unintentional Injuries	Motor Vehicle	All Unintentional Injuries	Motor Vehicle
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	1,398	1,677								
2007-2009 (2008)	1,369	1,661	79.5	94.5	32.0	39.3	39.2	12.8	41.4	13.3
2006-2008 (2007)	1,361	1,663	80.2	95.3	35.1	42.9	40.4	14.3	42.1	14.8
2005-2007 (2006)	1,390	1,671	80.4	95.0	36.8	44.7	40.2	14.9	41.7	15.4
2004-2006 (2005)	1,325	1,577	80.4	93.8	38.6	46.5	39.5	15.1	40.7	15.6
2003-2005 (2004)	1,223	1,442	81.0	93.7	40.0	47.6	38.1	15.1	39.2	15.5
2002-2004 (2003)	1,287	1,516	81.9	94.7	42.4	51.0	37.6	15.2	38.6	15.6
2001-2003 (2002)	1,242	1,468	81.6	93.8	42.2	50.7	37.1	15.6	37.9	16.0
2000-2002 (2001)	1,097	1,280	78.8	90.1	41.9	49.9	35.7	15.2	36.1	15.4
1999-2001 (2000)	1,101	1,274	78.1	88.9	40.5	48.1	34.9	15.2	35.1	15.5
1998-2000 (1999)	1,091	1,287	81.2	92.6	40.3	47.5	35.3	15.1	35.2	15.2
1997-1999 (1998)	1,087	1,272	85.3	97.1	38.4	45.1	35.8	15.8	35.6	15.8
1996-1998 (1997)	1,103	1,277	85.5	97.1	37.2	43.2	35.5	15.9	35.0	16.0
1995-1997 (1996)	1,055	1,212	83.8	95.1	37.0	43.0	35.7	16.2	35.3	16.3
1994-1996 (1995)	1,016	1,180	85.7	97.2	37.8	44.0	35.5	16.3	34.9	16.3
1993-1995 (1994)	1,022	1,173	84.5	96.1	36.9	42.9	35.3	16.1	34.5	16.2
1992-1994 (1993)	1,007	1,168	87.8	99.4	37.9	43.8	35.4	16.0	34.6	16.1
1991-1993 (1992)	977	1,126	91.0	103.2	39.7	46.2	34.4	15.8	33.6	15.9
1990-1992 (1991)	988	1,154	91.3	103.2	39.9	46.3	35.8	17.0	35.0	17.1
1989-1991 (1990)	970	1,101	93.4	104.9	40.4	46.5	37.5	18.4	36.7	18.5
1988-1990 (1989)	969	1,097	96.4	107.6	41.2	47.1	39.0	18.8	37.9	19.0
1987-1989 (1988)	1,012	1,148	101.1	112.7	43.3	49.5	40.2	19.5	39.1	19.7
1986-1988 (1987)	1,000	1,135	103.0	115.5	45.3	52.0	39.6	19.2	38.7	19.5
1985-1987 (1986)	983	1,120	101.4	113.8	44.8	51.5	40.0	19.1	39.1	19.3
1984-1986 (1985)	913	1,034	103.0	115.9	44.5	51.2	39.9	18.6	39.0	18.8
1983-1985 (1984)	921	1,049	107.5	121.2	45.2	52.5	40.1	18.8	39.4	19.2
1982-1984 (1983)	907	1,038	118.4	133.9	48.9	56.7	40.4	18.2	39.5	18.5
1981-1983 (1982)	999	1,136	122.7	138.5	52.7	60.9	41.4	18.9	40.7	19.2
1980-1982 (1981)	975	1,101	132.9	149.3	58.9	67.4	44.7	21.3	44.0	21.8
1979-1981 (1980)	1,058	1,195	141.2	156.4	63.4	71.5	47.7	22.3	46.5	22.6
1972-1974 (1973)	3,001	3,292	204.1	223.2	90.6	100.4	59.5	26.7	57.5	26.2
1954-1956 (1955)	714		184.0		97.6		54.3	24.6	52.2	24.3

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

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

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

The age-specific death rate for unintentional injuries for AI/AN males (2007-2009) was higher for all age groups in comparison with AI/AN females. For the 75-84 years age group, the AI/AN male rate was 2.6 times the AI/AN female rate. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

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

*American Indians and Alaska Natives (2007-2009)*

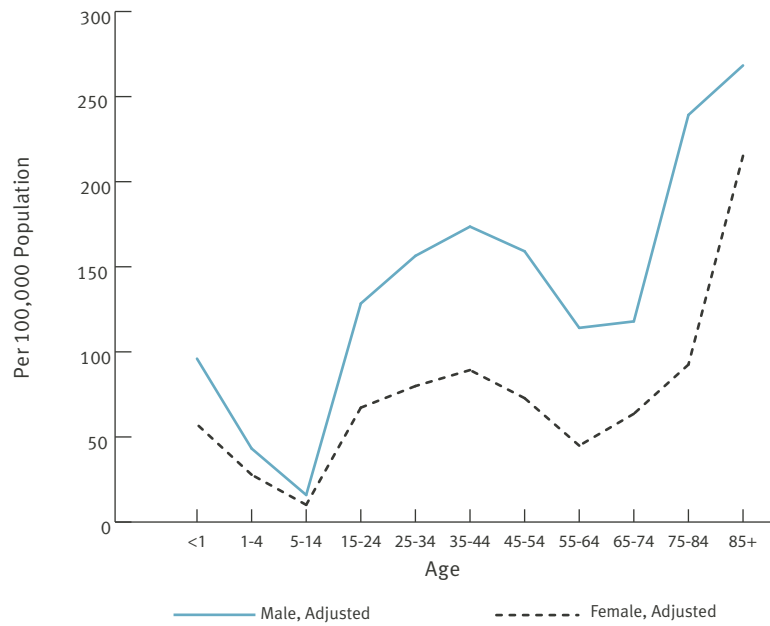


Table 4.20 Unintentional Injury Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009**U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)*

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	69.5	77.1	88.7	96.0	49.7	57.4
1-4 years	23.2	35.6	28.5	43.2	17.8	27.8
5-14 years	10.4	13.0	12.9	15.9	7.8	10.1
15-24 years	75.3	98.3	104.4	128.4	45.3	67.2
25-34 years	89.5	118.8	124.3	156.4	53.7	79.9
35-44 years	109.5	131.0	148.5	173.6	71.4	89.3
45-54 years	101.6	114.0	144.4	159.1	62.4	72.8
55-64 years	71.5	77.6	106.7	114.1	39.9	44.9
65-74 years	83.9	88.4	111.6	117.9	60.6	63.6
75-84 years	141.8	154.1	213.7	239.2	89.6	92.5
85 years +	230.5	232.8	261.6	268.3	215.2	215.2

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	31.8	34.6	29.0	27.1	30.3	23.8
1-4 years	9.1	10.9	7.2	8.9	10.7	7.0
5-14 years	4.6	5.7	3.4	4.5	5.6	3.3
15-24 years	32.5	47.8	16.4	36.1	53.0	18.1
25-34 years	36.3	55.6	16.8	39.9	60.6	18.5
35-44 years	38.1	53.9	22.4	41.1	57.4	24.5
45-54 years	45.8	63.5	28.6	47.7	65.2	30.4
55-64 years	37.4	54.0	22.0	37.7	53.5	22.7
65-74 years	43.9	60.1	29.9	44.3	60.1	30.5
75-84 years	105.7	135.1	84.9	110.5	139.4	89.7
85 years +	318.3	394.5	282.4	333.8	411.4	297.0

<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>



The AI/AN age-adjusted suicide death rate (18.5) for 1979-1981 is equal to the age-adjusted rate for years 2007-2009. The highest suicide rate (19.8) was for years 2004-2006 and is 7 percent higher than the current age-adjusted rate (18.5). The 2007-2009 rate (18.5) is 1.6 times greater than the U.S. all races rate (11.6) for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 4.21 Age-Adjusted Suicide Death Rates

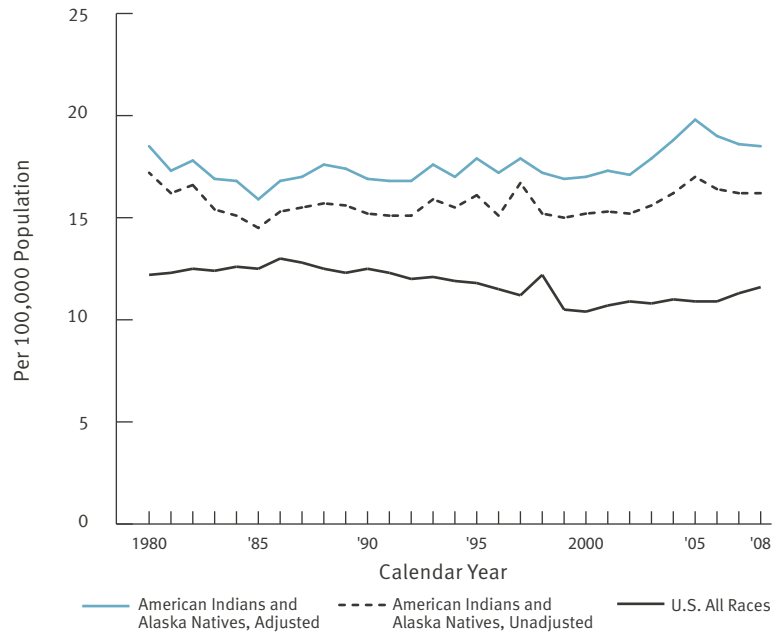


Table 4.21 Suicide Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1955-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	336	390						
2007-2009 (2008)	311	368	16.2	18.5	11.6	12.9	1.6	1.4
2006-2008 (2007)	292	338	16.2	18.6	11.3	12.5	1.6	1.5
2005-2007 (2006)	326	376	16.4	19.0	10.9	12.2	1.7	1.6
2004-2006 (2005)	317	374	17.0	19.8	10.9	12.1	1.8	1.6
2003-2005 (2004)	315	369	16.2	18.8	11.0	12.0	1.7	1.6
2002-2004 (2003)	255	289	15.6	17.9	10.8	11.8	1.7	1.5
2001-2003 (2002)	261	303	15.2	17.1	10.9	12.0	1.6	1.4
2000-2002 (2001)	258	286	15.3	17.3	10.7	11.7	1.6	1.5
1999-2001 (2000)	238	273	15.2	17.0	10.4	11.3	1.6	1.5
1998-2000 (1999)	235	265	15.0	16.9	10.5	11.3	1.6	1.5
1997-1999 (1998)	252	283	15.2	17.2	12.2	11.1	1.4	1.5
1996-1998 (1997)	234	273	16.7	17.9	11.2	12.1	1.6	1.5
1995-1997 (1996)	225	262	15.1	17.2	11.5	12.4	1.5	1.4
1994-1996 (1995)	205	228	16.1	17.9	11.8	12.7	1.5	1.4
1993-1995 (1994)	242	263	15.5	17.0	11.9	12.7	1.4	1.3
1992-1994 (1993)	204	226	15.9	17.6	12.1	12.9	1.5	1.4
1991-1993 (1992)	193	219	15.1	16.8	12.0	12.8	1.4	1.3
1990-1992 (1991)	184	200	15.1	16.8	12.3	13.2	1.4	1.3
1989-1991 (1990)	195	218	15.2	16.9	12.5	13.3	1.4	1.3
1988-1990 (1989)	192	217	15.6	17.4	12.3	13.1	1.4	1.3
1987-1989 (1988)	185	206	15.7	17.6	12.5	13.3	1.4	1.3
1986-1988 (1987)	187	206	15.5	17.0	12.8	13.7	1.3	1.2
1985-1987 (1986)	158	168	15.3	16.8	13.0	13.9	1.3	1.2
1984-1986 (1985)	172	193	14.5	15.9	12.5	13.4	1.3	1.2
1983-1985 (1984)	148	165	15.1	16.8	12.6	13.5	1.3	1.2
1982-1984 (1983)	161	177	15.4	16.9	12.4	13.2	1.4	1.3
1981-1983 (1982)	154	164	16.6	17.8	12.5	13.3	1.4	1.3
1980-1982 (1981)	157	166	16.2	17.3	12.3	13.1	1.4	1.3
1979-1981 (1980)	146	156	17.2	18.5	12.2	13.0	1.5	1.4
1972-1974 (1973)	351	374	27.6	29.4	13.2	13.9	2.2	2.1
1954-1956 (1955)	39		11.9		9.9	10.4		

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

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

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

The age-specific suicide death rate (2007-2009) for AI/AN males was higher for all age groups in comparison with AI/AN females. The AI/AN male rate peaked at (58.7 deaths per 100,000 population) for age group 15-24 years which is 2.9 times that of the AI/AN female rate (20.2). The greatest disparity between males and females was for age group 65-74 years whereas males were 11.4 times more likely to die from suicide than females. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

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

*American Indians and Alaska Natives (2007-2009)*

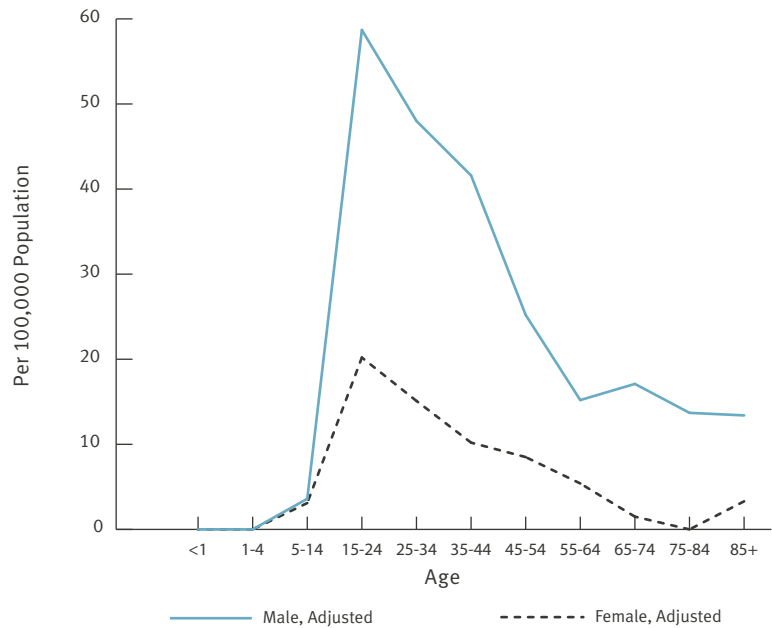


Table 4.22 Suicide Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009**U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)*

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	3.2	3.3	3.4	3.6	3.1	3.1
15-24 years	32.8	39.7	50.2	58.7	15.0	20.2
25-34 years	26.9	31.8	40.4	48.0	12.9	15.1
35-44 years	22.5	25.7	36.8	41.6	8.5	10.2
45-54 years	15.9	16.5	24.0	25.2	8.5	8.5
55-64 years	9.6	10.0	14.3	15.2	5.4	5.4
65-74 years	7.8	8.6	15.3	17.1	1.5	1.5
75-84 years	5.8	5.8	13.7	13.7	—*	—*
85 years +	6.7	6.7	13.4	13.4	3.3	3.3

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	0.5	0.7	0.3	0.5	0.8	0.3
15-24 years	9.9	16.0	3.5	10.6	17.2	3.6
25-34 years	13.2	21.2	5.2	14.5	23.1	5.6
35-44 years	15.9	24.5	7.5	18.3	27.7	8.7
45-54 years	18.7	28.6	9.1	21.4	32.5	10.5
55-64 years	16.0	25.8	6.9	18.1	28.8	8.0
65-74 years	13.7	24.4	4.4	14.9	26.4	4.8
75-84 years	16.2	33.6	3.8	17.5	36.1	4.0
85 years +	16.6	43.4	4.0	17.7	46.3	4.1

—\* Represents zero.

<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention, CDC Wonder. <http://wonder.cdc.gov/>

The AI/AN age-adjusted homicide death rate (23.5) was 114 percent greater for 1979-1981 than the 11.0 rate for 2007-2009. The 2007-2009 rate of 11.0 is two times higher than the U.S. all races rate of 5.9 for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN races on state death certificates.

Chart 4.23 Age-Adjusted Homicide Death Rates

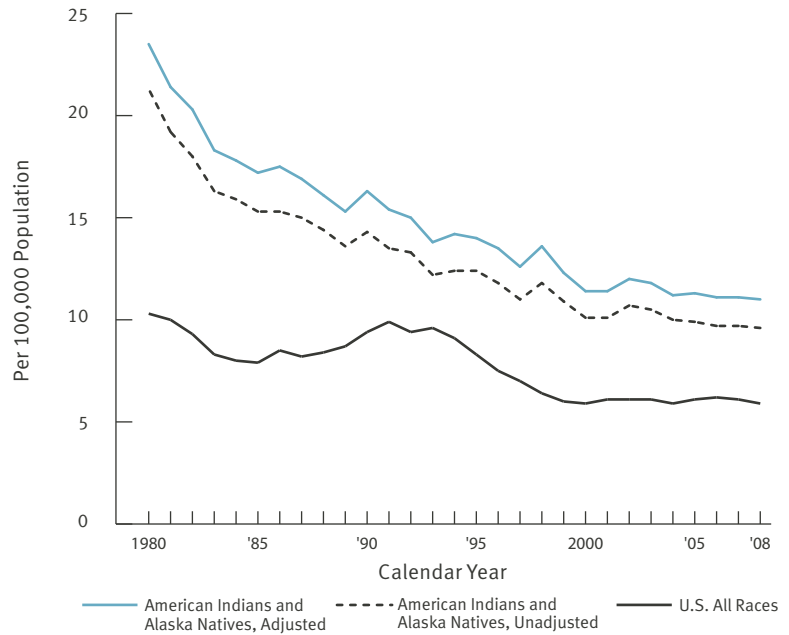


Table 4.23 Homicide Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1955-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	197	234						
2007-2009 (2008)	197	226	9.6	11.0	5.9	3.7	1.9	3.0
2006-2008 (2007)	165	187	9.7	11.1	6.1	3.7	1.8	3.0
2005-2007 (2006)	199	233	9.7	11.1	6.2	3.7	1.8	3.0
2004-2006 (2005)	190	221	9.9	11.3	6.1	3.7	1.9	3.1
2003-2005 (2004)	165	187	10.0	11.2	5.9	3.6	1.9	3.1
2002-2004 (2003)	194	218	10.5	11.8	6.1	3.7	1.9	3.2
2001-2003 (2002)	202	236	10.7	12.0	6.1	3.7	2.0	3.2
2000-2002 (2001)	160	186	10.1	11.4	6.1	3.8	1.9	3.0
1999-2001 (2000)	143	162	10.1	11.4	5.9	3.6	1.9	3.2
1998-2000 (1999)	181	206	10.9	12.3	6.0	3.8	2.1	3.2
1997-1999 (1998)	172	199	11.8	13.6	6.4	3.9	2.1	3.5
1996-1998 (1997)	181	217	11.0	12.6	7.0	4.3	1.8	2.9
1995-1997 (1996)	161	178	11.8	13.5	7.5	4.5	1.8	3.0
1994-1996 (1995)	198	231	12.4	14.0	8.3	5.0	1.7	2.8
1993-1995 (1994)	176	201	12.4	14.2	9.1	5.3	1.6	2.7
1992-1994 (1993)	168	190	12.2	13.8	9.6	5.5	1.4	2.5
1991-1993 (1992)	168	185	13.3	15.0	9.4	5.6	1.6	2.7
1990-1992 (1991)	199	229	13.5	15.4	9.9	5.8	1.6	2.7
1989-1991 (1990)	153	180	14.3	16.3	9.4	5.5	1.7	3.0
1988-1990 (1989)	177	205	13.6	15.3	8.7	5.2	1.8	2.9
1987-1989 (1988)	160	178	14.4	16.1	8.4	5.1	1.9	3.2
1986-1988 (1987)	162	185	15.0	16.9	8.2	5.1	2.1	3.3
1985-1987 (1986)	184	213	15.3	17.5	8.5	5.4	2.1	3.2
1984-1986 (1985)	151	174	15.3	17.2	7.9	5.3	2.2	3.2
1983-1985 (1984)	146	156	15.9	17.8	8.0	5.3	2.2	3.4
1982-1984 (1983)	172	198	16.3	18.3	8.3	5.4	2.2	3.4
1981-1983 (1982)	146	166	18.0	20.3	9.3	6.1	2.2	3.3
1980-1982 (1981)	166	178	19.2	21.4	10.0	6.5	2.1	3.3
1979-1981 (1980)	174	198	21.3	23.5	10.3	6.7	2.3	3.5
1972-1974 (1973)	368	398	24.7	26.6	10.3	5.7	2.6	4.7
1954-1956 (1955)	77		23.8		4.8	2.4		

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

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

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

The age-specific homicide death rate (2007-2009) for AI/AN males was generally higher for most age groups. Males in age group 25-34 years were 4.6 times more likely to die from homicide than females in the same age group. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

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

*American Indians and Alaska Natives (2007-2009)*

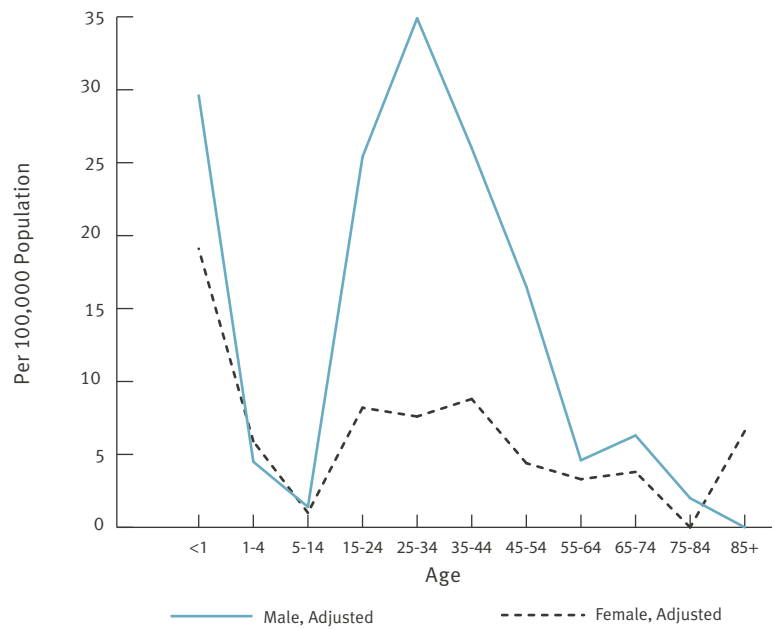


Table 4.24 Homicide Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009**U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)*

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	18.8	24.4	20.3	29.6	17.2	19.1
1-4 years	3.8	5.2	3.6	4.5	4.1	5.9
5-14 years	1.0	1.2	1.0	1.4	1.0	1.0
15-24 years	14.5	16.9	22.0	25.4	6.7	8.2
25-34 years	17.8	21.4	29.9	34.9	5.4	7.6
35-44 years	15.4	17.3	23.2	26.0	7.7	8.8
45-54 years	9.6	10.2	15.3	16.5	4.4	4.4
55-64 years	3.9	3.9	4.6	4.6	3.3	3.3
65-74 years	4.9	4.9	6.3	6.3	3.8	3.8
75-84 years	0.8	0.8	2.0	2.0	—*	—*
85 years +	4.4	4.4	—*	—*	6.6	6.6

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	8.4	9.4	7.5	6.9	7.8	6.0
1-4 years	2.6	2.8	2.4	2.0	2.1	1.8
5-14 years	0.8	0.9	0.6	0.5	0.7	0.4
15-24 years	12.2	20.6	3.3	6.3	10.2	2.2
25-34 years	11.5	19.4	3.6	6.5	9.9	2.8
35-44 years	7.0	10.8	3.1	4.8	6.9	2.6
45-54 years	4.9	7.4	2.4	3.6	5.2	2.1
55-64 years	3.0	4.5	1.5	2.4	3.5	1.4
65-74 years	2.4	3.2	1.7	2.0	2.6	1.5
75-84 years	2.0	2.7	1.5	1.8	2.3	1.4
85 years +	2.7	2.7	2.7	2.5	2.3	2.6

—\* Represents zero.

<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention, CDC Wonder. <http://wonder.cdc.gov/>



The AI/AN age-adjusted firearm injury death rate decreased from 26.2 for the three year period 1979-1981 to 11.9 in 2007-2009. The rate (11.9) for 2007-2009 is 1.2 times greater than the U.S. all races rate of 10.3 for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

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

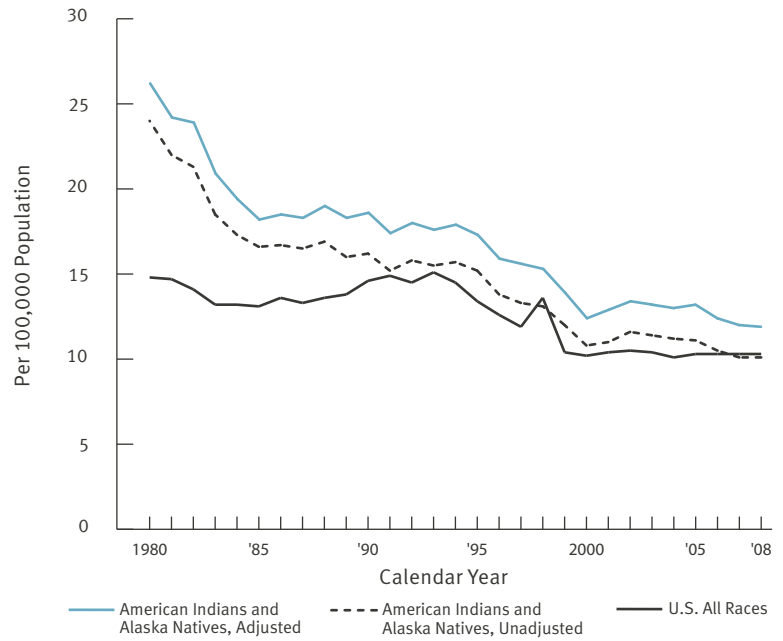


Table 4.25 Firearm Injury<sup>1</sup> Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1979-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>2</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>				
(2009)	222	266						
2007-2009 (2008)	210	251	10.1	11.9	10.3	9.2	1.2	1.3
2006-2008 (2007)	175	205	10.1	12.0	10.3	9.0	1.2	1.3
2005-2007 (2006)	222	269	10.5	12.4	10.3	8.9	1.2	1.4
2004-2006 (2005)	233	274	11.1	13.2	10.3	9.0	1.3	1.5
2003-2005 (2004)	198	237	11.2	13.0	10.1	8.9	1.3	1.5
2002-2004 (2003)	214	242	11.4	13.2	10.4	9.1	1.3	1.5
2001-2003 (2002)	224	269	11.6	13.4	10.5	9.2	1.3	1.5
2000-2002 (2001)	191	225	11.0	12.9	10.4	9.3	1.2	1.4
1999-2001 (2000)	167	199	10.8	12.4	10.2	9.0	1.2	1.4
1998-2000 (1999)	192	220	12.0	13.9	10.4	9.1	1.3	1.5
1997-1999 (1998)	213	251	13.1	15.3	13.6	11.1	1.1	1.4
1996-1998 (1997)	202	244	13.3	15.6	11.9	12.3	1.3	1.3
1995-1997 (1996)	188	214	13.8	15.9	12.6	10.8	1.3	1.5
1994-1996 (1995)	227	261	15.2	17.3	13.4	11.4	1.3	1.5
1993-1995 (1994)	230	264	15.7	17.9	14.5	12.0	1.2	1.5
1992-1994 (1993)	204	232	15.5	17.6	15.1	12.3	1.2	1.4
1991-1993 (1992)	181	204	15.8	18.0	14.5	12.1	1.2	1.5
1990-1992 (1991)	221	253	15.2	17.4	14.9	12.3	1.2	1.4
1989-1991 (1990)	172	200	16.2	18.6	14.6	12.4	1.3	1.5
1988-1990 (1989)	215	252	16.0	18.3	13.8	11.8	1.3	1.6
1987-1989 (1988)	205	227	16.9	19.0	13.6	11.8	1.4	1.6
1986-1988 (1987)	182	203	16.5	18.3	13.3	11.9	1.4	1.5
1985-1987 (1986)	186	206	16.7	18.5	13.6	12.2	1.4	1.5
1984-1986 (1985)	186	208	16.6	18.2	13.1	12.0	1.4	1.5
1983-1985 (1984)	169	183	17.3	19.4	13.2	12.0	1.5	1.6
1982-1984 (1983)	185	216	18.5	20.9	13.2	11.9	1.6	1.8
1981-1983 (1982)	210	232	21.3	23.9	14.1	12.6	1.7	1.9
1980-1982 (1981)	210	226	22.0	24.2	14.7	12.7	1.6	1.9
1979-1981 (1980)	195	211	24.0	26.2	14.8	12.7	1.5	2.1
(1979)	229	250						

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

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

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

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

The age-specific firearm injury death rate (2007-2009) for AI/AN males are higher for all ages except under 5 years in comparison with AI/AN females. The AI/AN male rate peaked at 41.1 deaths per 100,000 population for the 15-24 year age group; 8.2 times greater than the rate for females in same age-group. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

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

*American Indians and Alaska Natives (2007-2009)*

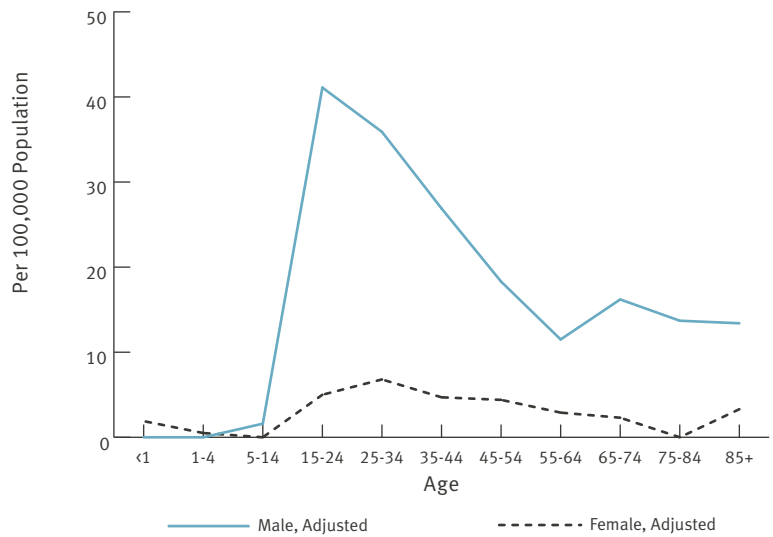


Table 4.26 Firearm Injury<sup>1</sup> Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)*

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>
Under 1 year	—*	—*	—*	—*	—*	1.9
1-4 years	0.2	0.2	—*	—*	0.5	0.5
5-14 years	0.7	0.8	1.4	1.6	—*	—*
15-24 years	19.1	23.3	34.2	41.1	3.4	5.0
25-34 years	17.1	21.6	28.8	35.9	5.1	6.8
35-44 years	13.3	15.6	22.9	26.9	3.9	4.7
45-54 years	10.3	11.0	16.8	18.3	4.4	4.4
55-64 years	6.5	7.0	10.6	11.5	2.9	2.9
65-74 years	7.8	8.6	14.4	16.2	2.3	2.3
75-84 years	5.8	5.8	13.7	13.7	—*	—*
85 years +	6.7	6.7	13.4	13.4	3.3	3.3

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	0.5	0.6	0.4	0.4	0.5	0.0
5-14 years	0.7	1.0	0.4	0.5	0.8	0.3
15-24 years	15.4	27.0	3.2	10.2	17.7	2.3
25-34 years	15.4	27.1	3.6	11.3	19.1	3.3
35-44 years	11.8	19.6	4.0	11.3	18.2	4.2
45-54 years	11.5	19.4	3.9	12.3	20.3	4.4
55-64 years	10.8	19.0	3.1	11.8	20.6	3.4
65-74 years	10.7	20.3	2.4	11.6	21.9	2.6
75-84 years	13.2	29.0	2.0	14.3	31.2	2.1
85 years +	12.5	35.5	1.6	13.3	37.9	1.7

0.0 Quantity more than zero but less than 0.05.

—\* Represents zero.

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

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

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

The age-adjusted alcohol-related death rate for AI/AN decreased from 77.5 (1979-1981) to 49.6 (2007-2009). The 2007-2009 rate of 49.6 is over six times the U.S. all races rate of 8.0 for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 4.27 Age-Adjusted Alcohol-Related Death Rates

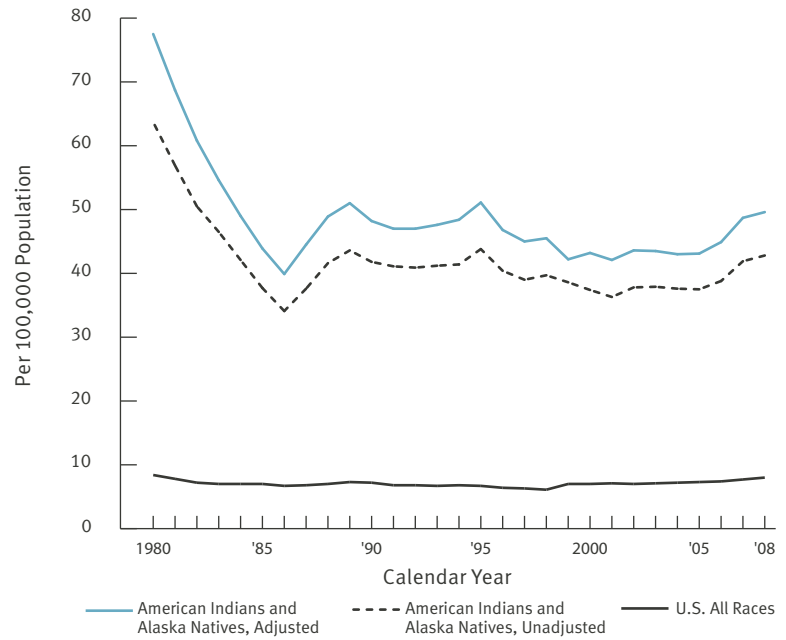


Table 4.27 Alcohol-Related Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1980-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	692	794						
2007-2009 (2008)	722	842	42.8	49.6	8.0	8.6	6.2	5.8
2006-2008 (2007)	665	784	41.9	48.7	7.7	8.3	6.3	5.9
2005-2007 (2006)	602	693	38.8	44.9	7.4	7.9	6.1	5.7
2004-2006 (2005)	537	616	37.5	43.1	7.3	7.7	5.9	5.6
2003-2005 (2004)	538	626	37.6	43.0	7.2	7.6	6.0	5.7
2002-2004 (2003)	557	630	37.9	43.5	7.1	7.4	6.1	5.9
2001-2003 (2002)	499	578	37.8	43.6	7.0	7.3	6.2	6.0
2000-2002 (2001)	483	573	36.3	42.1	7.1	7.2	5.9	5.8
1999-2001 (2000)	441	504	37.4	43.2	7.0	7.0	6.2	6.2
1998-2000 (1999)	497	570	38.6	42.2	7.0	6.9	6.0	6.1
1997-1999 (1998)	465	536	39.7	45.5	6.1	6.3	7.5	7.2
1996-1998 (1997)	435	500	39.0	45.0	6.3	6.0	7.1	7.5
1995-1997 (1996)	456	527	40.4	46.8	6.4	6.0	7.3	7.8
1994-1996 (1995)	460	543	43.8	51.1	6.7	6.2	7.6	8.2
1993-1995 (1994)	427	494	41.4	48.4	6.8	6.2	7.1	7.8
1992-1994 (1993)	395	458	41.2	47.6	6.7	6.1	7.1	7.8
1991-1993 (1992)	402	458	40.9	47.0	6.8	6.1	6.9	7.7
1990-1992 (1991)	367	417	41.1	47.0	6.8	6.0	6.9	7.8
1989-1991 (1990)	350	403	41.8	48.2	7.2	6.2	6.7	7.8
1988-1990 (1989)	376	436	43.6	51.0	7.3	6.2	7.0	8.2
1987-1989 (1988)	375	441	41.6	48.9	7.0	5.9	7.0	8.3
1986-1988 (1987)	264	310	37.6	44.5	6.8	5.8	6.5	7.7
1985-1987 (1986)	264	310	34.1	39.9	6.7	5.7	6.0	7.0
1984-1986 (1985)	274	315	37.7	43.9	7.0	5.8	6.3	7.6
1983-1985 (1984)	302	348	42.1	49.0	7.0	5.9	7.0	8.3
1982-1984 (1983)	295	345	46.5	54.6	7.0	6.0	7.8	9.1
1981-1983 (1982)	293	343	50.5	60.8	7.2	6.2	8.4	9.8
1980-1982 (1981)	344	424	56.9	68.7	7.8	6.6	8.8	10.4
1979-1981 (1980)	369	436	63.7	77.5	8.4	6.9	9.2	11.2
(1979)	377	454						

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

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

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

Drinking has taken a great toll on AI/AN males compared to AI/AN females as evidenced by alcohol related death rates. The age specific alcohol related death rate (2007-2009) for AI/AN males was either equal to or higher for all age groups in comparison with AI/AN females. However, the AI/AN female rate is much higher than the rate of females in the U.S. all races and white populations. The U.S. female rate never exceeded 10.2 for any age group in 2008, whereas the AI/AN female rate for years 2007-2009 ranged from 22.2 to 79.9 for age groups 25 through 74 years. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.28** Alcohol-Related Death Rates by Age and Sex

*American Indians and Alaska Natives (2007-2009)*

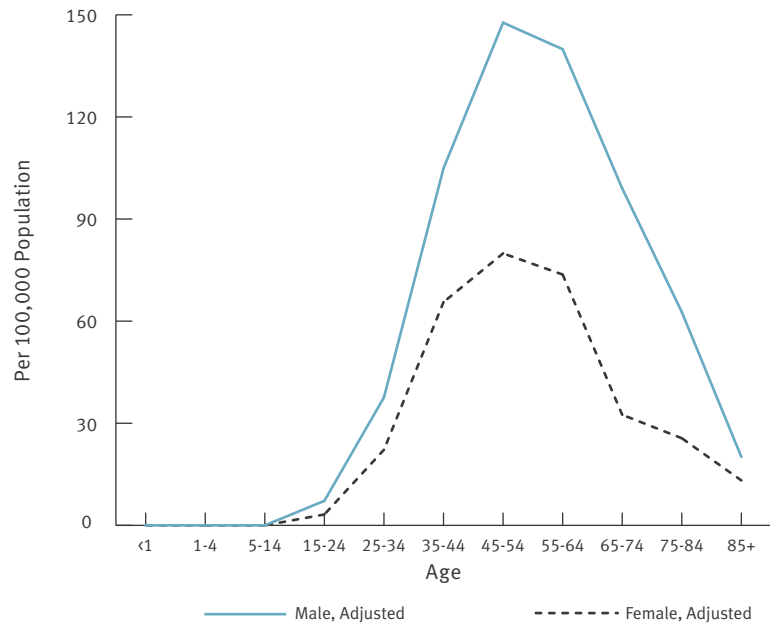


Table 4.28 Alcohol-Related Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009**U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)*

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	4.8	5.4	6.8	7.2	2.3	3.2
25-34 years	25.4	31.0	32.3	37.6	16.9	22.2
35-44 years	72.9	86.1	89.7	104.9	54.6	65.6
45-54 years	97.8	112.9	128.2	147.7	69.0	79.9
55-64 years	90.6	105.1	119.6	139.9	64.2	73.7
65-74 years	57.1	63.7	85.5	99.0	31.8	32.5
75-84 years	37.9	41.2	54.9	62.7	25.6	25.6
85 years +	15.5	15.5	20.1	20.1	13.2	13.2

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	0.0	0.0	0.0	0.0	0.0	0.0
15-24 years	0.4	0.7	0.2	0.5	0.7	0.2
25-34 years	2.0	3.0	1.0	2.1	3.2	1.0
35-44 years	7.6	10.7	4.5	8.0	11.3	4.7
45-54 years	18.6	27.7	9.7	19.8	29.4	10.2
55-64 years	20.7	33.6	8.7	21.1	34.1	8.8
65-74 years	15.3	25.7	6.4	15.5	25.6	6.6
75-84 years	9.4	17.1	4.0	9.6	17.2	4.1
85 years +	5.2	10.8	2.5	5.3	11.1	2.5

—\* Represents zero.

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>



The AIAN age-adjusted chronic liver disease and cirrhosis death rate (72.4) for years 1979-1981 has decreased to 43.1 for years 2007-2009. The 2007-2009 rate of 43.1 is 4.7 times higher than the U.S. all races population rate of 9.2 for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.29** Age-Adjusted Chronic Liver Disease and Cirrhosis Death Rates

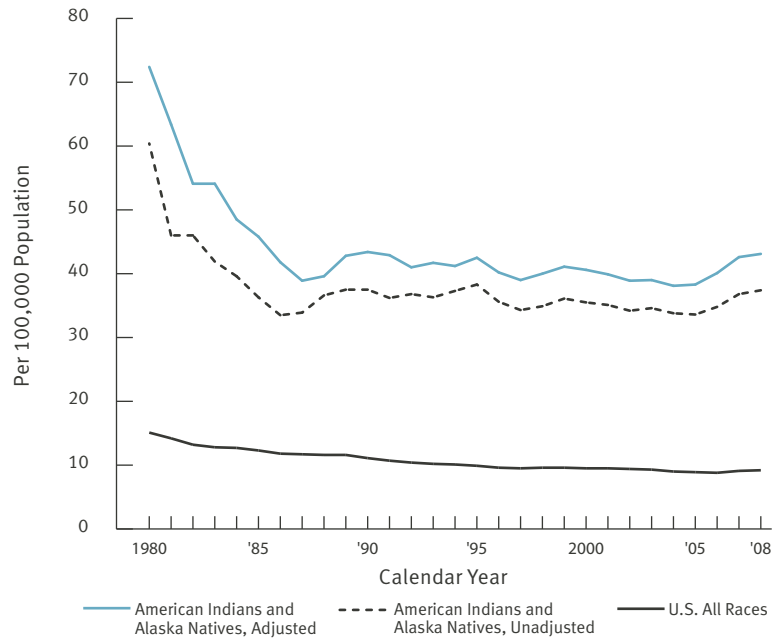


Table 4.29 Chronic Liver Disease and Cirrhosis Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Population, 1955-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	570	654						
2007-2009 (2008)	600	696	37.4	43.1	9.2	9.6	4.7	4.5
2006-2008 (2007)	594	696	36.8	42.6	9.1	9.5	4.7	4.5
2005-2007 (2006)	487	563	34.8	40.1	8.8	9.1	4.6	4.4
2004-2006 (2005)	472	539	33.6	38.3	8.9	9.2	4.3	4.2
2003-2005 (2004)	470	534	33.8	38.1	9.0	9.2	4.2	4.1
2002-2004 (2003)	454	511	34.6	39.0	9.3	9.6	4.2	4.1
2001-2003 (2002)	447	511	34.2	38.9	9.4	9.6	4.1	4.1
2000-2002 (2001)	418	487	35.1	39.9	9.5	9.6	4.2	4.2
1999-2001 (2000)	428	484	35.5	40.6	9.5	9.6	4.3	4.2
1998-2000 (1999)	423	491	36.1	41.1	9.6	9.6	4.3	4.3
1997-1999 (1998)	375	433	34.9	40.0	9.6	9.3	4.2	4.3
1996-1998 (1997)	339	390	34.3	39.0	9.5	9.5	4.1	4.1
1995-1997 (1996)	339	386	35.6	40.2	9.6	9.5	4.2	4.2
1994-1996 (1995)	372	420	38.3	42.5	9.9	9.6	4.3	4.4
1993-1995 (1994)	329	377	37.3	41.2	10.1	9.8	4.1	4.2
1992-1994 (1993)	312	358	36.3	41.7	10.2	9.9	4.1	4.2
1991-1993 (1992)	299	336	36.8	41.0	10.4	10.0	3.9	4.1
1990-1992 (1991)	288	326	36.2	42.9	10.7	10.2	4.0	4.2
1989-1991 (1990)	267	307	37.5	43.4	11.1	10.5	3.9	4.1
1988-1990 (1989)	299	344	37.5	42.8	11.6	10.9	3.7	3.9
1987-1989 (1988)	267	314	36.6	39.6	11.6	10.9	3.4	3.6
1986-1988 (1987)	224	264	33.9	38.9	11.7	11.0	3.3	3.5
1985-1987 (1986)	224	256	33.5	41.8	11.8	11.1	3.5	3.8
1984-1986 (1985)	237	276	36.3	45.8	12.3	11.4	3.7	4.0
1983-1985 (1984)	243	279	39.6	48.5	12.7	11.9	3.8	4.1
1982-1984 (1983)	236	273	41.9	54.1	12.8	12.1	4.2	4.5
1981-1983 (1982)	230	267	46.0	54.1	13.2	12.5	4.1	4.3
1980-1982 (1981)	284	341	46.0	63.4	14.2	13.2	4.5	4.8
1979-1981 (1980)	324	380	60.4	72.4	15.1	13.9	4.8	5.2
1972-1974 (1973)	717	810	69.6	79.0	18.4	16.9	4.3	4.7
1954-1956 (1955)			26.9		9.4	9.4		

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

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

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

Except for age groups under 15 years and greater than 85 years, the age-specific chronic liver disease and cirrhosis death rate (2007-2009) for AI/AN males was higher for all age groups in comparison with AI/AN females. The AI/AN highest male rate 122.8 deaths per 100,000 population was for age group 55-64 years and is 1.4 times the female rate (85.6) for the same age-group. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.30** Chronic Liver Disease and Cirrhosis Death Rates by Age and Sex

*American Indians and Alaska Natives (2007-2009)*

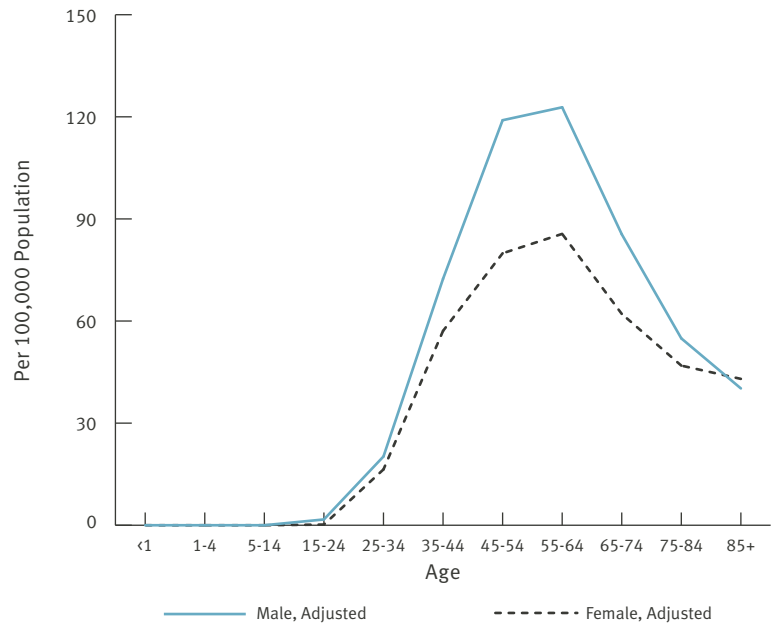


Table 4.30 Chronic Liver Disease and Cirrhosis Death Rates by Age and Sex

American Indians and Alaska Natives, IHS Service Area, 2007-2009

U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	0.8	0.9	1.3	1.7	0.2	0.2
25-34 years	14.8	18.3	16.6	20.2	12.9	16.4
35-44 years	54.3	64.6	61.9	72.4	46.9	57.1
45-54 years	84.4	98.6	103.1	119.0	67.3	79.9
55-64 years	89.9	103.2	105.8	122.8	75.7	85.6
65-74 years	67.0	72.8	77.4	85.5	58.3	62.1
75-84 years	47.8	50.3	51.0	54.9	45.5	46.9
85 years +	42.1	42.1	40.2	40.2	43.0	43.0

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	—*	—*	—*	—*	—*	—*
25-34 years	1.1	1.4	0.7	1.1	1.5	0.6
35-44 years	6.1	8.0	4.1	6.5	8.7	4.3
45-54 years	18.5	26.4	10.8	19.5	27.9	11.3
55-64 years	25.0	37.1	13.7	25.7	38.0	14.1
65-74 years	26.3	35.6	18.3	27.6	36.8	19.4
75-84 years	28.0	34.7	23.3	29.5	36.3	24.6
85 years +	21.9	30.4	17.9	22.4	31.2	18.3

—\* Represents zero.

<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention, CDC Wonder. <http://wonder.cdc.gov/>

The AI/AN age-adjusted malignant neoplasm death rate (147.8) for 1979-1981 has increased to 170.8 for years 2007-2009. The U.S. all races rate (176.4) for 2008 is 1.0 times higher than the comparable AI/AN rate (170.8) for 2007-2009. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 4.31 Age-Adjusted Malignant Neoplasm Death Rates

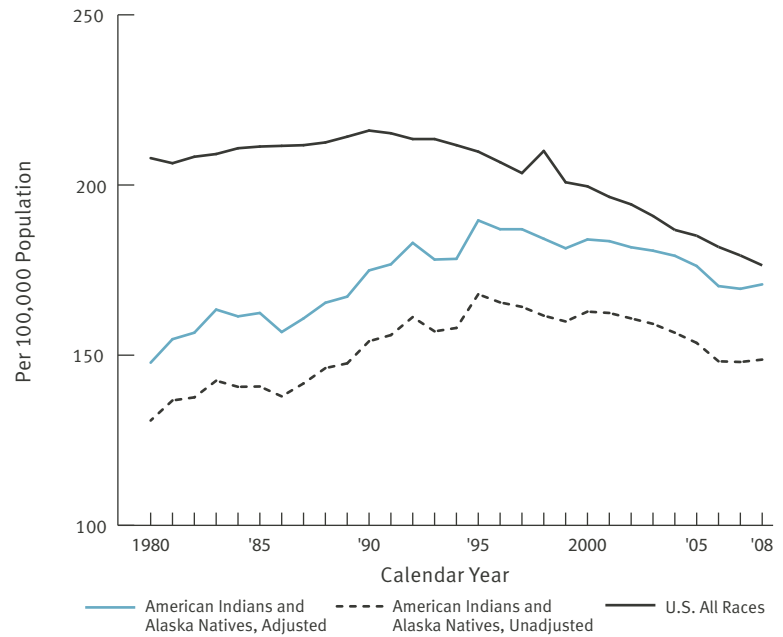


Table 4.31 Malignant Neoplasm Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1955-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	1,913	2,213						
2007-2009 (2008)	1,910	2,192	148.7	170.8	176.4	175.9	1.0	1.0
2006-2008 (2007)	1,789	2,059	148.0	169.5	179.3	178.5	0.9	0.9
2005-2007 (2006)	1,674	1,917	148.2	170.3	181.8	181.0	0.9	0.9
2004-2006 (2005)	1,711	1,986	153.6	176.2	185.1	183.9	1.0	1.0
2003-2005 (2004)	1,691	1,947	156.6	179.2	186.8	185.3	1.0	1.0
2002-2004 (2003)	1,500	1,708	159.2	180.7	190.9	189.2	0.9	1.0
2001-2003 (2002)	1,523	1,737	160.8	181.7	194.3	192.5	0.9	0.9
2000-2002 (2001)	1,513	1,717	162.4	183.5	196.5	194.3	0.9	0.9
1999-2001 (2000)	1,325	1,506	162.8	184.0	199.6	197.2	0.9	0.9
1998-2000 (1999)	1,299	1,484	159.9	181.4	200.8	197.9	0.9	0.9
1997-1999 (1998)	1,255	1,451	161.6	184.2	210.0	200.7	0.9	0.9
1996-1998 (1997)	1,256	1,439	164.2	187.0	203.5	200.0	0.9	0.9
1995-1997 (1996)	1,226	1,400	165.5	187.0	206.7	203.3	0.9	0.9
1994-1996 (1995)	1,141	1,278	167.9	189.6	209.8	206.2	0.9	0.9
1993-1995 (1994)	1,046	1,201	158.0	178.3	211.7	208.0	0.8	0.9
1992-1994 (1993)	1,025	1,169	157.0	178.1	213.5	209.3	0.8	0.9
1991-1993 (1992)	1,026	1,174	161.2	183.0	213.5	209.5	0.9	0.9
1990-1992 (1991)	1,021	1,175	155.9	176.7	215.2	210.9	0.8	0.8
1989-1991 (1990)	859	969	154.1	174.9	216.0	211.6	0.8	0.8
1988-1990 (1989)	913	1,049	147.6	167.2	214.2	209.9	0.8	0.8
1987-1989 (1988)	831	954	146.2	165.4	212.5	208.4	0.8	0.8
1986-1988 (1987)	768	863	141.7	160.8	211.7	207.7	0.8	0.8
1985-1987 (1986)	756	881	137.9	156.8	211.5	207.6	0.7	0.8
1984-1986 (1985)	714	820	140.8	162.4	211.3	207.3	0.8	0.8
1983-1985 (1984)	713	836	140.7	161.4	210.8	206.7	0.8	0.8
1982-1984 (1983)	662	757	142.5	163.4	209.1	205.2	0.8	0.8
1981-1983 (1982)	617	706	137.6	156.6	208.3	204.7	0.8	0.8
1980-1982 (1981)	578	661	136.7	154.7	206.4	202.7	0.7	0.8
1979-1981 (1980)	567	635	130.8	147.8	207.9	204.2	0.7	0.7
1972-1974 (1973)	1,142	1,293	132.2	150.0	202.2	199.3	0.7	0.8
1954-1956 (1955)	296		95.0		125.8	125.8		

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

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

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

The age-specific malignant neoplasm death rate (2007-2009) for AI/AN males was 67 percent greater than AI/AN females in age group 85 years and over. However, for the age group 35 to 44 years, the female rate was 46 percent greater than the male rate. The onset of a rate increase for AI/AN males and females began at age 15. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.32** Malignant Neoplasm Death Rates by Age and Sex

*American Indians and Alaska Natives (2007-2009)*

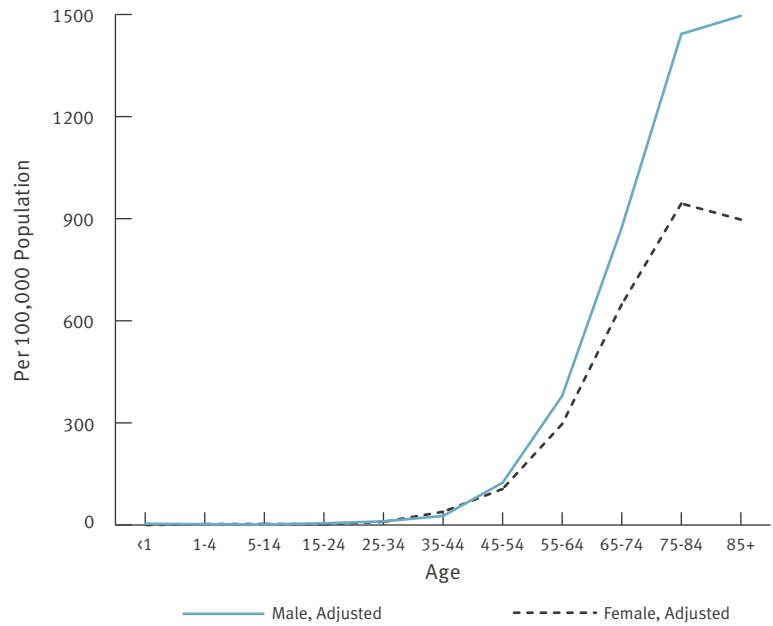


Table 4.32 Malignant Neoplasm Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009**U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)*

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	1.9	1.9	3.7	3.7	—*	—*
1-4 years	1.6	2.5	1.8	2.2	1.4	2.7
5-14 years	1.8	2.3	1.6	1.6	2.1	3.1
15-24 years	3.2	3.8	4.1	5.2	2.3	2.5
25-34 years	7.6	10.0	9.0	10.7	6.1	9.3
35-44 years	29.6	32.8	24.9	26.6	34.2	38.9
45-54 years	103.9	114.7	113.6	124.3	95.0	105.9
55-64 years	285.9	335.9	325.7	379.5	250.3	296.8
65-74 years	637.3	751.2	738.0	873.9	552.6	648.0
75-84 years	990.8	1,154.0	1,209.5	1,442.8	832.1	944.5
85 years +	1,068.5	1,095.1	1,422.2	1,495.9	894.0	897.3

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	1.7	2.3	1.1	1.6	2.0	0.0
1-4 years	2.4	2.6	2.2	2.6	2.8	2.5
5-14 years	2.2	2.2	2.2	2.2	2.2	2.2
15-24 years	3.8	4.6	3.0	3.9	4.7	3.1
25-34 years	8.8	8.8	8.7	8.7	8.8	8.6
35-44 years	30.1	26.2	34.0	29.2	25.6	32.8
45-54 years	113.4	117.7	109.2	109.9	113.9	106.0
55-64 years	304.7	349.3	349.3	300.0	340.4	261.7
65-74 years	688.4	817.0	577.3	689.2	811.1	581.9
75-84 years	1,230.9	1,563.1	995.9	1,239.7	1,560.4	1,008.3
85 years +	1,724.6	2,444.1	1,385.9	1,729.5	2,437.8	1,393.2

—\* Represents zero.

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>



The AI/AN age-adjusted lung cancer death rate (47.6) for 2007-2009 was 74 percent higher than the 1979-1981 rate (27.3). The U.S. all races rate (49.5) for 2008 is three percent than the 2007-2009 AI/AN rate (47.6). AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.33** Age-Adjusted Lung Cancer Death Rates

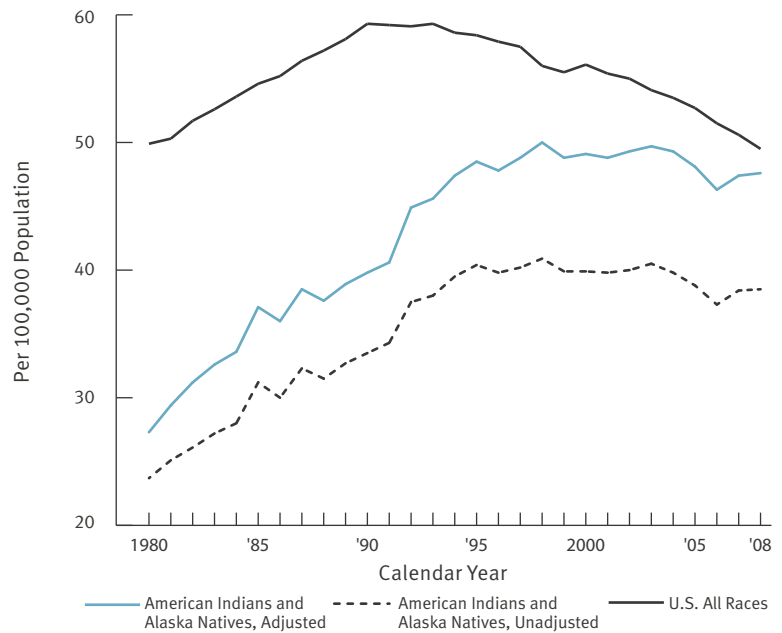


Table 4.33 Lung Cancer<sup>1</sup> Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1973-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>2</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>				
(2009)	456	567						
2007-2009 (2008)	501	619	38.5	47.6	49.5	50.2	1.0	0.9
2006-2008 (2007)	450	556	38.4	47.4	50.6	51.2	0.9	0.9
2005-2007 (2006)	405	501	37.3	46.3	51.5	52.1	0.9	0.9
2004-2006 (2005)	425	538	38.8	48.1	52.7	53.2	0.9	0.9
2003-2005 (2004)	443	548	39.8	49.3	53.5	53.6	0.9	0.9
2002-2004 (2003)	369	458	40.5	49.7	54.1	54.5	0.9	0.9
2001-2003 (2002)	375	462	40.0	49.3	55.0	55.3	0.9	0.9
2000-2002 (2001)	362	451	39.8	48.8	55.4	55.6	0.9	0.9
1999-2001 (2000)	309	378	39.9	49.1	56.1	56.2	0.9	0.9
1998-2000 (1999)	330	411	39.9	48.8	55.5	55.4	0.9	0.9
1997-1999 (1998)	325	399	40.9	50.0	56.0	57.1	0.9	0.9
1996-1998 (1997)	305	370	40.2	48.8	57.5	57.4	0.8	0.9
1995-1997 (1996)	290	351	39.8	47.8	57.9	57.7	0.8	0.8
1994-1996 (1995)	286	342	40.4	48.5	58.4	58.2	0.8	0.8
1993-1995 (1994)	264	321	39.5	47.4	58.6	58.3	0.8	0.8
1992-1994 (1993)	260	316	38.0	45.6	59.3	58.9	0.8	0.8
1991-1993 (1992)	233	278	37.5	44.9	59.1	58.5	0.8	0.8
1990-1992 (1991)	235	284	34.3	40.6	59.2	58.7	0.7	0.7
1989-1991 (1990)	188	220	33.5	39.8	59.3	58.6	0.7	0.7
1988-1990 (1989)	207	251	32.7	38.9	58.1	57.4	0.7	0.7
1987-1989 (1988)	209	253	31.5	37.6	57.2	56.6	0.7	0.7
1986-1988 (1987)	152	181	32.3	38.5	56.4	55.8	0.7	0.7
1985-1987 (1986)	194	235	30.0	36.0	55.2	54.5	0.7	0.7
1984-1986 (1985)	155	184	31.2	37.1	54.6	53.9	0.7	0.7
1983-1985 (1984)	146	173	28.0	33.6	53.6	52.9	0.6	0.6
1982-1984 (1983)	134	165	27.2	32.6	52.6	52.0	0.6	0.6
1981-1983 (1982)	124	147	26.1	31.2	51.7	51.1	0.6	0.6
1980-1982 (1981)	113	134	25.1	29.4	50.3	49.6	0.6	0.6
1979-1981 (1980)	103	120	23.7	27.3	49.9	49.2	0.5	0.6
1972-1974 (1973)	136	152	15.2	16.9	40.9	40.3	0.4	0.4

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

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

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

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

The age-specific lung cancer death rate (2007-2009) for AI/AN males and females was similar for age groups 1 to 34 years. For age group 75 to 84, the rate for AI/AN males (462.6) is 67 percent greater than the AI/AN rate (277.4) for females. The rate decreased for AI/AN males (369.0) and (162.2) for AI/AN females for ages 85 and older but the percent difference between AI/AN males and females increased to 127 percent. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.34** Lung Cancer Death Rates by Age and Sex

*American Indians and Alaska Natives (2007-2009)*

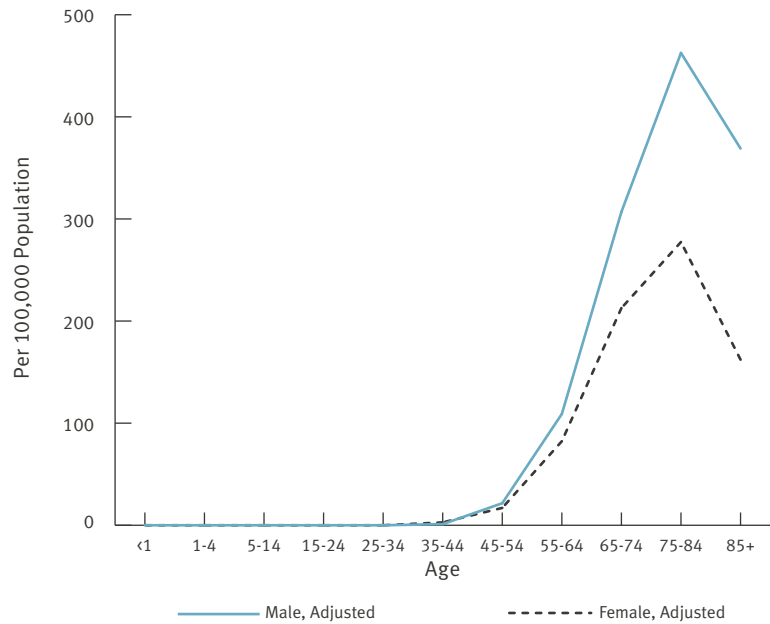


Table 4.34 Lung Cancer<sup>1</sup> Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)*

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	—*	—*	—*	—*	—*	—*
25-34 years	—*	—*	—*	—*	—*	—*
35-44 years	1.8	2.0	1.1	1.1	2.5	2.8
45-54 years	16.3	19.2	18.9	21.6	14.0	17.0
55-64 years	75.6	94.9	87.9	109.0	64.6	82.3
65-74 years	202.3	255.7	243.9	306.9	167.3	212.7
75-84 years	283.6	355.3	358.7	462.6	229.0	277.4
85 years +	212.8	230.5	322.0	369.0	158.9	162.2

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
	Under 1 year	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	0.1	0.1	0.0	0.1	0.0	0.1
25-34 years	0.4	0.4	0.3	0.4	0.4	0.3
35-44 years	3.9	4.1	3.7	3.9	4.0	3.7
45-54 years	29.0	33.2	24.9	28.7	31.9	24.7
55-64 years	93.7	115.3	73.5	94.1	113.2	76.0
65-74 years	249.3	309.1	197.6	255.7	311.6	206.5
75-84 years	394.2	520.1	305.1	402.0	522.8	314.9
85 years +	360.5	554.8	249.1	363.9	554.0	273.6

—\* Represents zero.

0.0 Quantity more than zero but less than 0.05.

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

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

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

The leading site for cancer deaths among AI/AN in 2007-2009 was trachea, bronchus, and lung. Over 2.9 times as many AI/AN people died of this type of cancer than the next leading site, colon, rectum and anus. The third and fourth leading sites were liver and breast, respectively. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.35** Death Rates for Leading Cancer Sites

*American Indians and Alaska Natives (2007-2009)*

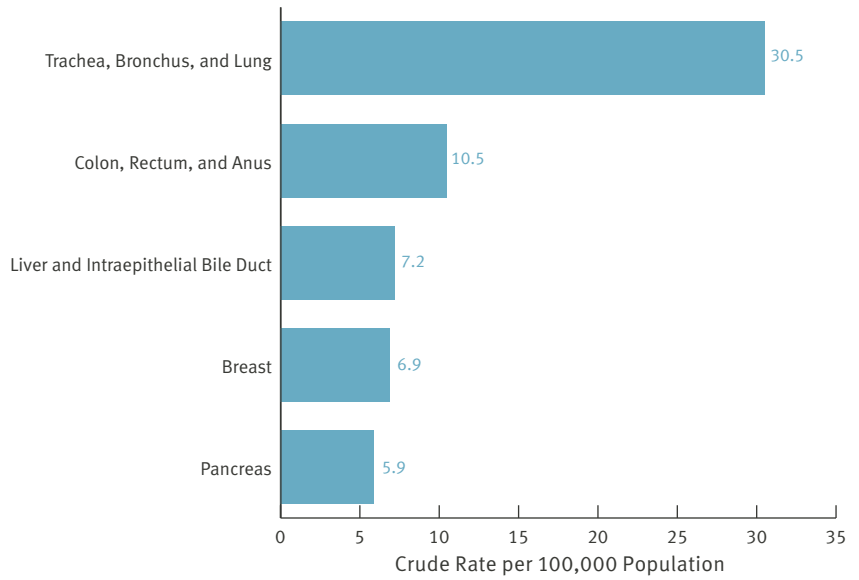


Table 4.35 Leading Sites for Cancer Deaths for Decedents of All Ages

*American Indians and Alaska Natives, IHS Service Area, 2007-2009  
(Crude Rate per 100,000 Population)*

Site of Cancer Death	Number		Rate	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<i>All Sites</i>	<i>5,612</i>	<i>6,464</i>	<i>98.1</i>	<i>113.0</i>
Trachea, bronchus and lung	1,407	1,742	24.6	30.5
Colon, rectum, and anus	522	603	9.1	10.5
Liver/intrahepatic bile ducts	365	412	6.4	7.2
Breast	344	396	5.3	6.9
Pancreas	303	338	4.2	5.9
Kidney and renal pelvis	339	259	3.5	4.5
Stomach	200	209	3.1	3.7
Leukemia	177	200	2.8	3.5
Non-Hodgkin lymphoma	161	177	2.1	3.1
Esophagus	121	135	2.0	2.4
Brain, meninges, central nervous system	115	130	1.8	2.3
Multiple myeloma	103	111	1.7	1.9
Other and ill-defined digestive organs	98	107	1.5	1.9
Rectum	86	97	1.3	1.7
Urinary bladder	76	82	1.3	1.4
Lip, oral cavity, and pharynx	76	79	1.1	1.4
Melanoma of skin	58	64	1.0	1.1
Gallbladder	62	64	1.1	1.1
Mesothelioma	41	47	0.7	0.8
Larynx	33	35	0.6	0.6
Thyroid/endocrine	24	28	0.4	0.5
Bone	18	21	0.3	0.4
Small intestine	10	11	0.2	0.2
Hodgkin's disease	6	7	0.1	0.1
Genital	6	6	0.1	0.1
<i>All other sites</i>	<i>861</i>	<i>1,104</i>		

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

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

The leading site for cancer deaths among AI/AN males for 2007-2009 was trachea, bronchus, and lung. Over three times as many AI/AN males died of this type of cancer than the next leading site, colon, rectum, and anus. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.36** Death Rates, Leading Cancer Sites: Males

*American Indians and Alaska Natives (2007-2009)*

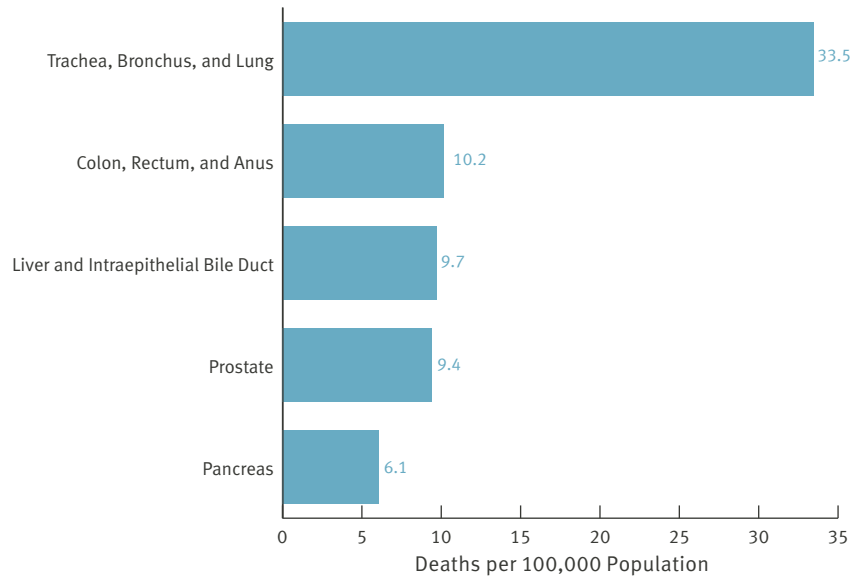


Table 4.36 Leading Sites for Cancer Deaths for Males

*American Indians and Alaska Natives, IHS Service Area, 2007-2009  
(Rate per 100,000 Population)*

Site of Cancer Death	Number		Rate	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<i>All Sites</i>	<i>2,898</i>	<i>3,352</i>	<i>102.6</i>	<i>118.7</i>
Trachea, bronchus and lung	760	945	26.9	33.5
Colon, rectum, and anus	249	289	8.8	10.2
Liver/intrahepatic bile ducts	237	273	8.4	9.7
Prostate	231	266	8.2	9.4
Pancreas	156	172	5.5	6.1
Kidney and renal pelvis	151	164	5.3	5.8
Stomach	120	128	4.2	4.5
Leukemia	105	121	3.7	4.3
Esophagus	96	109	3.4	3.9
Non-Hodgkin lymphoma	82	89	2.9	3.2
Brain, meninges, central nervous system	60	66	2.1	2.3
Multiple myeloma	57	62	2.0	2.2
Urinary bladder	57	62	2.0	2.2
Lip, oral cavity, and pharynx	53	56	1.9	2.0
Other and ill-defined digestive organs	49	53	1.7	1.9
Rectum	47	50	1.7	1.8
Melanoma of skin	36	40	1.3	1.4
Mesothelial and soft tissue	26	31	0.9	1.1
Larynx	28	30	1.0	1.1
Gallbladder	16	17	0.6	0.6
Bone and joints	12	13	0.4	0.5
Thyroid/endocrine	11	12	0.4	0.4
Testis	11	12	0.4	0.4
Penis	7	8	0.2	0.3
Small intestine	7	8	0.2	0.3
Hodgkin's disease	6	7	0.2	0.2
Breast	5	5	0.2	0.2
<i>All other sites</i>	<i>223</i>	<i>264</i>		

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

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



The leading site for cancer deaths among AI/AN females for 2007-2009 was trachea, bronchus, and lung. Two (2.0) times more AI/AN females died of this type of cancer than the next leading site, breast. In turn, the likelihood of dying from breast cancer was about 8 percent greater than the next leading type of cancer (colon, rectum, and anus). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.37** Death Rates, Leading Cancer Sites: Females

*American Indians and Alaska Natives (2007-2009)*

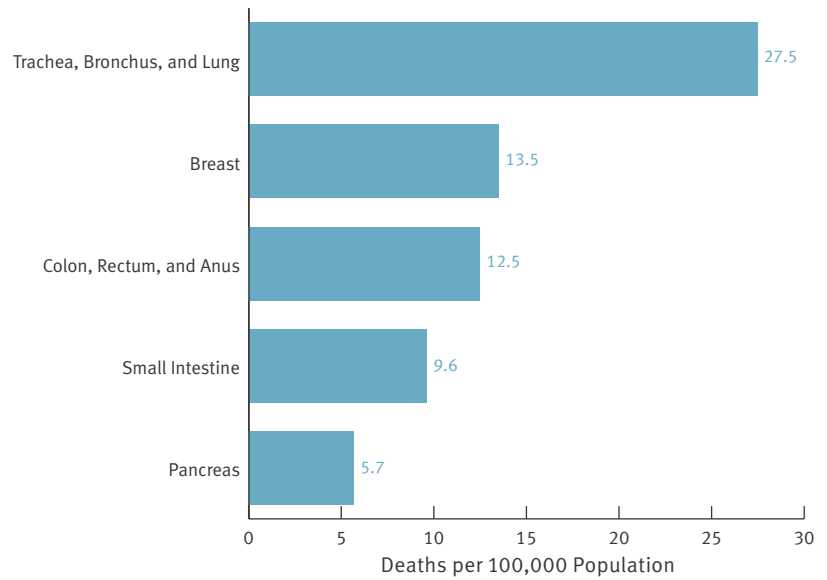


Table 4.37 Leading Sites for Cancer Deaths for Females

*American Indians and Alaska Natives, IHS Service Area, 2007-2009  
(Rate per 100,000 Population)*

Site of Cancer Death	Number		Rate	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<i>All Sites</i>	<i>2,714</i>	<i>3,112</i>	<i>93.7</i>	<i>107.4</i>
Trachea, bronchus and lung	647	797	22.3	27.5
Breast	339	391	11.7	13.5
Colon, rectum, and anus	313	363	10.8	12.5
Small intestine	246	279	8.5	9.6
Pancreas	147	166	5.1	5.7
Ovary	138	151	4.8	5.2
Cervical	92	107	3.2	3.6
Kidney and renal pelvis	88	95	3.0	3.3
Non-Hodgkin lymphoma	79	88	2.7	3.0
Liver/intrahepatic bile ducts	79	84	2.7	2.9
Stomach	80	81	2.8	2.8
Leukemia	72	79	2.5	2.7
Uterus	61	67	2.1	2.3
Brain, meninges, central nervous system	54	64	1.9	2.2
Multiple myeloma	46	49	1.6	1.7
Gallbladder	35	36	1.2	1.2
Esophagus	25	26	0.9	0.9
Other connective and soft tissue	19	23	0.7	0.8
Lip, oral cavity, and pharynx	23	23	0.8	0.8
Urinary bladder	19	20	0.7	0.7
Melanoma of skin	14	15	0.5	0.5
Thyroid/endocrine	10	12	0.3	0.4
Mesothelioma	8	8	0.3	0.3
Bone and joints	6	8	0.2	0.3
Vulva	6	6	0.2	0.2
Larynx	5	5	0.2	0.2
<i>All other sites</i>	<i>63</i>	<i>69</i>		

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

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

The leading site for cancer deaths among AI/AN, 55 years of age and older for the 2007-2009 three-year period was trachea, bronchus, and lung. Nearly three times as many AI/AN people in this age group died of this type of cancer than the next leading site, colon, rectum, and anus. The third and fourth leading sites were genital organs and breast, respectively. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 4.38 Death Rates, Leading Cancer Sites: 55 Years of Age and Older

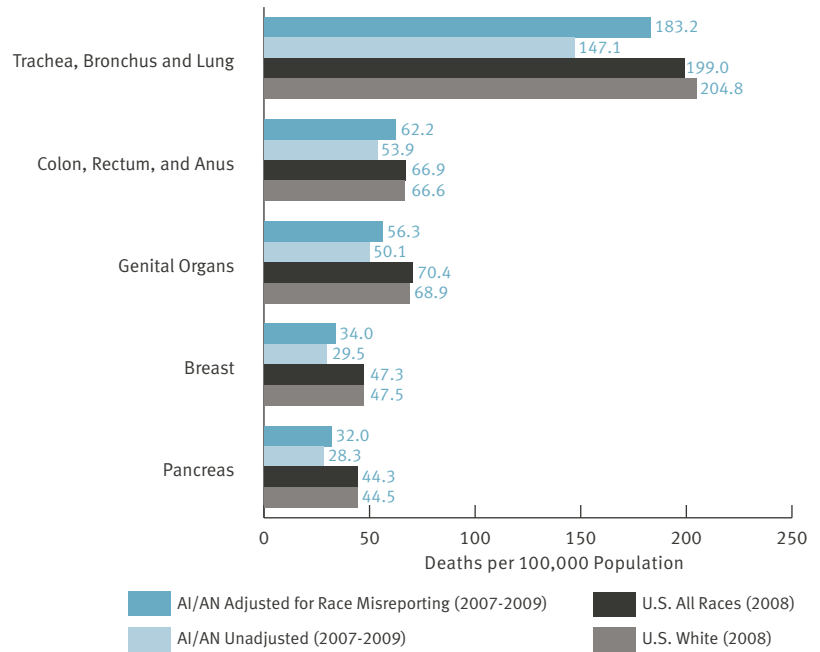


Table 4.38 Leading Sites for Cancer Deaths for Decedents 55 Years of Age and Older

American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008  
(Rate per 100,000 Population)

Site of Cancer Death	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<i>All Sites</i>	<i>4,550</i>	<i>5,267</i>	<i>523.0</i>	<i>605.4</i>	<i>679.8</i>	<i>690.4</i>	<i>0.9</i>	<i>0.9</i>
Trachea, bronchus, and lung	1,280	1,594	147.1	183.2	199.0	204.8	0.9	0.9
Colon, rectum, and anus	469	541	53.9	62.2	66.9	66.6	0.9	0.9
Genital organs	439	490	50.1	56.3	70.4	68.9	0.8	0.8
Breast	257	296	29.5	34.0	47.3	47.3	0.7	0.7
Pancreas	246	278	28.3	32.0	44.3	44.5	0.7	0.7
Liver and intraepithelial bile duct	199	227	22.9	26.1	21.2	19.9	1.2	1.3
Kidney, renal pelvis	183	201	21.0	23.1	16.4	17.1	1.4	1.4
Stomach	151	158	17.4	18.2	13.2	11.6	1.4	1.6
Non-Hodgkin lymphoma	140	156	16.1	17.9	26.8	28.8	0.7	0.6
Leukemia	114	127	13.1	14.6	27.7	29.3	0.5	0.5
Esophagus	98	109	11.3	12.5	16.9	17.4	0.7	0.7
Multiple myeloma	90	97	10.3	11.2	14.6	13.9	0.8	0.8
Brain, meninges, central nervous system	63	71	7.2	8.2	13.7	14.9	0.6	0.6
Urinary bladder	63	68	7.2	7.8	19.9	21.4	0.4	0.4
Lip, oral cavity, pharynx	61	64	7.0	7.4	9.9	9.9	0.7	0.7
Gallbladder	39	40	4.5	4.6	2.5	2.4	1.8	1.9
Larynx	32	34	3.7	3.9	5.0	4.8	0.8	0.8
Soft tissue including the heart	27	30	3.1	3.4	4.0	4.0	0.9	0.9
Melanoma of the skin	26	28	3.0	3.2	9.8	11.2	0.3	0.3
Mesothelioma	22	26	2.5	3.0	3.3	3.7	0.9	0.8
Thyroid, endocrine	14	15	1.6	1.7	2.5	2.5	0.7	0.7
Hodgkin lymphoma	4	5	0.5	0.6	1.2	1.3	0.5	0.5
Bones and joints	5	5	0.5	0.6	1.0	1.1	0.6	0.5
<i>All other sites</i>	<i>528</i>	<i>607</i>						

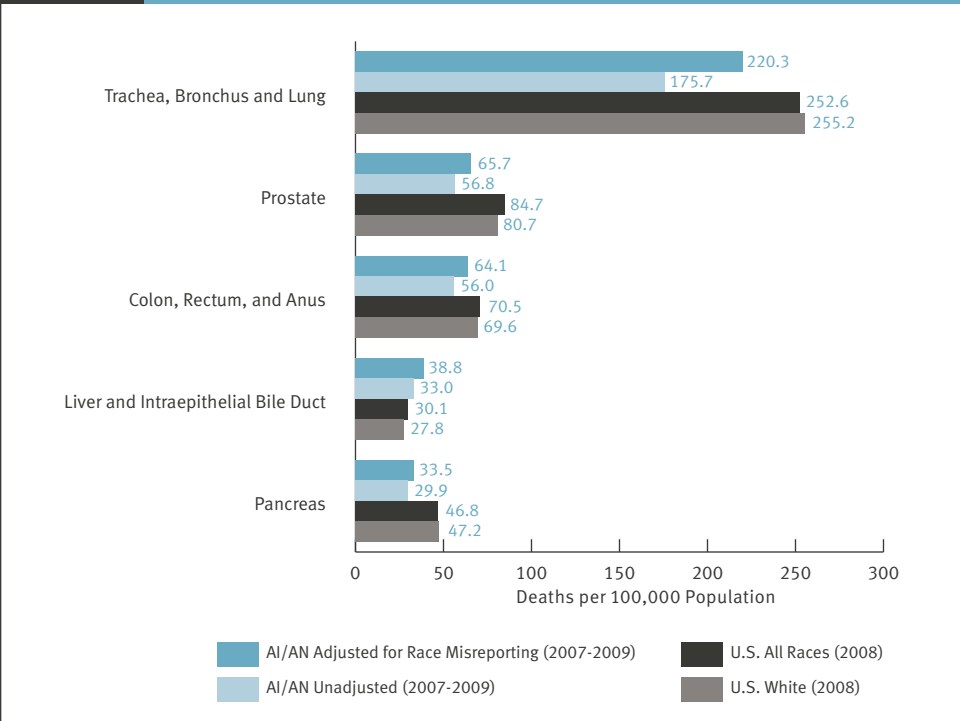
<sup>1</sup> Adjusted - specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

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

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

The leading site for cancer deaths among AI/AN males, 55 years and older, in 2007-2009 was trachea, bronchus, and lung. About 3.4 times as many AI/AN males in this age group died of this type of cancer than the next leading site of prostate. These AI/AN rates have been adjusted for misreporting of AI/AN race on state death certificate.

**Chart 4.39** Death Rates, Leading Cancer Sites: Males, 55 Years of Age and Older



The leading site for cancer deaths among American Indian and Alaska Native (AI/AN) females, 55 years and older, in 2007-2009 was trachea, bronchus, and lung. Nearly 2.5 times as many AI/AN females in this age group died of this type of cancer than the next leading site, breast. These AI/AN rates have been adjusted for misreporting of AI/AN race on state death certificates.

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

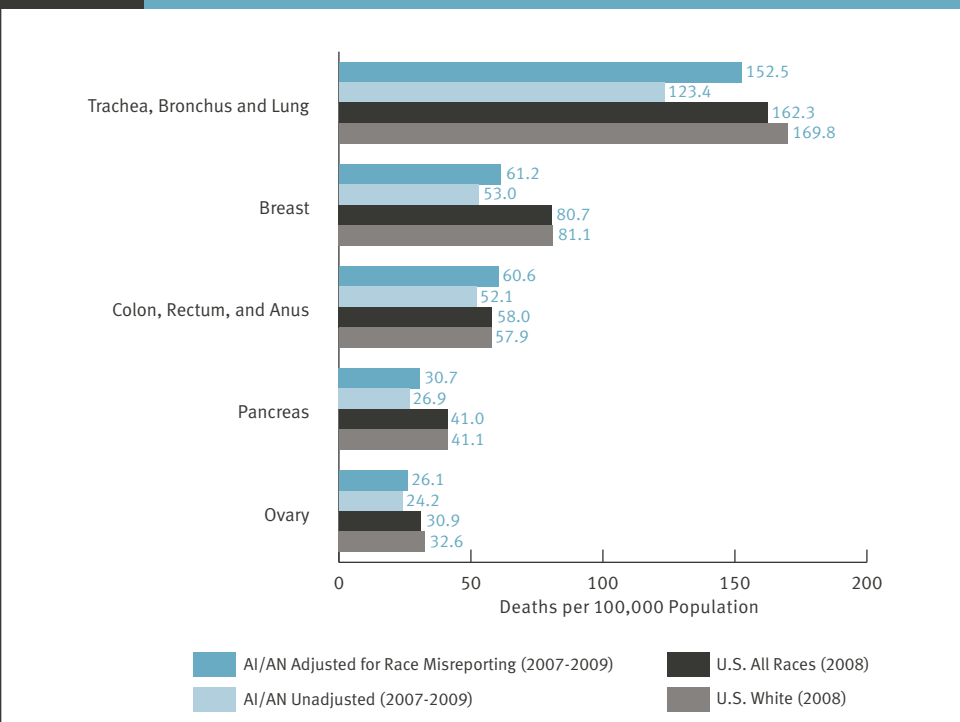


Table 4.39 Leading Sites for Cancer Deaths by Sex 55 Years of Age and Older

American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008  
(Rate per 100,000 Population)

Site of Cancer Death	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
<b>MALE</b>								
<i>All Sites</i>	<i>2,310</i>	<i>2,703</i>	<i>585.7</i>	<i>685.3</i>	<i>788.1</i>	<i>793.7</i>	<i>0.9</i>	<i>0.9</i>
Trachea, bronchus, and lung	693	869	175.7	220.3	252.6	255.2	0.9	0.9
Prostate	224	259	56.8	65.7	84.7	80.7	0.8	0.8
Colon, rectum, and anus	221	253	56.0	64.1	70.5	69.6	0.9	0.9
Liver and intraepithelial bile duct	130	153	33.0	38.8	30.1	27.8	1.3	1.4
Pancreas	118	132	29.9	33.5	46.8	47.2	0.7	0.7
Kidney, renal pelvis	110	121	27.9	30.7	21.4	22.1	1.4	1.4
Stomach	95	101	24.1	25.6	17.1	15.1	1.5	1.7
Esophagus	78	89	19.8	25.6	28.4	29.4	0.9	0.9
Non-Hodgkin lymphoma	68	75	17.2	19.0	29.1	31.1	0.7	0.6
Leukemia	65	74	16.5	18.8	32.7	34.5	0.6	0.5
Multiple myeloma	49	53	12.4	13.4	16.2	15.5	0.8	0.9
Urinary bladder	47	51	11.9	12.9	28.1	30.5	0.5	0.4
Lip, oral cavity, and pharynx	42	45	10.6	11.4	13.3	13.1	0.9	0.9
Brain, meninges, central nervous system	34	39	8.6	9.9	16.1	17.4	0.6	0.6
Larynx	27	29	6.8	7.4	7.8	7.4	0.9	1.0
Mesothelioma	16	20	4.1	5.1	5.8	6.4	0.9	0.8
Melanoma of the skin	18	19	4.6	4.8	13.8	15.8	0.3	0.3
Gallbladder	7	7	1.8	1.8	1.8	1.7	1.0	1.1
Thyroid, endocrine	7	7	1.8	1.8	1.8	1.9	1.0	0.9
Hodgkin lymphoma	4	5	1.0	1.3	1.2	1.3	1.1	1.0
Breast	5	5	1.3	1.3	1.2	1.1	1.1	1.2
Bones and joints	3	3	0.8	0.8	1.2	1.2	0.7	0.7
<i>All other sites</i>	<i>249</i>	<i>294</i>						
<b>FEMALE</b>								
<i>All Sites</i>	<i>2,144</i>	<i>2,464</i>	<i>450.8</i>	<i>518.1</i>	<i>590.1</i>	<i>603.6</i>	<i>0.9</i>	<i>0.9</i>
Trachea, bronchus, and lung	587	725	123.4	152.5	162.3	169.8	0.9	0.9
Breast	252	291	53.0	61.2	80.7	81.1	0.8	0.8
Colon, rectum, and anus	248	288	52.1	60.6	58.0	57.9	1.0	1.0
Pancreas	128	146	26.9	30.7	41.0	41.1	0.7	0.7
Ovary	115	124	24.2	26.1	30.9	32.6	0.8	0.8
Non-Hodgkin lymphoma	72	81	15.1	17.0	21.6	23.3	0.8	0.7
Kidney, renal pelvis	73	80	15.4	16.8	10.6	11.1	1.6	1.5
Liver and intraepithelial bile duct	69	74	14.5	15.6	13.3	12.6	1.2	1.2
Stomach	56	57	11.8	12.0	9.9	8.7	1.2	1.4
Leukemia	49	53	10.3	11.1	20.6	21.8	0.5	0.5
Uterus	43	47	9.0	9.9	9.5	8.9	1.0	1.1
Cervix	43	45	9.0	9.5	5.7	5.0	1.7	1.9
Multiple Myeloma	41	44	8.6	9.3	11.2	10.5	0.8	0.9
Gallbladder	32	33	6.7	6.9	3.0	3.0	2.3	2.3
Brain, meninges, central nervous system	29	32	6.1	6.7	11.3	12.4	0.6	0.5
Esophagus	20	20	4.2	4.2	6.5	6.5	0.6	0.6
Lip, oral cavity, and pharynx	19	19	4.0	4.0	5.4	5.6	0.7	0.7
Urinary bladder	16	17	3.4	3.6	10.1	10.6	0.4	0.3
Soft tissue including the heart	14	16	2.9	3.4	3.6	3.6	0.9	0.9
Melanoma of the skin	8	9	1.7	1.9	5.8	6.6	0.3	0.3
Thyroid, endocrine	7	8	1.5	1.7	2.2	2.2	0.8	0.8
Mesothelioma	6	6	1.3	1.3	1.2	1.4	1.1	0.9
Larynx	5	5	1.1	1.1	1.8	1.7	0.6	0.6
Vulva	4	4	0.8	0.8	2.1	2.3	0.4	0.3
Bones and joints	2	2	0.4	0.4	0.9	0.9	0.4	0.4
<i>All other sites</i>	<i>206</i>	<i>238</i>						

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

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

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

The AI/AN age-adjusted pneumonia and influenza death rate varied between 38.7 and 24.1 between 1979-1981 and 2007-2009. The 2007-2009 rate (24.1) is 1.4 times greater than the U.S. all races rate (17.6) for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.41** Age-Adjusted Pneumonia and Influenza Death Rates

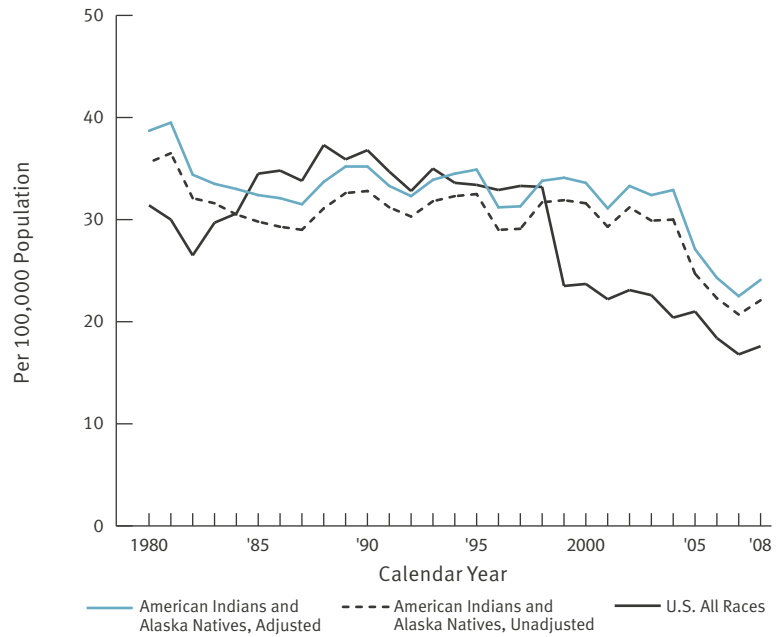


Table 4.41 Pneumonia and Influenza Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1955-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	291	318						
2007-2009 (2008)	298	330	22.1	24.1	17.6	17.4	1.4	1.4
2006-2008 (2007)	216	233	20.7	22.5	16.8	16.6	1.4	1.4
2005-2007 (2006)	208	223	22.3	24.3	18.4	18.2	1.4	1.3
2004-2006 (2005)	284	315	24.7	27.1	21.0	20.9	1.3	1.3
2003-2005 (2004)	230	253	30.0	32.9	20.4	20.1	1.7	1.6
2002-2004 (2003)	304	334	29.9	32.4	22.6	22.4	1.5	1.5
2001-2003 (2002)	233	249	31.2	33.3	23.1	23.0	1.5	1.5
2000-2002 (2001)	232	244	29.3	31.1	22.2	21.9	1.4	1.4
1999-2001 (2000)	218	234	31.6	33.6	23.7	23.5	1.4	1.4
1998-2000 (1999)	254	273	31.9	34.1	23.5	23.3	1.5	1.5
1997-1999 (1998)	301	319	31.7	33.8	33.2	34.6	1.0	1.0
1996-1998 (1997)	266	287	29.1	31.3	33.3	33.0	0.9	0.9
1995-1997 (1996)	278	309	29.0	31.2	32.9	32.5	0.9	1.0
1994-1996 (1995)	265	282	32.5	34.9	33.4	33.0	1.0	1.1
1993-1995 (1994)	297	321	32.3	34.5	33.6	33.3	1.0	1.0
1992-1994 (1993)	265	286	31.8	33.9	35.0	34.6	1.0	1.0
1991-1993 (1992)	241	256	30.3	32.3	32.8	32.5	1.0	1.0
1990-1992 (1991)	237	257	31.2	33.3	34.7	34.3	1.0	1.0
1989-1991 (1990)	259	286	32.8	35.2	36.8	36.4	1.0	1.0
1988-1990 (1989)	248	242	32.6	35.2	35.9	35.4	1.0	1.0
1987-1989 (1988)	221	238	31.1	33.7	37.3	37.1	0.9	0.9
1986-1988 (1987)	220	238	29.0	31.5	33.8	33.5	0.9	0.9
1985-1987 (1986)	174	189	29.3	32.1	34.8	34.5	0.9	0.9
1984-1986 (1985)	206	232	29.8	32.4	34.5	34.3	0.9	0.9
1983-1985 (1984)	200	215	30.5	33.0	30.6	30.3	1.1	1.1
1982-1984 (1983)	170	182	31.6	33.5	29.7	29.6	1.1	1.1
1981-1983 (1982)	202	217	32.1	34.4	26.5	26.2	1.3	1.3
1980-1982 (1981)	181	198	36.5	39.5	30.0	29.7	1.3	1.3
1979-1981 (1980)	215	233	35.6	38.7	31.4	30.9	1.2	1.3
1972-1974 (1973)	690	743	47.4	50.5	38.4	37.3	1.3	1.4
1954-1956 (1955)	384		64.4		21.0	18.4		

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

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

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



The age-specific pneumonia and influenza death rate (2007-2009) for AI/AN males and females increased sharply starting at age 75 years as it did for U.S. all races males and females. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.42** Pneumonia and Influenza Death Rates by Age and Sex

*American Indians and Alaska Natives (2007-2009)*

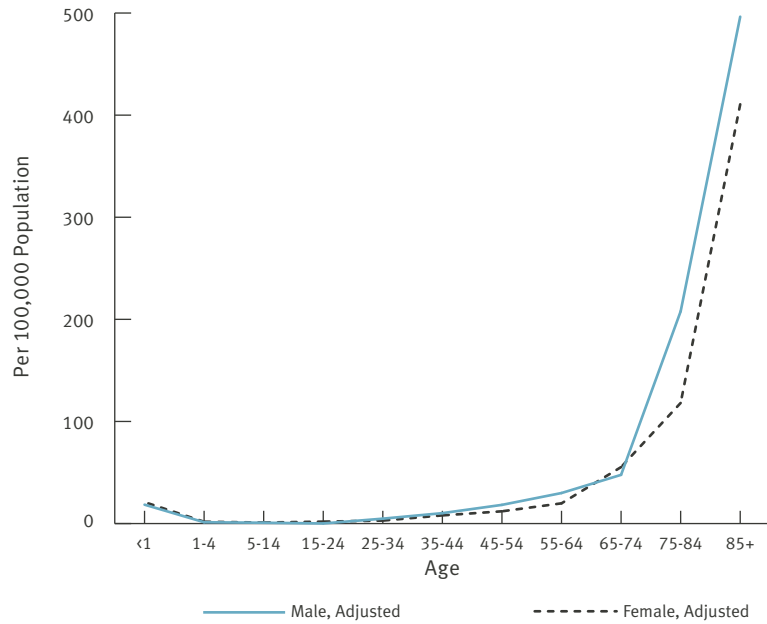


Table 4.42 Pneumonia and Influenza Death Rates by Age and Sex

American Indians and Alaska Natives, IHS Service Area, 2007-2009

U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	21.6 <sup>2</sup>	19.7 <sup>2</sup>	22.2 <sup>2</sup>	18.5 <sup>2</sup>	21.0	21.0 <sup>2</sup>
1-4 years	1.4	1.6	0.9	1.3	1.8	1.8
5-14 years	0.7	0.9	0.6	0.8	0.8	1.0
15-24 years	1.0	1.5	0.9	0.1	1.1	1.9
25-34 years	3.4	3.9	4.3	4.8	2.4	2.9
35-44 years	8.0	9.1	9.1	10.2	6.9	8.0
45-54 years	13.9	15.0	16.8	18.3	11.2	12.0
55-64 years	22.6	24.5	26.7	29.9	18.9	19.8
65-74 years	46.0	51.8	42.3	47.7	49.2	55.3
75-84 years	140.1	155.8	182.3	207.8	109.5	118.1
85 years +	421.1	438.9	462.9	496.4	400.6	410.6

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
	Under 1 year	5.5	5.9	5.0	4.7	5.1
1-4 years	0.9	0.8	0.9	0.7	0.7	0.8
5-14 years	0.2	0.2	0.2	0.2	0.2	0.2
15-24 years	0.5	0.6	0.4	0.5	0.6	0.3
25-34 years	0.9	1.0	0.8	0.9	0.9	0.8
35-44 years	2.1	2.3	1.9	1.9	2.1	1.8
45-54 years	5.1	5.7	4.5	4.7	5.2	4.2
55-64 years	10.9	13.2	8.8	10.1	12.1	8.3
65-74 years	30.5	36.3	25.4	29.2	34.8	24.2
75-84 years	118.6	142.6	101.7	117.2	139.4	101.2
85 years +	512.3	595.9	473.0	519.2	601.1	480.3

<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.<sup>2</sup> The adjusted rate for age less than one year is **lower** than the unadjusted rate because the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) had **fewer** deaths for this cause than did the unadjusted mortality file (2007-2009 data).SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>

The AI/AN age-adjusted tuberculosis death rate has dropped from 6.8 deaths in 1979-1981 to 1.1 for years 2007-2009. The 2007-2009 rate (1.1) is 5.5 times the U.S. all races rate (0.2) for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.43** Age-Adjusted Tuberculosis Death Rates

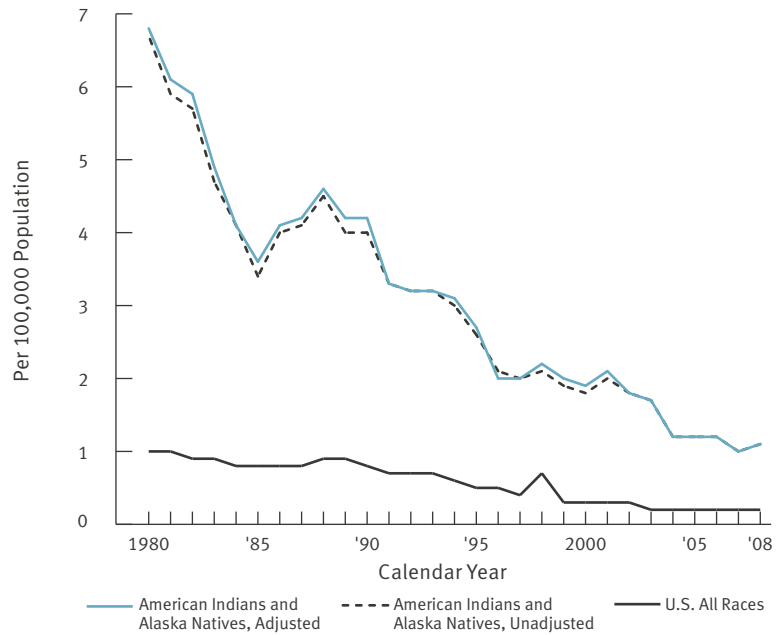


Table 4.43 Tuberculosis Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1955-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
2007-2009 (2008)	17	17	1.1	1.1	0.2	0.1	5.5	11.0
2006-2008 (2007)	10	10	1.0	1.0	0.2	0.1	5.0	10.0
2005-2007 (2006)	13	13	1.2	1.2	0.2	0.1	6.0	12.0
2004-2006 (2005)	14	14	1.2	1.2	0.2	0.2	6.0	6.0
2003-2005 (2004)	12	12	1.2	1.2	0.2	0.2	6.0	6.0
2002-2004 (2003)	11	11	1.7	1.7	0.2	0.2	8.5	8.5
2001-2003 (2002)	24	25	1.8	1.8	0.3	0.2	6.0	9.0
2000-2002 (2001)	12	13	2.0	2.1	0.3	0.2	7.0	10.5
1999-2001 (2000)	14	15	1.8	1.9	0.3	0.2	6.3	9.5
1998-2000 (1999)	17	18	1.9	2.0	0.3	0.2	6.7	10.0
1997-1999 (1998)	17	18	2.1	2.2	0.7	0.4	3.1	5.5
1996-1998 (1997)	20	21	2.0	2.0	0.4	0.3	5.0	6.7
1995-1997 (1996)	14	14	2.1	2.0	0.5	0.3	4.0	6.7
1994-1996 (1995)	18	19	2.6	2.7	0.5	0.4	5.4	6.8
1993-1995 (1994)	30	30	3.0	3.1	0.6	0.4	5.2	7.8
1992-1994 (1993)	24	24	3.2	3.2	0.7	0.4	4.6	8.0
1991-1993 (1992)	19	19	3.2	3.2	0.7	0.5	4.6	6.4
1990-1992 (1991)	25	25	3.3	3.3	0.7	0.5	4.7	6.6
1989-1991 (1990)	24	25	4.0	4.2	0.8	0.5	5.3	8.4
1988-1990 (1989)	33	36	4.0	4.2	0.9	0.6	4.7	7.0
1987-1989 (1988)	25	25	4.5	4.6	0.9	0.6	5.1	7.7
1986-1988 (1987)	28	28	4.1	4.2	0.8	0.5	5.3	8.4
1985-1987 (1986)	24	26	4.0	4.1	0.8	0.6	5.1	6.8
1984-1986 (1985)	18	18	3.4	3.6	0.8	0.6	4.5	6.0
1983-1985 (1984)	17	18	4.1	4.1	0.8	0.6	5.1	6.8
1982-1984 (1983)	31	31	4.7	4.9	0.9	0.6	5.4	8.2
1981-1983 (1982)	22	23	5.7	5.9	0.9	0.6	6.6	9.8
1980-1982 (1981)	30	30	5.9	6.1	1.0	0.7	6.1	8.7
1979-1981 (1980)	31	33	6.7	6.8	1.0	0.7	6.8	9.7
1972-1974 (1973)	143	147	10.5	10.8	1.7	1.3	6.4	8.3
1954-1956 (1955)	253		57.9		8.4	6.2		

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

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

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

The AI/AN age-adjusted diabetes mellitus death rate for 2007-2009 was 61.0 which is 34 percent higher than the earlier rate of 45.5 for the 1979-1981 three year period. This latest rate of 61.0 is 2.8 times higher than the U.S. all races rate of 22.0 for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 4.44 Age-Adjusted Diabetes Mellitus Death Rates

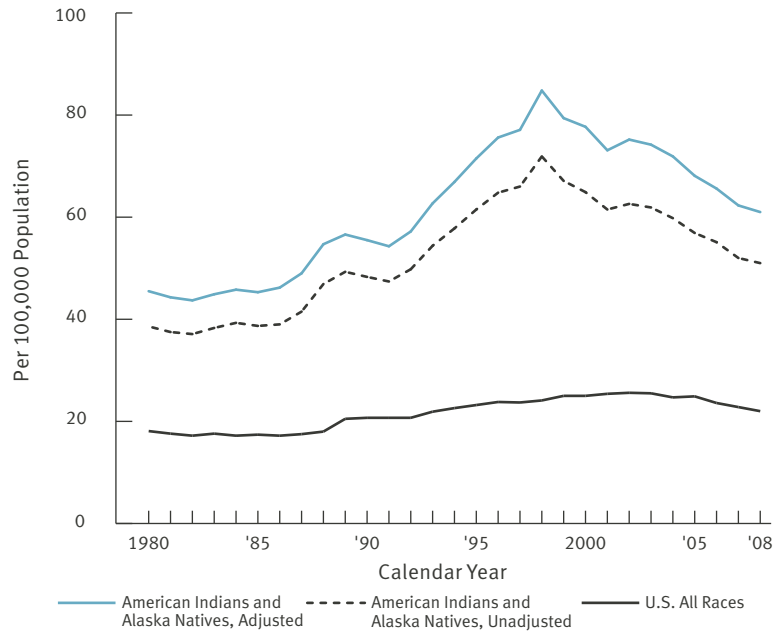


Table 4.44 Diabetes Mellitus Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1955-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	643	770						
2007-2009 (2008)	614	741	51.0	61.0	22.0	20.2	2.8	3.0
2006-2008 (2007)	637	756	52.0	62.3	22.8	20.7	2.7	3.0
2005-2007 (2006)	631	765	55.1	65.6	23.6	21.4	2.8	3.1
2004-2006 (2005)	645	775	56.9	68.1	24.9	22.8	2.7	3.0
2003-2005 (2004)	602	722	59.8	71.9	24.7	22.5	2.9	3.2
2002-2004 (2003)	627	771	61.9	74.2	25.5	23.2	2.9	3.2
2001-2003 (2002)	607	718	62.6	75.2	25.6	23.3	2.9	3.2
2000-2002 (2001)	521	631	61.5	73.1	25.4	23.1	2.9	3.2
1999-2001 (2000)	499	598	64.9	77.7	25.0	22.8	3.1	3.4
1998-2000 (1999)	595	720	67.1	79.4	25.0	22.6	3.2	3.5
1997-1999 (1998)	516	604	71.9	84.8	24.1	21.7	3.5	3.9
1996-1998 (1997)	546	649	66.0	77.1	23.7	21.3	3.3	3.6
1995-1997 (1996)	449	527	64.8	75.6	23.8	21.5	3.2	3.5
1994-1996 (1995)	426	497	61.5	71.5	23.2	20.9	3.1	3.4
1993-1995 (1994)	399	467	57.8	66.9	22.6	20.4	3.0	3.3
1992-1994 (1993)	354	412	54.4	62.7	21.9	19.8	2.9	3.2
1991-1993 (1992)	324	373	49.8	57.2	20.7	18.7	2.8	3.1
1990-1992 (1991)	275	320	47.4	54.3	20.7	18.7	2.6	2.9
1989-1991 (1990)	285	330	48.3	55.5	20.7	18.8	2.7	3.0
1988-1990 (1989)	301	349	49.3	56.6	20.5	18.6	2.8	3.0
1987-1989 (1988)	260	303	46.9	54.7	18.0	16.3	3.0	3.4
1986-1988 (1987)	227	274	41.5	49.0	17.5	15.9	2.8	3.1
1985-1987 (1986)	195	234	39.0	46.2	17.2	15.6	2.7	3.0
1984-1986 (1985)	208	245	38.7	45.3	17.4	15.9	2.6	2.8
1983-1985 (1984)	189	222	39.3	45.8	17.2	15.8	2.7	2.9
1982-1984 (1983)	180	212	38.3	44.9	17.6	16.3	2.6	2.8
1981-1983 (1982)	164	197	37.1	43.7	17.2	16.0	2.5	2.7
1980-1982 (1981)	156	185	37.5	44.3	17.6	16.2	2.5	2.7
1979-1981 (1980)	173	206	38.6	45.5	18.1	16.7	2.5	2.7
1972-1974 (1973)	356	418	40.3	47.2	23.2	21.6	2.0	2.2
1954-1956 (1955)	64		17.0		13.0	12.6		

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

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

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

The age-specific diabetes mellitus death rate (2007-2009) for AI/AN increased sharply with age. For age group 75-84 years the diabetes rate for females was 16 percent greater than for males, whereas the diabetes male rate for this same age group for U.S. all races was 28 percent greater than for females. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.45** Diabetes Mellitus Death Rates by Age and Sex

*American Indians and Alaska Natives (2007-2009)*

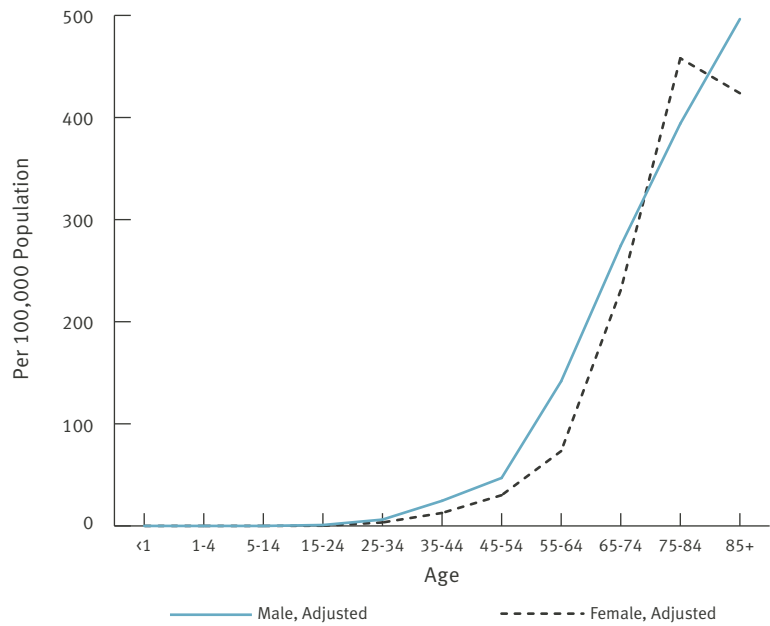


Table 4.45 Diabetes Mellitus Death Rates by Age and Sex

American Indians and Alaska Natives, IHS Service Area, 2007-2009

U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	0.4	0.6	0.6	0.9	0.2	0.2
25-34 years	3.5	4.8	4.8	6.2	2.2	3.4
35-44 years	14.9	18.6	20.4	24.6	9.7	12.7
45-54 years	32.9	38.2	41.0	47.0	25.5	30.1
55-64 years	88.2	105.6	118.2	141.7	61.3	73.3
65-74 years	203.9	250.8	225.9	274.5	185.5	230.9
75-84 years	353.6	431.1	315.6	394.0	381.2	458.0
85 years +	427.8	447.8	456.2	496.4	413.9	423.8

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
	Under 1 year	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	0.1	0.1	0.0	0.1	0.0	0.0
15-24 years	0.5	0.6	0.4	0.4	0.5	0.3
25-34 years	1.4	1.6	1.3	1.2	1.4	1.0
35-44 years	4.4	5.4	3.4	3.8	4.7	2.8
45-54 years	12.6	16.0	9.4	11.2	14.5	8.0
55-64 years	33.3	40.6	26.5	30.0	37.2	23.2
65-74 years	74.7	87.8	63.4	67.1	81.0	54.9
75-84 years	153.0	175.7	137.4	141.9	165.6	124.8
85 years +	298.9	341.6	278.8	282.7	332.1	259.3

—\* Represents zero.

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>



The AI/AN age-adjusted heart disease death rate has been decreasing since 1979-1981. The AI/AN rate (318.8) for the three-year period of 1979-1981 was 22.6 percent lower than the U.S. all races rate (412.1) for 1980. The AI/AN rate (182.4) for 2007-2009 was only one-half (0.5) of a percent lower than the U.S. all races rate (192.1) for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.46** Age-Adjusted Heart Disease Death Rates

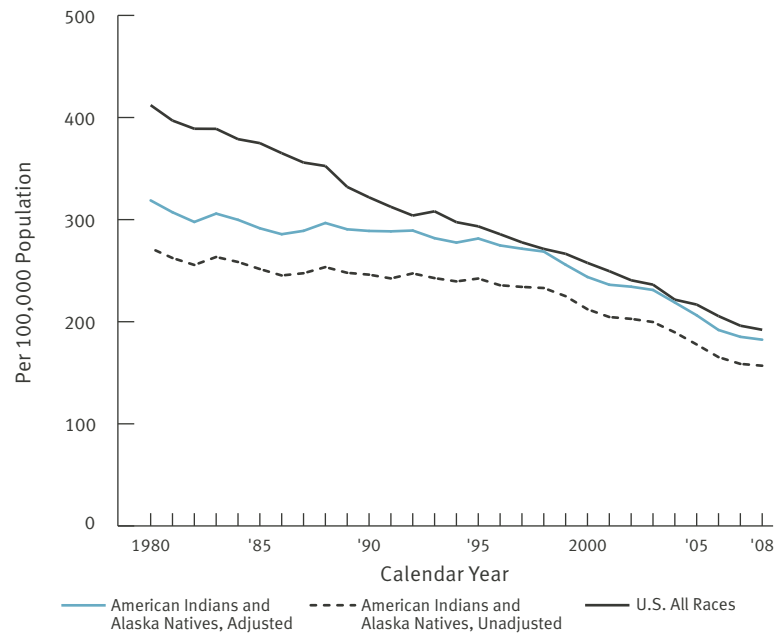


Table 4.46 Heart Disease Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1955-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	1,986	2,311						
2007-2009 (2008)	1,905	2,288	156.9	182.4	192.1	189.3	0.9	1.0
2006-2008 (2007)	1,838	2,140	158.7	185.2	196.1	192.8	0.9	1.0
2005-2007 (2006)	1,861	2,180	165.3	191.9	205.5	202.0	0.9	1.0
2004-2006 (2005)	1,831	2,120	177.7	206.3	216.8	213.2	1.0	1.0
2003-2005 (2004)	1,823	2,127	189.6	218.8	221.6	217.6	1.0	1.0
2002-2004 (2003)	1,859	2,157	199.7	231.1	236.3	231.9	1.0	1.0
2001-2003 (2002)	1,768	2,066	202.8	234.3	240.6	240.4	1.0	1.0
2000-2002 (2001)	1,667	1,936	204.6	236.2	249.5	245.1	0.9	1.0
1999-2001 (2000)	1,607	1,861	212.2	243.8	257.6	253.4	0.9	1.0
1998-2000 (1999)	1,678	1,940	225.0	255.8	266.5	261.9	1.0	1.0
1997-1999 (1998)	1,684	1,964	233.0	268.7	271.3	266.8	1.0	1.0
1996-1998 (1997)	1,683	1,970	234.1	271.5	277.7	273.4	1.0	1.0
1995-1997 (1996)	1,600	1,877	235.7	274.7	285.7	281.4	1.0	1.0
1994-1996 (1995)	1,573	1,852	242.3	281.5	293.4	288.6	1.0	1.0
1993-1995 (1994)	1,515	1,754	239.5	277.5	297.5	292.9	0.9	0.9
1992-1994 (1993)	1,524	1,779	242.7	281.8	308.1	302.9	0.9	0.9
1991-1993 (1992)	1,484	1,764	247.3	289.3	304.0	299.0	1.0	1.0
1990-1992 (1991)	1,416	1,682	242.4	285.5	312.5	307.4	0.9	0.9
1989-1991 (1990)	1,349	1,599	246.1	288.9	321.8	317.0	0.9	0.9
1988-1990 (1989)	1,408	1,661	247.9	290.5	332.0	326.6	0.9	0.9
1987-1989 (1988)	1,359	1,600	253.5	296.7	352.5	347.6	0.8	0.9
1986-1988 (1987)	1,312	1,553	247.5	289.0	355.9	351.5	0.8	0.8
1985-1987 (1986)	1,190	1,389	245.3	285.7	365.1	360.9	0.8	0.8
1984-1986 (1985)	1,223	1,422	251.6	291.5	374.9	371.4	0.8	0.8
1983-1985 (1984)	1,206	1,405	258.5	299.8	378.8	376.0	0.8	0.8
1982-1984 (1983)	1,117	1,306	263.4	305.9	388.9	386.1	0.8	0.8
1981-1983 (1982)	1,102	1,285	255.6	297.7	389.0	387.4	0.8	0.8
1980-1982 (1981)	1,000	1,162	262.4	307.2	397.0	395.1	0.8	0.8
1979-1981 (1980)	1,096	1,300	272.0	318.8	412.1	409.4	0.8	0.8
1972-1974 (1973)	2,275	2,689	283.2	335.1	491.5	490.0	0.7	0.7
1954-1956 (1955)			223.0		291.3	285.6		

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

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

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

The age-specific heart disease death rate (2007-2009) for AI/AN males for age groups 25 and older was higher in comparison to AI/AN females. U.S. all races rate (4,598.4) for both sexes was 99 percent higher than the AI/AN rate (2,307.7) and the U.S. white rate (4,680.7) was 103 percent higher than the AI/AN rate for 85 years and over. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.47** Heart Disease Death Rates by Age and Sex

*American Indians and Alaska Natives (2007-2009)*

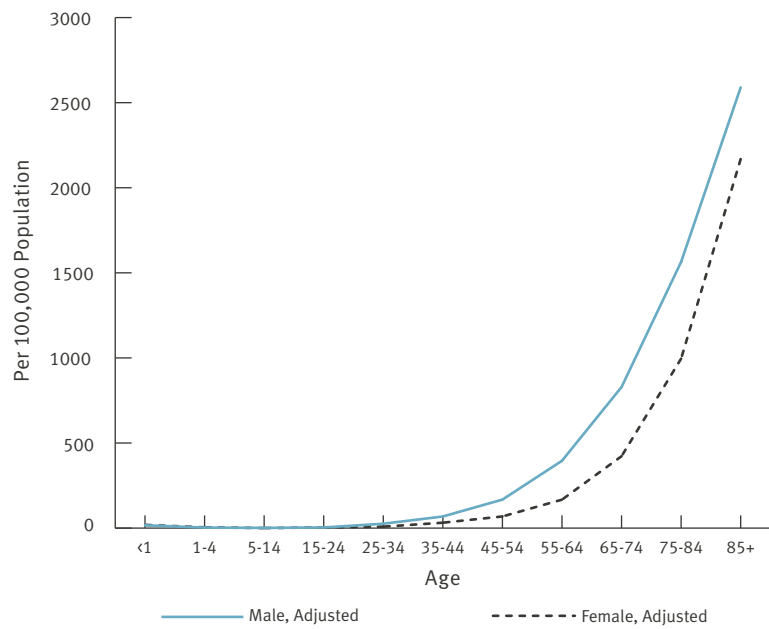


Table 4.47 Heart Disease Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009**U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)*

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	17.9 <sup>2</sup>	17.9 <sup>2</sup>	18.5 <sup>2</sup>	16.6 <sup>2</sup>	17.2	19.1
1-4 years	2.5	3.8	2.2	3.1	2.7	4.6
5-14 years	0.6	0.8	1.0	1.4	0.2	0.2
15-24 years	3.1	3.8	3.1	3.7	3.0	4.0
25-34 years	13.9	17.2	20.9	25.7	6.6	8.5
35-44 years	41.9	49.7	58.3	68.2	25.9	31.7
45-54 years	100.7	115.7	147.1	167.5	58.3	68.4
55-64 years	234.6	275.0	337.2	395.6	142.8	167.1
65-74 years	504.1	608.1	681.3	828.9	355.0	422.4
75-84 years	1,031.2	1,234.8	1,272.2	1,564.3	856.3	995.7
85 years +	2,176.9	2,307.7	2,368.0	2,589.4	2,082.6	2,168.7

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	9.6	10.3	8.8	8.2	8.5	7.9
1-4 years	1.2	1.2	1.1	0.9	0.9	0.8
5-14 years	0.6	0.6	0.5	0.5	0.5	0.5
15-24 years	2.5	3.3	1.6	1.9	2.6	1.2
25-34 years	8.1	10.8	5.4	6.7	9.1	4.1
35-44 years	26.9	37.4	16.4	24.2	34.4	13.9
45-54 years	85.2	122.9	48.8	79.0	117.1	41.3
55-64 years	195.3	280.8	115.6	183.1	266.9	103.4
65-74 years	441.1	594.0	309.7	424.3	573.9	292.6
75-84 years	1,271.7	1,584.3	1,050.4	1,265.8	1,580.9	1,038.5
85 years +	4,598.4	5,038.6	4,370.0	4,680.7	5,192.6	4,437.7

<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.<sup>2</sup> The adjusted rate for age less than one year is the **same** or **lower** than the unadjusted rate because the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) had the **same** or **fewer** deaths for this cause than did the unadjusted mortality file (2007-2009 data).SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>

The AI/AN age-adjusted cerebrovascular death rate has been decreasing during the last few years. The AI/AN rate (81.1) for 1979-1981 when compared to the AI/AN rate (39.1) 2007-2009 was 107.4 percent higher. The U.S. all races rate (42.1) for 2008 is 0.9 times greater than the comparable AI/AN 2007-2009 rate (39.1). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.48** Age-Adjusted Cerebrovascular Diseases Death Rates

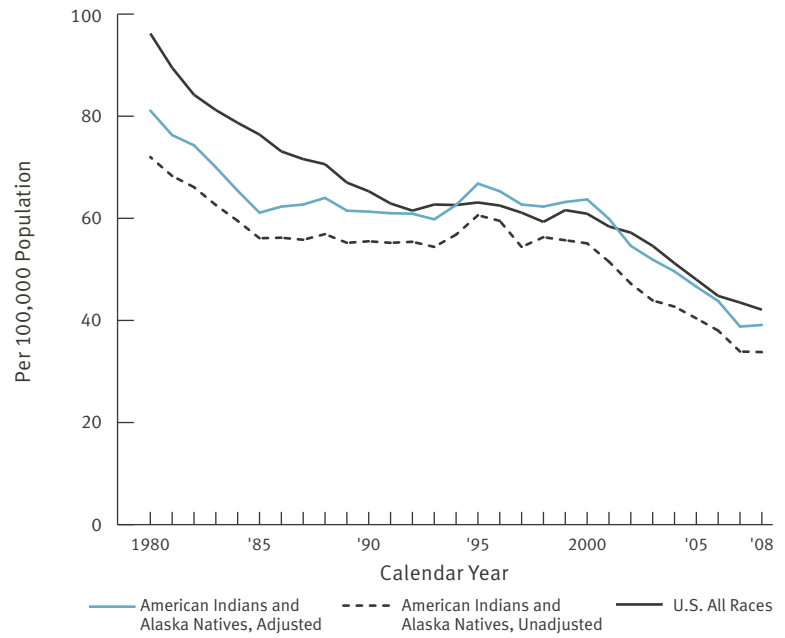


Table 4.48 Cerebrovascular Diseases Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1973-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	409	478						
2007-2009 (2008)	353	401	33.8	39.1	42.1	40.4	0.9	1.0
2006-2008 (2007)	400	468	33.9	38.8	43.5	41.6	0.9	0.9
2005-2007 (2006)	375	424	38.0	43.8	44.8	42.9	1.0	1.0
2004-2006 (2005)	429	501	40.4	46.6	48.0	46.0	1.0	1.0
2003-2005 (2004)	389	455	42.7	49.6	51.2	49.2	1.0	1.0
2002-2004 (2003)	368	429	43.9	50.9	54.6	52.4	0.9	1.0
2001-2003 (2002)	386	449	47.2	54.6	57.2	55.2	1.0	1.0
2000-2002 (2001)	416	482	51.5	59.9	58.4	56.2	1.0	1.1
1999-2001 (2000)	406	481	55.1	63.7	60.9	58.8	1.0	1.1
1998-2000 (1999)	387	442	55.7	63.2	61.6	59.6	1.0	1.1
1997-1999 (1998)	347	380	56.3	62.3	59.3	57.2	1.1	1.1
1996-1998 (1997)	348	380	54.4	62.7	61.1	59.0	1.0	1.1
1995-1997 (1996)	366	404	59.5	65.3	62.5	60.2	1.0	1.1
1994-1996 (1995)	358	402	60.6	66.8	63.1	60.7	1.1	1.1
1993-1995 (1994)	305	337	56.8	62.6	62.6	60.3	1.0	1.0
1992-1994 (1993)	305	335	54.4	59.8	62.7	60.4	1.0	1.0
1991-1993 (1992)	288	320	55.4	60.9	61.5	59.2	1.0	1.0
1990-1992 (1991)	294	329	55.2	61.0	62.9	60.3	1.0	1.0
1989-1991 (1990)	275	307	55.5	61.3	65.3	62.8	0.9	1.0
1988-1990 (1989)	270	301	55.2	61.5	67.0	64.2	0.9	1.0
1987-1989 (1988)	275	310	56.9	64.0	70.6	67.8	0.9	0.9
1986-1988 (1987)	282	327	55.8	62.7	71.6	69.1	0.9	0.9
1985-1987 (1986)	232	253	56.2	62.3	73.1	70.5	0.9	0.9
1984-1986 (1985)	254	276	56.1	61.1	76.4	73.7	0.8	0.8
1983-1985 (1984)	245	268	59.5	65.4	78.7	76.1	0.8	0.9
1982-1984 (1983)	236	268	62.6	70.0	81.2	78.5	0.9	0.9
1981-1983 (1982)	237	269	66.1	74.3	84.2	81.5	0.9	0.9
1980-1982 (1981)	241	268	68.3	76.3	89.5	86.7	0.9	0.9
1979-1981 (1980)	225	252	72.0	81.1	96.2	93.2	0.8	0.9
1972-1974 (1973)	682	770	95.5	107.2	136.2	132.8	0.8	0.8

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

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

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

The age-specific cerebrovascular diseases death rate (2007-2009) was relatively close for AI/AN males and females for each age group. The rate for both AI/AN genders increased with age beginning with the 25-34 year age group. The U.S. all races rate (1,071.0) for 85 years and older for both sexes was 65 percent higher than the AI/AN (649.5) and the U.S. white rate (1,077.9) was 66 percent higher than the AI/AN. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.49** Cerebrovascular Diseases Death Rates by Age and Sex

*American Indians and Alaska Natives (2007-2009)*

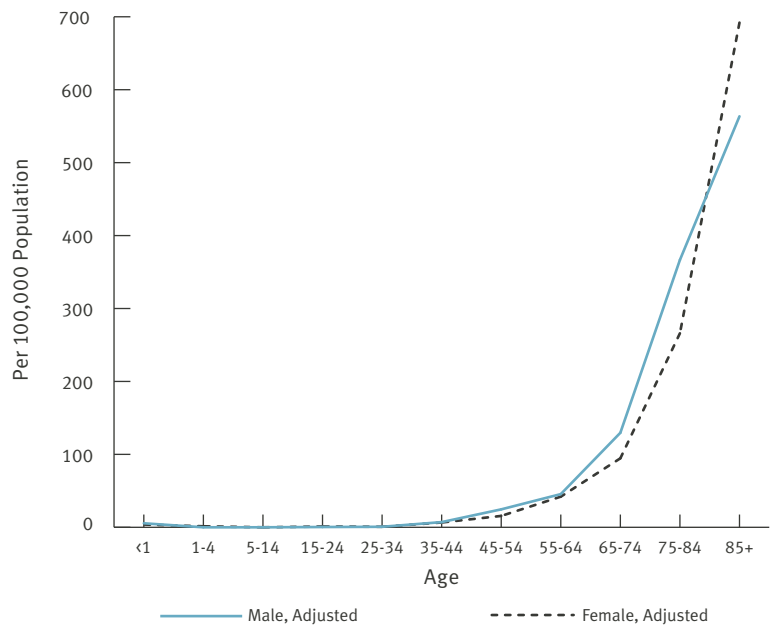


Table 4.49 Cerebrovascular Diseases Death Rates by Age and Sex

American Indians and Alaska Natives, IHS Service Area, 2007-2009

U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	2.8	4.7	—*	5.5	5.7 <sup>2</sup>	3.8 <sup>2</sup>
1-4 years	0.5	0.7	—*	—*	0.9	1.4
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	0.5	0.8	0.4	0.4	0.6	1.1
25-34 years	0.7	0.7	0.7	0.7	0.7	0.7
35-44 years	6.0	6.8	6.2	7.1	5.8	6.6
45-54 years	17.5	19.9	21.3	24.6	14.0	15.6
55-64 years	36.9	43.7	39.6	45.5	34.6	42.0
65-74 years	92.9	110.6	106.2	129.6	81.8	94.6
75-84 years	254.7	308.3	296.0	366.6	224.7	266.0
85 years +	611.8	649.5	523.2	563.5	655.6	692.0

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
	Under 1 year	3.4	3.3	3.6	3.0	2.9
1-4 years	0.4	0.4	0.4	0.4	0.3	0.4
5-14 years	0.2	0.2	0.2	0.2	0.2	0.3
15-24 years	0.4	0.5	0.4	0.4	0.5	0.4
25-34 years	1.3	1.5	1.2	1.2	1.4	1.0
35-44 years	4.8	5.2	4.5	3.9	4.2	3.6
45-54 years	13.7	15.3	12.2	10.7	12.0	9.5
55-64 years	30.6	35.5	26.1	25.8	29.9	21.9
65-74 years	87.3	96.6	78.4	80.0	88.2	72.8
75-84 years	313.3	320.4	308.2	306.7	313.3	302.0
85 years +	1,071.0	965.2	1,120.8	1,077.9	968.9	1,129.7

—\* Represents zero.

<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.<sup>2</sup> The adjusted rate for age less than one year is the **same** or **lower** than the unadjusted rate because the linked birth/infant death file (used to obtain the adjusted counts of infant deaths) had the **same** or **fewer** deaths for this cause than did the unadjusted mortality file (2007-2009 data).SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>



The AI/AN age-adjusted Alzheimer's disease rate (1.0) for years 1979-1981 increased to 14.6 for 2007-2009. The U.S. all races rate (24.4) for 2008 is 0.6 times the 2007-2009 rate (14.6). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

Chart 4.50 Age-Adjusted Alzheimer's Disease Death Rates

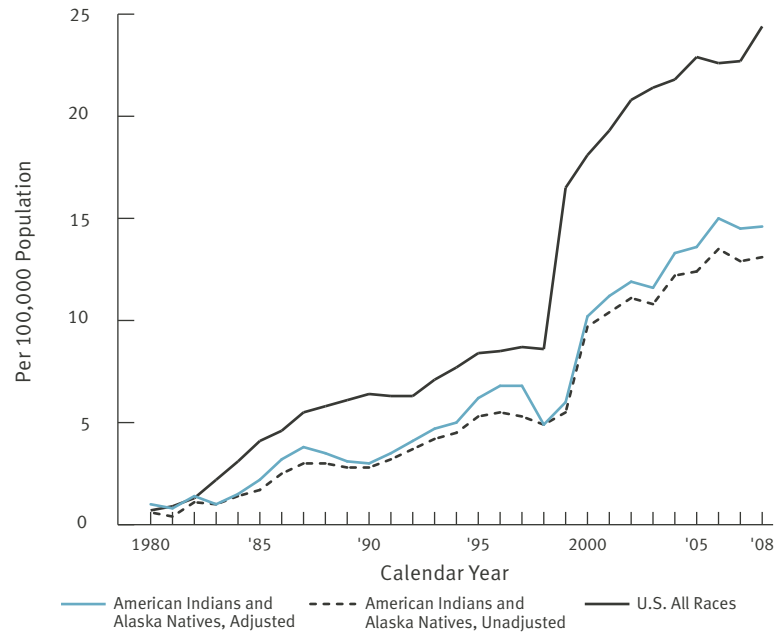


Table 4.50 Alzheimer's Disease Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1980-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	124	137						
2007-2009 (2008)	131	148	13.1	14.6	24.4	26.7	0.6	0.5
2006-2008 (2007)	127	140	12.9	14.5	22.7	24.6	0.6	0.6
2005-2007 (2006)	111	123	13.5	15.0	22.6	24.5	0.7	0.6
2004-2006 (2005)	121	133	12.4	13.6	22.9	24.7	0.6	0.6
2003-2005 (2004)	67	71	12.2	13.3	21.8	23.3	0.6	0.6
2002-2004 (2003)	82	89	10.8	11.6	21.4	22.9	0.5	0.5
2001-2003 (2002)	76	83	11.1	11.9	20.8	21.6	0.6	0.6
2000-2002 (2001)	61	64	10.4	11.2	19.3	20.0	0.6	0.6
1999-2001 (2000)	58	63	9.7	10.2	18.1	18.8	0.6	0.5
1998-2000 (1999)	54	55	5.5	6.0	16.5	17.2	0.4	0.3
1997-1999 (1998)	17	20	4.9	4.9	8.6	8.9	0.6	0.6
1996-1998 (1997)	18	24	5.3	6.8	8.7	9.1	0.8	0.7
1995-1997 (1996)	18	24	5.5	6.8	8.5	8.8	0.8	0.8
1994-1996 (1995)	18	19	5.3	6.2	8.4	8.7	0.7	0.7
1993-1995 (1994)	13	15	4.5	5.0	7.7	8.0	0.6	0.6
1992-1994 (1993)	12	14	4.2	4.7	7.1	7.4	0.7	0.6
1991-1993 (1992)	12	13	3.7	4.1	6.3	6.6	0.7	0.6
1990-1992 (1991)	8	9	3.2	3.5	6.3	6.6	0.6	0.5
1989-1991 (1990)	8	9	2.8	3.0	6.4	6.6	0.5	0.5
1988-1990 (1989)	8	8	2.8	3.1	6.1	6.4	0.5	0.5
1987-1989 (1988)	7	9	3.0	3.5	5.8	6.1	0.6	0.6
1986-1988 (1987)	10	13	3.0	3.8	5.5	5.7	0.7	0.7
1985-1987 (1986)	9	12	2.5	3.2	4.6	4.9	0.7	0.7
1984-1986 (1985)	3	4	1.7	2.2	4.1	4.3	0.5	0.5
1983-1985 (1984)	2	2	1.4	1.5	3.1	3.3	0.5	0.5
1982-1984 (1983)	4	4	1.0	1.0	2.2	2.4	0.5	0.4
1981-1983 (1982)	—*	—*	1.1	1.4	1.3	1.4	1.1	1.0
1980-1982 (1981)	2	4	0.4	0.8	0.9	0.9	0.9	0.9
1979-1981 (1980)	1	1	0.6	1.0	0.7	0.7	1.4	1.4
(1979)	2	2						

—\* Represents zero.

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

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

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

The age-specific Alzheimer’s death rate (2007-2009) for AI/AN females was higher than AI/AN males in all age groups except in age group 55 to 64 years. In age group 85 years and over, the AI/AN female rate (493.3) was 55.3 percent lower than the U.S. all races female rate (1,104.8) and over 56.8 percent lower than U.S. white female rate (1,142.1). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.51 Alzheimer’s Disease Death Rates by Age and Sex**

*American Indians and Alaska Natives (2007-2009)*

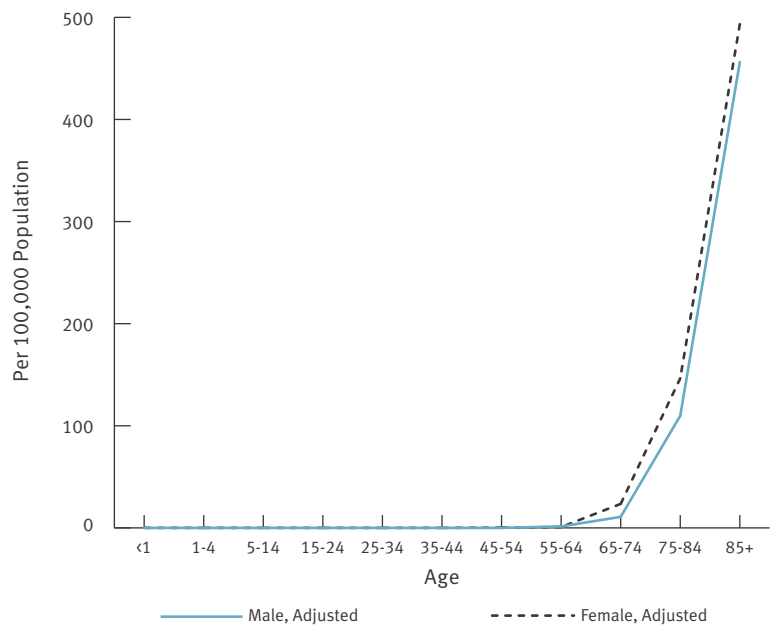


Table 4.51 Alzheimer's Death Rates by Age and Sex

American Indians and Alaska Natives, IHS Service Area, 2007-2009

U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	—*	—*	—*	—*	—*	—*
25-34 years	—*	—*	—*	—*	—*	—*
35-44 years	—*	—*	—*	—*	—*	—*
45-54 years	0.1	0.1	—*	—*	0.3	0.3
55-64 years	1.1	1.1	1.4	1.4	0.8	0.8
65-74 years	17.3	17.7	10.8	10.8	22.7	23.5
75-84 years	109.6	131.1	96.1	109.8	119.5	146.5
85 years +	445.6	481.0	409.2	456.2	463.5	493.3

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
	Under 1 year	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	—*	—*	—*	—*	—*	—*
25-34 years	—*	—*	—*	—*	—*	—*
35-44 years	—*	—*	—*	—*	—*	—*
45-54 years	0.2	0.2	0.3	0.2	0.2	0.3
55-64 years	2.2	2.0	2.3	2.3	2.2	2.5
65-74 years	21.1	19.6	22.4	21.9	20.1	23.6
75-84 years	192.5	170.1	208.4	200.4	176.1	217.9
85 years +	1,002.2	784.1	1,104.8	1,035.4	810.7	1,142.1

—\* Represents zero.

<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>

The AI/AN age-adjusted Parkinson's death rate (7.0) for years 1999-2001 decreased to 5.1 for 2007-2009. The U.S. all races rate (6.7) for 2008 is 1.3 times the 2007-2009 rate (5.1). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

Chart 4.52 Age-Adjusted Parkinson's Disease Death Rates

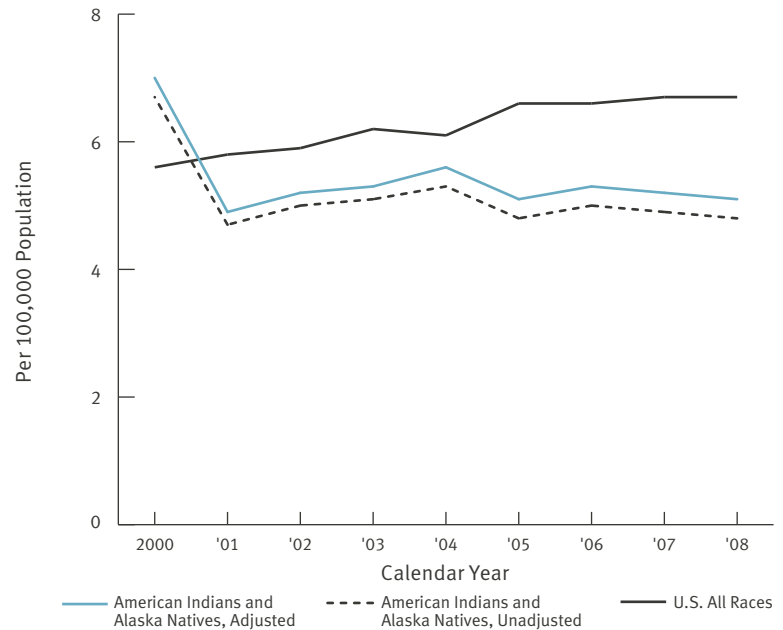


Table 4.52 Parkinson's Disease Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 2000-2008 (Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native		U.S. All Races		U.S. White		Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	46	49						
2007-2009 (2008)	52	54	4.8	5.1	6.7	8.0	0.8	0.6
2006-2008 (2007)	47	50	4.9	5.2	6.7	7.8	0.8	0.7
2005-2007 (2006)	44	47	5.0	5.3	6.6	7.7	0.8	0.7
2004-2006 (2005)	47	51	4.8	5.1	6.6	7.8	0.8	0.7
2003-2005 (2004)	31	32	5.3	5.6	6.1	7.2	0.9	0.8
2002-2004 (2003)	49	51	5.1	5.3	6.2	7.2	0.9	0.7
2001-2003 (2002)	34	36	5.0	5.2	5.9	6.9	0.9	0.8
2000-2002 (2001)	24	25	4.7	4.9	5.8	6.8	0.8	0.7
1999-2001 (2000)	38	41	6.7	7.0	5.6	6.5	1.3	1.1

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

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

The 2007-2009 AI/AN age-adjusted enterocolitis due to clostridium difficile death rate (1.9) has increased 138 percent since the 1999-2001 rate of 0.8 deaths per 100,000 population. The 2007-2009 rate (1.9 deaths per 100,000 population) is 21 percent lower than the U.S. all races rate of 2.4 for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 4.53 Age-Adjusted Enterocolitis Due to Clostridium Difficile Death Rates

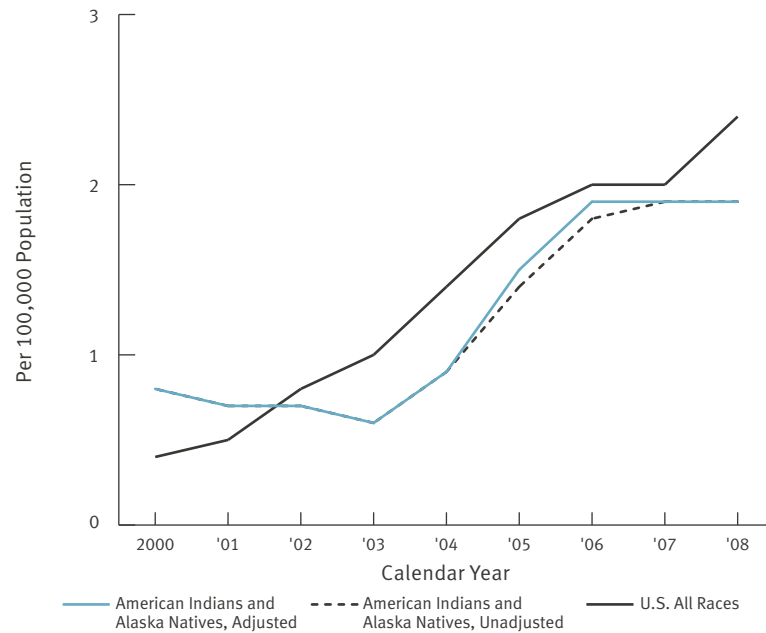


Table 4.53 Enterocolitis Due to Clostridium Difficile Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 2000-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	24	25						
2007-2009 (2008)	21	22	1.9	1.9	2.4	2.5	0.8	0.8
2006-2008 (2007)	21	22	1.9	1.9	2.0	2.1	1.0	0.9
2005-2007 (2006)	20	21	1.8	1.9	2.0	2.1	1.0	0.9
2004-2006 (2005)	15	16	1.4	1.5	1.8	1.9	0.8	0.8
2003-2005 (2004)	—*	—*	0.9	0.9	1.4	1.5	0.6	0.6
2002-2004 (2003)	—*	—*	0.6	0.6	1.0	1.0	0.6	0.6
2001-2003 (2002)	—*	—*	0.7	0.7	0.8	0.8	0.9	0.9
2000-2002 (2001)	—*	—*	0.7	0.7	0.5	0.5	1.4	1.4
1999-2001 (2000)	—*	—*	0.8	0.8	0.4	0.4	2.0	2.0

—\* Represents zero.

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

NOTE: The number of deaths from Enterocolitis due to Clostridium, difficile (C, difficile) (ICD-10 code A04.7) has increased dramatically in recent years, from 793 deaths in 1999 to 7,476 deaths in 2008. Because of the increasing importance of this cause of death, beginning with data year 2006, data for C. difficile has been added to the list of rankable causes. The AI/AN death rate columns present data for the three-year period specified and are age-adjusted to the 2000 population; the U.S. all races and U.S. white columns present data for a one-year period. The number columns indicate total AI/AN deaths for the one-year period specified.

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

The AI/AN age-adjusted HIV disease death rate (1.2) for years 1987-1989 increased to 3.0 for 2007-2009. The U.S. all races rate (3.3) for 2008 is 0.9 times greater than the 2007-2009 rate (3.0). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on the state death certificates.

Chart 4.54 Human Immunodeficiency Virus (HIV) Disease Death Rates

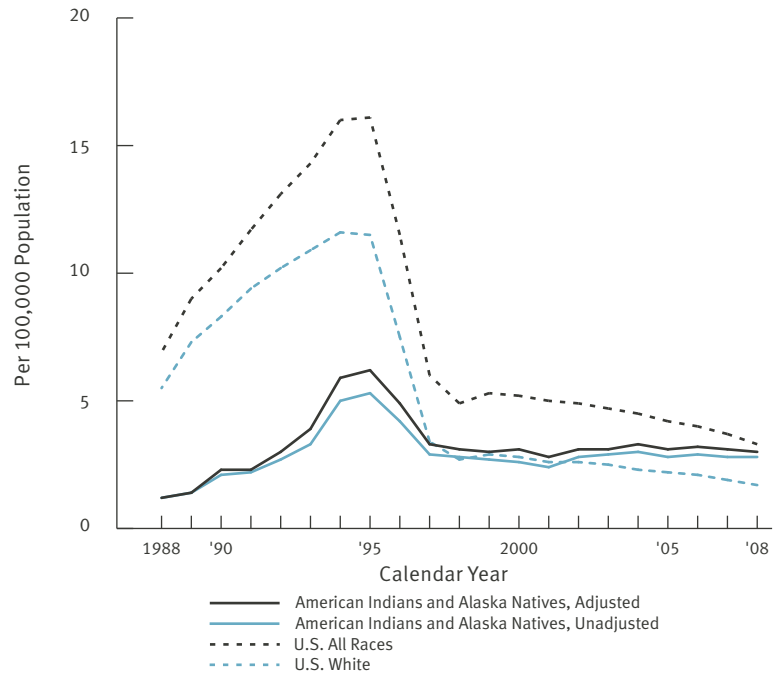


Table 4.54 Human Immunodeficiency Virus (HIV) Disease Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1988-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>2</sup>	Unadjusted	Adjusted <sup>2</sup>				
(2009)	39	41						
2007-2009 (2008)	43	46	2.8	3.0	3.3	1.7	0.9	1.8
2006-2008 (2007)	54	60	2.8	3.1	3.7	1.9	0.8	1.6
2005-2007 (2006)	39	42	2.9	3.2	4.0	2.1	0.8	1.5
2004-2006 (2005)	45	51	2.8	3.1	4.2	2.2	0.7	1.4
2003-2005 (2004)	45	50	3.0	3.3	4.5	2.3	0.7	1.4
2002-2004 (2003)	46	51	2.9	3.1	4.7	2.5	0.7	1.2
2001-2003 (2002)	39	41	2.8	3.1	4.9	2.6	0.6	1.2
2000-2002 (2001)	40	48	2.4	2.8	5.0	2.6	0.6	1.1
1999-2001 (2000)	30	37	2.6	3.1	5.2	2.8	0.6	1.1
1998-2000 (1999)	49	55	2.7	3.0	5.3	2.9	0.6	1.0
1997-1999 (1998)	33	41	2.8	3.1	4.9	2.7	0.6	1.1
1996-1998 (1997)	27	30	2.9	3.3	6.0	3.4	0.6	1.0
1995-1997 (1996)	52	59	4.2	4.9	11.5	7.5	0.4	0.7
1994-1996 (1995)	84	100	5.3	6.2	16.1	11.5	0.4	0.5
1993-1995 (1994)	62	75	5.0	5.9	16.0	11.6	0.4	0.5
1992-1994 (1993)	39	45	3.3	3.9	14.3	10.9	0.3	0.4
1991-1993 (1992)	20	21	2.7	3.0	13.1	10.2	0.2	0.3
1990-1992 (1991)	38	42	2.2	2.3	11.7	9.4	0.2	0.2
1989-1991 (1990)	16	17	2.1	2.3	10.2	8.3	0.2	0.3
1988-1990 (1989)	16	16	1.4	1.4	9.0	7.3	0.2	0.2
1987-1989 (1988)	13	13	1.2	1.2	6.9	5.5	0.2	0.2
(1987)	8	10						

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

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

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

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



The age-specific HIV death rate for the three-year period 2007-2009 for AI/AN males was greater for age group 45-54 years when reporting deaths in comparison to AI/AN females. In this age group, the HIV rate for AI/AN males (12.0) was 118 percent higher than the AI/AN female rate (5.5). These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 4.55** Human Immunodeficiency Virus (HIV) Disease Death Rates by Age and Sex

*American Indians and Alaska Natives (2007-2009)*

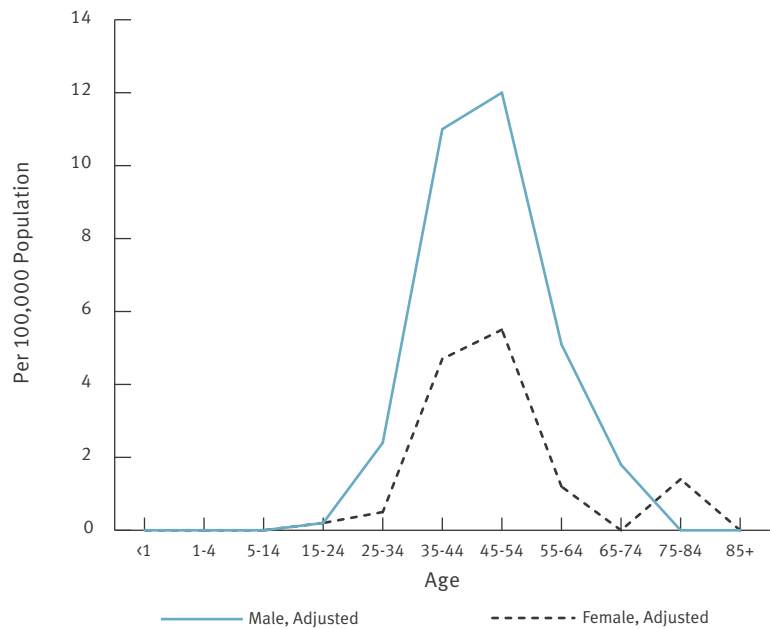


Table 4.55 Human Immunodeficiency Virus (HIV) Disease Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009, and U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)*

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	—*	—*	—*	—*	—*	—*
5-14 years	—*	—*	—*	—*	—*	—*
15-24 years	0.2	0.2	0.2	0.2	0.2	0.2
25-34 years	1.4	1.4	2.4	2.4	0.5	0.5
35-44 years	6.8	7.8	9.6	11.0	4.1	4.7
45-54 years	8.0	8.6	10.8	12.0	5.5	5.5
55-64 years	3.0	3.0	5.1	5.1	1.2	1.2
65-74 years	0.8	0.8	1.8	1.8	—*	—*
75-84 years	0.8	0.8	—*	—*	1.4	1.4
85 years +	—*	—*	—*	—*	—*	—*

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	—*	—*	—*	—*	—*	—*
1-4 years	0.0	0.0	0.0	—*	—*	—*
5-14 years	0.0	0.0	0.0	0.0	0.0	0.0
15-24 years	0.4	0.4	0.4	0.2	0.2	0.1
25-34 years	2.4	3.0	1.8	1.1	1.6	0.6
35-44 years	6.7	9.3	4.2	3.7	5.7	1.6
45-54 years	8.4	12.6	4.3	4.5	7.3	1.7
55-64 years	5.6	9.1	2.3	2.8	4.9	0.8
65-74 years	2.5	4.1	1.1	1.3	2.3	0.4
75-84 years	0.9	1.6	0.4	0.5	1.0	0.0
85 years +	0.6	0.0	0.0	0.0	0.0	0.0

—\* Represents zero.

0.0 Quantity more than zero but less than 0.05.

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

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

The AI/AN age-adjusted asthma death rate has increased steadily from 1979-1981 to 2007-2009 (0.9 to 1.3 respectively). The 2007-2009 rate (1.3) is 1.2 times higher than the U.S. all races rate (1.1). The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

Chart 4.56 Age-Adjusted Asthma Death Rates

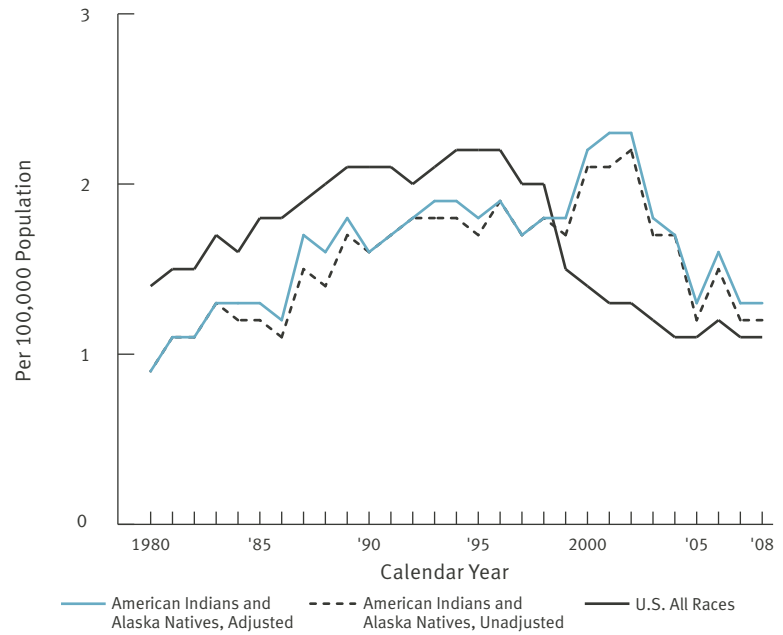


Table 4.56 Asthma Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1973-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	15	16						
2007-2009 (2008)	15	18	1.2	1.3	1.1	0.9	1.2	1.4
2006-2008 (2007)	25	26	1.2	1.3	1.1	0.9	1.2	1.4
2005-2007 (2006)	13	14	1.5	1.6	1.2	1.0	1.3	1.6
2004-2006 (2005)	25	27	1.2	1.3	1.1	0.9	1.2	1.4
2003-2005 (2004)	23	14	1.7	1.7	1.1	0.8	1.5	2.1
2002-2004 (2003)	26	27	1.7	1.8	1.2	1.0	1.5	1.8
2001-2003 (2002)	22	25	2.2	2.3	1.3	1.0	1.8	2.3
2000-2002 (2001)	24	25	2.1	2.3	1.3	1.0	1.8	2.3
1999-2001 (2000)	22	26	2.1	2.2	1.4	1.1	1.6	2.0
1998-2000 (1999)	18	18	1.7	1.8	1.5	1.2	1.2	1.5
1997-1999 (1998)	13	13	1.8	1.8	2.0	1.7	0.9	1.1
1996-1998 (1997)	22	23	1.7	1.7	2.0	1.7	0.9	1.0
1995-1997 (1996)	17	19	1.9	1.9	2.2	1.8	0.9	1.1
1994-1996 (1995)	18	18	1.7	1.8	2.2	1.9	0.8	0.9
1993-1995 (1994)	14	14	1.8	1.9	2.2	1.9	0.9	1.0
1992-1994 (1993)	18	21	1.8	1.9	2.1	1.8	0.9	1.1
1991-1993 (1992)	12	12	1.8	1.8	2.0	1.8	0.9	1.0
1990-1992 (1991)	12	12	1.7	1.7	2.1	1.9	0.8	0.9
1989-1991 (1990)	14	14	1.6	1.6	2.1	1.8	0.8	0.9
1988-1990 (1989)	10	14	1.7	1.8	2.1	1.8	0.9	1.0
1987-1989 (1988)	16	18	1.4	1.6	2.0	1.7	0.8	0.9
1986-1988 (1987)	8	9	1.5	1.7	1.9	1.7	0.9	1.0
1985-1987 (1986)	10	12	1.1	1.2	1.8	1.5	0.7	0.8
1984-1986 (1985)	5	5	1.2	1.3	1.8	1.6	0.7	0.8
1983-1985 (1984)	9	10	1.2	1.3	1.6	1.4	0.8	0.9
1982-1984 (1983)	7	7	1.3	1.3	1.7	1.5	0.8	0.9
1981-1983 (1982)	5	5	1.1	1.1	1.5	1.3	0.7	0.8
1980-1982 (1981)	4	4	1.1	1.1	1.5	1.3	0.7	0.8
1979-1981 (1980)	6	6	0.9	0.9	1.4	1.3	0.6	0.7
1972-1974 (1973)	11	11	1.2	1.2	1.4	1.2	0.9	1.0

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

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

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

The AI/AN age-adjusted mortality rate (1,216.7) for all causes of death was 1.3 times higher for years 1979-1981 as compared to the 2007-2009 three year rate (943.0). The AI/AN for 2007-2009 (943.0) was 1.2 times greater than the comparable U.S. all races rate (774.9) for 2008. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

Chart 4.57 Age-Adjusted Mortality for All Causes Death Rates

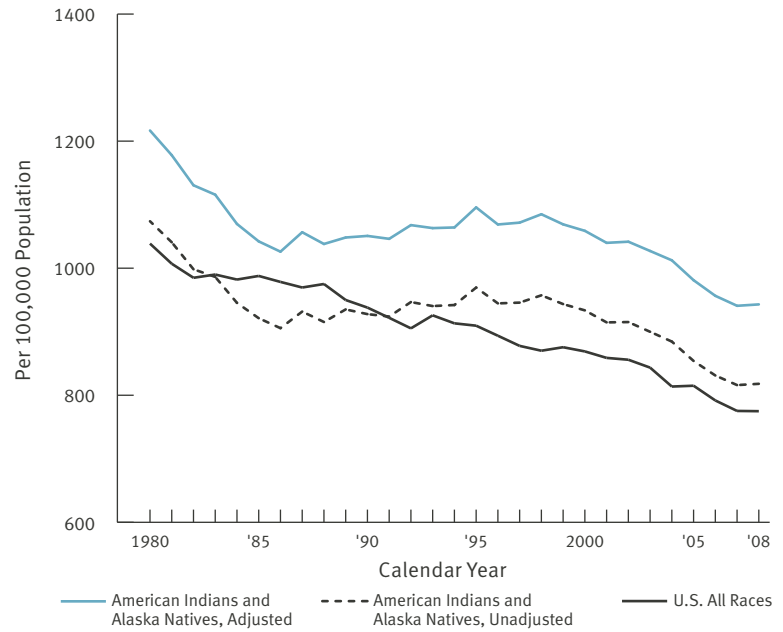


Table 4.57 Mortality for All Causes Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1973-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	11,243	13,026						
2007-2009 (2008)	11,024	12,816	818.0	943.0	774.9	767.2	1.2	1.2
2006-2008 (2007)	10,604	12,329	816.0	940.8	775.3	764.3	1.2	1.2
2005-2007 (2006)	10,268	11,905	831.1	956.5	791.8	779.3	1.2	1.2
2004-2006 (2005)	10,257	11,896	854.0	981.1	815.0	801.1	1.2	1.2
2003-2005 (2004)	9,688	11,237	884.5	1,012.4	813.7	798.5	1.2	1.3
2002-2004 (2003)	9,673	11,126	899.9	1,027.1	843.5	827.1	1.2	1.2
2001-2003 (2002)	9,284	10,702	915.2	1,041.7	855.9	839.0	1.2	1.2
2000-2002 (2001)	8,837	10,170	914.7	1,039.9	858.8	840.7	1.2	1.2
1999-2001 (2000)	8,314	9,547	933.6	1,058.8	869.0	849.8	1.2	1.2
1998-2000 (1999)	8,458	9,714	943.5	1,069.0	875.6	854.6	1.2	1.3
1997-1999 (1998)	8,055	9,245	957.3	1,084.9	870.1	848.9	1.2	1.3
1996-1998 (1997)	7,891	9,057	945.8	1,071.7	877.7	855.4	1.2	1.3
1995-1997 (1996)	7,562	8,662	944.6	1,068.8	893.7	868.7	1.2	1.2
1994-1996 (1995)	7,430	8,462	969.5	1,095.7	909.5	882.0	1.2	1.2
1993-1995 (1994)	7,151	8,180	942.0	1,064.1	913.2	885.3	1.2	1.2
1992-1994 (1993)	7,011	8,017	940.4	1,063.1	925.8	896.8	1.1	1.2
1991-1993 (1992)	6,731	7,720	946.7	1,067.8	905.3	877.5	1.2	1.2
1990-1992 (1991)	6,487	7,434	923.9	1,046.2	921.9	893.0	1.1	1.2
1989-1991 (1990)	6,211	7,109	927.7	1,050.8	938.0	909.2	1.1	1.2
1988-1990 (1989)	6,386	7,297	935.1	1,048.3	949.9	919.8	1.1	1.1
1987-1989 (1988)	6,072	6,938	915.3	1,038.1	975.1	947.2	1.1	1.1
1986-1988 (1987)	5,878	6,720	931.7	1,056.6	969.6	943.2	1.1	1.1
1985-1987 (1986)	5,563	6,366	905.6	1,026.0	978.4	952.8	1.0	1.1
1984-1986 (1985)	5,448	6,218	921.3	1,042.2	987.8	963.4	1.1	1.1
1983-1985 (1984)	5,346	6,101	945.4	1,069.6	982.1	959.4	1.1	1.1
1982-1984 (1983)	5,247	5,994	986.3	1,115.7	990.0	967.4	1.1	1.2
1981-1983 (1982)	5,291	6,014	998.3	1,130.5	984.9	963.5	1.1	1.2
1980-1982 (1981)	5,181	5,889	1,040.8	1,177.9	1,007.0	984.0	1.2	1.2
1979-1981 (1980)	5,407	6,151	1,073.9	1,216.7	1,038.7	1,012.5	1.2	1.2
1972-1974 (1973)	13,472	15,035	1,281.1	1,433.8	1,209.9	1,180.8	1.2	1.2

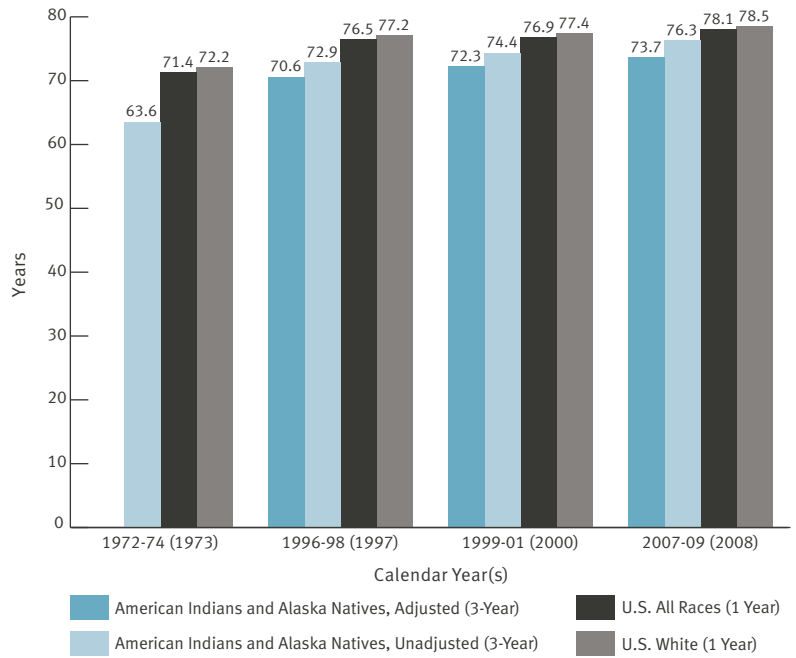
<sup>1</sup> Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

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

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

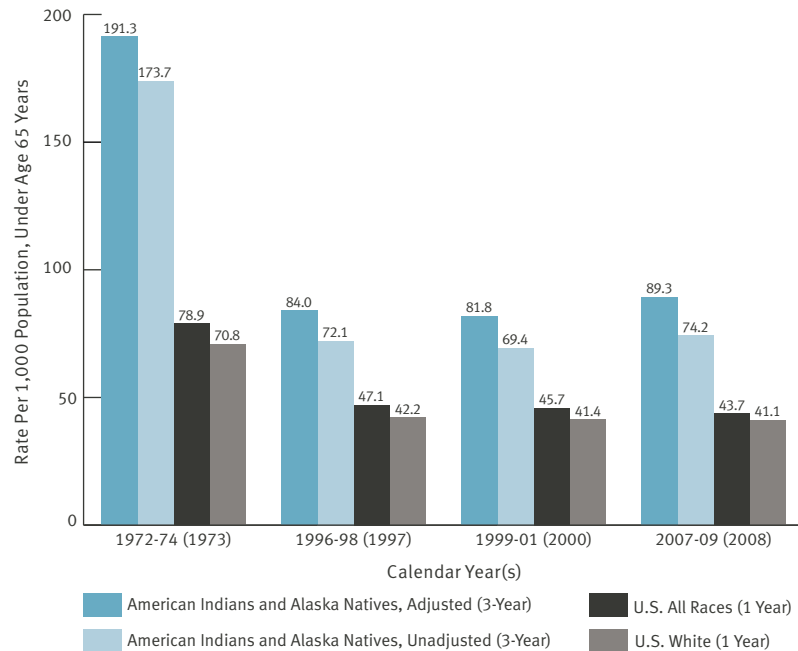
Life expectancy at birth for American Indians and Alaska Natives (AI/AN) for the three-year period of 1972-1974 was 63.6 years. By 2007-2009 life expectancy increased to 73.7 years; 4 years less than the U.S. all races life expectancy of 78.1 years for 2008. The 2007-2009 AI/AN life expectancy of 73.7 years is 4.8 years less than for the U.S. white life expectancy of 78.5 years for 2008. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

**Chart 4.58** Life Expectancy at Birth



The years of potential life lost (YPLL) rate for American Indians and Alaska Natives (AI/AN) for the three-year period 2007-2009 is 89.3 per 1,000 population, and it is 53 percent lower than the YPLL rate (191.3) for 1972-1974. The 2007-2009 AI/AN YPLL rate is 104 percent greater than the U.S. all races YPLL rate of 43.7 for 2008 and 117 percent greater than the 2008 YPLL rate of 41.1 for U.S. whites. The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

Chart 4.59 Years of Potential Life Lost (YPLL)



The AI/AN age-adjusted death rate for all causes of death decreased 52 percent from the rate of 1,433.7 for the three-year period 1972-1974 to the 2007-2009 rate of 943.0. The U.S. all races rate decreased 60 percent from 1973 to 2008, whereas the U.S. white rate decreased 59 percent during the same time period. The AI/AN 2007-2009 rate (943.0) is 24 percent higher than the 2008 U.S. all races rate (758.3) and 26 percent higher than U.S. white rate (750.3). The AI/AN rates have been adjusted for misreporting of race on the state death certificates.

Chart 4.60 Age-Adjusted Death Rate

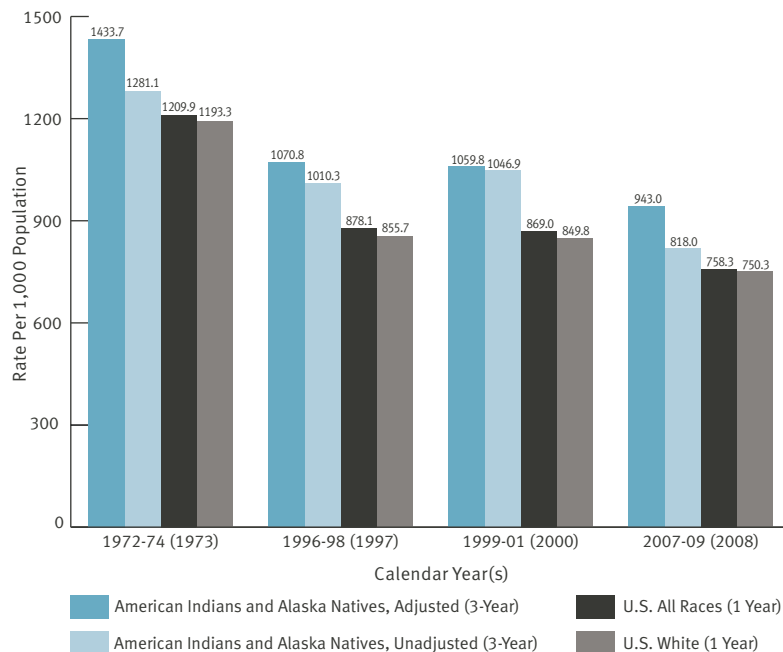




Table 4.58 Overall Measures of Indian Health

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

Calendar Year(s)	Life Expectancy At Birth (Years)		Years of Potential Life Lost (Rate per 1,000 Population <sup>4</sup> )		Age-Adjusted Death Rate (per 100,000 Population)	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
<i>IHS Service Area:</i>						
2007-2009	76.3	73.7	74.2	89.3 <sup>2</sup>	818.0	943.0
1999-2001	74.4	72.3	69.4	81.8 <sup>2</sup>	1,046.9	1,059.8
1996-1998	72.9	70.6	72.1	84.0 <sup>2</sup>	1,010.3	1,070.8
1972-1974	63.6	—	173.7 <sup>3</sup>	191.3 <sup>3</sup>	1,281.1	1,433.7
<i>U.S. All Races:</i>						
2008	78.1		43.7		758.3	
2000	76.9		45.7		869.0	
1997	76.5		47.1		878.1	
1973	71.4		78.9		1,209.9	
<i>U.S. White:</i>						
2008	78.5		41.1		750.3	
2000	77.4		41.4		849.8	
1997	77.2		42.2		855.7	
1973	72.2		70.8		1,193.3 <sup>5</sup>	
<i>RATIO: IHS to U.S. All Races:</i>						
2007-2009 (2008)	0.98	0.94	1.70	2.04	1.08	1.24
1999-2001 (2000)	0.97	0.94	1.52	1.79	1.20	1.22
1996-1998 (1997)	0.95	0.92	1.53	1.78	1.15	1.22
1972-1974 (1973)	0.89	—	2.20	2.42	1.06	1.18
<i>RATIO: IHS to U.S. White:</i>						
2007-2009 (2008)	0.97	0.94	1.81	2.17	1.09	1.26
1999-2001 (2000)	0.96	0.93	1.68	1.98	1.23	1.25
1996-1998 (1997)	0.94	0.91	1.71	1.99	1.18	1.25
1972-1974 (1973)	0.88	—	2.45	2.70	1.07	1.20

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

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

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

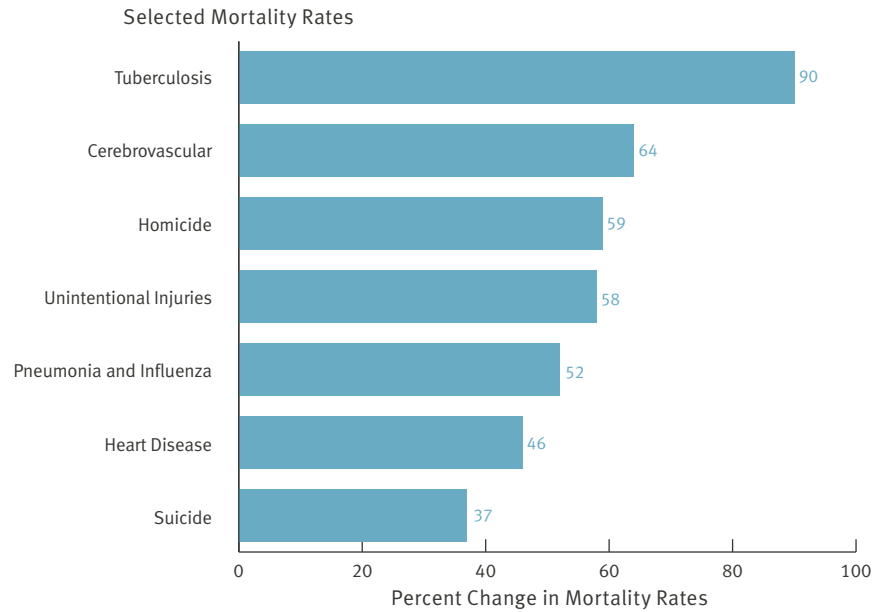
<sup>3</sup> Years of Potential Life Lost (YPLL) is a mortality indicator which measures the burden of premature deaths. YPLL is presented for persons under 65 years of age because the average life expectancy for AI/AN is over 65 years. The number of deaths for each age group is multiplied by the years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

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

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

The health status of AI/AN has experienced major improvements since 1972-1974. Some of the positive changes are evident from the lower mortality rates. For example, tuberculosis mortality has declined 90 percent and deaths due to cerebrovascular disease have declined 64 percent. Additional reduced age-adjusted mortality rates include: homicide (59 percent), unintentional injuries (58 percent), pneumonia influenza (52 percent), and heart disease (46 percent).

Chart 4.61 IHS Program Accomplishments Since 1973 (Adjusted Mortality Data)



The health status of AI/AN has experienced major improvements since 1996-1998. Some of the positive changes are evident from the lower mortality rates. For example, tuberculosis mortality has declined 45 percent and deaths due to cerebrovascular disease have declined 38 percent. Additional reduced age-adjusted mortality rates include: heart disease (33 percent), pneumonia influenza (23 percent), diabetes (21 percent), and homicide (13 percent).

Chart 4.62 IHS Program Accomplishments Since 1997 (Adjusted Mortality Data)

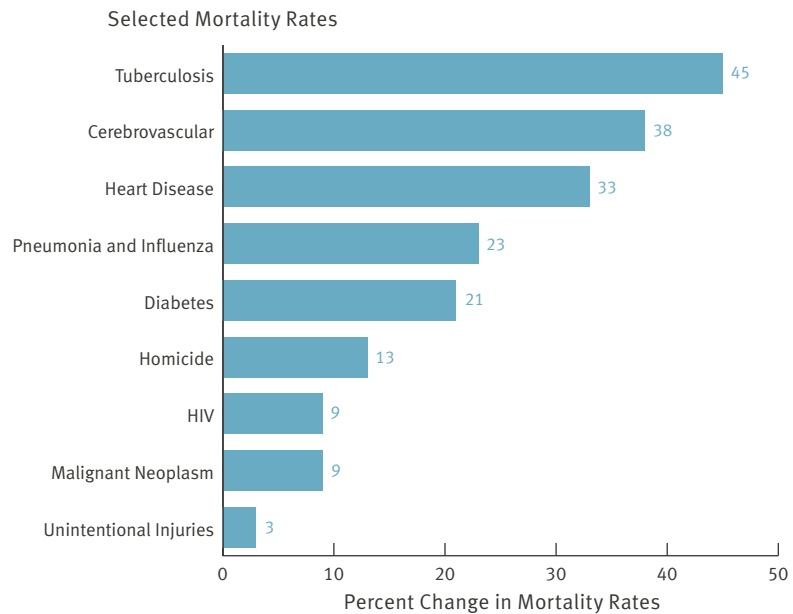


Table 4.61 IHS Program Accomplishments

*IHS Service Area*

Health Improvements	Rate Adjusted <sup>1</sup> (1972-1974)	Rate Adjusted <sup>1</sup> (1996-1998)	2007-2009 Rate		Percent Change to 2007-2009	
			Unadjusted	Adjusted <sup>1</sup>	Adjusted <sup>1</sup> (from 1972-1974)	Adjusted <sup>1</sup> (from 1996-1998)
<i>Death Rates</i>						
Cerebrovascular	107.2	62.7	33.8	39.1	-63.5	-37.6
Diabetes	47.2	77.1	51.0	61.0	29.2 <sup>3</sup>	-20.9
Heart disease	335.1	271.5	156.9	182.4	-45.6	-32.8
Human immunodeficiency virus (HIV) disease <sup>2</sup>	1.2	3.3	2.8	3.0	150.0	-9.1
Homicide	26.8	12.6	9.6	11.0	-58.6	-12.7
Malignant neoplasm <sup>3</sup>	150.0	187.0	148.7	170.8	13.9 <sup>3</sup>	-8.7
Pneumonia and Influenza	50.5	31.3	22.1	24.1	-52.3	-23.0
Suicide	29.4	17.9	16.2	18.5	-37.1	3.4
Tuberculosis	10.8	2.0	1.1	1.1	-89.8	-45.0
Unintentional injuries	223.2	97.1	79.5	94.5	-57.7	-2.7

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

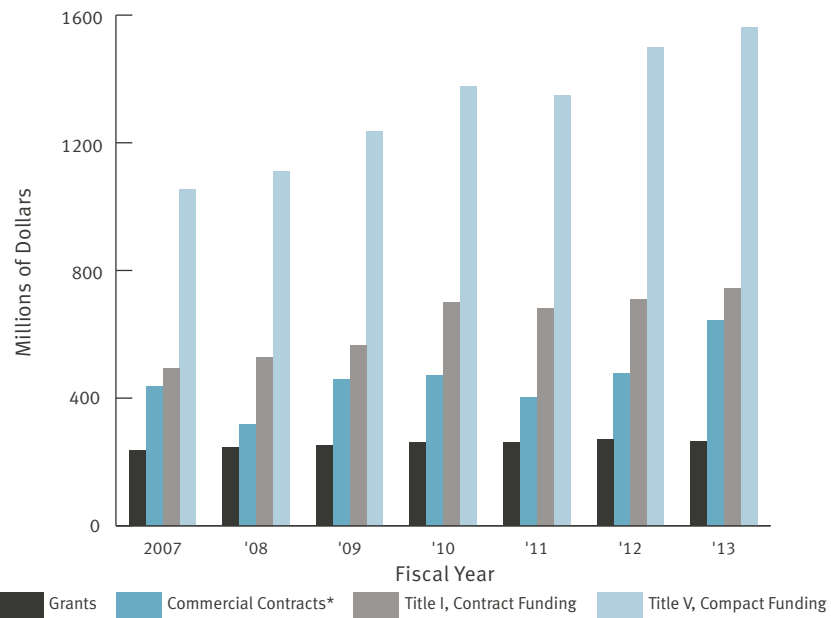
<sup>2</sup> Rate of HIV deaths represents the 1987-1989 three year period. The percent change represents an increased AI/AN death rate from 1987-1989 to 1996-1998. This death rate then decreased from 1996-1998 to 2007-2009 for AI/ANs.

<sup>3</sup> Diabetes and malignant neoplasm deaths increased for AI/ANs from 1972-1974 to 1996-1998 but then decreased from 1996-1998 to the 2007-2009 three year period.

NOTE: The trend for suicide deaths has been on the decline for many years but in recent years the rates indicate a slight increase. ICD-10 codes were introduced in 1999. Comparability ratios have been applied to the 1996-1998 age-adjusted data. ICD-9 codes were introduced in 1979. Comparability ratios have been applied to the 1972-1974 age-adjusted rate. All rates have been adjusted to the 2000 standard population.

During FY 2013, Indian Health Service contract awards were \$664.2 million dollars. Grants awards for FY 2013 were \$265.9 million dollars.

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



\* Data for commercial contracts includes small business contracts.

**Table 5.1** IHS Tribal and Urban Health Contract, Grant, and Compact Awards  
Fiscal Year 1990-2013 (Millions of Dollars)

Fiscal Year	Commercial Contracts <sup>1</sup>	Grants <sup>3</sup>	P.L. 93-638 Program	
			Title 1 Contract Funding	Title V Compact Funding
2013	644.1	265.9	743.8	1,560.9
2012	478.0	270.7	709.9	1,497.8
2011	402.8	260.9	681.4	1,350.1
2010	471.7	262.0	698.7	1,376.0
2009	458.5	251.9	566.6	1,236.3
2008	318.8	245.2	527.1	1,111.8
2007	437.8	236.8	492.1	1,053.8
2006	432.3	265.9	596.4	1,014.4
2005	295.6	168.7	575.1	974.1
2004	374.6	169.6	529.3	917.8
2003	296.1	126.8	522.6	898.5
2002	453.3	956.9	818.4	796.9
2001	404.3	886.4	390.1	734.3
2000	629.9 <sup>2</sup>	738.8	348.9	659.8
1995	297.5	335.0		
1990	320.7	27.4		

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

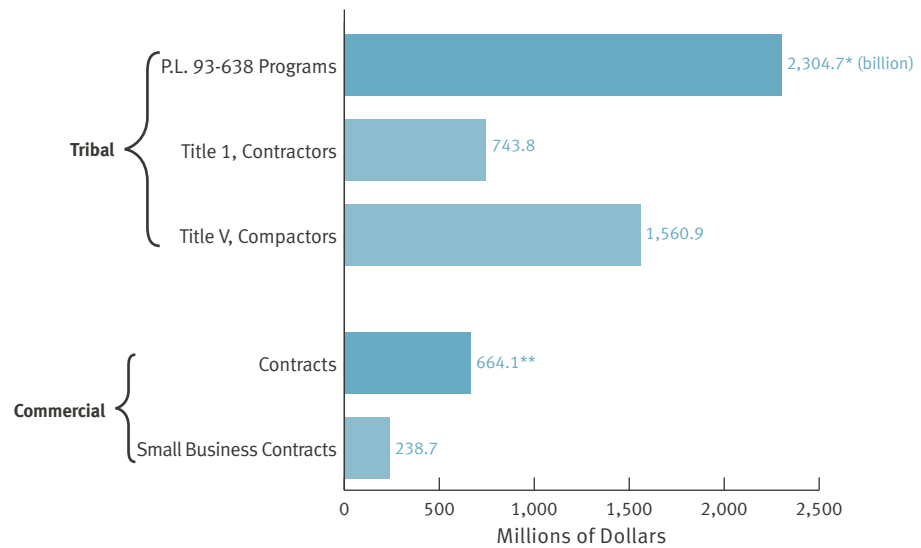
<sup>2</sup> Data henceforth does not include 638 contracts.

<sup>3</sup> Includes Urban Indian Health Programs IHCA Contracts Title V and 4-in-1 Grants.

SOURCE: IHS HQs-Division of Acquisition Policy and Division of Grants Management, OMS  
IHS HQs-Office of Urban Indian Health Programs, Office of Tribal Self-Governance and Office of Direct Service and Contracting Tribes, OD  
IHS HQ-Division of Health Professions Support, OPHS

IHS health contracts are awarded through P.L. 93-638 and commercial contracts. In FY 2013, P.L. 93-638 contracts had \$2,304.7 billion dollars awarded to Title I (Contracts) and Title V (Compacts). IHS reported \$664.1 million dollars in total commercial contracts and \$238.7 million dollars to small business or 35.9 percent.

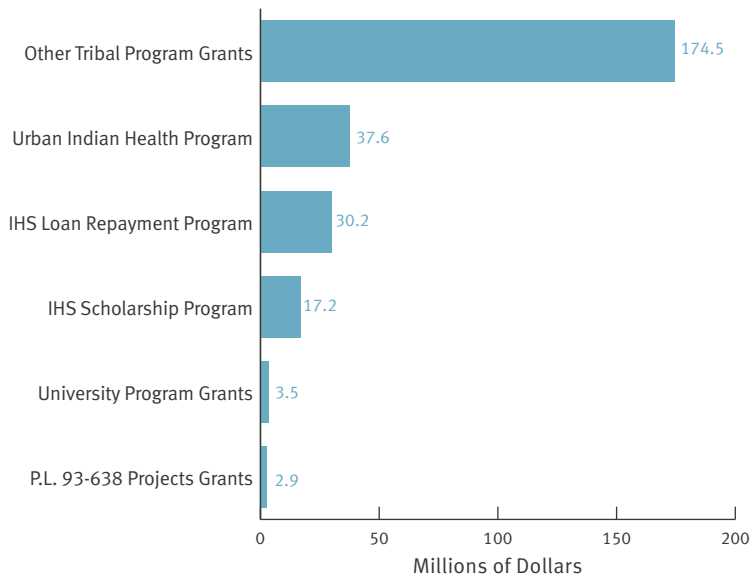
**Chart 5.2** IHS Tribal and Urban Health Contract and Compact Awards by Type Fiscal Year 2013



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

IHS grants administers various grant categories for statutorily mandated/discretionary grant programs in three main program areas; Tribal, research, and recruitment grants. The grant types used to administer and support these grant programs are; demonstration, project, training, and research grants. The highest is the Other Tribal Program Grants with \$174.5 million dollars. The lowest was P.L. 93-638 projects grants with \$2.9 million dollars. The Office of Urban Indian Health Programs provides contracts and grants to the Urban Indian health programs under Title V of the IHCA. Contracts for FY 2013 totaled \$28.1 million and grants totaled \$9.5 million.

**Chart 5.3** IHS Tribal and Urban Health Grant and Compact Awards by Type Fiscal Year 2013



**Table 5.2** IHS Tribal and Urban Health Contract and Grant Awards by Type  
Fiscal Year 2013

Type of Contract or Grant	Total \$ Awarded (Millions)	Percent Distribution
<b>Commercial Contracts Total<sup>1</sup></b>	<b>644.1</b>	<b>100.0</b>
Small Business Contracts <sup>2</sup>	238.7	37.1
<b>P.L. 93-638 Programs</b>	<b>2,304.7</b>	<b>100.0</b>
Title I, Contracts	743.8	32.3
Title V, Compacts	1,560.9	67.7
<b>Grant and Contract Total</b>	<b>265.9</b>	<b>100.0</b>
Other Tribal Program Grants <sup>3</sup>	174.5	65.6
Urban Indian Health Programs <sup>4</sup>	37.6	14.1
<i>IHCIA Contracts, Title V</i>	<i>28.1</i>	<i>10.6</i>
<i>4-in-1 Grants</i>	<i>9.5</i>	<i>3.6</i>
IHS Loan Repayment Program	30.2	11.4
<i>Section 108 and H&amp;C Funding</i>	<i>30.2</i>	<i>7.3</i>
IHS Scholarship Program	17.2	6.5
<i>Section 103 and 104 Funding</i>	<i>16.1</i>	<i>6.1</i>
<i>Section 105 Funding</i>	<i>1.1</i>	<i>0.4</i>
University Program Grants <sup>5</sup>	3.5	1.3
P.L. 93-638 Project Grants <sup>6</sup>	2.9	1.1

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

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

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

<sup>4</sup> Urban Indian Health program grants for alcohol/substance abuse, mental health, HP/DP, and immunization, also known as 4-in-1 grants.

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

<sup>6</sup> Includes Tribal management grants and self-governance cooperative Agreements.

SOURCE:

IHS HQs-Division of Acquisition Policy and Division of Grants Management, OMS

IHS HQs-Office of Urban Indian Health Programs, Office of Tribal Self-Governance and Office of Direct Service and Contracting Tribes, OD

IHS HQ-Division of Health Professions Support, OPHS

The appropriation for the Urban Indian Health Program has increased 46 percent since FY 2000. The workload reported increased eight percent during this time period. In FY 2013, the appropriation for the program was \$40.7 million, and there were 526,016 patient encounters.

Chart 5.4 Urban Indian Health Program Workload and Appropriation

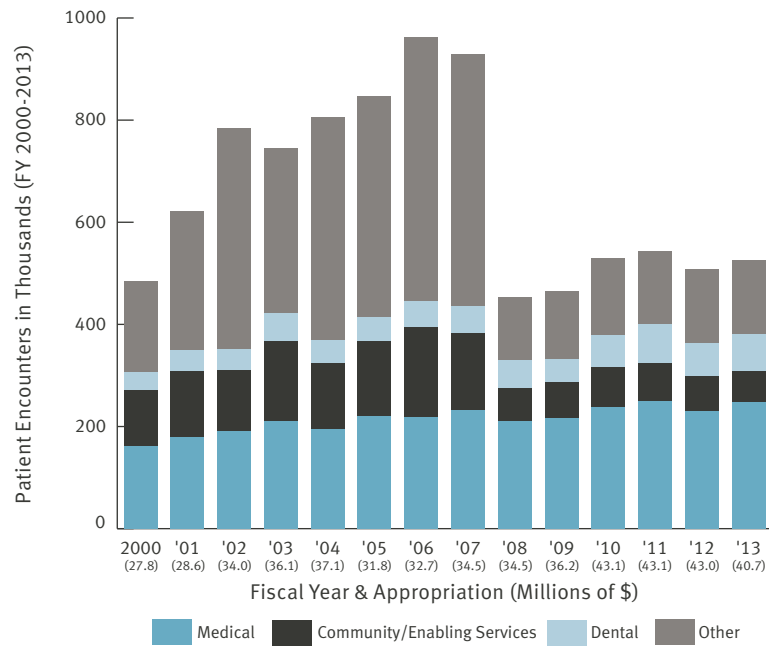




Table 5.4 Urban Indian Health Program Workload and Appropriation, FY 1985-2013

Fiscal Year	Total Workload	Medical	Community and Enabling Services <sup>1</sup>	Dental	Other <sup>2</sup>	Appropriation (\$ Thousands)
2013 <sup>3</sup>	526,016	247,126	61,118	72,918	144,854	40,729
2012	507,987	230,123	68,018	65,110	144,736	42,984
2011 <sup>4</sup>	544,103	248,824	75,545	75,351	144,383	43,053
2010	529,314	237,988	78,089	63,072	150,165	43,139
2009 <sup>4</sup>	464,379	217,447	69,590	45,049	132,293	36,189
2008 <sup>4</sup>	453,561	210,486	64,937	54,934	123,204	34,547
2007	929,788	233,052	148,809	53,496	494,431	34,546
2006	963,164	218,314	175,799	51,371	517,680	32,744
2005	846,616	220,253	148,017	46,325	432,021	31,816
2004	805,782	195,016	129,374	43,605	437,787	37,112
2003	745,949	210,056	157,671	53,215	325,007	36,149
2002	784,234	190,425	119,663	42,251	431,895	33,976
2001	621,512	178,807	129,081	40,539	273,085	28,621
2000	483,441	161,573	107,804	36,653	177,411	27,813
1999	423,049	153,876	82,777	36,291	150,105	26,382
1998	482,919	166,649	96,387	48,823	171,060	25,379
1997	435,019	153,616	80,056	50,455	150,892	24,800
1996	553,029	182,552	106,680	47,624	216,173	23,360
1995	649,611	271,397	134,828	55,128	188,258	16,450
1994	657,150	277,984	135,952	60,748	182,466	14,112
1993 <sup>5</sup>	784,581	229,737	151,139	88,845	314,860	20,965
1992	757,606	192,921	142,658	82,076	339,951	17,195
1991	802,335	172,297	138,204	76,028	415,806	15,687
1990	530,228	181,974	137,200	72,470	138,584	13,049
1989	459,684	150,472	106,940	102,886	99,386	9,962
1988	370,943	128,000	102,481	64,609	75,853	9,624
1987 <sup>6</sup>	451,988	146,228	116,898	62,377	126,485	9,000
1986	471,757	163,004	124,783	57,663	126,307	9,644
1985	504,799	170,913	153,761	60,956	119,169	9,800

<sup>1</sup> Visits for Community and Enabling Services is derived from total enabling visits reported on Table 5 Line 29 column b of the UDS report. In the enabling services category of the UDS, Case Managers and Community Education specialists generate countable visits per the UDS definition of visit. If Case Managers or Health Education staff conduct group activities they aren't counted as visits and are not included in the total visit count. Likewise, Outreach workers, Transportation staff, Eligibility Assistance workers, Interpretation staff and Other Enabling services staff which are all part of the enabling section of the UDS do not generate countable visits on the UDS report.

<sup>2</sup> The Other category include total visits in the UDS for Mental Health, Substance Abuse Services, Other Professional Services and Vision Services. "Other programs and services" are reported on Table 5 Line 29a of the UDS report. Staff in this category are those that provide other services. The activities do not count visits in the UDS. Services provided by staff in this category may include (but not limited to) programs such as WIC, after school tutoring, summer youth camps, senior activities, fitness classes, and other services not related to the delivery of direct health care by providers.

<sup>3</sup> Data is preliminary and has not yet been finalized for CY 2013.

<sup>4</sup> In FYs 2008-2009, vision was reported under the Other Professional category. In FY 2011 a vision service category was added as a separate service category.

<sup>5</sup> Includes \$2.0 million in urban alcohol programs transferred to the IHS Urban Program Branch from the IHS Alcohol and Substance Abuse Program Branch.

<sup>6</sup> Beginning in Fiscal Year 1987 and thereafter, the Tulsa and Oklahoma City Urban Programs are excluded since they were funded as demonstration projects under the IHS hospitals and clinics activity. Both of these programs were made permanent IHS programs in 2010 by the Affordable Care Act and are funded through the IHS Hospitals and Clinics line item.

NOTE: The UDS report is a calendar year report (Jan. 1-Dec. 31) of the corresponding calendar year (vs. fiscal year as noted in the column year as noted in the column header from the UIHP Workload and Appropriation form).

SOURCE: IHS Office of Urban Indian Health Programs

As shown on the chart, total hospital admissions peaked in FY 1978 at about 112,000. In FY 2013, there were 70,673 total admissions.

**Chart 5.5** Number of Hospital Admissions

*IHS and Tribal Direct and Contract General Hospitals*

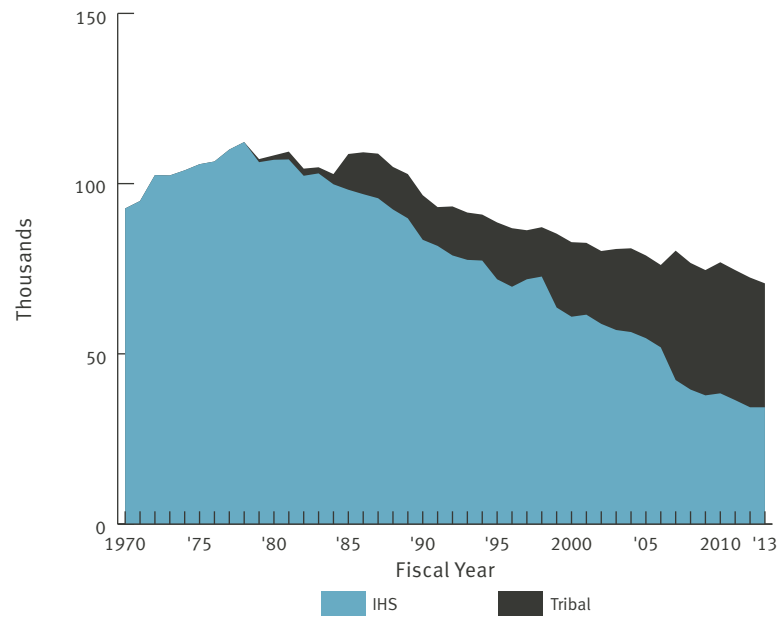


Table 5.5 Number of Hospital Admissions

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Years 1955-2013*

Fiscal Year	Total IHS and Tribal Admissions	Indian Health Service			Tribal		
		Total	Direct	Contract <sup>1</sup>	Total	Direct	Contract
2013	70,673	34,258	23,939	10,319	36,415	29,170	7,245
2012	72,416	34,336	24,064	10,272	38,080	30,202	7,878
2011	74,567	36,357	26,817	9,540	38,210	30,197	8,013
2010	76,873	38,373	29,437	8,936	38,500	30,889	7,611
2009	74,558	37,758	28,936	8,822	36,800	31,070	5,730
2008	76,684	39,460	31,873	7,587	37,224	31,562	5,662
2007	80,266	42,294	34,163	8,131	37,972	32,474	5,498
2006	76,054	51,868	39,625	12,243	24,186	17,587	6,599
2005	78,958	54,615	41,990	12,625	24,343	16,460	7,883
2004	80,925	56,417	42,790	13,627	24,508	16,982	7,526
2003	80,833	57,038	42,288	14,750	23,795	16,894	6,901
2002	80,218	58,769	43,859	14,910	21,449	15,964	5,485
2001	82,595	61,542	45,913	15,629	21,053	15,853	5,200
2000	82,806	60,929	47,079	13,850	21,877	17,758	4,119
1999	85,328	63,602	49,753	13,849	21,726	17,255	4,471
1998	87,129	72,651	57,114	15,537	14,478	11,539	2,939
1997	86,231	71,879	56,219	15,660	14,352	12,188	2,164
1996	86,898	69,725	55,656	14,069	17,173	11,908	5,265
1995	88,549	71,898	56,796	15,102	16,651	11,034	5,617
1990	96,539	83,462	65,972	17,490	13,077	7,022	6,055
1985	108,777	98,245	78,423	19,822	10,532	3,678	6,854 <sup>2</sup>
1980	108,242	106,992	77,798	29,194	1,250	1,250	
1975	105,735	105,735	74,594	31,141			
1970	92,710	92,710	67,877	24,833			
1965	91,744	91,744	67,744	24,000			
1960	76,674	76,674	56,874	19,800			
1955	50,143	50,143	42,762	7,381			

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

SOURCE: IHS National Data Warehouse

The average daily hospital patient load in Indian Health Service and Tribal direct and contract general hospitals has decreased 66.4 percent since FY 1970. In FY 2013, the average daily patient load was 790.

**Chart 5.6** Average Daily Hospital Patient Load

*IHS and Tribal Direct and Contract General Hospitals*

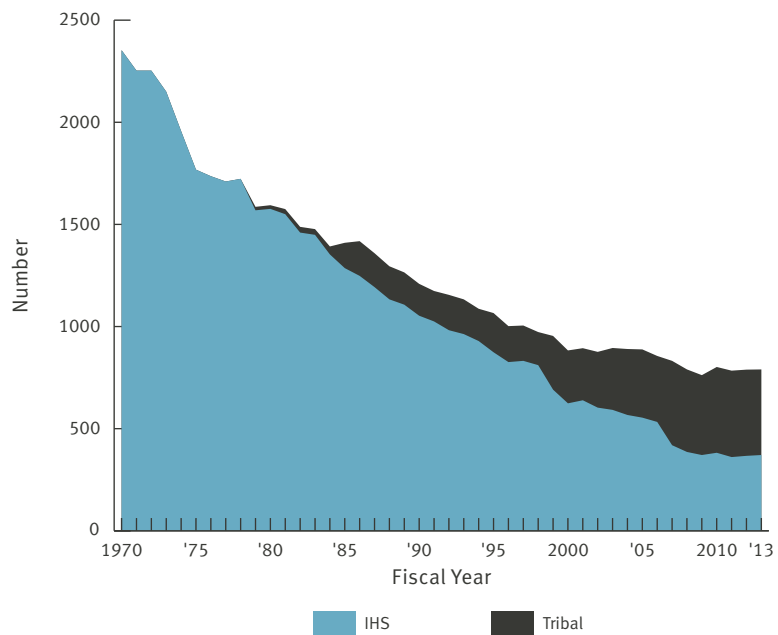


Table 5.6 Average Daily Hospital Patient Load

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Years 1955-2013*

Fiscal Year	Total IHS and Tribal Admissions	Indian Health Service			Tribal		
		Total	Direct	Contract	Total	Direct	Contract
2013	790	371	226	145	419	325	94
2012	789	367	229	138	422	326	96
2011	784	361	236	125	423	323	100
2010	802	382	262	120	420	324	96
2009	762	371	260	111	391	320	71
2008	790	386	283	103	404	330	74
2007	832	419	321	98	413	353	60
2006	856	533	379	154	323	224	99
2005	888	554	394	160	334	221	113
2004	890	567	398	169	323	223	100
2003	895	592	410	182	303	220	83
2002	876	603	427	176	273	214	59
2001	894	639	449	190	255	198	57
2000	883	624	474	150	259	230	29
1999	954	691	520	171	263	221	42
1998	973	811	619	192	162	119	43
1997	1,009	836	623	213	173	129	44
1996	1,002	826	636	190	176	121	55
1995	1,066	874	672	202	192	127	65
1990	1,209	1,053	825	228	156	90	66
1985	1,410	1,286	1,052	234	124	47	77 <sup>1</sup>
1980	1,594	1,576	1,178	398	18	18	
1975	1,768	1,768	1,330	438			
1970	2,353	2,353	1,729	624			
1965	3,127	3,127	2,244	883			
1960	3,142	3,142	2,232	910			
1955	3,711	3,711	2,531	1,180			

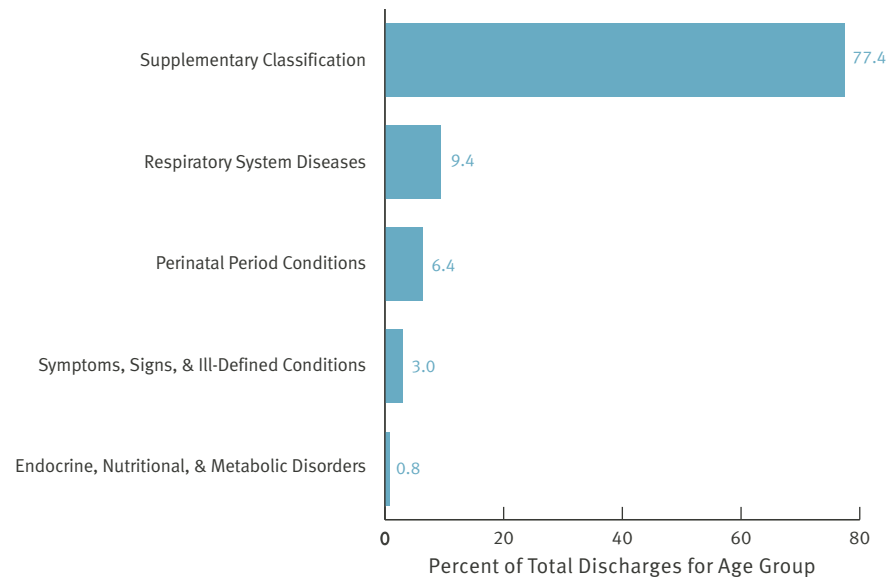
<sup>1</sup> Tribal contract data not available prior to FY 1985.

SOURCE: IHS National Data Warehouse

In FY 2013, 77.4 percent of all discharges for patients under 1 year of age from Indian Health Service and Tribal direct and contract general hospitals pertained to supplementary classification, followed by respiratory system diseases at 9.4 percent.

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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*



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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*

Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>11,227</b>	<b>5,932</b>	<b>5,295</b>	<b>100.0</b>	<b>52.8</b>	<b>47.2</b>
Supplementary classification	8,687	4,478	4,209	77.4	75.5	79.5
Respiratory system diseases	1,060	592	468	9.4	10.0	8.8
Perinatal period conditions	718	432	286	6.4	7.3	5.4
Symptoms, signs, & ill-defined conditions	341	197	144	3.0	3.3	2.7
Endocrine, nutritional, & metabolic diseases	85	47	38	0.8	0.8	0.7
Congenital anomalies	62	37	25	0.6	0.6	0.5
Infectious & parasitic diseases	57	29	28	0.5	0.5	0.5
Genitourinary system diseases	54	25	29	0.5	0.4	0.5
Digestive system diseases	49	36	13	0.4	0.6	0.2
Skin & subcutaneous tissue diseases	48	21	27	0.4	0.4	0.5
<b>All other</b>	<b>66</b>	<b>38</b>	<b>28</b>	<b>0.6</b>	<b>0.6</b>	<b>0.5</b>

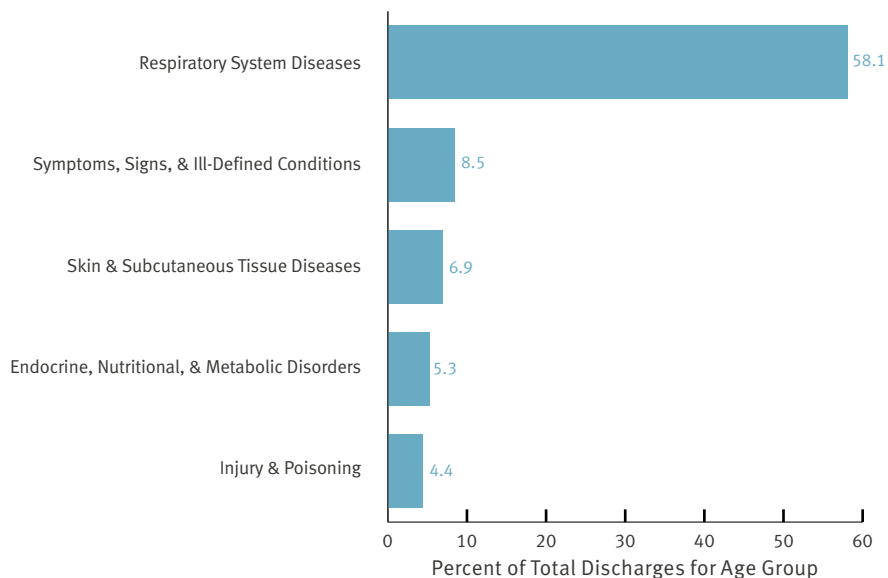
\* General Medical and Surgical

SOURCE: IHS National Data Warehouse

In FY 2013, 58.1 percent of all discharges for patients 1 to 4 years of age from Indian Health Service and Tribal direct and contract general hospitals pertained to respiratory system diseases, followed by symptoms, signs, and ill-defined conditions at 8.5 percent.

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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*



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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*

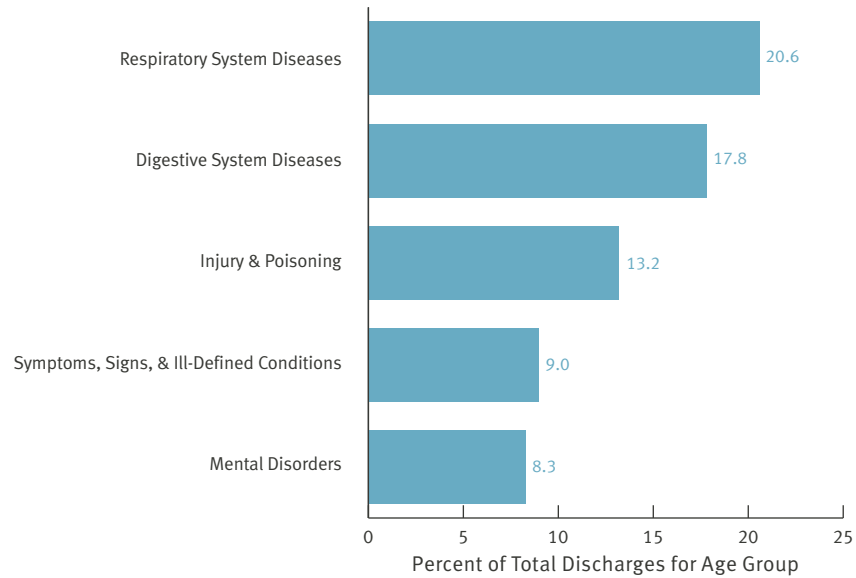
Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>1,757</b>	<b>925</b>	<b>832</b>	<b>100.0</b>	<b>52.6</b>	<b>47.4</b>
Respiratory system diseases	1,021	559	462	58.1	60.4	55.5
Symptoms, signs, & ill-defined conditions	149	70	79	8.5	7.6	9.5
Skin & subcutaneous tissue diseases	122	62	60	6.9	6.7	7.2
Endocrine, nutritional, & metabolic disorders	93	41	52	5.3	4.4	6.3
Injury & poisoning	77	45	32	4.4	4.9	3.8
Digestive system diseases	76	45	31	4.3	4.9	3.7
Infectious & parasitic diseases	55	27	28	3.1	2.9	3.4
Genitourinary system diseases	47	7	40	2.7	0.8	4.8
Nervous system & sense organ diseases	41	24	17	2.3	2.6	2.0
Musculoskeletal system & connective tissue diseases	24	11	13	1.4	1.2	1.6
<b>All other</b>	<b>52</b>	<b>34</b>	<b>18</b>	<b>3.0</b>	<b>3.7</b>	<b>2.2</b>

\* General Medical and Surgical  
SOURCE: IHS National Data Warehouse

In FY 2013, 20.6 percent of all discharges for patients 5 to 14 years of age from Indian Health Service and Tribal direct and contract general hospitals pertained to respiratory system diseases, followed by digestive system diseases at 17.8 percent.

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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*



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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*

Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>1,525</b>	<b>795</b>	<b>730</b>	<b>100.0</b>	<b>52.1</b>	<b>47.9</b>
Respiratory system diseases	314	170	144	20.6	21.4	19.7
Digestive system diseases	271	176	95	17.8	22.1	13.0
Injury & poisoning	201	104	97	13.2	13.1	13.3
Symptoms, signs, & ill-defined conditions	137	67	70	9.0	8.4	9.6
Mental disorders	127	53	74	8.3	6.7	10.1
Skin & subcutaneous tissue diseases	121	76	45	7.9	9.6	6.2
Genitourinary system diseases	69	14	55	4.5	1.8	7.5
Endocrine, nutritional, & metabolic disorders	59	27	32	3.9	3.4	4.4
Nervous system & sense organ diseases	52	26	26	3.4	3.3	3.6
Infectious & parasitic diseases	35	19	16	2.3	2.4	2.2
<b>All other</b>	<b>139</b>	<b>63</b>	<b>76</b>	<b>9.1</b>	<b>7.9</b>	<b>10.4</b>

\* General Medical and Surgical

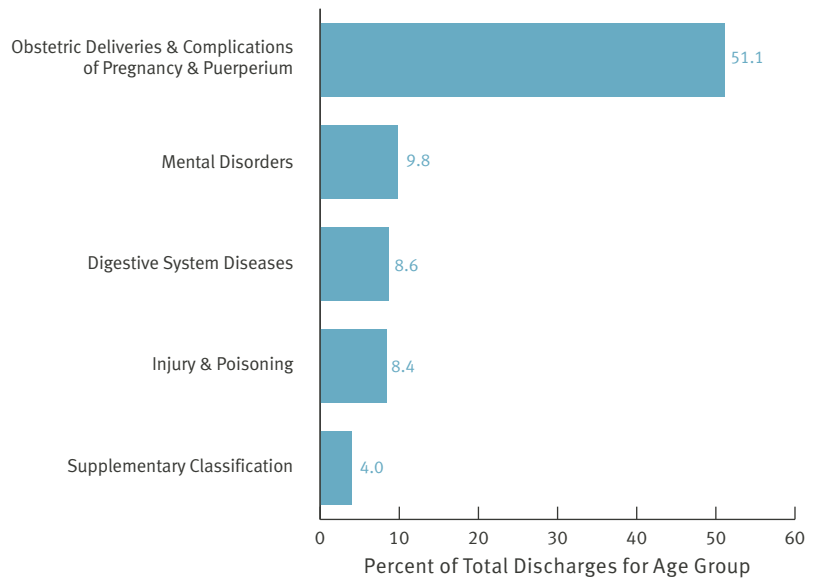
SOURCE: IHS National Data Warehouse



In FY 2013, 51.1 percent of all discharges for patients 15 to 24 years of age from Indian Health Service and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy and the puerperium, followed by mental disorders at 9.8 percent.

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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*



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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*

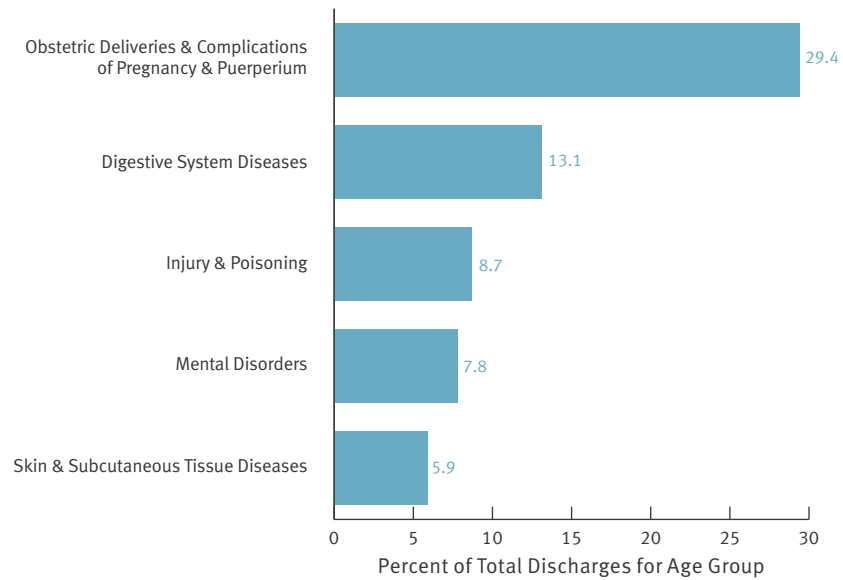
Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>8,523</b>	<b>2,014</b>	<b>6,509</b>	<b>100.0</b>	<b>23.6</b>	<b>76.4</b>
Obstetric deliveries & complications of pregnancy & puerperium	4,351	0	4,351	51.1	0.0	66.8
Mental disorders	831	452	379	9.8	22.4	5.8
Digestive system diseases	729	327	402	8.6	16.2	6.2
Injury & poisoning	712	473	239	8.4	23.5	3.7
Supplementary classification	337	69	268	4.0	3.4	4.1
Skin & subcutaneous tissue diseases	256	156	100	3.0	7.7	1.5
Respiratory system diseases	225	140	85	2.6	7.0	1.3
Genitourinary system diseases	220	21	199	2.6	1.0	3.1
Symptoms, signs, & ill-defined conditions	183	70	113	2.1	3.5	1.7
Endocrine, nutritional, & metabolic disorders	178	72	106	2.1	3.6	1.6
<b>All other</b>	<b>501</b>	<b>234</b>	<b>267</b>	<b>5.9</b>	<b>11.6</b>	<b>4.1</b>

\* General Medical and Surgical  
SOURCE: IHS National Data Warehouse

In FY 2013, 29.4 percent of all discharges for patients 25 to 44 years of age from Indian Health Service and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy and the puerperium, followed by digestive system diseases at 13.1 percent.

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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*



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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*

Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>18,401</b>	<b>6,645</b>	<b>11,756</b>	<b>100.0</b>	<b>36.1</b>	<b>63.9</b>
Obstetric deliveries & complications of pregnancy & puerperium	5,406	0	5,406	29.4	0.0	46.0
Digestive system diseases	2,411	1,227	1,184	13.1	18.5	10.1
Injury & poisoning	1,606	1,018	588	8.7	15.3	5.0
Mental disorders	1,442	954	488	7.8	14.4	4.2
Skin & subcutaneous tissue diseases	1,094	672	422	5.9	10.1	3.6
Genitourinary system diseases	1,038	207	831	5.6	3.1	7.1
Endocrine, nutritional, & metabolic disorders	916	553	363	5.0	8.3	3.1
Symptoms, signs, & ill-defined conditions	797	324	473	4.3	4.9	4.0
Respiratory system diseases	747	357	390	4.1	5.4	3.3
Supplementary classification	652	205	447	3.5	3.1	3.8
<b>All other</b>	<b>2,292</b>	<b>1,128</b>	<b>1,164</b>	<b>12.5</b>	<b>17.0</b>	<b>9.9</b>

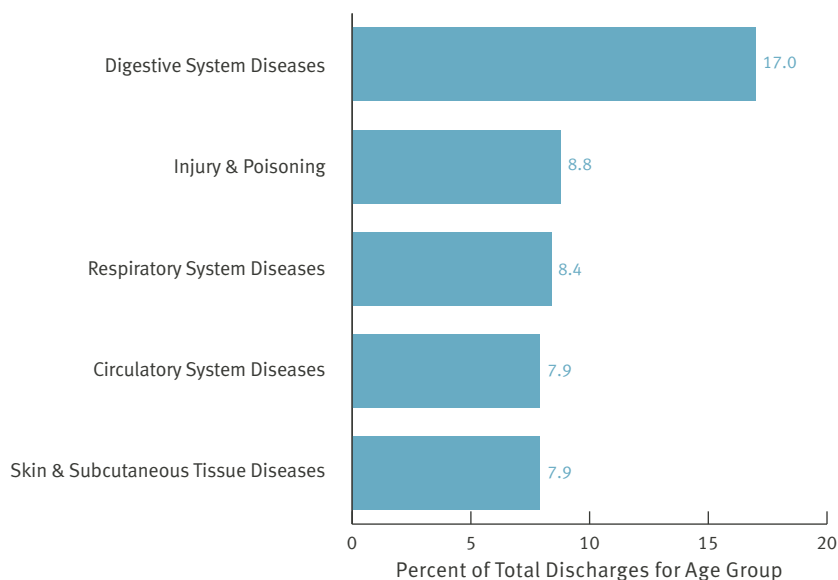
\* General Medical and Surgical

SOURCE: IHS National Data Warehouse

In FY 2013, 17.0 percent of all discharges for patients 45 to 54 years of age from Indian Health Service and Tribal direct and contract general hospitals pertained to digestive system diseases, followed by injury and poisoning at 8.8 percent.

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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*



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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*

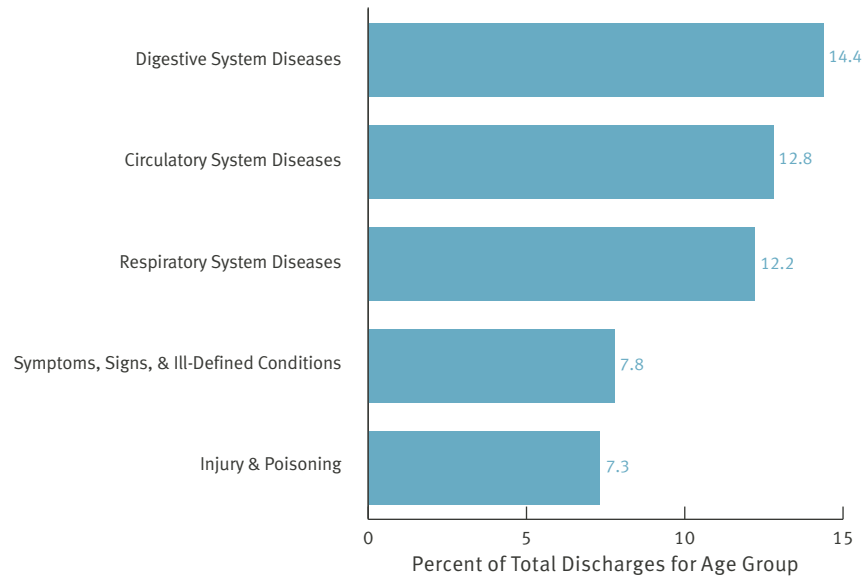
Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>9,096</b>	<b>4,693</b>	<b>4,403</b>	<b>100.0</b>	<b>51.6</b>	<b>48.4</b>
Digestive system diseases	1,547	774	773	17.0	16.5	17.6
Injury & poisoning	798	469	329	8.8	10.0	7.5
Respiratory system diseases	761	360	401	8.4	7.7	9.1
Circulatory system diseases	722	447	275	7.9	9.5	6.2
Skin & subcutaneous tissue diseases	718	418	300	7.9	8.9	6.8
Endocrine, nutritional, & metabolic disorders	688	404	284	7.6	8.6	6.5
Symptoms, signs, & ill-defined conditions	685	310	375	7.5	6.6	8.5
Genitourinary system diseases	590	177	413	6.5	3.8	9.4
Musculoskeletal system & connective tissue diseases	573	315	258	6.3	6.7	5.9
Mental disorders	561	384	177	6.2	8.2	4.0
<b>All other</b>	<b>1,453</b>	<b>635</b>	<b>818</b>	<b>16.0</b>	<b>13.5</b>	<b>18.6</b>

\* General Medical and Surgical  
SOURCE: IHS National Data Warehouse

In FY 2013, 14.4 percent of all discharges for patients 55 to 64 years of age from Indian Health Service and Tribal direct and contract general hospitals pertained to digestive system diseases, followed by circulatory system diseases at 12.8 percent.

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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*



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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*

Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>8,129</b>	<b>4,019</b>	<b>4,110</b>	<b>100.0</b>	<b>49.4</b>	<b>50.6</b>
Digestive system diseases	1,174	526	648	14.4	13.1	15.8
Circulatory system diseases	1,044	624	420	12.8	15.5	10.2
Respiratory system diseases	988	420	568	12.2	10.5	13.8
Symptoms, signs, & ill-defined conditions	633	304	329	7.8	7.6	8.0
Injury & poisoning	591	302	289	7.3	7.5	7.0
Endocrine, nutritional, & metabolic disorders	568	308	260	7.0	7.7	6.3
Genitourinary system diseases	548	206	342	6.7	5.1	8.3
Skin & subcutaneous tissue diseases	524	296	228	6.4	7.4	5.5
Musculoskeletal system & connective tissue diseases	519	253	266	6.4	6.3	6.5
Infectious & parasitic diseases	394	194	200	4.8	4.8	4.9
<b>All other</b>	<b>1,146</b>	<b>586</b>	<b>560</b>	<b>14.1</b>	<b>14.6</b>	<b>13.6</b>

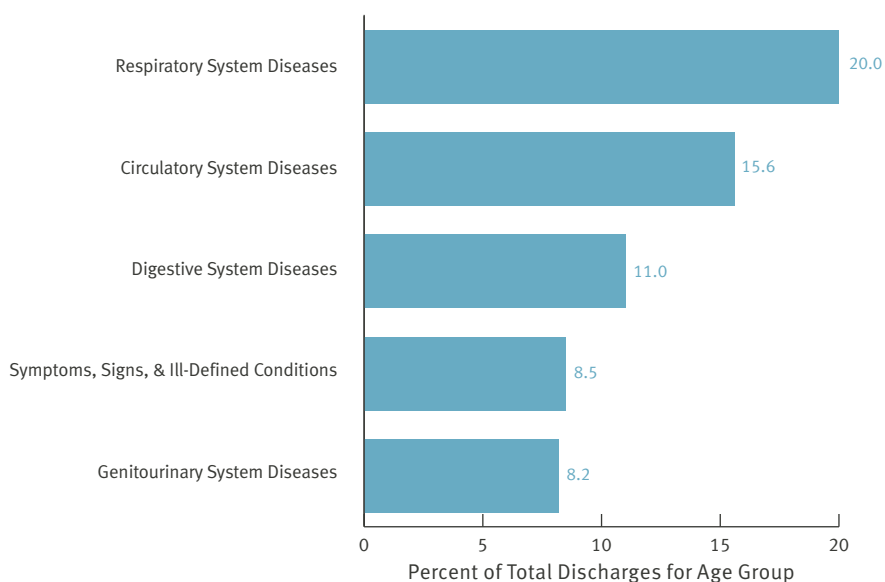
\* General Medical and Surgical

SOURCE: IHS National Data Warehouse

In FY 2013, 20.0 percent of all discharges for patients 65 years and older from Indian Health Service and Tribal direct and contract general hospitals pertained to respiratory system diseases, followed by circulatory system diseases at 15.6 percent.

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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*



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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*

Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>12,055</b>	<b>5,222</b>	<b>6,833</b>	<b>100.0</b>	<b>43.3</b>	<b>56.7</b>
Respiratory system diseases	2,412	1,039	1,373	20.0	19.9	20.1
Circulatory system diseases	1,883	946	937	15.6	18.1	13.7
Digestive system diseases	1,328	532	796	11.0	10.2	11.6
Symptoms, signs, & ill-defined conditions	1,021	430	591	8.5	8.2	8.6
Genitourinary system diseases	985	347	638	8.2	6.6	9.3
Injury & poisoning	813	298	515	6.7	5.7	7.5
Endocrine, nutritional, & metabolic disorders	788	328	460	6.5	6.3	6.7
Infectious & parasitic diseases	551	264	287	4.6	5.1	4.2
Musculoskeletal system & connective tissue diseases	527	233	294	4.4	4.5	4.3
Skin & subcutaneous tissue diseases	515	253	262	4.3	4.8	3.8
<b>All other</b>	<b>1,232</b>	<b>552</b>	<b>680</b>	<b>10.2</b>	<b>10.6</b>	<b>10.0</b>

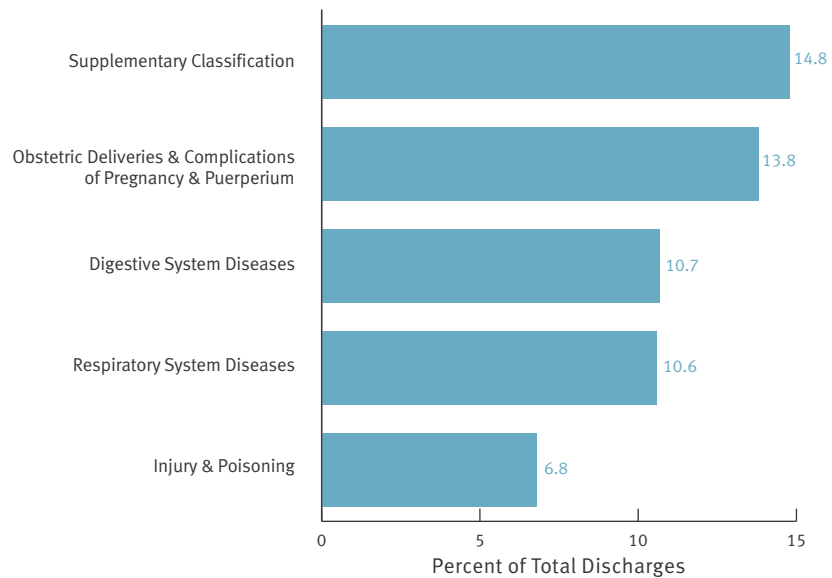
\* General Medical and Surgical

SOURCE: IHS National Data Warehouse

In FY 2013, 14.8 percent of all discharges from Indian Health Service and Tribal direct and contract general hospitals pertained to supplementary classification, followed by obstetric deliveries and complications of pregnancy and the puerperium (13.8 percent).

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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*



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

*Indian Health Service and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*

Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>70,713</b>	<b>30,245</b>	<b>40,468</b>	<b>100.0</b>	<b>42.8</b>	<b>57.2</b>
Supplementary classification	10,495	5,128	5,367	14.8	17.0	13.3
Obstetric deliveries & complications of pregnancy & puerperium	9,792	3	9,789	13.8	0.0	24.2
Digestive system diseases	7,585	3,643	3,942	10.7	12.0	9.7
Respiratory system diseases	7,528	3,637	3,891	10.6	12.0	9.6
Injury & poisoning	4,816	2,717	2,099	6.8	9.0	5.2
Circulatory system diseases	4,224	2,336	1,888	6.0	7.7	4.7
Symptoms, signs, & ill-defined conditions	3,946	1,772	2,174	5.6	5.9	5.4
Genitourinary system diseases	3,551	1,004	2,547	5.0	3.3	6.3
Skin & subcutaneous tissue diseases	3,398	1,954	1,444	4.8	6.5	3.6
Endocrine, nutritional, & metabolic disorders	3,375	1,780	1,595	4.8	5.9	3.9
<b>All other</b>	<b>12,003</b>	<b>6,271</b>	<b>5,732</b>	<b>17.0</b>	<b>20.7</b>	<b>14.2</b>

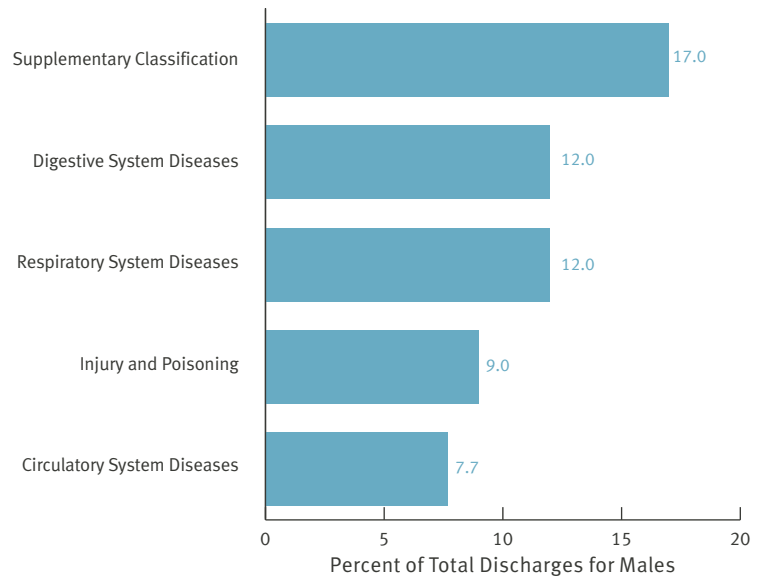
\* General Medical and Surgical

SOURCE: IHS National Data Warehouse

For males, 17.0 percent of all discharges (FY 2013) from Indian Health Service and Tribal direct and contract general hospitals pertained to supplementary classification, followed by digestive system diseases and respiratory system diseases both at 12.0 percent.

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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*



For females, 24.2 percent of all discharges (FY 2013) from Indian Health Service and Tribal direct and contract general hospitals pertained to obstetric deliveries and complications of pregnancy and the puerperium, followed by supplementary classification (13.3 percent) and digestive system diseases (9.7 percent).

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

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*

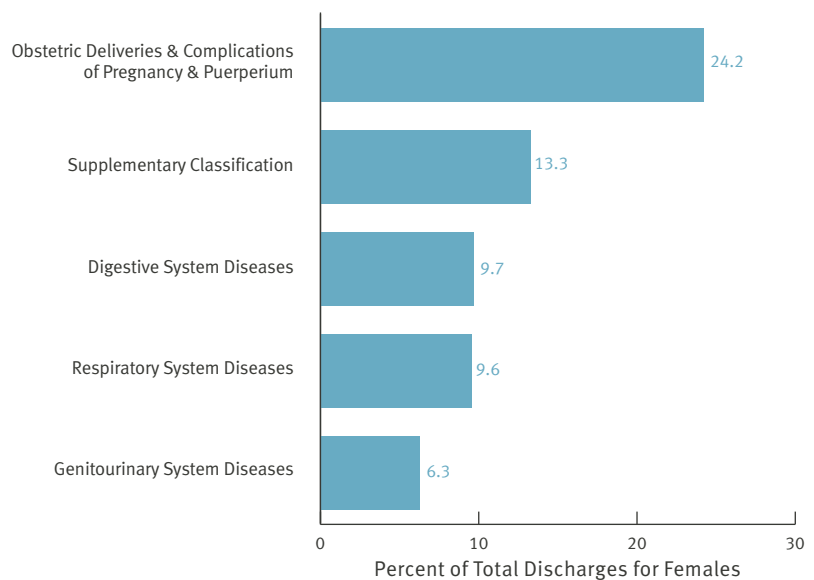


Table 5.16 Ten Leading Causes of Hospitalization by Sex

*Indian Health Service and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*

Diagnostic Category	Number of Discharges	Percent of Total
<b>MALE</b>		
<i>All categories</i>	<b>30,245</b>	<b>83.0</b>
Supplementary classification	5,128	17.0
Digestive system diseases	3,643	12.0
Respiratory system diseases	3,637	12.0
Injury & poisoning	2,717	9.0
Circulatory system diseases	2,336	7.7
Mental disorders	2,054	6.8
Skin & subcutaneous tissue diseases	1,954	6.5
Endocrine, nutritional, & metabolic disorders	1,780	5.9
Symptoms, signs, & ill-defined conditions	1,772	5.9
Musculoskeletal system & connective tissue diseases	1,228	4.1
<i>All other</i>	<b>3,996</b>	<b>13.2</b>
<b>FEMALE</b>		
<i>All categories</i>	<b>40,468</b>	<b>100.0</b>
Obstetric deliveries & complications of pregnancy & puerperium	9,789	24.2
Supplementary classification	5,367	13.3
Digestive system diseases	3,942	9.7
Respiratory system diseases	3,891	9.6
Genitourinary system diseases	2,547	6.3
Symptoms, signs, & ill-defined conditions	2,174	5.4
Injury & poisoning	2,099	5.2
Circulatory system diseases	1,888	4.7
Endocrine, nutritional, & metabolic disorders	1,595	3.9
Skin & subcutaneous tissue diseases	1,444	3.6
<i>All other</i>	<b>5,732</b>	<b>14.2</b>

SOURCES: IHS National Data Warehouse



For Indian Health Service (FY 2013) and U.S. (CY 2010), discharge rates were highest for the age groups under 1 year and over 65 years. The U.S. rate was higher than the AI/AN rate for all age groups except for those under 1 year.

Chart 5.18 Hospital Discharge Rates by Age

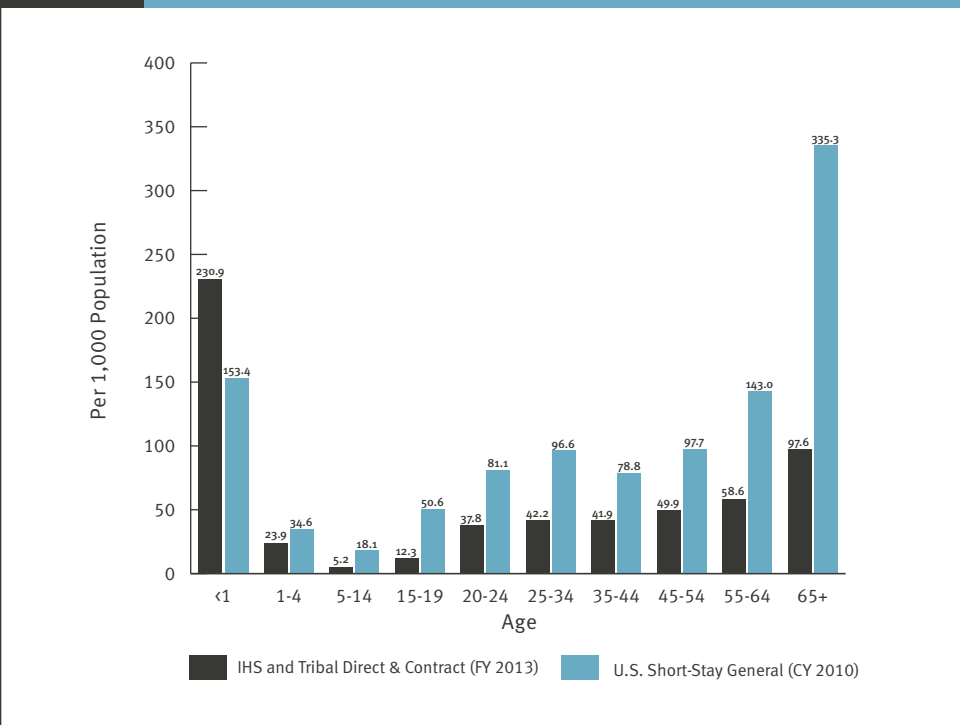


Table 5.18 Comparison of IHS and U.S. Hospital Discharge Rates by Age

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013  
U.S. General Short-Stay Hospitals, Calendar Year 2010*

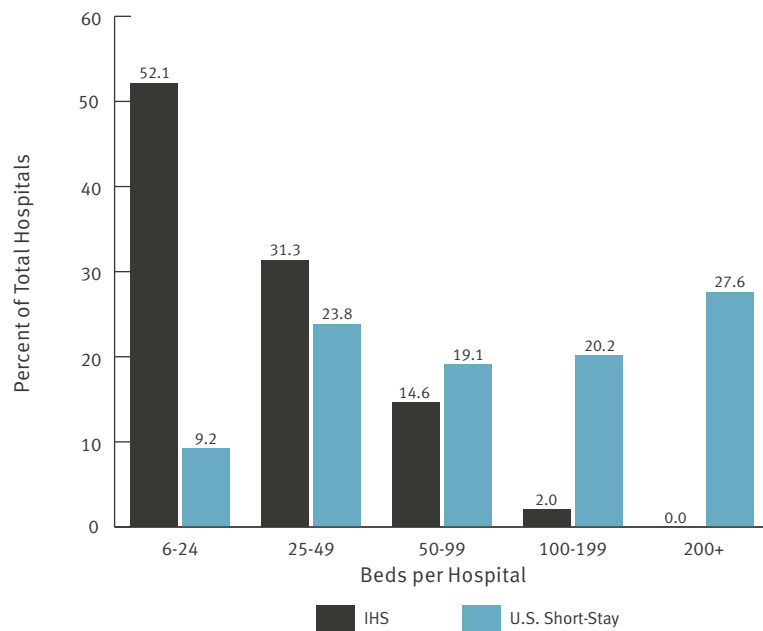
Age of Admission	Discharges per 1,000 Population		Percent Difference IHS (FY 2013) Rate to U.S. Rate
	IHS FY 2013	U.S. CY 2010	
<b>All Ages</b>	<b>40.0</b>	<b>114.0</b>	<b>-64.9</b>
Under 1 year	230.9	153.4	-50.5
1-4 years	23.9	34.6	-30.9
5-14 years	5.2	18.1	-71.3
15-19 years	12.3	50.6	-65.8
20-24 years	37.8	81.1	-53.4
25-34 years	42.2	96.6	-56.3
35-44 years	41.9	78.8	-46.8
45-54 years	49.9	97.7	-48.9
55-64 years	58.6	143.0	-59.0
65 years and over	97.6	335.3	-70.9

NOTE: IHS discharge rates were calculated using the IHS FY 2013 user populations; excludes newborn infants.  
SOURCE: IHS National Data Warehouse  
U.S.: National Hospital Discharge Survey: 2010  
National Center for Health Statistics, <http://1.usa.gov/1k06F9L>

Eighty-three (83.4) percent of Indian Health Service hospitals (FY 2013) had fewer than 50 beds, as compared to 33 percent of U.S. short-stay hospitals (CY 2012).

**Chart 5.19** Beds per Hospital

*IHS (Fiscal Year 2013) versus U.S. Short Stay (Calendar Year 2012)*



**Table 5.19** Comparison of IHS and U.S. Hospitals by Bed Size

*Indian Health Service and Tribal Hospitals, Fiscal Year 2013 and U.S. General Short-Stay Hospitals, Calendar Year 2012*

Bed Size	Number of Hospitals		Percent of Total	
	IHS <sup>1</sup>	U.S.	IHS	U.S.
<b>All</b>	<b>48</b>	<b>4,999</b>	<b>99.9</b>	<b>100.0</b>
6 - 24	25	462	52.1	9.2
25 - 49	15	1,192	31.3	23.8
50 - 99	7	954	14.6	19.1
100 - 199	1	1,012	2.0	20.2
200+	—	1,379	—	27.6

<sup>1</sup> Operated by IHS or the Tribes on September 30, 2013.

SOURCES: IHS: National Data Warehouse, FY 2013.

U.S.: Hospital Statistics, 2014 Edition, American Hospital Association, Table 3

Ambulatory medical visits to Indian Health Service and Tribal direct and contract facilities have increased 660 percent since FY 1970. In FY 2013, there were nearly 13.6 million visits.

**Chart 5.20** Number of Ambulatory Medical Visits

*IHS and Tribal Direct and Contract Facilities*

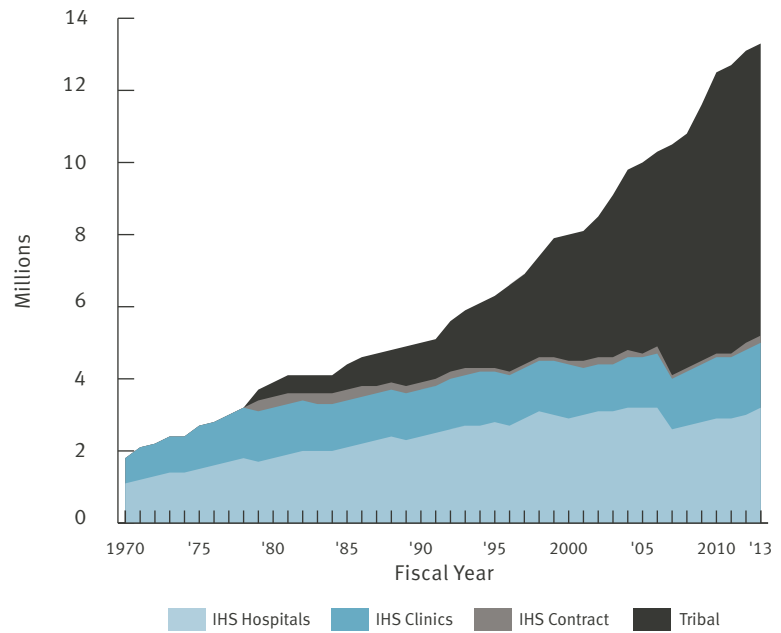


Table 5.20 Number of Ambulatory Medical Visits

Indian Health Service and Tribal Direct and Contract Facilities, Fiscal Years 1955-2013

Fiscal Year	Grand Total	Indian Health Service				Tribal		
		Total	Hospitals	Health Centers and Other Field Clinics	Contract	Total	Direct	Contract
2013	13,587,102	5,222,060	3,225,596	1,814,418	182,046	8,365,042	8,101,434	263,608
2012	13,394,845	5,007,160	3,049,700	1,769,473	187,987	8,387,685	8,127,428	260,257
2011	13,042,306	4,773,364	2,945,006	1,741,496	86,862	8,268,942	8,030,095	238,847
2010	12,815,328	4,754,182	2,918,101	1,743,170	92,911	8,061,146	7,825,364	235,782
2009	11,796,166	4,495,543	2,779,711	1,643,783	72,049	7,300,623	7,091,289	209,334
2008	10,997,555	4,259,297	2,660,735	1,528,150	70,412	6,738,258	6,540,869	197,389
2007	10,671,931	4,055,559	2,553,770	1,433,774	68,015	6,616,372	6,431,492	184,880
2006	10,508,097	4,874,819	3,224,719	1,488,432	161,668	5,633,278	5,435,752	197,526
2005	10,298,430	4,779,516	3,193,129	1,440,580	145,807	5,518,914	5,295,197	223,717
2004	9,975,652	4,765,963	3,224,989	1,365,152	175,822	5,209,689	4,962,001	247,688
2003	9,361,538	4,621,264	3,103,727	1,327,293	190,244	4,740,274	4,491,946	248,328
2002	8,731,122	4,625,020	3,094,136	1,333,830	197,054	4,106,102	3,907,309	198,793
2001	8,244,706	4,483,854	2,976,906	1,303,563	203,385	3,760,852	3,577,666	183,186
2000	8,143,356	4,497,610	2,891,425	1,475,098	131,087	3,645,746	3,485,514	160,232
1999	8,097,227	4,572,332	2,965,256	1,481,157	125,919	3,524,895	3,342,755	182,140
1998	7,610,976	4,687,117	3,120,298	1,443,753	123,066	2,923,859	2,806,170	117,689
1997	7,062,360	4,466,763	2,923,409	1,417,478	125,876	2,595,597	2,520,412	75,185
1996	7,050,151	4,264,885	2,734,825	1,392,678	137,382	2,785,266	2,438,351	346,915
1995	6,546,028	4,306,109	2,750,617	1,405,529	149,963	2,239,919	1,975,136	264,783
1990	5,031,262	3,790,953	2,363,459	1,266,493	161,001	1,240,309	1,084,923	155,386
1985	4,432,054	3,665,075	2,088,973	1,300,645	275,457	766,979	667,651	99,328 <sup>2</sup>
1980	3,869,936	3,469,936	1,795,607	1,399,329	275,000 <sup>1</sup>	400,000	400,000 <sup>1</sup>	
1975	2,501,050	2,501,050	1,465,816	1,035,234				
1970	1,786,920	1,786,920	1,068,820	718,100				
1965	1,325,400	1,325,400	757,700	567,700				
1960	989,500	989,500	585,100	404,400				
1955	455,000	455,000	355,000	100,000				

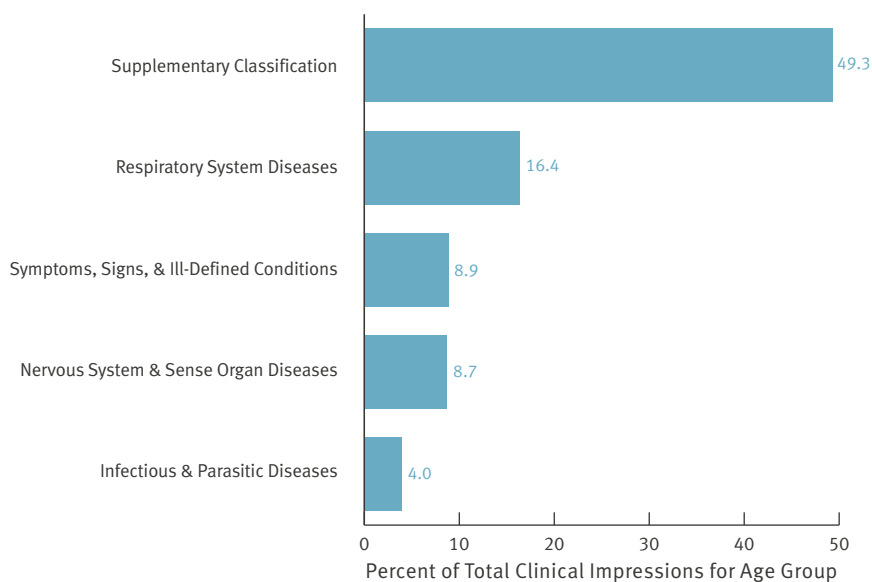
<sup>1</sup> Estimate; comparable data not available prior to FY 1980.<sup>2</sup> Comparable Tribal contract health services data not available prior to FY 1985.

SOURCE: IHS National Data Warehouse

In FY 2013, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages under 1 year was supplementary classification conditions, followed by respiratory system diseases.

**Chart 5.21** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages Under 1 Year

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*



**Table 5.21** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients Under 1 Year of Age

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*

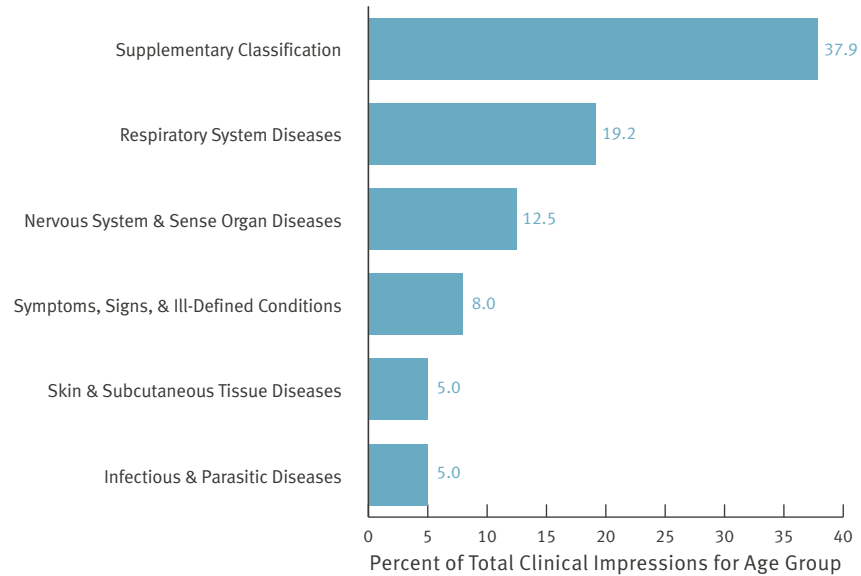
Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>230,813</b>	<b>121,649</b>	<b>109,164</b>	<b>100.0</b>	<b>52.7</b>	<b>47.3</b>
Supplementary classification	113,902	58,848	55,054	49.3	48.4	50.4
Respiratory system diseases	37,779	20,802	16,977	16.4	17.1	15.6
Symptoms, signs, & ill-defined conditions	20,539	11,055	9,484	8.9	9.1	8.7
Nervous system & sense organ diseases	20,078	10,822	9,256	8.7	8.9	8.5
Infectious & parasitic diseases	9,160	4,691	4,469	4.0	3.9	4.1
Skin & subcutaneous tissue diseases	7,627	3,935	3,692	3.3	3.2	3.4
Digestive system diseases	7,126	3,685	3,441	3.1	3.0	3.2
Perinatal period conditions	6,663	3,640	3,023	2.9	3.0	2.8
Injury & poisoning	2,367	1,269	1,098	1.0	1.0	1.0
Congenital anomalies	1,574	851	723	0.7	0.7	0.7
<b>All other</b>	<b>3,998</b>	<b>2,051</b>	<b>1,947</b>	<b>1.7</b>	<b>1.7</b>	<b>1.8</b>

SOURCE: IHS National Data Warehouse

In FY 2013, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 1 to 4 years was supplementary classification conditions, followed by respiratory system diseases.

**Chart 5.22** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 1 to 4 Years

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*



**Table 5.22** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 1 to 4 Years of Age

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*

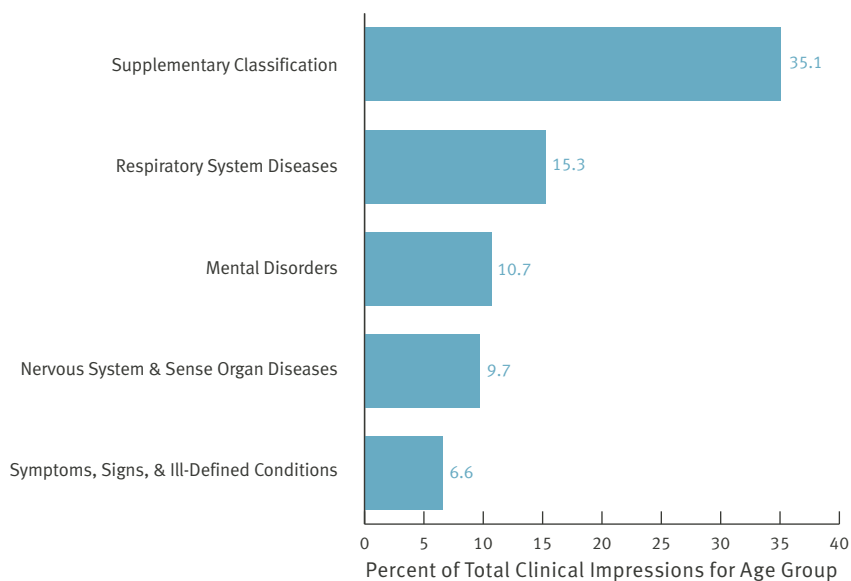
Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>501,780</b>	<b>260,248</b>	<b>241,532</b>	<b>100.0</b>	<b>51.9</b>	<b>48.1</b>
Supplementary classification	190,358	98,589	91,769	37.9	37.9	38.0
Respiratory system diseases	96,437	50,772	45,665	19.2	19.5	18.9
Nervous system & sense organ diseases	62,609	33,026	29,583	12.5	12.7	12.2
Symptoms, signs, & ill-defined conditions	40,282	20,500	19,782	8.0	7.9	8.2
Skin & subcutaneous tissue diseases	25,287	12,561	12,726	5.0	4.8	5.3
Infectious & parasitic diseases	24,927	11,894	13,033	5.0	4.6	5.4
Injury & poisoning	21,936	12,247	9,689	4.4	4.7	4.0
Digestive system diseases	14,195	7,187	7,008	2.8	2.8	2.9
Mental disorders	8,678	5,616	3,062	1.7	2.2	1.3
Genitourinary system diseases	4,951	1,457	3,494	1.0	0.6	1.4
<b>All other</b>	<b>12,120</b>	<b>6,399</b>	<b>5,721</b>	<b>2.4</b>	<b>2.5</b>	<b>2.4</b>

SOURCE: IHS National Data Warehouse

In FY 2013, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 5 to 14 years was supplementary classification conditions, followed by respiratory system diseases.

**Chart 5.23** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 5 to 14 Years

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*



**Table 5.23** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 5 to 14 Years of Age

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*

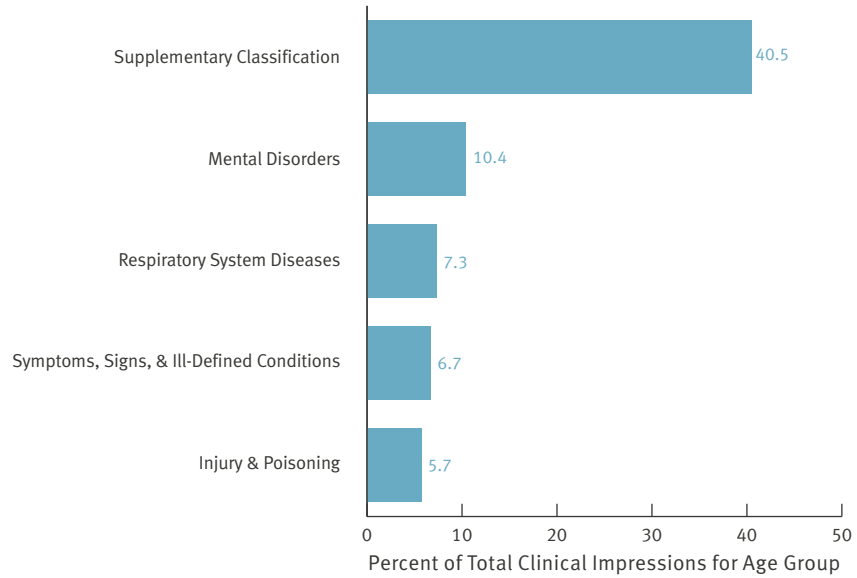
Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>1,026,181</b>	<b>523,080</b>	<b>503,101</b>	<b>100.0</b>	<b>51.0</b>	<b>49.0</b>
Supplementary classification	360,515	185,389	175,126	35.1	35.4	34.8
Respiratory system diseases	157,425	79,071	78,354	15.3	15.1	15.6
Mental disorders	109,318	68,170	41,148	10.7	13.0	8.2
Nervous system & sense organ diseases	99,735	47,263	52,472	9.7	9.0	10.4
Symptoms, signs, & ill-defined conditions	67,765	32,955	34,810	6.6	6.3	6.9
Injury & poisoning	61,186	33,388	27,798	6.0	6.4	5.5
Infectious & parasitic diseases	48,676	21,229	27,447	4.7	4.1	5.5
Skin & subcutaneous tissue diseases	42,480	20,829	21,651	4.1	4.0	4.3
Musculoskeletal system & connective tissue diseases	25,623	12,068	13,555	2.5	2.3	2.7
Digestive system diseases	20,255	9,712	10,543	2.0	1.9	2.1
<b>All other</b>	<b>33,203</b>	<b>13,006</b>	<b>20,197</b>	<b>3.2</b>	<b>2.5</b>	<b>4.0</b>

SOURCE: IHS National Data Warehouse

In FY 2013, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 15 to 24 years was supplementary classification conditions, followed by mental disorders.

**Chart 5.24** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 15 to 24 Years

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*



**Table 5.24** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 15 to 24 Years of Age

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*

Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>1,359,001</b>	<b>454,245</b>	<b>904,756</b>	<b>100.0</b>	<b>33.4</b>	<b>66.6</b>
Supplementary classification	550,352	146,651	403,701	40.5	32.3	44.6
Mental disorders	141,581	67,396	74,185	10.4	14.8	8.2
Respiratory system diseases	99,241	38,291	60,950	7.3	8.4	6.7
Symptoms, signs, & ill-defined conditions	91,657	30,120	61,537	6.7	6.6	6.8
Injury & poisoning	76,925	43,292	33,633	5.7	9.5	3.7
Nervous system & sense organ diseases	75,751	29,378	46,373	5.6	6.5	5.1
Musculoskeletal system & connective tissue diseases	71,234	29,516	41,718	5.2	6.5	4.6
Skin & subcutaneous tissue diseases	48,495	22,729	25,766	3.6	5.0	2.8
Genitourinary system diseases	45,673	3,460	42,213	3.4	0.8	4.7
Obstetric deliveries & complications of pregnancy & puerperium	43,503	1	43,502	3.2	0.0	4.8
<b>All other</b>	<b>114,589</b>	<b>43,411</b>	<b>71,178</b>	<b>8.4</b>	<b>9.6</b>	<b>7.9</b>

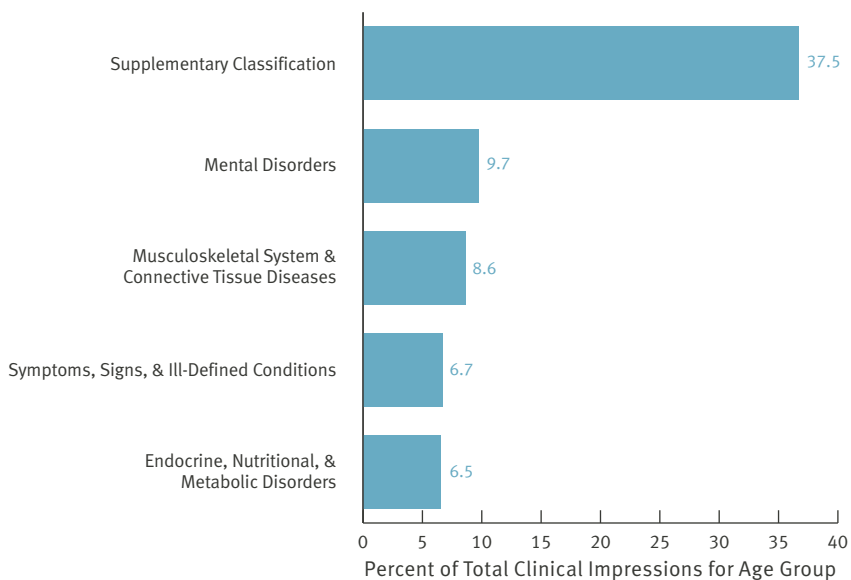
SOURCE: IHS National Data Warehouse



In FY 2013, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 25 to 44 years was supplementary classification conditions, followed by mental disorders.

**Chart 5.25** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 25 to 44 Years

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*



**Table 5.25** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 25 to 44 Years of Age

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*

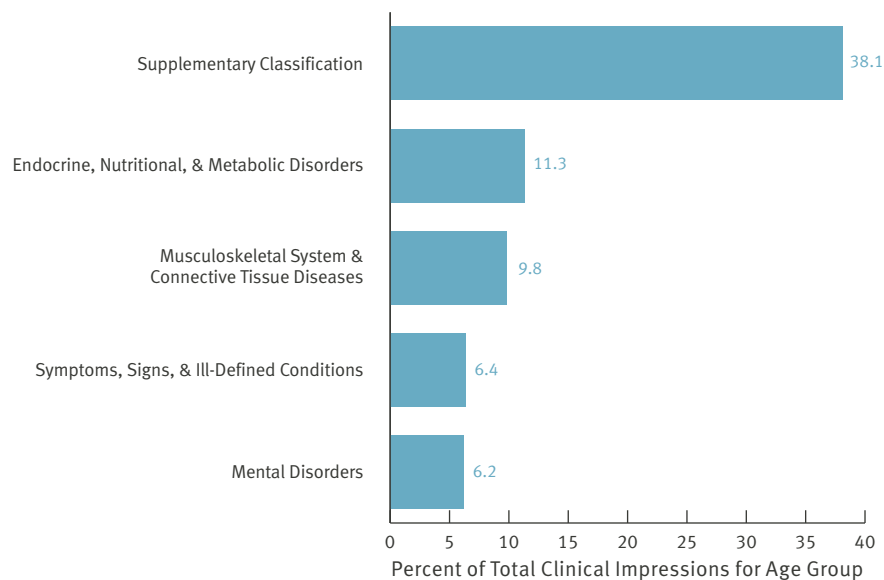
Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>3,360,083</b>	<b>1,177,004</b>	<b>2,183,079</b>	<b>100.0</b>	<b>35.0</b>	<b>65.0</b>
Supplementary classification	1,260,155	387,727	872,428	37.5	32.9	40.0
Mental disorders	324,719	134,682	190,037	9.7	11.4	8.7
Musculoskeletal system & connective tissue diseases	288,438	110,747	177,691	8.6	9.4	8.1
Symptoms, signs, & ill-defined conditions	224,663	75,470	149,193	6.7	6.4	6.8
Endocrine, nutritional, & metabolic disorders	219,888	94,492	125,396	6.5	8.0	5.7
Respiratory system diseases	187,899	61,349	126,550	5.6	5.2	5.8
Nervous system & sense organ diseases	168,774	61,298	107,476	5.0	5.2	4.9
Injury & poisoning	133,089	68,161	64,928	4.0	5.8	3.0
Circulatory system diseases	108,067	61,738	46,329	3.2	5.2	2.1
Genitourinary system diseases	104,829	13,016	91,813	3.1	1.1	4.2
<b>All other</b>	<b>339,562</b>	<b>108,324</b>	<b>231,238</b>	<b>10.1</b>	<b>9.2</b>	<b>10.6</b>

SOURCE: IHS National Data Warehouse

In FY 2013, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 45 to 54 years was supplementary classification conditions, followed by endocrine, nutritional, and metabolic disorders.

**Chart 5.26** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 45 to 54 Years

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*



**Table 5.26** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 45 to 54 Years of Age

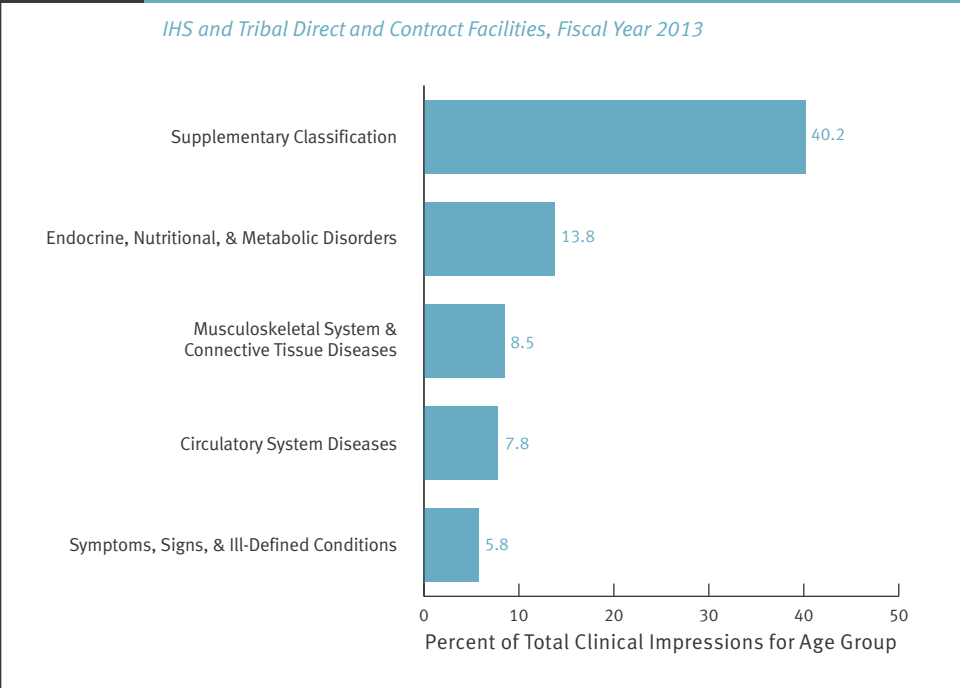
*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*

Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>2,379,845</b>	<b>929,239</b>	<b>1,450,606</b>	<b>100.0</b>	<b>39.0</b>	<b>61.0</b>
Supplementary classification	905,630	341,217	564,413	38.1	36.7	38.9
Endocrine, nutritional, & metabolic disorders	269,550	122,186	147,364	11.3	13.1	10.2
Musculoskeletal system & connective tissue diseases	232,416	85,507	146,909	9.8	9.2	10.1
Symptoms, signs, & ill-defined conditions	152,746	54,604	98,142	6.4	5.9	6.8
Mental disorders	146,818	54,791	92,027	6.2	5.9	6.3
Circulatory system diseases	142,979	75,779	67,200	6.0	8.2	4.6
Nervous system & sense organ diseases	117,251	44,767	72,484	4.9	4.8	5.0
Respiratory system diseases	111,812	34,724	77,088	4.7	3.7	5.3
Injury & poisoning	66,073	30,930	35,143	2.8	3.3	2.4
Digestive system diseases	57,494	23,814	33,680	2.4	2.6	2.3
<b>All other</b>	<b>177,076</b>	<b>60,920</b>	<b>116,156</b>	<b>7.4</b>	<b>6.6</b>	<b>8.0</b>

SOURCE: IHS National Data Warehouse

In FY 2013, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 55 to 64 years was supplementary classification conditions, followed by endocrine, nutritional, and metabolic disorders.

**Chart 5.27** Leading Causes of Ambulatory Medical Clinical Impressions Visits: Ages 55 to 64 Years



**Table 5.27** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 55 to 64 Years of Age

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*

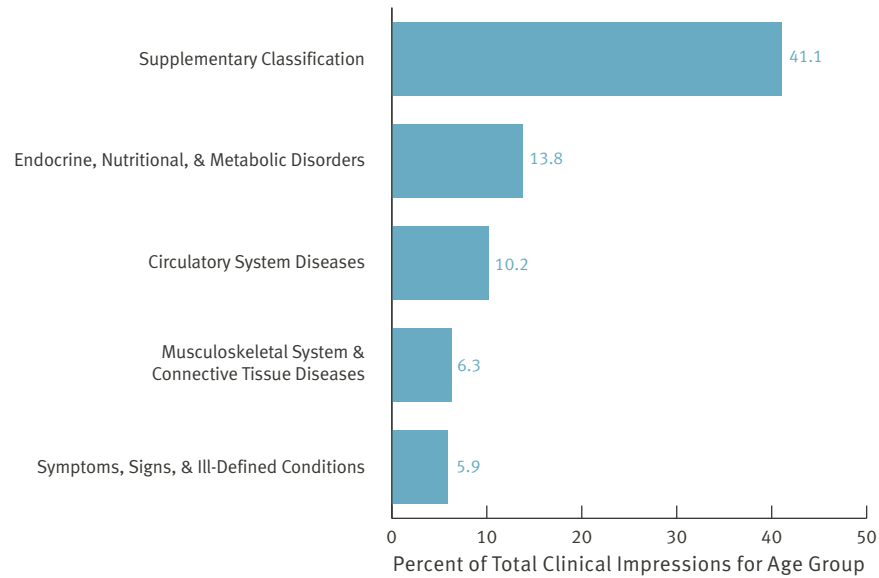
Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>2,267,570</b>	<b>905,611</b>	<b>1,361,959</b>	<b>100.0</b>	<b>39.9</b>	<b>60.1</b>
Supplementary classification	911,474	360,828	550,646	40.2	39.8	40.4
Endocrine, nutritional, & metabolic disorders	312,405	134,246	178,159	13.8	14.8	13.1
Musculoskeletal system & connective tissue diseases	191,754	67,748	124,006	8.5	7.5	9.1
Circulatory system diseases	176,458	89,791	86,667	7.8	9.9	6.4
Symptoms, signs, & ill-defined conditions	131,815	49,848	81,967	5.8	5.5	6.0
Nervous system & sense organ diseases	110,718	42,794	67,924	4.9	4.7	5.0
Respiratory system diseases	94,545	30,669	63,876	4.2	3.4	4.7
Mental disorders	83,579	28,732	54,847	3.7	3.2	4.0
Injury & poisoning	50,710	21,308	29,402	2.2	2.4	2.2
Genitourinary system diseases	49,973	15,934	34,039	2.2	1.8	2.5
<b>All other</b>	<b>154,139</b>	<b>63,713</b>	<b>90,426</b>	<b>6.8</b>	<b>7.0</b>	<b>6.6</b>

SOURCE: IHS National Data Warehouse

In FY 2013, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities for ages 65 years and over was supplementary classification conditions, followed by endocrine, nutritional, and metabolic disorders.

**Chart 5.28** Leading Causes of Ambulatory Medical Clinical Impressions Visits: 65 Years of Age and Older

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*



**Table 5.28** Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 65 Years of Age and Older

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*

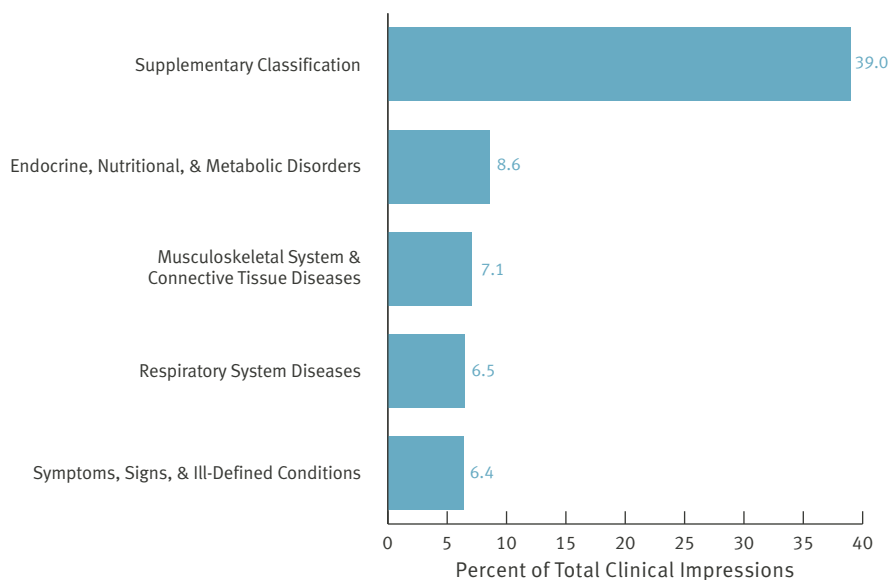
Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>2,305,766</b>	<b>926,228</b>	<b>1,379,538</b>	<b>100.0</b>	<b>40.2</b>	<b>59.8</b>
Supplementary classification	946,842	380,842	566,000	41.1	41.1	41.0
Endocrine, nutritional, & metabolic disorders	317,387	134,460	182,927	13.8	14.5	13.3
Circulatory system diseases	236,042	107,385	128,657	10.2	11.6	9.3
Musculoskeletal system & connective tissue diseases	146,266	46,164	100,102	6.3	5.0	7.3
Symptoms, signs, & ill-defined conditions	136,773	51,114	85,659	5.9	5.5	6.2
Nervous system & sense organ diseases	126,852	51,675	75,177	5.5	5.6	5.4
Respiratory system diseases	93,028	36,070	56,958	4.0	3.9	4.1
Genitourinary system diseases	61,208	22,567	38,641	2.7	2.4	2.8
Injury & poisoning	45,431	17,718	27,713	2.0	1.9	2.0
Digestive system diseases	42,342	15,801	26,541	1.8	1.7	1.9
<b>All other</b>	<b>153,595</b>	<b>62,432</b>	<b>91,163</b>	<b>6.7</b>	<b>6.7</b>	<b>6.6</b>

SOURCE: IHS National Data Warehouse

In FY 2013, the leading cause of ambulatory medical clinical impressions visits in Indian Health Service and Tribal direct and contract facilities was supplementary classification conditions, followed by endocrine, nutritional, and metabolic disorders.

**Chart 5.29** Leading Causes of Ambulatory Medical Clinical Impressions Visits

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*



**Table 5.29** Ten Leading Causes of Ambulatory Medical Visits for All Sexes

*Indian Health Service and Tribal Direct and Contract Facilities, Fiscal Year 2013*

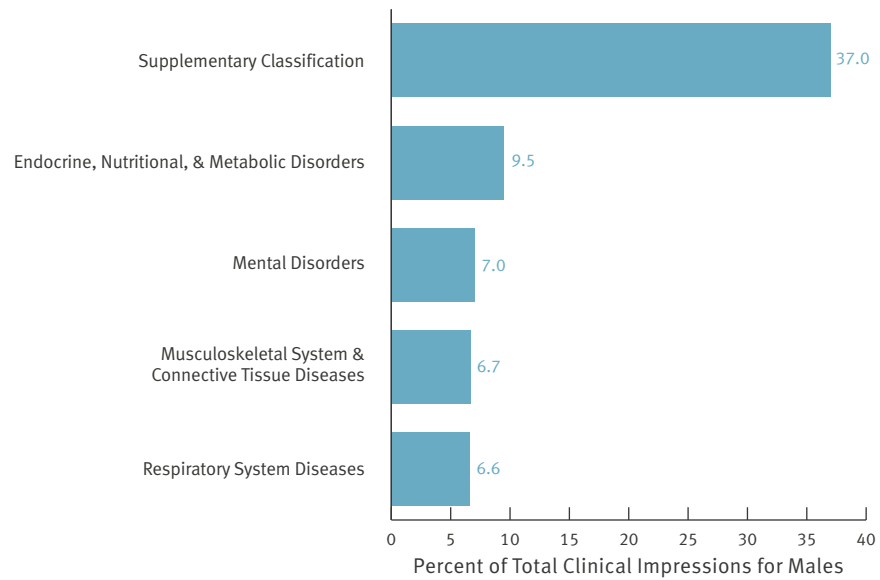
Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
<b>All categories</b>	<b>13,431,073</b>	<b>5,297,329</b>	<b>8,133,744</b>	<b>100.0</b>	<b>39.4</b>	<b>60.6</b>
Supplementary classification	5,239,246	1,960,104	3,279,142	39.0	37.0	40.3
Endocrine, nutritional, & metabolic disorders	1,157,986	500,718	657,268	8.6	9.5	8.1
Musculoskeletal system & connective tissue diseases	959,390	353,666	605,724	7.1	6.7	7.4
Respiratory system diseases	878,169	351,751	526,418	6.5	6.6	6.5
Symptoms, signs, & ill-defined conditions	866,245	325,669	540,576	6.4	6.1	6.6
Mental disorders	851,330	371,103	480,227	6.3	7.0	5.9
Nervous system & sense organ diseases	781,769	321,024	460,745	5.8	6.1	5.7
Circulatory system diseases	674,078	340,767	333,311	5.0	6.4	4.1
Injury & poisoning	457,717	228,313	229,404	3.4	4.3	2.8
Skin & subcutaneous tissue diseases	352,154	162,128	190,026	2.6	3.1	2.3
<b>All other</b>	<b>1,212,989</b>	<b>382,086</b>	<b>830,903</b>	<b>9.0</b>	<b>7.2</b>	<b>10.2</b>

SOURCE: IHS National Data Warehouse

For AI/AN males, the leading cause of ambulatory medical clinical impressions visits (FY 2013) in Indian Health Service and Tribal direct and contract facilities was supplementary classification conditions, followed by endocrine, nutritional, and metabolic disorders.

**Chart 5.30** Leading Causes of Ambulatory Medical Clinical Impressions Visits for Males

*IHS and Tribal Direct and Contract Facilities, Fiscal Year 2013*



For AI/AN females, the leading cause of ambulatory medical clinical impressions visits (FY 2013) in Indian Health Service and Tribal direct and contract facilities was supplementary classification conditions, followed by endocrine, nutritional, and metabolic disorders.

**Chart 5.31** Leading Causes of Ambulatory Medical Clinical Impressions Visits for Females

*IHS and Tribal Direct and Contract General Facilities, Fiscal Year 2013*

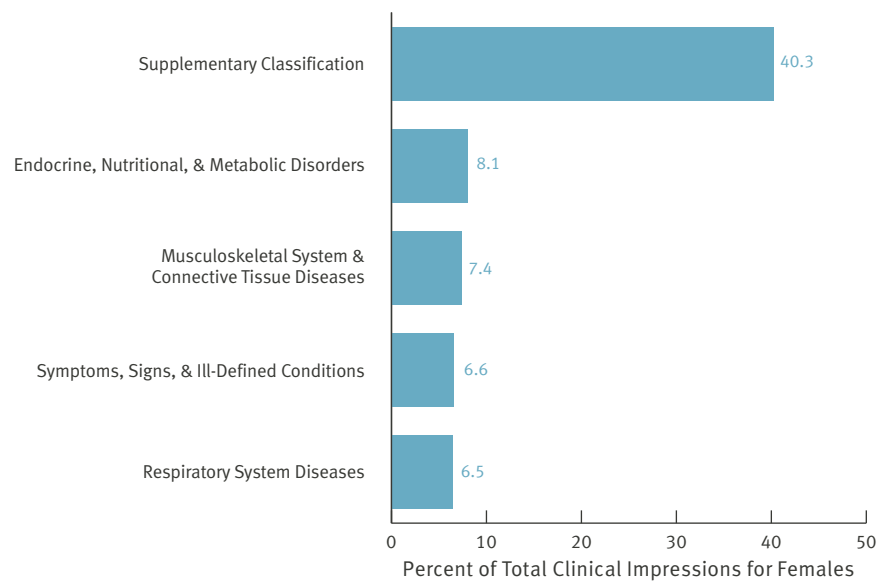


Table 5.30 Ten Leading Causes of Ambulatory Medical Visits by Sex

*Indian Health Service and Tribal Direct and Contract General Hospitals, Fiscal Year 2013*

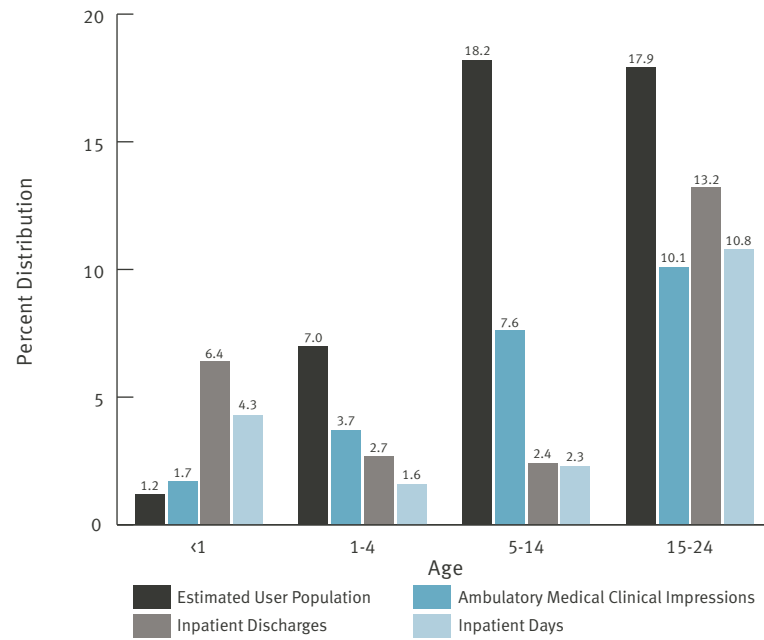
Diagnostic Category	Number of Clinical Impressions	Percent of Total
MALE		
<i>All categories</i>	<i>5,297,329</i>	<i>100.0</i>
Supplementary classification	1,960,104	37.0
Endocrine, nutritional, & metabolic disorders	500,718	9.5
Mental disorders	371,103	7.0
Musculoskeletal system & connective tissue diseases	353,666	6.7
Respiratory system diseases	351,751	6.6
Circulatory system diseases	340,767	6.4
Symptoms, signs, & ill-defined conditions	325,669	6.1
Nervous system & sense organ diseases	321,024	6.1
Injury & poisoning	228,313	4.3
Skin & subcutaneous tissue diseases	162,128	3.1
<i>All other</i>	<i>382,086</i>	<i>7.2</i>
FEMALE		
<i>All categories</i>	<i>8,133,744</i>	<i>100.0</i>
Supplementary classification	3,279,142	40.3
Endocrine, nutritional, & metabolic disorders	657,268	8.1
Musculoskeletal system & connective tissue diseases	605,724	7.4
Symptoms, signs, & ill-defined conditions	540,576	6.6
Respiratory system diseases	526,418	6.5
Mental disorders	480,227	5.9
Nervous system & sense organ diseases	460,745	5.7
Circulatory system diseases	333,311	4.1
Genitourinary system diseases	263,250	3.2
Injury & poisoning	229,404	2.8
<i>All other</i>	<i>757,679</i>	<i>9.3</i>

SOURCES: IHS National Data Warehouse

AI/AN children under 1 year of age comprise 1.2 percent of the Indian Health Service user population but have 1.7 percent of the ambulatory medical clinical impressions, 6.4 percent of the inpatient discharges, and 4.3 percent of the inpatient days.

Chart 5.32

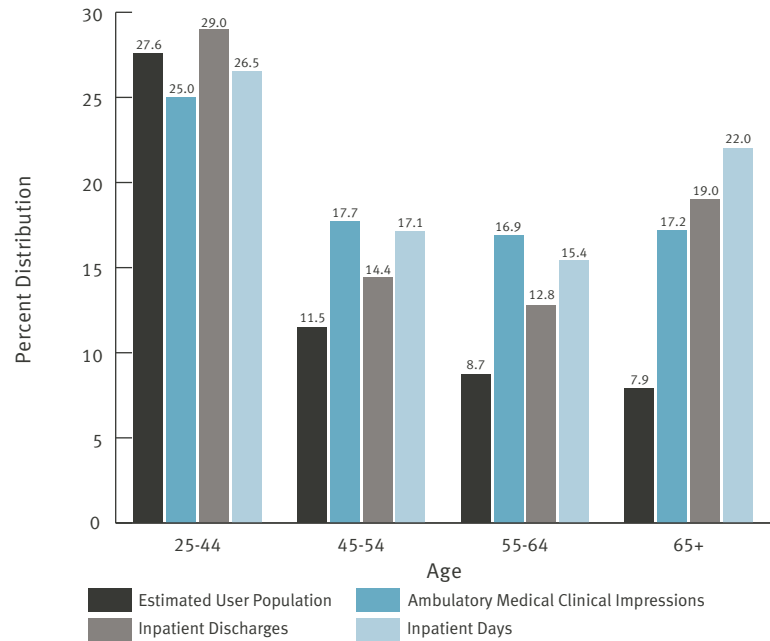
Percent Distribution for Population and Patient Care Workloads, Ages Under 25, Fiscal Year 2013





Indian adults over age 64 use IHS services more than any other age group over 25 years. They comprised 7.9 percent of the Indian Health Service user population, but have 17.2 percent of the ambulatory medical clinical impressions, 19.0 percent of the inpatient discharges, and 22.0 percent of the inpatient days.

**Chart 5.33** Percent Distribution for Population and Patient Care Workloads, Ages 25 and Over, Fiscal Year 2013



**Table 5.32** Percent Distributions for Estimated Population, Ambulatory Medical Clinical Impressions, and Inpatient Discharges and Days, Fiscal Year 2013

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	1.2	7.0	18.2	17.9	27.6	11.5	8.7	7.9
Ambulatory medical clinical impressions	100.0	1.7	3.7	7.6	10.1	25.0	17.7	16.9	17.2
Inpatient discharges*	100.0	6.4	2.7	2.4	13.2	29.0	14.4	12.8	19.0
Inpatient days*	100.0	4.3	1.6	2.3	10.8	26.5	17.1	15.4	22.0

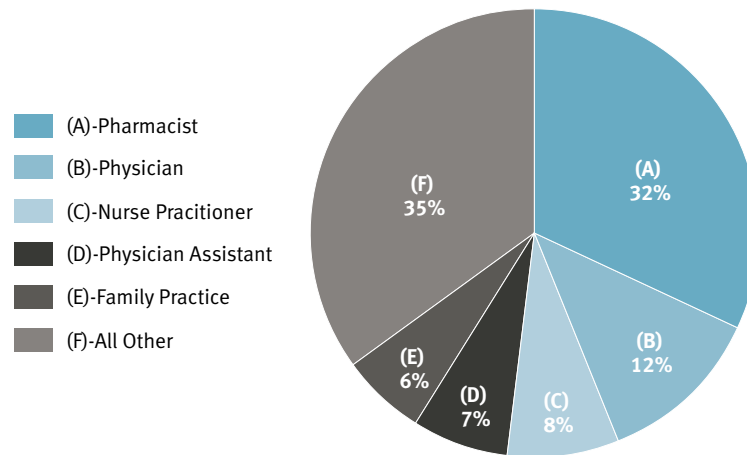
\* Newborns not included.

SOURCE: IHS National Data Warehouse

Patients were seen by a pharmacist for 32 percent of ambulatory medical visits to Indian Health Service and Tribal facilities in FY 2013. For 12 percent of patient visits, the primary provider was a physician.

**Chart 5.34** Percent Distributions of Ambulatory Medical Visits by Type of Provider

*IHS and Tribal Direct Facilities, Fiscal Year 2013*



**Table 5.34** Number of Ambulatory Medical Visits by Type of Provider

*Indian Health Service and Tribal Direct Facilities, Fiscal Year 2013*

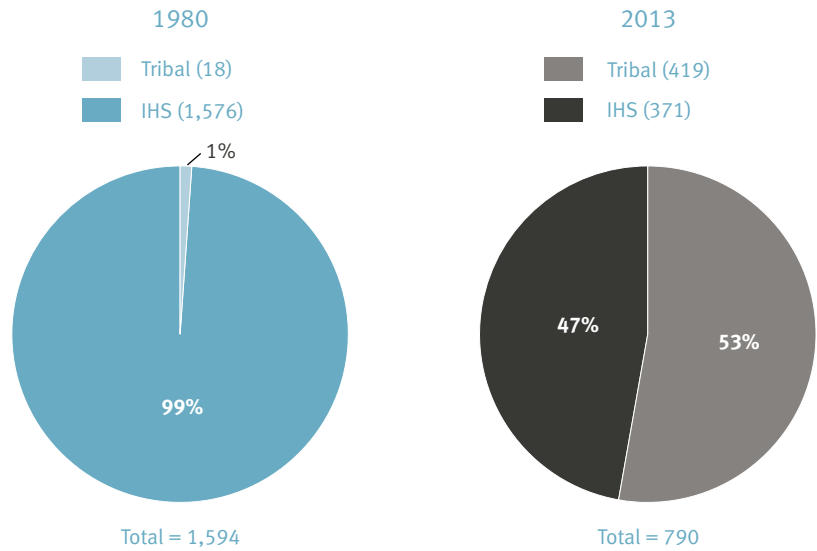
Type of Provider	Number of Ambulatory Medical Visits	Percent of Total
<b>Total, All Providers</b>	<b>13,012,622</b>	<b>100.0</b>
<b>Primary Care Providers</b>	<b>6,287,278</b>	<b>48.3</b>
Physician	1,514,224	11.6
Nurse Practitioner	1,003,185	7.7
Physician Assistant	935,148	7.2
Family Practice	743,958	5.7
Pediatrician	282,011	1.7
Internal Medicine	226,420	2.2
All Other	1,582,332	12.2
<b>Other Providers</b>	<b>6,725,344</b>	<b>51.7</b>
Pharmacist	4,139,744	31.8
Clinic R.N.	384,952	3.0
Optometrist	348,359	2.7
Pharmacy technician	254,985	2.0
Physical Therapist	185,308	1.4
Licensed Practical Nurse	127,975	1.0
All Other	1,284,021	9.9

SOURCE: IHS National Data Warehouse

IHS services shifted away from inpatient care as demonstrated by the decline of 77 percent in average daily patient load (ADPL) between 1980 and 2013. However, the Tribal total ADPL increased 2,228 percent during this time period.

**Chart 5.35** Trend in Average Daily Patient Load

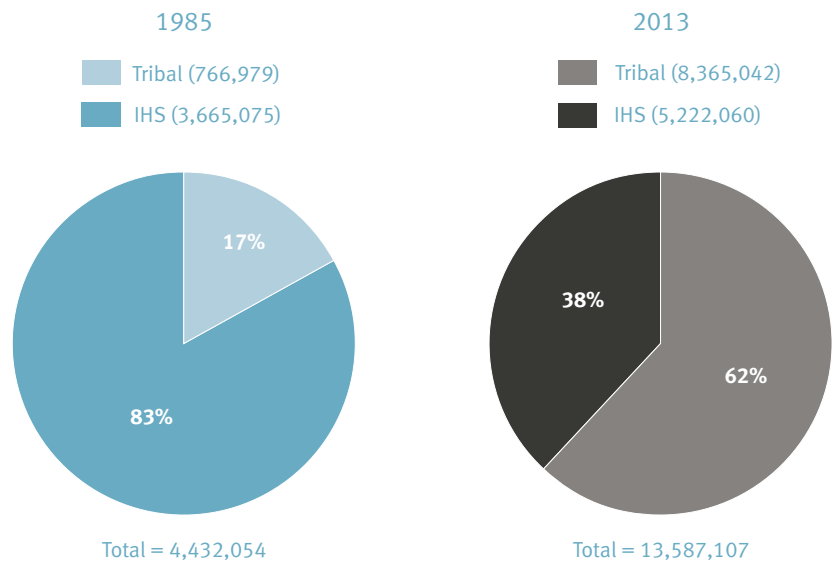
*IHS and Tribal Direct and Contract Hospitals*



While inpatient services declined, ambulatory medical services increased 206 percent between 1985 and 2013. Also, the Tribal total ambulatory medical visits increased 991 percent during that time period.

**Chart 5.36** Trend in Number of Ambulatory Medical Visits

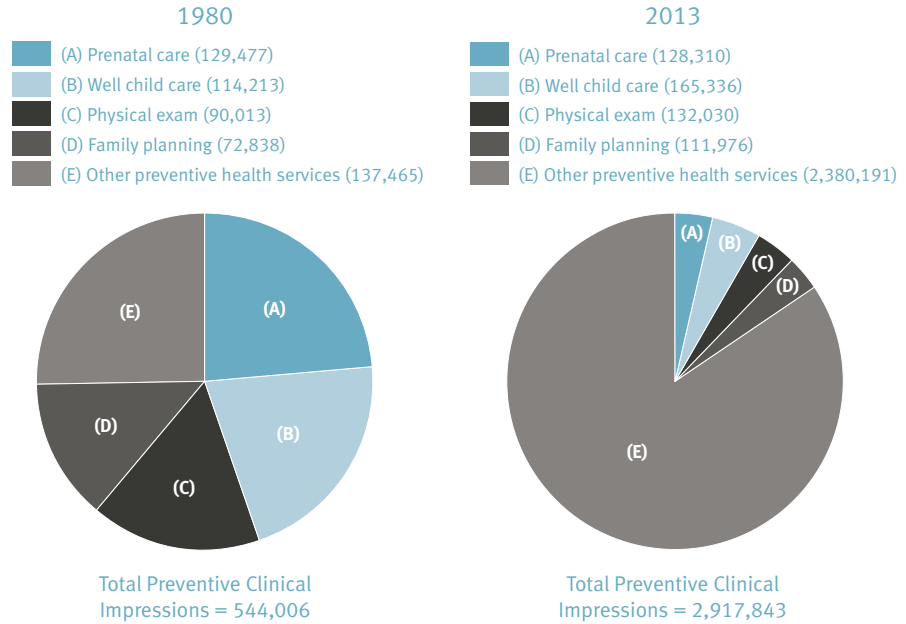
*IHS and Tribal Direct and Contract Facilities*



IHS services related to preventive care have increased 436 percent since 1980. In 2013, the largest single category of preventive clinical impressions was other preventive health services (81 percent), followed by well child care at six percent of the preventive total. These are conservative estimates since preventive activities also occur during visits reported for other causes.

Chart 5.37 Trend in Preventive Ambulatory Medical Clinical Impressions Visits

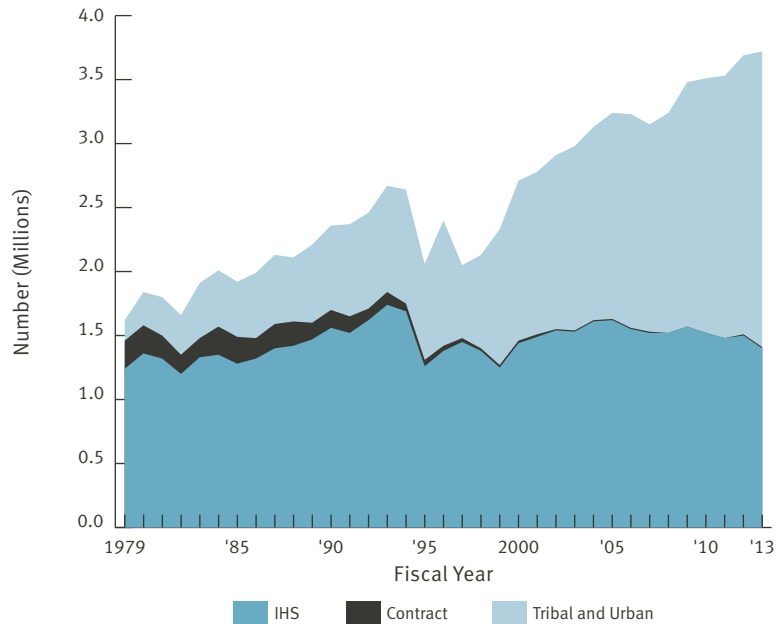
IHS and Tribal Direct and Contract Facilities



SOURCE: Special NPIRS Table

The number of direct and contract dental services provided by Indian Health Service, Tribal, and Urban Programs, as reported to the IHS central database, has increased 405 percent since FY 1970. In FY 2013, over 3.7 million dental services were provided.

Chart 5.38 Dental Services Provided



The number of dental services provided by Tribal and Urban Programs, as reported to the IHS central database, has increased 132 percent since FY 1979. In FY 2013, they comprised 62 percent of the total dental services provided, as compared to 10 percent in FY 1979.

**Chart 5.39** Dental Services Provided by Tribal/Urban Programs

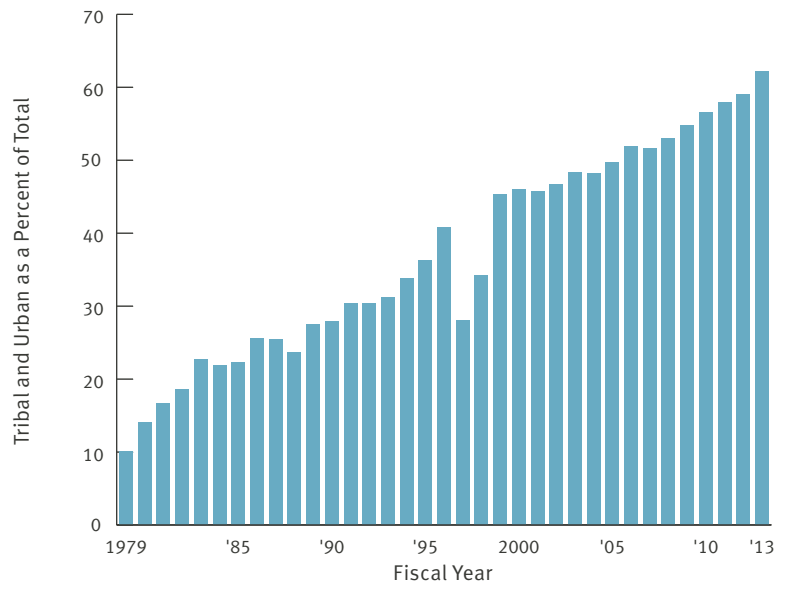


Table 5.38 Number of Dental Services Provided

IHS, Contract, Tribal and Urban Programs, FY 1955-2013

Fiscal Year	Number of Services Provided				Percent Contract of Total	Percent Tribal & Urban of Total	Percent Increase of Total since 1955
	Total	IHS					
		Direct	Contract <sup>1</sup>	Tribal & Urban			
2013	3,722,297	1,404,486	5,304	2,312,507	0.1	62.1	1,967.9
2012	3,689,107	1,502,999	8,624	2,177,484	0.2	59.0	1,949.5
2011	3,532,748	1,483,406	4,151	2,045,191	0.1	57.9	1,862.6
2010	3,518,567	1,523,163	4,857	1,990,547	0.1	56.6	1,854.8
2009	3,489,189	1,573,729	4,189	1,911,271	0.1	54.8	1,838.4
2008	3,236,654	1,516,866	4,274	1,715,514	0.1	53.0	1,698.1
2007	3,145,668	1,518,367	5,095	1,622,206	0.2	51.6	1,647.6
2006	3,226,509	1,546,657	6,429	1,673,423	0.2	51.9	1,692.5
2005	3,239,491	1,620,142	8,497	1,610,852	0.3	49.7	1,699.7
2004	3,133,000	1,611,049	10,791	1,511,160	0.3	48.2	1,640.6
2003	2,984,887	1,531,988	11,160	1,441,739	0.4	48.3	1,558.3
2002	2,911,348	1,537,016	13,562	1,360,770	0.5	46.7	1,517.4
2001	2,777,184	1,493,739	15,229	1,268,216	0.5	45.7	1,442.9
2000	2,710,806	1,441,173	23,910	1,245,723	0.9	46.0	1,406.0
1999	2,331,398	1,251,038	23,899	1,056,461	1.0	45.3	1,195.2
1998	2,123,895	1,382,583	15,773	725,539	0.7	34.2	1,079.9
1997	2,052,076	1,451,797	26,134	574,145	1.3	28.0	1,040.0
1996	2,400,646	1,383,870	36,171	980,605	1.5	40.8	1,233.7
1995	2,058,032	1,261,787	49,827	746,418	2.4	36.3	1,043.4
1994	2,643,757	1,686,892	64,483	892,382	2.4	33.8	1,368.8
1993	2,675,525	1,742,936	97,897	834,692	3.7	31.2	1,386.4
1992	2,458,811	1,618,679	92,447	747,685	3.8	30.4	1,266.0
1991	2,369,484	1,516,233	133,253	719,998	5.6	30.4	1,216.4
1990	2,362,228	1,563,934	139,425	658,869	5.9	27.9	1,212.3
1989	2,207,082	1,466,812	132,918	607,352	6.0	27.5	1,126.2
1988	2,106,741	1,415,815	194,784	496,142	9.2	23.6	1,070.4
1987	2,130,690	1,397,262	191,639	541,789	9.0	25.4	1,083.7
1986	1,984,522	1,322,794	155,939	505,789	7.9	25.5	1,002.5
1985	1,914,820	1,276,623	210,508	427,689	11.0	22.3	963.8
1984	2,011,326	1,348,599	224,918	437,809	11.2	21.8	1,017.4
1983	1,907,336	1,325,187	149,741	432,408	7.9	22.7	959.6
1982	1,666,793	1,202,422	153,030	311,341	9.2	18.7	826.0
1981	1,801,982	1,319,913	182,880	299,189	10.1	16.6	901.1
1980	1,833,206	1,357,809	216,574	258,823	11.8	14.1	918.4
1979 <sup>2</sup>	1,618,383	1,239,108	215,997	163,278	13.3	10.1	799.1
1978 <sup>3</sup>	1,099,019	885,019	214,000	—	19.5	—	510.6
1977	1,037,640	823,328	214,312	—	20.7	—	476.5
1976	975,647	798,709	176,938	—	18.1	—	442.0
1975	946,722	745,831	200,891	—	21.2	—	426.0
1974	927,701	775,747	151,954	—	16.4	—	415.4
1973	863,057	728,909	134,148	—	15.5	—	379.5
1972	844,724	718,176	126,548	—	15.0	—	369.3
1971	776,168	684,612	91,556	—	11.8	—	331.2
1970	737,206	646,580	90,626	—	12.3	—	309.6
1969	703,232	634,479	68,753	—	9.8	—	290.7
1968	681,745	613,084	68,661	—	10.1	—	278.7
1967	626,458	545,509	80,949	—	12.9	—	248.0
1966 <sup>2</sup>	570,779	502,710	60,069	—	10.5	—	217.1
1965	572,079	495,006	77,073	—	13.5	—	217.8
1964	525,010	462,981	62,029	—	11.8	—	191.7
1963	453,906	398,452	55,454	—	12.2	—	152.2
1962	421,597	364,988	56,609	—	13.4	—	134.2
1961	403,528	348,776	54,752	—	13.6	—	124.2
1960 <sup>2</sup>	364,423	307,248	57,175	—	15.7	—	102.5
1959	328,613	283,206	45,407	—	13.8	—	82.6
1958	282,372	282,372	—	—	—	—	56.9
1957	249,048	249,048	—	—	—	—	38.4
1956	219,353	219,353	—	—	—	—	21.9
1955	180,000	180,000	—	—	—	—	—

<sup>1</sup> Beginning with FY 1979, this category excludes contract services purchased from the private sector by Tribes.<sup>2</sup> Data systems were modified in 1960, 1966, and 1978. In 1978 the IHS began to use the dental services coding list adopted by the American Dental Association (ADA). The ADA list identifies individual clinical services. Previously the IHS had reported specified clinical services combined into major dental service groupings. Excluded from the 1978 count are diagnostic and adjunctive services. Excluded from the clinical counts since 1979 are diagnostic services other than examinations, revisits and non-clinical adjunctive services.

SOURCE: IHS HQ/OCPD/Division of Oral Health

The age-adjusted AI/AN drug-related death rate is 4.1 deaths per 100,000 population for the three-year period 1979-1981, as compared to the AI/AN death rate of 22.7 in 2007-2009. This is an increase of 454 percent since drug-related death rates were first introduced for AI/AN in 1979. The 2007-2009 AI/AN rate is 1.8 times greater than the U.S. all races rate of 12.6 for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 6.1** Age-Adjusted Drug-Related Death Rates

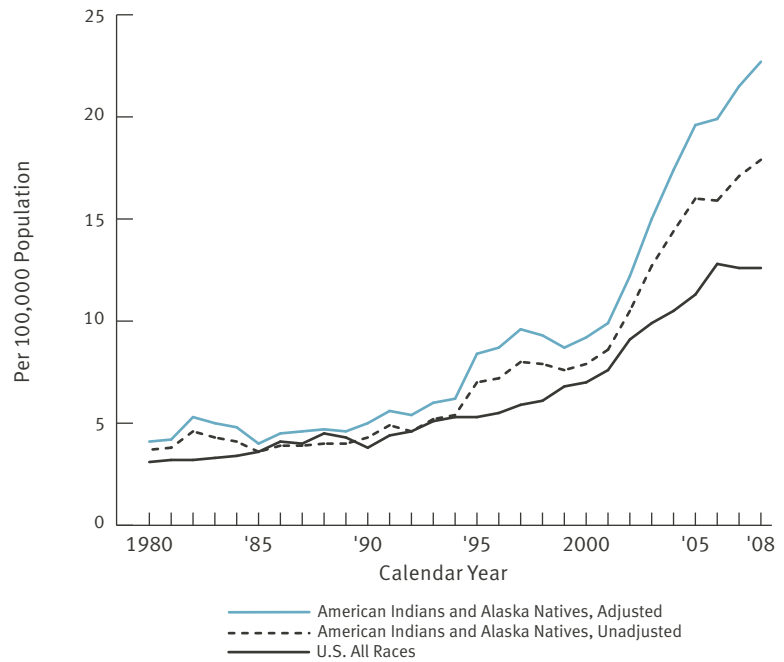


Table 6.1 Drug-Related Deaths and Death Rates

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1980-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races	U.S. White	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate		Rate	Rate	U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	349	447						
2007-2009 (2008)	332	420	17.9	22.7	12.6	14.0	1.8	1.6
2006-2008 (2007)	269	346	17.1	21.5	12.6	13.8	1.7	1.6
2005-2007 (2006)	288	357	15.9	19.9	12.8	13.6	1.6	1.5
2004-2006 (2005)	248	311	16.0	19.6	11.3	12.0	1.7	1.6
2003-2005 (2004)	250	301	14.4	17.4	10.5	11.2	1.7	1.6
2002-2004 (2003)	201	237	12.7	15.0	9.9	10.5	1.5	1.4
2001-2003 (2002)	158	184	10.5	12.2	9.1	9.5	1.3	1.3
2000-2002 (2001)	126	147	8.6	9.9	7.6	7.8	1.3	1.3
1999-2001 (2000)	105	115	7.9	9.2	7.0	7.1	1.3	1.3
1998-2000 (1999)	113	140	7.6	8.7	6.8	6.8	1.3	1.3
1997-1999 (1998)	107	124	7.9	9.3	6.1	6.0	1.5	1.6
1996-1998 (1997)	105	126	8.0	9.6	5.9	5.7	1.6	1.7
1995-1997 (1996)	110	141	7.2	8.7	5.5	5.3	1.6	1.6
1994-1996 (1995)	69	80	7.0	8.4	5.3	5.0	1.6	1.7
1993-1995 (1994)	75	85	5.4	6.2	5.3	4.9	1.2	1.3
1992-1994 (1993)	52	62	5.2	6.0	5.1	4.8	1.2	1.3
1991-1993 (1992)	57	67	4.6	5.4	4.6	4.3	1.2	1.3
1990-1992 (1991)	50	59	4.9	5.6	4.4	3.8	1.3	1.5
1989-1991 (1990)	48	55	4.3	5.0	3.8	3.6	1.3	1.4
1988-1990 (1989)	45	52	4.0	4.6	4.3	4.0	1.1	1.2
1987-1989 (1988)	36	43	4.0	4.7	4.5	4.0	1.0	1.2
1986-1988 (1987)	45	52	3.9	4.6	4.0	3.6	1.2	1.3
1985-1987 (1986)	39	46	3.9	4.5	4.1	3.8	1.1	1.2
1984-1986 (1985)	34	38	3.6	4.0	3.6	3.4	1.1	1.2
1983-1985 (1984)	27	31	4.1	4.8	3.4	3.1	1.4	1.5
1982-1984 (1983)	40	49	4.3	5.0	3.3	3.1	1.5	1.6
1981-1983 (1982)	30	32	4.6	5.3	3.2	3.0	1.7	1.8
1980-1982 (1981)	28	33	3.8	4.2	3.2	3.0	1.3	1.4
1979-1981 (1980)	25	26	3.7	4.1	3.1	3.0	1.3	1.4
(1979)	27	32						

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

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

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



The age-specific drug-related death rate (51.8) for AI/AN males peaked for age group 35 to 44 years. The highest age-specific rate (44.0) for AI/AN females occurred in the 45-54 years age group. However, the peak male rate (51.8) was 17.7 percent greater than the peak female rate. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 6.2** Drug-Related Death Rates by Age and Sex

*American Indians and Alaska Natives (2007-2009)*

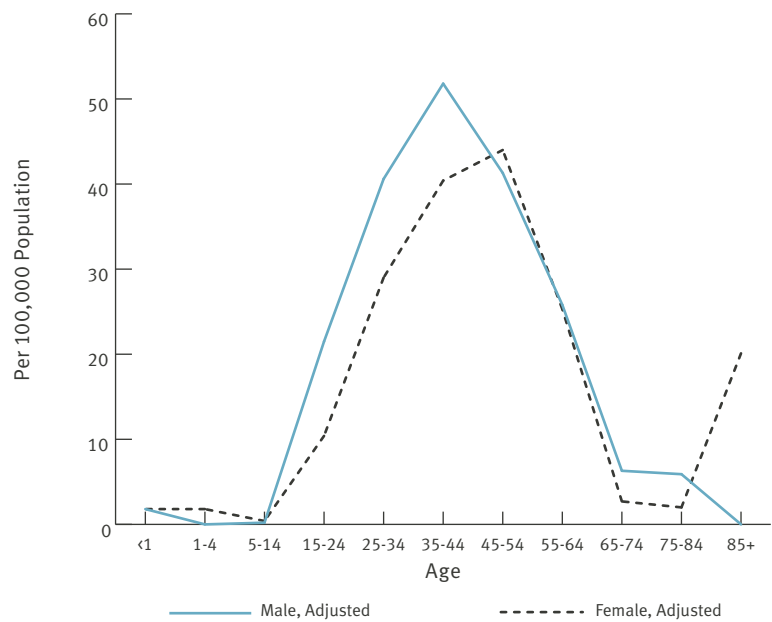


Table 6.2 Drug-Related Death Rates by Age and Sex

*American Indians and Alaska Natives, IHS Service Area, 2007-2009**U.S. All Races and White Populations, 2008 (Rate per 100,000 Population)*

Age Group	American Indian and Alaska Native					
	Both Sexes		Male		Female	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Under 1 year	2.8	1.9	1.8	1.8	3.7	1.8
1-4 years	0.5	0.9	—*	—*	0.9	1.8
5-14 years	0.3	0.3	0.2	0.2	0.4	0.4
15-24 years	11.8	16.1	16.7	21.5	6.7	10.4
25-34 years	25.3	35.3	30.7	40.6	19.3	29.0
35-44 years	35.6	45.5	40.7	51.8	31.4	40.4
45-54 years	34.3	40.8	35.7	41.3	36.3	44.0
55-64 years	20.2	24.1	21.6	25.8	21.2	25.3
65-74 years	4.1	4.1	6.3	6.3	2.7	2.7
75-84 years	3.3	3.3	5.9	5.9	2.0	2.0
85 years +	6.7	6.7	—*	—*	20.1	20.1

Age Group	U.S. All Races			U.S. White		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Under 1 year	0.7	—*	—*	0.6	0.6	—*
1-4 years	0.4	0.4	0.4	0.3	0.3	—*
5-14 years	0.2	0.2	0.1	0.2	0.2	—*
15-24 years	9.1	13.4	4.6	11.0	16.2	5.4
25-34 years	20.1	28.1	12.0	23.3	32.4	13.9
35-44 years	32.2	40.1	24.4	34.9	43.0	26.7
45-54 years	69.6	88.5	51.2	71.7	89.9	53.8
55-64 years	124.8	167.3	85.2	128.1	168.2	89.2
65-74 years	277.3	359.8	206.1	292.2	371.8	222.6
75-84 years	491.9	356.9	682.0	517.8	706.9	381.4
85 years +	588.4	401.1	967.3	615.1	999.9	432.4

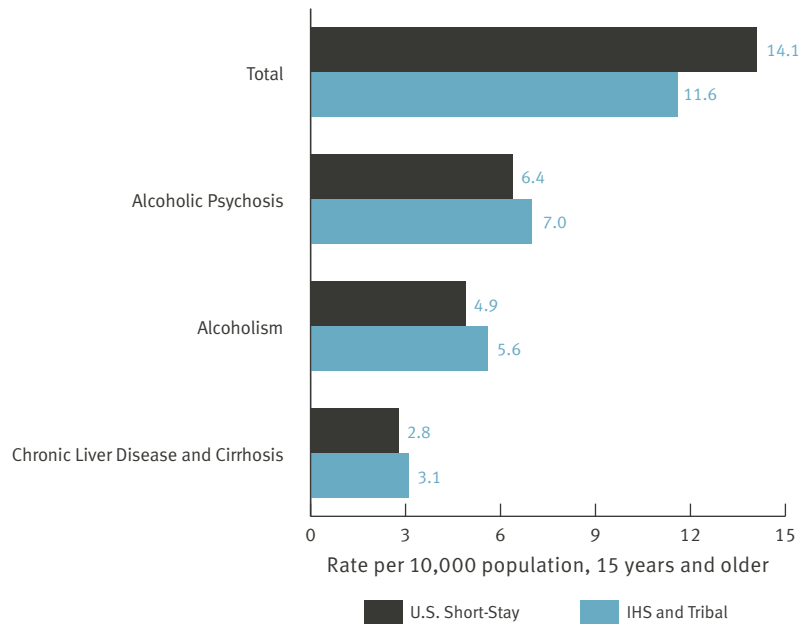
—\* Represents zero.

<sup>1</sup> Adjusted to compensate for misreporting of AI/AN race on state death certificates.SOURCE: Rates for U.S. All Races and U.S. White: Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>

In FY 2013, the total alcohol-related discharge rate (first diagnosis) for IHS and Tribal direct and contract general hospitals was 11.6 per 10,000 user population aged 15 years and older. This is 82 percent lower than the CY 2013 rate of 14.1 for U.S. Short-Stay hospitals.

**Chart 6.3 Alcohol-Related Discharge Rates (First-Listed Diagnosis)**

*IHS and Tribal Direct and Contract General Hospitals, FY 2013 and U.S. Federal Short-Stay Hospitals, CY 2010*



**Table 6.3 Number and Rate for Discharges with a First-Listed Alcohol-Related Diagnosis for Persons 15 Years Old and Older**

*IHS and Tribal Direct and Contract General Hospitals, Fiscal Year 2013  
U.S. General Short-Stay Hospitals, Calendar Year 2010*

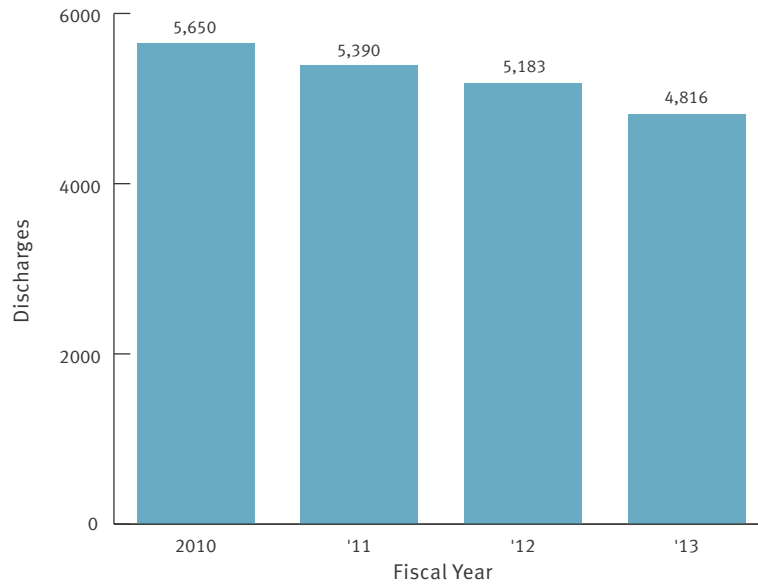
First Listed Diagnosis	IHS and Tribal Hospitals		U.S. Non-Federal Short-Stay Hospitals	
	Number	Rate	Number (thousands)	Rate
<b>Total</b>	<b>1,821</b>	<b>11.6</b>	<b>348</b>	<b>14.1</b>
Alcoholic psychosis (ICD-9-CM 291)	813	7.0	158	6.4
Alcoholism (ICD-9-CM 303, 305.0)	647	5.6	120	4.9
Chronic liver disease and cirrhosis, specified as alcoholic (ICD-9-CM 571.0-571.3)	361	3.1	70	2.8

NOTE: Rate is number of discharges per 10,000 user population aged 15 years and older. CY 2010 U.S. Non-Federal Short Stay hospital data was used because CY 2013 was not available at time of going to press.  
SOURCES: IHS and Tribal Hospitals: IHS National Data Warehouse  
U.S.: Non-Federal Short-Stay Hospitals, National Hospital Discharge Survey, NCHS, 2010

Since FY 2010, the number of discharges for injuries and poisonings from IHS and Tribal direct and contract general hospitals decreased 17 percent. In FY 2013, there were 4,816 discharges.

**Chart 6.4** Hospitalizations for Injuries and Poisonings

*IHS and Tribal Direct and Contract General Hospitals, FY 2010-2013*



The age-adjusted motor vehicle death rate for AI/AN males has decreased 71 percent since the three-year period 1972-1974. The 2007-2009 rate (51.4 deaths per 100,000 population) is 2.7 times the U.S. all races rate (18.9) for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

**Chart 6.5** Age-Adjusted Motor Vehicle Death Rates for Males

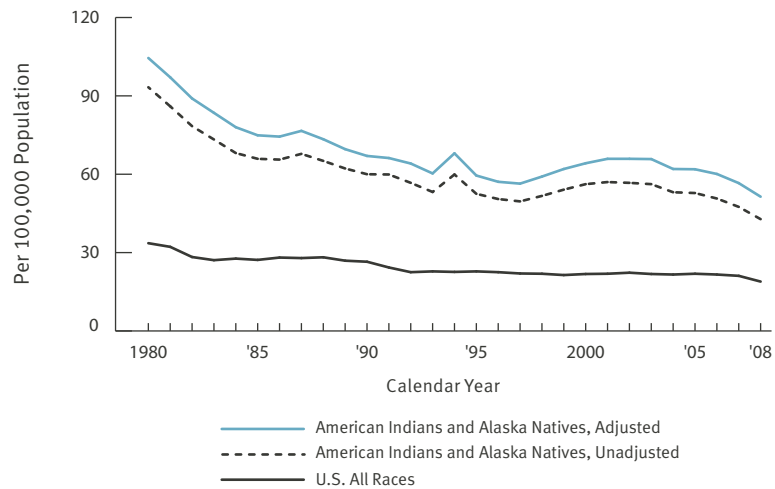


Table 6.5 Motor Vehicle Deaths and Death Rates for Males

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1973-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	379	447						
2007-2009 (2008)	394	420	42.8	51.4	18.9	19.6	2.7	2.6
2006-2008 (2007)	417	346	47.5	56.6	21.1	21.6	2.7	2.6
2005-2007 (2006)	488	357	50.7	60.1	21.6	22.2	2.8	2.7
2004-2006 (2005)	462	311	52.8	61.9	21.9	22.5	2.8	2.8
2003-2005 (2004)	423	301	53.1	62.0	21.6	22.1	2.9	2.8
2002-2004 (2003)	475	237	56.2	65.8	21.8	22.2	3.0	3.0
2001-2003 (2002)	491	184	56.7	65.9	22.3	22.7	3.0	2.9
2000-2002 (2001)	424	147	57.0	65.9	21.9	22.1	3.0	3.0
1999-2001 (2000)	424	115	56.2	64.2	21.8	21.8	2.9	2.9
1998-2000 (1999)	410	140	54.1	62.0	21.4	21.4	2.9	2.9
1997-1999 (1998)	396	124	51.7	59.1	21.9	21.8	2.7	2.7
1996-1998 (1997)	407	126	49.6	56.4	22.0	21.9	2.6	2.6
1995-1997 (1996)	417	141	50.5	57.1	22.5	22.4	2.5	2.5
1994-1996 (1995)	396	80	52.5	59.5	22.8	22.6	2.6	2.6
1993-1995 (1994)	373	85	59.9	68.0	22.6	22.6	3.0	3.0
1992-1994 (1993)	367	62	53.2	60.3	22.8	22.7	2.6	2.7
1991-1993 (1992)	382	67	56.7	64.1	22.5	22.4	2.8	2.9
1990-1992 (1991)	393	59	59.9	66.2	24.3	24.2	2.7	2.7
1989-1991 (1990)	399	55	60.0	67.0	26.5	26.3	2.5	2.5
1988-1990 (1989)	381	52	62.2	69.6	26.9	26.7	2.6	2.6
1987-1989 (1988)	410	43	65.1	73.4	28.2	28.1	2.6	2.6
1986-1988 (1987)	423	52	67.8	76.6	27.9	28.0	2.7	2.7
1985-1987 (1986)	395	46	65.6	74.4	28.1	28.0	2.6	2.7
1984-1986 (1985)	354	38	65.9	74.9	27.2	27.2	2.8	2.8
1983-1985 (1984)	351	31	68.1	78.0	27.7	27.9	2.8	2.8
1982-1984 (1983)	358	49	73.3	83.5	27.1	27.3	3.1	3.1
1981-1983 (1982)	362	32	78.4	89.0	28.3	28.6	3.1	3.1
1980-1982 (1981)	405	33	86.0	97.1	32.2	32.6	3.0	3.0
1979-1981 (1980)	429	26	93.3	104.5	33.6	33.8	3.1	3.1
(1979)	448	32						
1972-1974 (1973)	1,199	1,330	157.7	175.5	39.3	38.4	4.5	4.6

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

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

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

The age-adjusted motor vehicle death rate for AI/AN females has decreased 55 percent since the three year period 1972-1974. The 2007-2009 rate (29.0 deaths per 100,000 population) is 4.0 times the U.S. all races rate (7.2) for 2008. These AI/AN rates have been adjusted to compensate for misreporting of AI/AN race on state death certificates.

Chart 6.6 Age-Adjusted Motor Vehicle Death Rates for Females

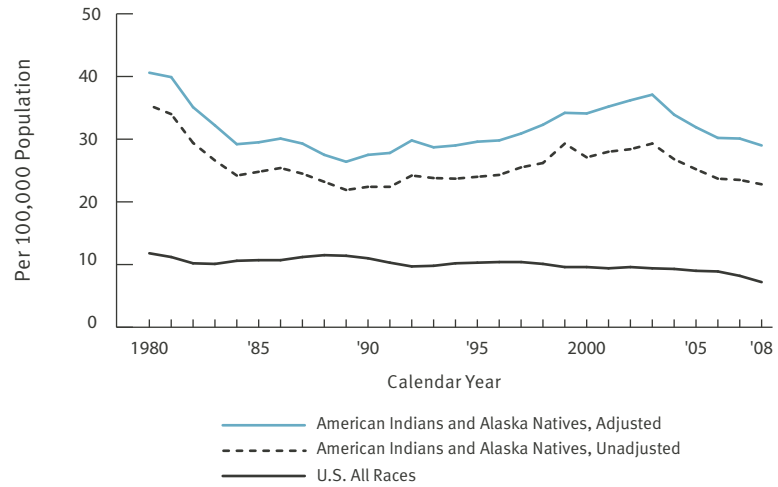


Table 6.6 Motor Vehicle Deaths and Death Rates for Females

American Indians and Alaska Natives, IHS Service Area, and U.S. All Races and White Populations, 1973-2008  
(Age-Adjusted Rate per 100,000 Population)

Calendar Year(s)	American Indian and Alaska Native				U.S. All Races Rate	U.S. White Rate	Ratio of American Indian and Alaska Native <sup>1</sup> to:	
	Number		Rate				U.S. All Races	U.S. White
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>				
(2009)	198	264						
2007-2009 (2008)	208	278	22.8	29.0	7.2	7.6	4.0	3.8
2006-2008 (2007)	220	282	23.5	30.1	8.2	8.6	3.7	3.5
2005-2007 (2006)	240	318	23.7	30.2	8.9	9.2	3.4	3.3
2004-2006 (2005)	207	271	25.2	31.9	9.0	9.3	3.5	3.4
2003-2005 (2004)	235	299	26.8	33.9	9.3	9.6	3.6	3.5
2002-2004 (2003)	252	330	29.3	37.1	9.4	9.6	3.9	3.9
2001-2003 (2002)	252	327	28.4	36.2	9.6	9.9	3.8	3.7
2000-2002 (2001)	200	261	28.0	35.2	9.4	9.5	3.7	3.7
1999-2001 (2000)	233	294	27.1	34.1	9.6	9.8	3.6	3.5
1998-2000 (1999)	206	273	29.3	34.2	9.6	9.7	3.6	3.5
1997-1999 (1998)	223	278	26.2	32.3	10.1	10.3	3.2	3.1
1996-1998 (1997)	204	253	25.5	30.9	10.4	10.5	3.0	2.9
1995-1997 (1996)	208	257	24.3	29.8	10.4	10.6	2.9	2.8
1994-1996 (1995)	194	247	24.0	29.6	10.3	10.4	2.9	2.8
1993-1995 (1994)	179	218	23.7	29.0	10.2	10.2	2.8	2.8
1992-1994 (1993)	201	249	23.8	28.7	9.8	10.0	2.9	2.9
1991-1993 (1992)	156	197	24.2	29.8	9.7	9.8	3.1	3.0
1990-1992 (1991)	165	218	22.4	27.8	10.3	10.5	2.7	2.6
1989-1991 (1990)	149	186	22.4	27.5	11.0	11.2	2.5	2.5
1988-1990 (1989)	155	186	21.9	26.4	11.4	11.7	2.3	2.3
1987-1989 (1988)	155	188	23.2	27.5	11.5	11.7	2.4	2.4
1986-1988 (1987)	151	185	24.5	29.3	11.2	11.5	2.6	2.5
1985-1987 (1986)	171	202	25.4	30.1	10.7	11.0	2.8	2.7
1984-1986 (1985)	154	184	24.8	29.5	10.7	11.0	2.8	2.7
1983-1985 (1984)	134	166	24.2	29.2	10.6	11.0	2.8	2.7
1982-1984 (1983)	140	175	26.6	32.2	10.1	10.4	3.2	3.1
1981-1983 (1982)	168	204	29.4	35.1	10.2	10.5	3.4	3.3
1980-1982 (1981)	165	193	34.0	39.9	11.2	11.7	3.6	3.4
1979-1981 (1980)	193	230	35.4	40.6	11.8	12.2	3.4	3.3
(1979)	168	192						
1972-1974 (1973)	480	533	58.5	64.1	14.5	14.5	4.4	4.4

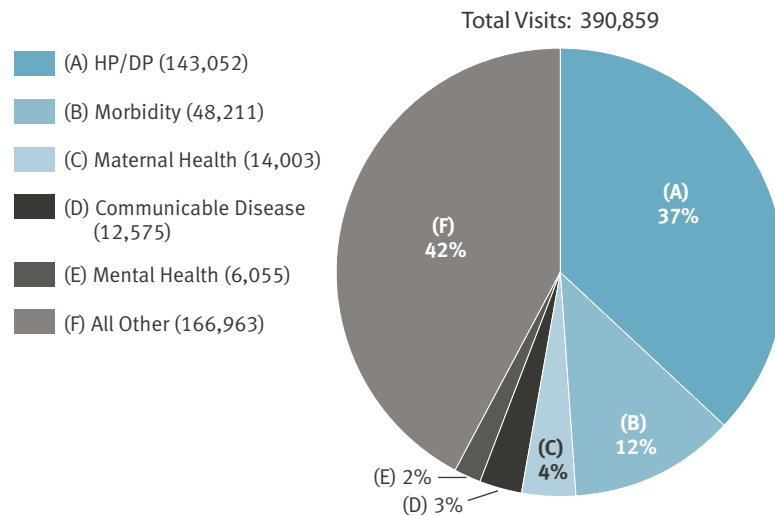
<sup>1</sup> Adjusted – specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of AI/AN race on state death certificates.

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

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

There were 390,859 public health nursing visits recorded in the Headquarters reports for FY 2013. The most frequent program areas dealt with during these visits were health promotion/disease prevention (37 percent of the visits) and morbidity (12 percent). A significant workload (42 percent of the visits) dealt with a general/other category which includes such activity as administrative, post-hospitalization, and a vast array of aftercare and medical follow up.

**Chart 6.7** IHS Public Health Nursing, Percent of Visits by Program Area Fiscal Year 2013



**Table 6.7** IHS Public Health Nursing Visits by Program Area, Fiscal Year 2013

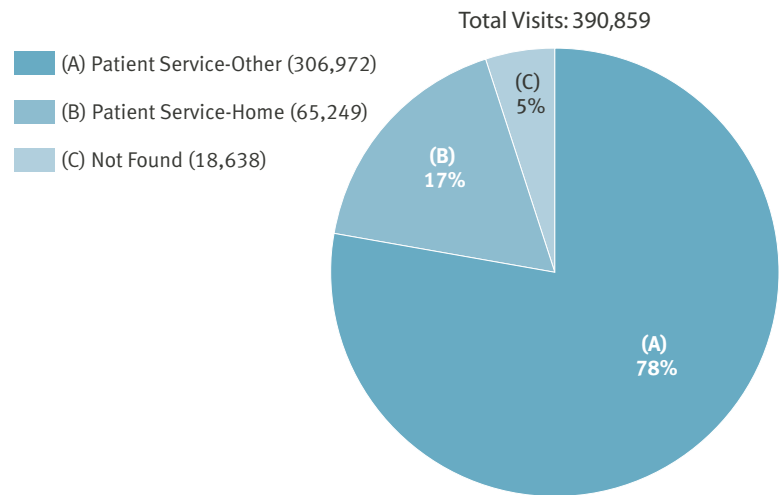
Program Area	Number of Visits	Percent Distribution
<b>Total Visits</b>	<b>390,859</b>	<b>100.0</b>
Health Promotion/Disease Prevention	143,052	36.6
Morbidity	48,211	12.3
Maternal Health	14,003	3.6
Communicable Disease	12,575	3.2
Mental Health	6,055	1.5
School Health	4,100	1.0
Accidents/Trauma	1,864	0.5
Child Health	69	0.0
General	157,632	40.3
Unspecified	3,298	0.8

SOURCE: IHS National Data Warehouse  
IHS HQ/OCPS/Division of Nursing Services



Seventeen (17) percent of public health nursing time in FY 2013 was devoted to patient service in the home, while seventy-eight (78) percent was spent on patient service outside the home. Five (5) percent of time in FY 2013, the public health nurse did not locate the patient at the home visit.

**Chart 6.8** IHS Public Health Nursing, Percent of PHN Visits by Type of Activity Fiscal Year 2013



**Table 6.8** IHS Public Health Nursing Visits Worked by Type of Activity, Fiscal Year 2013

Type of Activity	Number of Visits	Percent Distribution
<b>Total Visits</b>	<b>390,859</b>	<b>100.0</b>
Patient Service-Other <sup>1</sup>	306,972	78.5
Patient Service-Home <sup>2</sup>	65,249	16.7
Not Found	18,638	4.8

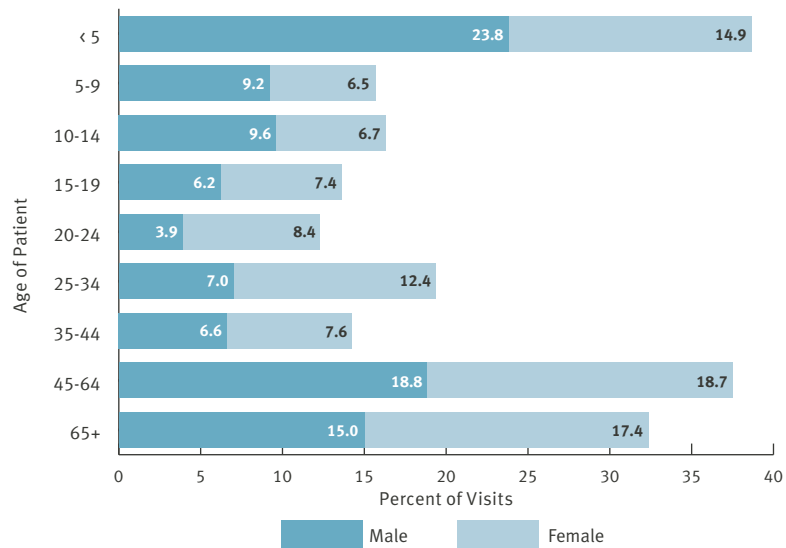
<sup>1</sup> The nurse provided health care service to a patient in a location other than in the patient's home (such as: School, Office visit, chart review, telephone, case management, or group event).

<sup>2</sup> The nurse provided health care service to a patient in the patient's home.

SOURCE: IHS National Data Warehouse  
IHS HQ/OCPS/Division of Nursing Services

For the public health nursing program in FY 2013 female visits outnumbered male visits by 60 percent. Nearly 24 percent of all visits pertained to males under 5 years of age and 15 percent pertained to males aged 65 and over. The corresponding percentages for females were nearly 15 percent and over 17 percent, respectively.

**Chart 6.9** IHS Public Health Nursing Percent Visits by Age and Sex, Fiscal Year 2013



**Table 6.9** IHS Public Health Nursing Visits by Age and Sex of Patients, Fiscal Year 2013

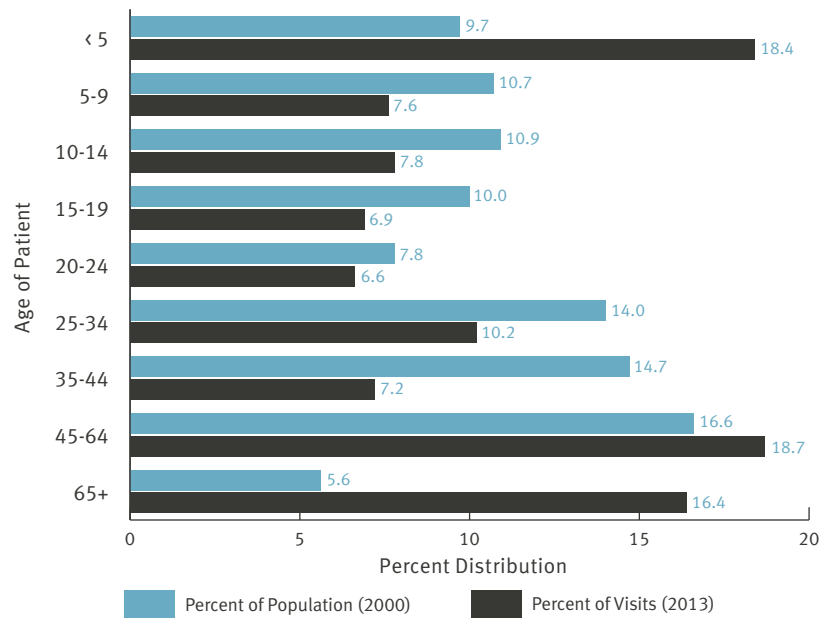
Age Group	Number of Visits <sup>1</sup>		Percent Distribution of All Visits		Ratio Female to Male
	Male	Female	Male	Female	
<b>All Ages</b>	<b>155,263</b>	<b>235,596</b>	<b>39.7</b>	<b>60.3</b>	<b>1.5</b>
Under 5 years	36,938	35,146	23.8	14.9	0.6
5 to 9 years	14,355	15,232	9.2	6.5	0.7
10 to 14 years	14,858	15,777	9.6	6.7	0.7
15 to 19 years	9,604	17,379	6.2	7.4	1.2
20 to 24 years	5,995	19,894	3.9	8.4	2.2
25 to 34 years	10,825	29,223	7.0	12.4	1.8
35 to 44 years	10,187	17,949	6.6	7.6	1.2
45 to 64 years	29,259	43,987	18.8	18.7	1.0
65 years +	23,242	41,009	15.0	17.4	1.2
Unspecified Age	0	0	0.0	0.0	0.0

<sup>1</sup> Visits are determined as those visits that have a PHN to provide health care service. There is only one patient per encounter, never multiple. If two patients were seen, it would be documented as two separate encounters with one patient per visit.

SOURCE: IHS National Data Warehouse  
IHS HQ/OCPS/Division of Nursing Services

In FY 2013, 18.4 percent of public health nursing visits pertained to children under 5 years of age and 16.4 percent pertained to adults over the age of 64. Based on the 2000 census bridged race, these two age groups comprised much smaller proportions of the AI/AN population 9.7 percent and 5.6 percent, respectively.

**Chart 6.10** IHS Public Health Nursing Visits by Age, Fiscal Year 2013 versus 2000 Census



**Table 6.10** IHS Public Health Nursing Visits by Age of Patients

*Fiscal Year 2013 Visits Compared with 2000 Census Data*

Age Group	PHN Visits		2000 Census Percent Distribution <sup>2</sup>	Ratio PHN Visit Distribution to 2000 Census
	Number <sup>1</sup>	Percent Distribution		
<b>All Ages</b>	<b>390,859</b>	<b>100.0</b>	<b>100.0</b>	
Under 5 years	72,084	18.4	9.7	2.1
5 to 9 years	29,587	7.6	10.7	0.7
10 to 14 years	30,635	7.8	10.9	0.6
15 to 19 years	26,983	6.9	10.0	0.7
20 to 24 years	25,889	6.6	7.8	0.8
25 to 34 years	40,048	10.2	14.0	0.6
35 to 44 years	28,136	7.2	14.7	0.5
45 to 64 years	73,246	18.7	16.6	1.0
65 years +	64,251	16.4	5.6	3.4
Unspecified Age	0	0.0	—*	—*

—\* Represents zero.

<sup>1</sup> Visits are determined as those visits that have a PHN to provide health care service. e.g., there is only one patient per encounter, never multiple.

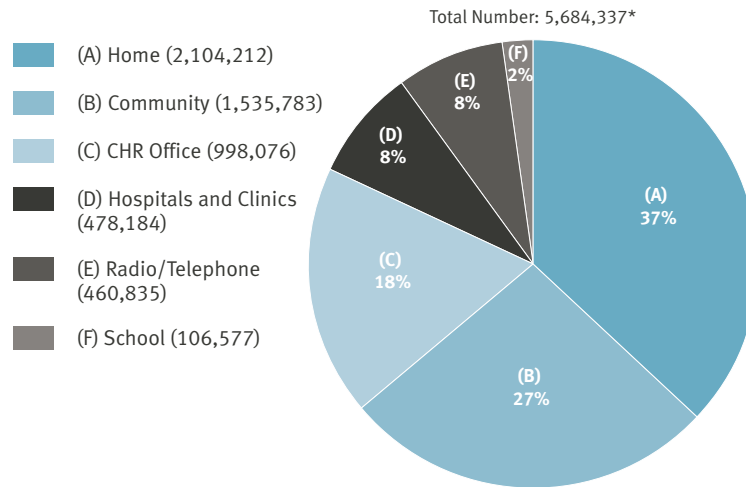
If two patients were seen, it would be documented as two separate encounters with one patient per visit.

<sup>2</sup> Based on 2000 census bridged-race file developed by the Census Bureau and the National Center for Health Statistics, Centers for Disease Control and Prevention.

SOURCE: IHS National Data Warehouse  
IHS HQ/OCPS/Division of Nursing Services

The community health representatives (CHR) program reported approximately 5.7 million client contacts in October 1, 2007 to September 30, 2013. Most of these contacts took place in the home (37 percent), followed by community (27 percent).

**Chart 6.11** Distribution of CHR Client Contacts by Setting  
October 1, 2007 to September 30, 2013



\* Total number includes 670 of client contacts which were not specified.

**Table 6.11** Community Health Representative Client Contacts by Setting  
October 1, 2007 to September 30, 2013

Activity Location	Number of Services	Percent Distribution	Service Hours	Percent Distribution	Number of Client Contacts <sup>1</sup>	Percent Distribution
<b>Total Client Contacts</b>	<b>3,603,968<sup>2</sup></b>	<b>100.0</b>	<b>1,337,993.04<sup>2</sup></b>	<b>100.0</b>	<b>5,684,337<sup>2</sup></b>	<b>100.0</b>
Home	2,093,138	58.1	513,387.37	38.4	2,104,212	37.0
Community	769,805	21.4	373,817.45	27.9	1,535,783	27.0
CHR Office	248,554	6.9	126,730.13	9.5	998,076	17.6
Hospitals and Clinics	346,243	9.6	287,004.70	21.5	478,184	8.4
Radio/Telephone	129,385	3.6	30,897.32	2.3	460,835	8.1
School	16,251	0.5	5,567.62	0.4	106,577	1.9

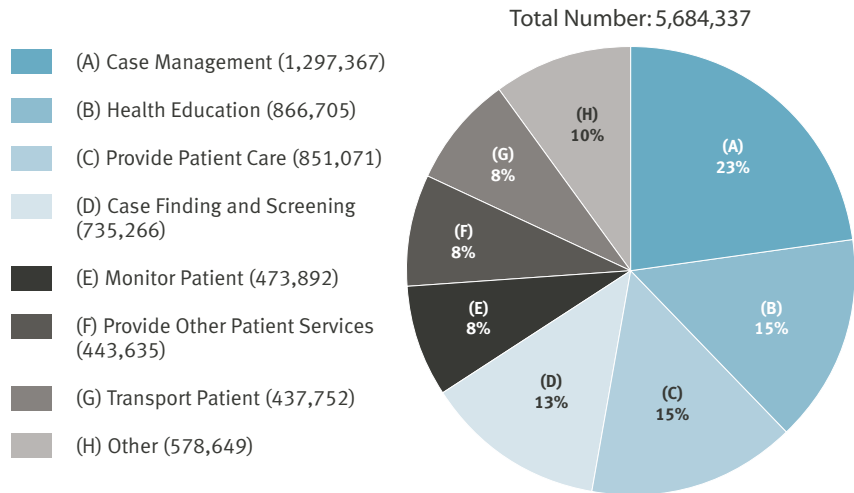
<sup>1</sup> Actual data based on CHR Client Contacts during these timeframes.

<sup>2</sup> Total includes 592 number of services; 588.45 service hours; and 670 number of client contacts which were not specified.

SOURCE: IHS HQ/OCPS/Community Health Representative

The three leading detailed activities for CHR contacts in October 1, 2007 to September 30, 2013 were case management (23 percent), health education (15 percent) and patient care (15 percent).

**Chart 6.12** CHR Client Contacts by Leading Detailed Activities October 1, 2007 to September 30, 2013



**Table 6.12** Community Health Representative Client Contacts for Leading Detailed Activities October 1, 2007 to September 30, 2013

Detailed Activity	Number of Services	Percent	Service Hours	Percent	Travel Hours	Percent	Number of Client Contacts <sup>1</sup>	Percent
<b>Total Client Contacts</b>	<b>3,603,968<sup>2,3</sup></b>	<b>100.0</b>	<b>1,337,993<sup>2</sup></b>	<b>100.0</b>	<b>946,881<sup>2</sup></b>	<b>100.0</b>	<b>5,684,337<sup>2</sup></b>	<b>100.0</b>
Case Management	471,419	13.1	176,438	13.2	92,657	9.8	1,297,367	22.8
Health Education	453,797	12.6	139,730	10.4	87,275	9.2	866,705	15.2
Provide Patient Care	753,607	20.9	211,562	15.8	201,810	21.3	851,071	15.0
Case Finding and Screening	559,820	15.5	89,828	6.7	80,504	8.5	735,266	12.9
Monitor Patient	435,835	12.1	96,332	7.2	121,308	12.8	473,892	8.3
Provide Other Patient Services	201,040	5.6	108,050	8.1	50,865	5.4	443,635	7.8
Transport Patient	385,372	10.7	390,480	29.2	231,214	24.4	437,752	7.7
Community Development	26,435	0.7	46,511	3.5	7,030	0.7	256,900	4.5
Provide Environmental Services	75,062	2.1	24,329	1.8	16,650	1.8	121,595	2.1
Interpret/Translate for Patient	80,424	2.2	15,272	1.1	19,151	2.0	97,967	1.7
Not Found	121,303	3.4	14,645	1.1	27,025	2.9	45,407	0.8
Provide Homemaker Services	35,663	1.0	20,411	1.5	10,044	1.1	43,553	0.8
Provide Emergency Care	4,160	0.1	4,328	0.3	1,314	0.1	13,191	0.2

<sup>1</sup> Actual data based on CHR Client Contacts during these timeframes.

<sup>2</sup> Total includes 31 number of services, 75.27 service hours, 34.41 travel hours and 36 number of client contacts which were not specified.

<sup>3</sup> Data represents top 10 CHR health problems and number of client services from data exports to RPMs CHR PCC.

SOURCE: IHSHQ/OCPS/Community Health Representative

The top leading health problems for CHR contacts in October 1, 2007 to September 30, 2013 were diabetes mellitus (15 percent), hypertension (10 percent), other health promotion/disease prevention (10 percent), heart (5 percent), nutrition (4 percent), and dialysis (4 percent). The remaining 52 percent include all other health problems.

Chart 6.13

### Leading Health Problems for CHR Client Contacts October 1, 2007 to September 30, 2013

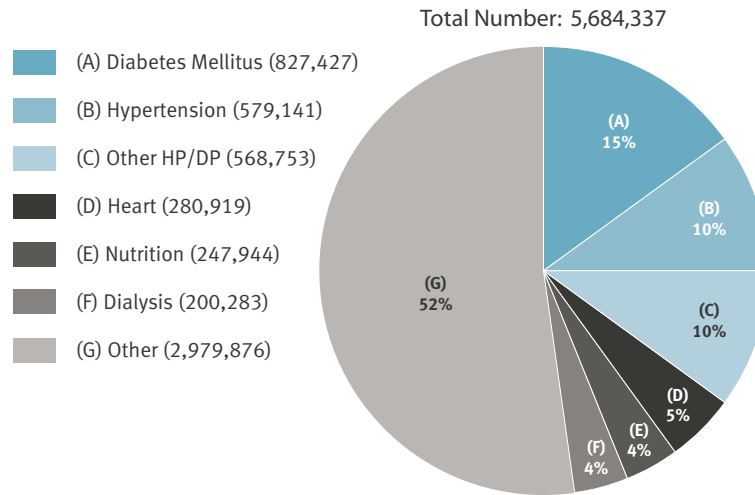


Table 6.13

### Community Health Representative Client Contacts for Top Leading Health Problems October 1, 2007 to September 30, 2013

Health Problems	Number of Services	Percent Distribution	Service Hours	Percent Distribution	Number of Client Contacts <sup>1</sup>	Percent Distribution
<b>Total Service</b>	<b>3,603,968<sup>2</sup></b>	<b>100.0</b>	<b>1,337,993.03<sup>2</sup></b>	<b>100.0</b>	<b>5,681,337<sup>2</sup></b>	<b>100.0</b>
Diabetes Mellitus	690,725	19.2	187,948.43	14.0	827,427	14.6
Hypertension	528,414	14.7	91,432.82	6.8	579,141	10.2
Other Health Promotion/Disease Prevention	275,086	7.6	153,973.63	11.5	568,753	10.0
Heart	212,660	5.9	42,741.35	3.2	280,919	4.9
Nutrition	168,771	4.7	45,839.13	3.4	247,944	4.4
Dialysis	157,188	4.4	130,888.35	9.8	200,283	3.5
Other Respiratory	126,203	3.5	15,812.18	1.2	138,306	2.4
Socio-Economic Assistance	94,556	2.6	33,261.63	2.5	138,162	2.4
Injury Control	84,759	2.4	29,671.88	2.2	134,510	2.4
Fitness	76,389	2.1	44,355.08	3.3	124,744	2.2

<sup>1</sup> Actual data based on CHR Client Contacts during these timeframes.

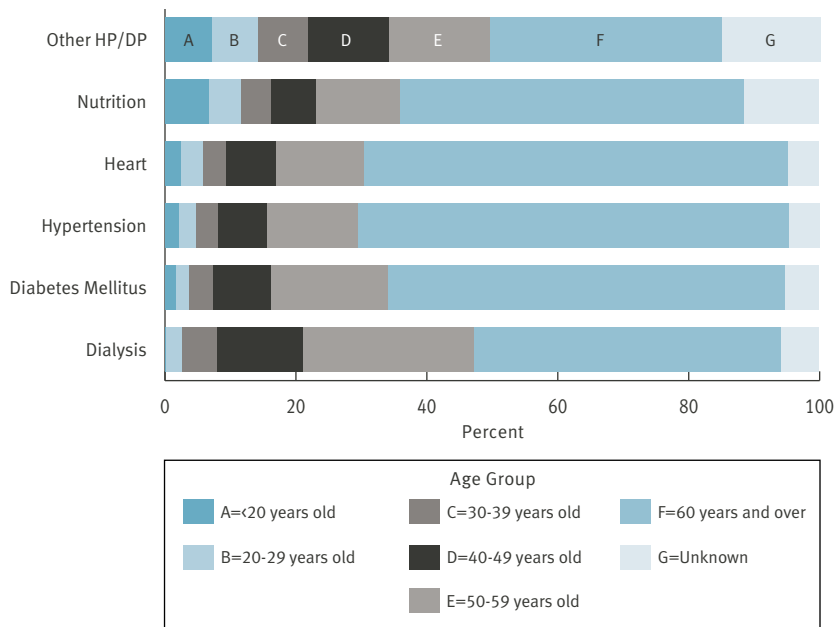
<sup>2</sup> Total includes 1,189,217 number of services (33 percent); 562,068.55 service hours (42 percent), and 2,444,148 number of client contacts (43 percent) were not specified.

Data represents top 10 CHR health problems and number of client services from data exports to RPMS CHR PCC.

SOURCE: IHS HQ/OCPS/Community Health Representative

Data reflect the top six health problems by percentages of age for which CHR provide services. It is clear that patients over 60 are primary recipients.

**Chart 6.14** Leading Health Problems for CHR Client Contacts by Age October 1, 2007 to September 30, 2013



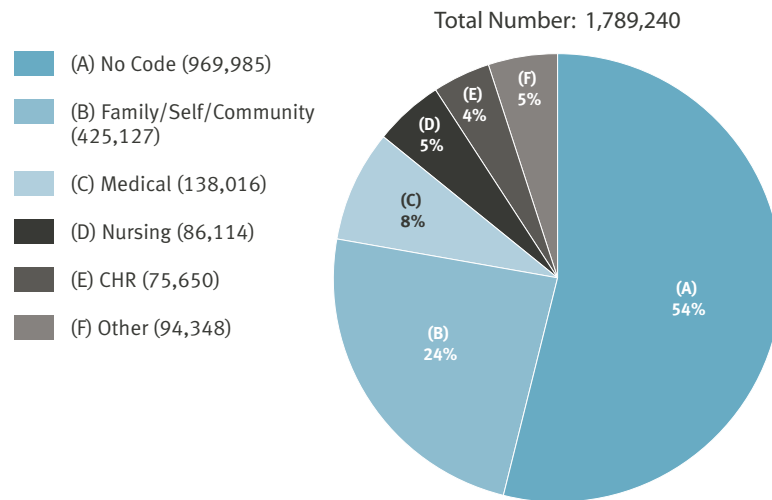
**Table 6.14** Community Health Representative Client Contacts for Leading Health Problems by Age October 1, 2007 to September 30, 2013

Health Problem	Ages							
	0-9	10-19	20-29	30-39	40-49	50-59	60+	Unknown
Other Health Promotion/Disease Prevention	3.5	3.6	7.1	7.5	12.4	15.5	35.5	15.0
Nutrition	5.0	1.7	4.9	4.5	7.0	12.8	52.4	11.6
Heart	0.6	1.8	3.3	3.6	7.6	13.5	64.7	4.8
Hypertension	0.6	1.4	2.6	3.4	7.6	13.9	65.8	4.7
Diabetes Mellitus	0.5	1.1	2.0	3.7	8.9	17.8	60.7	5.2
Dialysis	0.0	0.1	2.4	5.4	13.2	26.0	47.0	5.8

SOURCE: IHSQ/OCPS/Community Health Representative

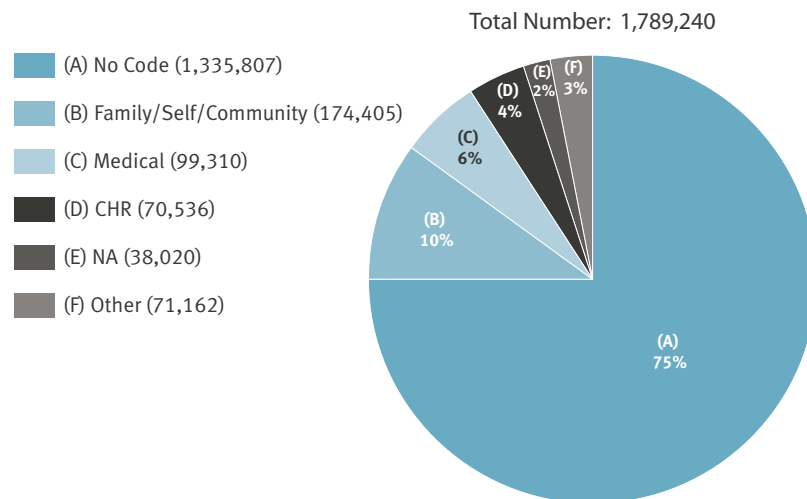
The CHR program reported receiving 1,789,240 referrals in FY 2007-2013. Family/Self/Community referrals comprised 24 percent of the total, while 8 percent came from medical referrals. Incoming referrals were for individual patient services. No code was reported for 54 percent, but reporting incoming referrals was not a required field for CHR to complete in CHR PCC during this timeframe.

**Chart 6.15** Leading Types of CHR, Incoming Client Referrals, Fiscal Years 2007-2013



The CHR program reported making 1,789,240 referrals in FY 2007-2013. Family/self/community made up 10 percent of outgoing CHR referrals, while medical referrals were 6 percent and CHR was 4 percent. Outgoing referrals were for individual patient services. No code was reported for 75 percent, but reporting outgoing referrals was not a required field for CHR to complete in CHR PCC during this timeframe.

**Chart 6.16** Leading Types of CHR, Outgoing Client Referrals, Fiscal Years 2007-2013





Since 1960, Indian Health Service has funded the provision of sanitation facilities for over 302,000 Indian homes.

**Chart 6.17** Types of Indian Homes, Provided with Sanitation Facilities by IHS through 2013

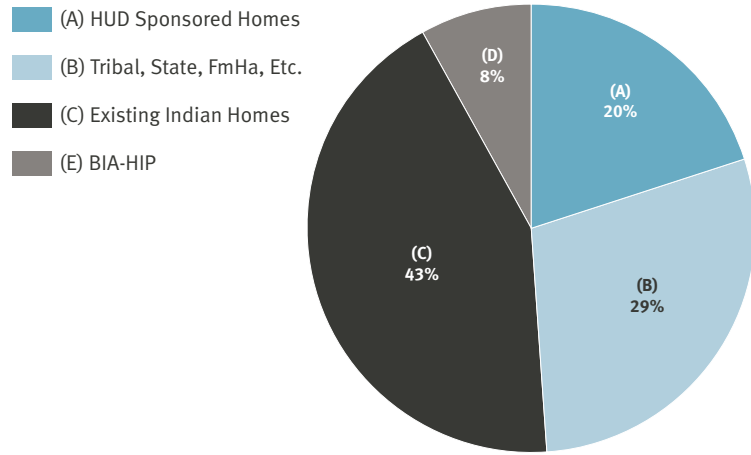


Table 6.17 Indian Homes Provided with Sanitation Facilities by IHS, Fiscal Years 1960-2013

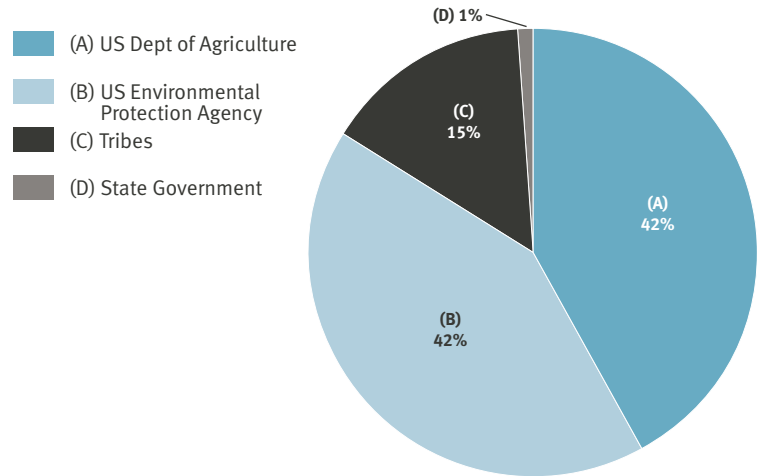
Fiscal Year	Total First Service	First Service & Upgrade	Existing First Service	HUD First Service	HIP First Service	Tribal & Other	Total Upgrade
<b>Total</b>	<b>302,801</b>	<b>714,541</b>	<b>130,397</b>	<b>61,897</b>	<b>23,456</b>	<b>87,052</b>	<b>411,740</b>
2013	3,223	19,042	2,541	5	40	637	15,819
2012	2,883	19,417	1,692	9	38	1,144	16,534
2011	3,913	21,984	2,604	21	40	1,249	18,071
2010	4,136	18,638	2,203	203	125	1,605	14,502
2009	7,703	45,325	6,276	96	138	1,193	37,622
2008	4,033	21,811	1,807	30	135	2,061	17,778
2007	3,698	25,517	2,079	41	86	1,492	21,819
2006	3,177	24,090	1,766	79	30	1,302	20,913
2005	4,424	24,072	2,029	23	123	2,249	19,648
2004	4,939	24,928	2,391	5	112	2,431	19,989
2003	6,460	22,750	2,689	422	334	3,015	16,290
2002	4,985	21,996	1,232	186	212	3,355	17,011
2001	5,862	18,978	1,670	503	217	3,472	13,116
2000	5,748	17,296	1,674	331	201	3,542	11,548
1999	5,471	18,003	1,740	497	244	2,990	12,532
1998	6,987	17,479	2,815	643	232	3,297	10,492
1997	6,919	19,912	2,306	1,109	397	3,107	12,993
1996	6,779	15,151	2,565	1,161	435	2,618	8,372
1995	5,915	12,041	1,847	920	457	2,691	6,126
1994	6,457	15,612	1,564	1,867	307	2,719	9,155
1993	6,434	14,084	1,663	1,247	415	3,109	7,650
1992	5,506	15,116	1,911	910	394	2,291	9,610
1991	7,600	13,300	2,099	1,668	645	3,188	5,700
1990	4,572	7,407	524	1,679	468	1,901	2,835
1980-1989	60,491	100,853	16,473	19,225	7,003	17,790	40,362
1970-1979	69,607	91,078	24,874	24,168	9,247	11,318	21,471
1960-1969	44,879	48,661	37,363	4,849	1,381	1,286	3,782

NOTE: Data for the later years represent estimates of services to be provided.

SOURCE: IHSQ/OEHE/Sanitation Facilities Construction Program

Contributions to Indian Health Service sanitation facilities projects are received from numerous sources. In FY 2013, 42 percent of the contributions were attributed to the US Department of Agriculture and 42 percent by the US Environmental Protection Agency. Tribes contributed fifteen percent of the funds for these cooperative projects, followed by State Government with one percent.

**Chart 6.18** Contributions to IHS, Sanitation Facilities Projects, Fiscal Year 2013



**Table 6.18** P.L. 86-121 Program—Summary of Cash

*Contributions Received in Fiscal Year 2013 by Contributor*

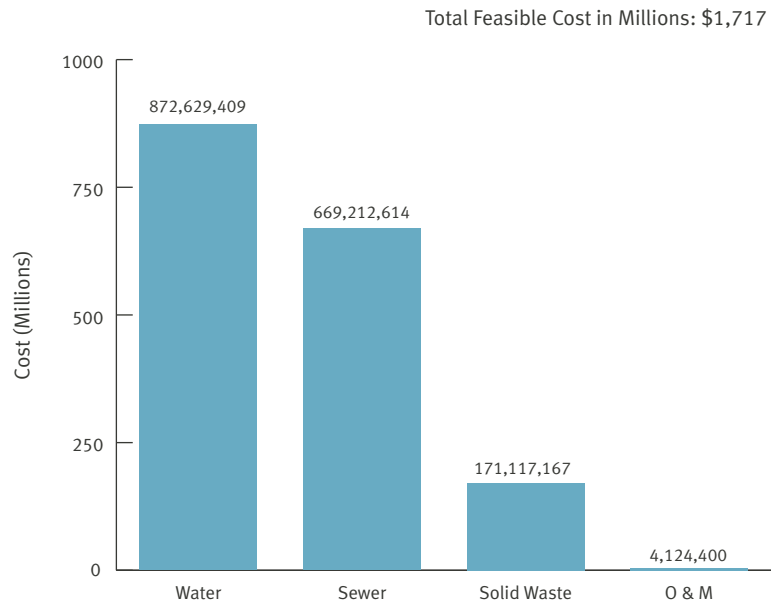
Contributor	Contributions	Percent
<b>Total</b>	<b>\$112,105,722</b>	<b>16.4</b>
US Department of Agriculture	\$47,071,817	42.0
US Environmental Protection Agency	\$46,704,318	42.0
Tribes <sup>1</sup>	\$16,811,087	15.0
State Government	\$1,129,500	1.0
Department of Housing and Urban Development (DHUD) Infrastructure	\$389,000	0.3

<sup>1</sup> Includes EPA and DHUD Community Development Block Grant funds that were contributed by Tribes.

SOURCE: IHSHQ/OEHE/Sanitation Facilities Construction Program

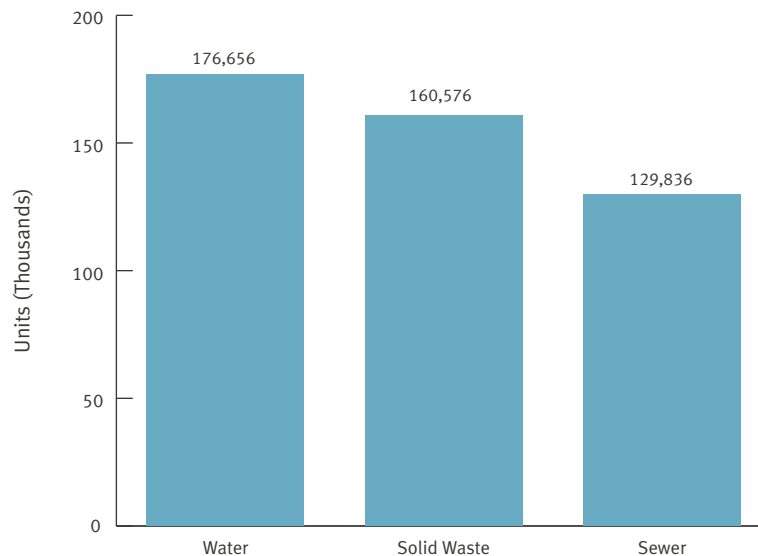
The FY 2013 sanitation deficiency of \$1,717 million to serve existing AI/AN homes and communities represents the cost to provide first service sanitation facilities, to upgrade existing facilities, to provide solid waste facilities, and to provide assistance to operation and maintenance organizations.

Chart 6.19 Sanitation Facilities Deficiencies, FY 2013—Costs



The sanitation facility deficiency for AI/AN homes and communities is categorized into requirements for water, sewer, assistance to establish and equip organizations to operate and maintain the facilities, and solid waste disposal systems. Units are the total number of homes.

Chart 6.20 Sanitation Facilities Deficiencies, FY 2013—Units



**Table 6.19** Sanitation Facilities Deficiency Summary, Fiscal Year 2013

	Total	
	Units	Cost (thousands)
<i>Total Eligible Deficiency: \$1,717,083,590<sup>1</sup></i>		
Water	176,656	\$872,629
Sewer	129,836	\$669,213
Solid Waste	160,576	\$171,117
Operation and Maintenance	0	\$4,124

Units are the total number of homes

<sup>1</sup> Cost estimates are for projects in current IHS funding plan. Additional projects totaling approximately \$1,368 million, mostly for the provision of piped water and sewer to 2-5 percent of existing American Indian and Alaska Native homes and communities, are not considered economically feasible at the this time.

SOURCE: IHSQ/OEHE/Sanitation Facilities Construction Program

In FY 2013, 4,800,312 patient education topics were provided to patients through a diverse range of health care disciplines. Pharmacists documented 25 percent of the patient education provided to patients, followed by clinical nurses (23 percent), physicians (12 percent), LPNs (9 percent), nursing assistants (7 percent), public health nurses and nurse practitioners (5 percent). Other disciplines individually provided less than 5 percent and are grouped together in the other category, which altogether provided 14 percent of patient education.

Chart 6.21 IHS Clinicians Documenting Patient Education, Fiscal Year 2013

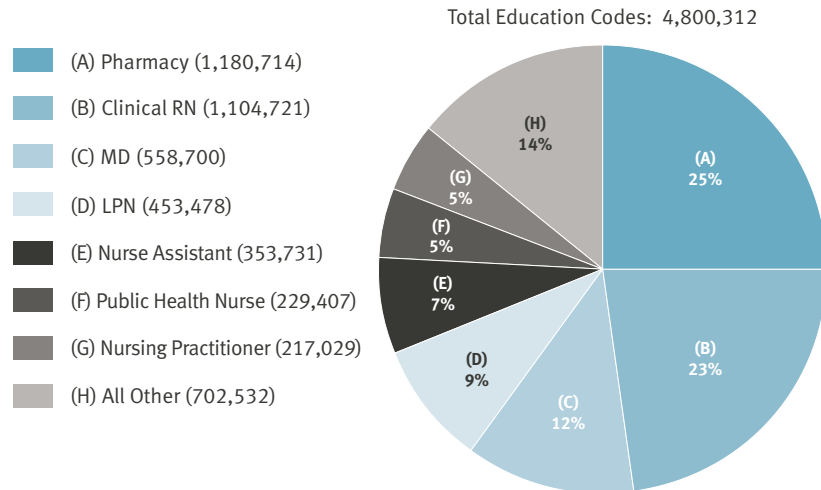


Table 6.21 IHS Clinicians Documenting Patient Education, Fiscal Year 2013

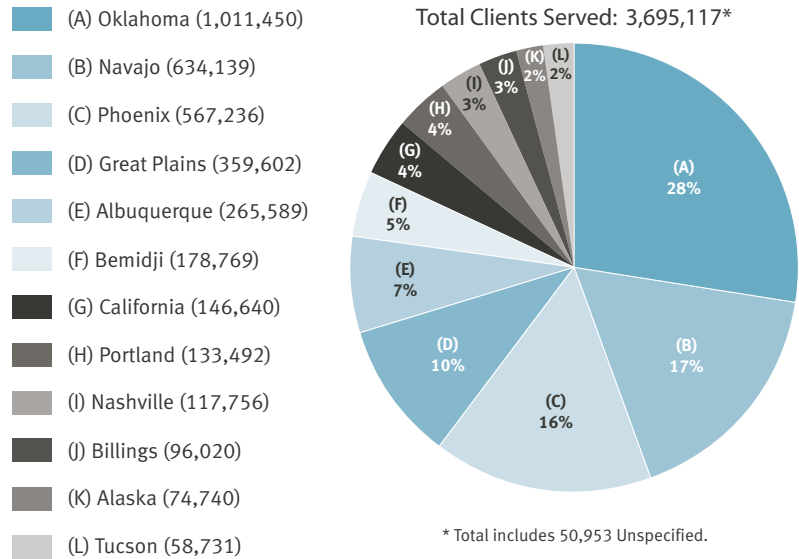
Provider	Number of Education Codes Documented	Percent Distribution
<b>Total Education Codes</b>	<b>4,800,312</b>	<b>100.0</b>
Pharmacy	1,180,714	24.6
Clinical RN	1,104,721	23.0
MD	558,700	11.6
LPN	453,478	9.4
Nurse Assistant	353,731	7.4
Public Health Nurse	229,407	4.8
Nurse Practitioner	217,029	4.5
Family Practice	187,535	3.9
Physician Assistant	160,888	3.4
Pediatrics	142,124	3.0
Internal Medicine	86,311	1.8
Dentist	43,515	0.9
Contract Physician	42,917	0.9
Emergency Room Physicians	39,242	0.8

SOURCE: IHS National Data Warehouse

Office of Clinical and Preventive Services, Health Promotion/Disease Prevention and Health Education Program

In FY 2013, patient education was provided to 3,695,117 patients. Areas documenting the highest levels of patient education are: Oklahoma City (28 percent), Navajo (17 percent), and Phoenix (16 percent).

Chart 6.22 IHS Clients Served by IHS Areas, Fiscal Year 2013



Most patient education is provided in the hospital (51 percent) or health center (42 percent) location. Health locations, health stations, and village clinics, account for approximately 7 percent of health education provided and the remaining 1 percent of health education is provided in other health care related settings.

Chart 6.23 IHS Patient Education, Percent of Clients Served by Location, Fiscal Year 2013

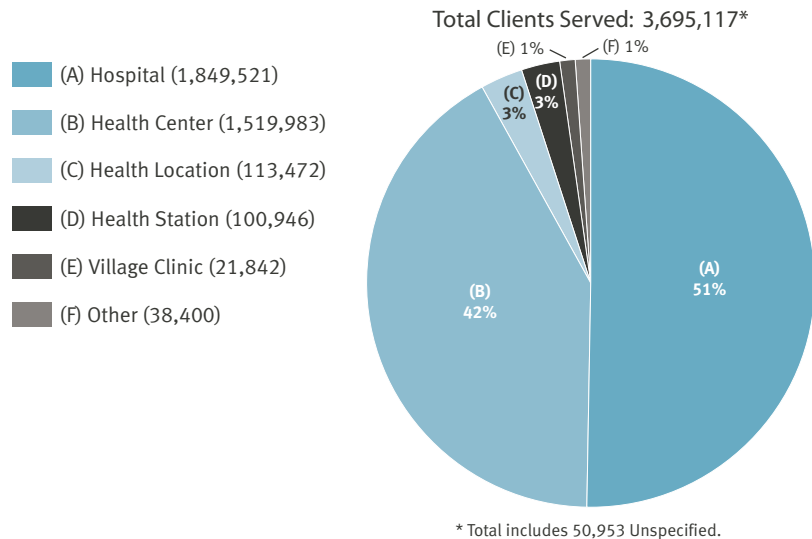


Table 6.22 IHS Clients Served by Location, Fiscal Year 2013

Area	Total	Hospital	Health Center	Health Location	Health Station	Village Clinic	School	Other <sup>1</sup>
<b>Total Clients</b>	<b>3,695,117<sup>2</sup></b>	<b>1,849,521</b>	<b>1,519,983</b>	<b>113,472</b>	<b>100,946</b>	<b>21,842</b>	<b>2,885</b>	<b>35,515</b>
Alaska	74,740	26,139	24,705	1,594	265	21,842	186	9
Albuquerque	265,589	129,344	116,583	6,191	13,397	0	0	74
Bemidji	178,769	61,296	96,710	11,179	9,579	0	0	5
Billings	96,020	26,852	54,309	297	14,324	0	0	238
California	146,640	0	131,867	10,984	3,716	0	0	73
Great Plains	359,602	204,582	129,185	3,069	2,823	0	0	19,943
Nashville	117,756	71,656	29,044	235	5,708	0	0	11,113
Navajo	634,139	422,577	140,674	32,603	38,187	0	94	4
Oklahoma	1,011,450	441,061	533,043	36,715	0	0	348	283
Phoenix	567,236	442,282	112,556	5,261	3,180	0	2,257	1,700
Portland	133,492	0	121,338	2,387	9,767	0	0	0
Tucson	58,731	23,732	29,969	2,957	0	0	0	2,073

<sup>1</sup> "Other" includes facility types categorized as other, home, office, dental clinic, administration, standalone urgent care facility, behavioral health facility, psychiatric inpatient, extended/elder care, or alcohol/substance abuse treatment facility.

<sup>2</sup> Total includes 50,953 unspecified.

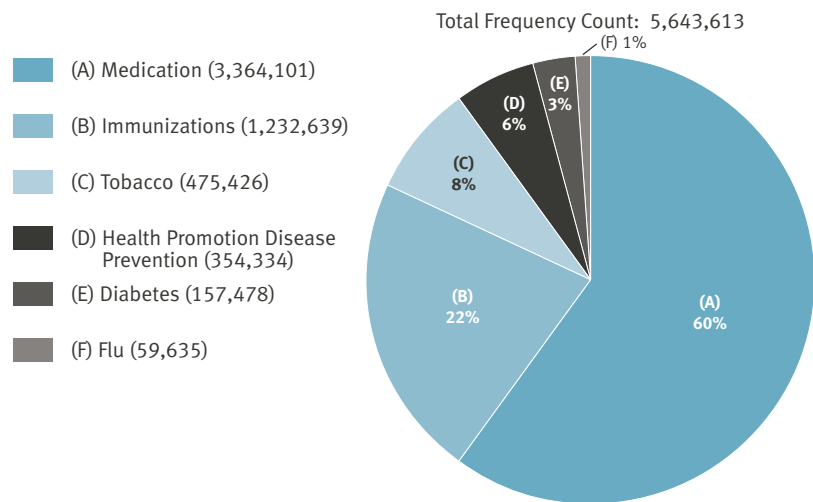
SOURCE: IHS National Data Warehouse

Office of Clinical and Preventive Services, Health Promotion/Disease Prevention and Health Education Program



In FY 2013, the top 2 patient education codes comprised 81 percent of all patient education codes provided (4,596,740 codes out of a total 5,643,613). The top 25 education codes are grouped in six categories. The most education was provided on medications (60 percent), followed by immunizations (22 percent), tobacco (8 percent), Health Promotion and Disease Prevention (6 percent), diabetes (3 percent), and flu (1 percent).

**Chart 6.24** Top 25 IHS Patient and Family Education, Code Documented by All IHS Areas, Fiscal Year 2013



**Table 6.24** Top 25 IHS Patient and Family Education Code Documented by All IHS Areas, Fiscal Year 2013

Patient and Family Education Code Documented	Frequency Count
<b>Total Documented</b>	<b>5,643,613</b>
Medication, Reconciliation (M-MR)	1,754,826
Medication, Information (M-I)	960,372
Immunization, Information (IM-I)	441,693
Medications, Patient Information Literature (M-L)	414,636
Immunization, Patient Information Literature (IM-L)	377,041
HPDP, Exercise (HPDP-Ex)	161,412
Medication, Dispensation to Proxy (M-PRX)	154,164
Immunization, Schedule (IM-SCH)	152,974
Tobacco, Quit (TO-QT)	142,301
TO-Second-hand/Third-hand smoke (TO-SHS)	104,232
Immunization, Prevention (IM-P)	96,454
Immunization, Follow Up (IM-FU)	91,425
TO-Prevention (TO-P)	82,490
HPDP-Screening (HPDP-SCR)	81,479
Medication, Follow Up (M-FU)	80,103
IM-Deficiency (IM-DEF)	73,052
Flu-Literature (FLU-L)	59,635
Diabetes Mellitus, Exercise (DM-EX)	57,775
HPDP-Lifestyle Adaptations (HPDP-LA)	56,209
TO-Complications (TO-C)	55,624
HPDP-Literature (HPDP-L)	55,234
DM-Footcare and Examinations (DM-FTC)	53,534
TO-Literature (TO-L)	47,160
Diabetes Mellitus, Follow Up (DM-FU)	46,169
TO-Lifestyle Adaptations (TO-LA)	43,619

SOURCE: IHS National Data Warehouse  
Office of Clinical and Preventive Services, Health Promotion/Disease Prevention and Health Education Program



## GLOSSARY OF ICD-10 CODES

### LIST OF 113 CAUSES OF DEATH (1999-PRESENT)

Cause of Death	ICD-10 Codes
Salmonella infections	A01-A02
Shigellosis and amebiasis	A03, A06
Certain other intestinal infections	A04, A07-A09
Tuberculosis	A16-A19
Respiratory Tuberculosis	A16
Other Tuberculosis	A17-A19
Whooping cough	A37
Scarlet fever and erysipelas	A38, A46
Meningococcal infection	A39
Septicemia	A40-A41
Syphilis	A50-A53
Acute poliomyelitis	A80
Arthropod-borne viral encephalitis	A83-A84, A85.2
Measles	B05
Viral Hepatitis	B15-B19
Human immunodeficiency virus (HIV) disease	B20-B24
Malaria	B50-B54
Other and unspecified infections and parasitic diseases and their sequelae	A00, A05, A20-A36, A42-A44, A48-A49, A54-A79, A81-A82, A85.0-A85.1, A85.8, A86-B04, B06-B09, B25-B49, B55-B99
Malignant neoplasm	C00-C97
Malignant neoplasm of lip, oral cavity and pharynx	C00-C14
Malignant neoplasm of esophagus	C15
Malignant neoplasm of stomach	C16
Malignant neoplasm of colon, rectum, anus	C18-C21
Malignant neoplasm of liver and intrahepatic bile ducts	C22
Malignant neoplasm of pancreas	C25
Malignant neoplasm of larynx	C32
Malignant neoplasm of trachea, bronchus and lung	C33-C34
Malignant melanoma of skin	C43
Malignant neoplasm of breast	C50
Malignant neoplasm of cervix uteri	C53
Malignant neoplasm of corpus uteri and uterus, part unspecified	C54-C55
Malignant neoplasm of ovary	C56
Malignant neoplasm of prostate	C61
Malignant neoplasm of kidney and renal pelvis	C64-C65

Cause of Death	ICD-10 Codes
Malignant neoplasm of bladder	C67
Malignant neoplasm of meninges, brain, and other parts of central nervous system	C70-C72
Malignant neoplasm of lymphoid, hematopoietic and related tissue	C81-C96
Hodgkin's disease	C81
Non-Hodgkin's lymphoma	C82-C85
Leukemia	C91-C95
Multiple myeloma and immunoproliferative neoplasm	C88, C90
Other and unspecified malignant neoplasm of lymphoid, hematopoietic and related tissue	C96
All other unspecified malignant neoplasm	C17, C23-C24, C26-C31, C37-C41, C44-C49, C51-C52, C57-C60, C62-C63, C66, C68-C69, C73-C80, C97
In situ neoplasm, benign neoplasm and neoplasm of uncertain or unknown behavior	D00-D48
Anemia	D50-D64
Diabetes mellitus	E10-E14
Nutritional deficiencies	E40-E64
Malnutrition	E40-E46
Other nutritional deficiencies	E50-E64
Meningitis	G00, G03
Parkinson's disease	G20-G21
Alzheimer's disease	G30
Major cardiovascular diseases	I00-I78
Diseases of heart	I00-I09, I11, I13, I20-I51
Acute rheumatic fever and chronic rheumatic heart diseases	I00-I09
Hypertensive heart disease	I11
Hypertensive and renal disease	I13
Ischemic heart disease	I20-I25
Acute myocardial infraction	I21-I22
Other acute ischemic heart diseases	I24
Other forms of chronic ischemic heart disease	I20-I25
Atherosclerotic cardiovascular disease, so described	I25.0
All other forms of chronic ischemic heart disease	I20, I25.1-I25.9
Other heart diseases	I26-I51
Acute and subacute endocarditis	I33
Diseases of pericardium and acute myocarditis	I30-I31, I40
Heart failure	I50
All other forms of heart disease	I26-I28, I34-I38, I42-I49, I51
Essential (primary) hypertension and hypertensive renal disease	I10, I12, I15
Cerebrovascular disease	I60-I69

Cause of Death	ICD-10 Codes
Atherosclerosis	I70
Other diseases of circulatory system	I71-I78
Aortic aneurysm and dissection	I71
Other diseases of arteries, arterioles and capillaries	I72-I78
Other disorders of circulatory system	I80-I99
Influenza and pneumonia	J10-J18
Influenza	J10-J11
Pneumonia	J12-J18
Other acute lower respiratory infections	J20-J22, U04
Acute bronchitis and bronchiolitis	J20-J21
Unspecified acute lower respiratory infection	J22, U04
Chronic lower respiratory diseases	J40-J47
Bronchitis chronic and unspecified	J44, J47
Emphysema	J43
Asthma	J45-J46
Other chronic lower respiratory diseases	J44, J47
Pneumoconioses and chemical effects	J60-J66, J68
Pneumonitis due to solids and liquids	J69
Other diseases of respiratory system	J00-J06, J30-J39, J67, J70-J98
Peptic ulcer	K25-K28
Diseases of appendix	K35-K38
Hernia	K40-K46
Chronic liver disease and cirrhosis	K70, K73-K74
Alcoholic liver disease	K70
Other chronic liver disease and cirrhosis	K73-K74
Cholelithiasis and other disorders of gall bladder	K80-K82
Nephritis, nephritic syndrome and nephrosis	N00-N07, N17-N19, N25-N27
Acute and rapidly progressive nephritic and nephritic syndrome	N00-N01, N04
Chronic glomerulonephritis, nephritis and nephropathy not specified as acute or chronic, and renal sclerosis unspecified	N02-N03, N05-N07, N26
Renal failure	N17-N19
Other disorders of kidney	N25, N27
Infections of kidney	N10-N12, N13.6, N15.1
Hyperplasia of prostate	N40
Inflammatory diseases of female pelvic organs	N70-N76
Pregnancy, childbirth and the puerperium	O00-O99
Pregnancy with abortive outcome	O00-O07

Cause of Death	ICD-10 Codes
Other complications of pregnancy, childbirth and the puerperium	O10-O99
Certain conditions originating in the perinatal period	P00-P96
Congenital malformations, deformations and chromosomal abnormalities	Q00-Q99
Symptoms, signs, and abnormal clinical and laboratory findings not elsewhere classified	R00-R99
<hr/>	
All other diseases	Residual
Accidents (unintentional injuries)	V01-X59, Y85-Y86
Transport accidents	V01-V99, Y85
Motor vehicle accidents	V02-V04, V09.0-V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
Other land transport accidents	V01, V05-V06, V09.1, V09.3-V09.9, V10-V11, V15-V18, V19.3, V19.8-V19.9, V80.0-V80.2, V80.6-V80.9, V81.2-V81.9, V82.2-V82.9, V87.9, V88.9, V89.1, V89.3, V89.9
Water, air and space and other and unspecified transport accidents and their sequelae	V90-V99, Y85
Nontransport accidents	W00-X59, Y86
Falls	W00-W19
Accidental discharge of firearms	W32-W34
Accidental drowning and submersion	W65-W74
Accidental exposure to smoke, fire and flames	X00-X09
Accidental poisoning and exposure to noxious substances	X40-X49
Other and unspecified nontransport accidents and their sequelae	W20-W31, W35-W64, W75-W99, X10-X39, X50-X59, Y86
Intentional self-harm (suicide)	U03, X60-X84, Y87.0
Intentional self-harm (suicide) by discharge of firearms	X72-X74
Intentional self-harm (suicide) by other and unspecified means and their sequelae	U03, X60-X71, X75-X84, Y87.0
Assault (homicide)	U01-U02, X85-Y09, Y87.1
Assault (homicide) by discharge of firearms	U01.4, X93-X95
Assault (homicide) by other and unspecified means and their sequelae	U01.0-U01.3, U01.5-U01.9, U02, X85-X92, X96-Y09, Y87.1
Legal intervention	Y35, Y89.0
Events of undetermined intent	Y10-Y34, Y87.2, Y89.9
Discharge of firearms, undetermined intent	Y22-Y24
Other and unspecified events of undetermined intent and their sequelae	Y10-Y21, Y25-Y34, Y87.2, Y89.9
Operations of war and their sequelae	Y36, Y89.1
Complications of medical and surgical care	Y40-Y84, Y88

## LIST OF 130 CAUSES OF INFANT DEATH (1999-PRESENT)

Cause of Death	ICD-10 Codes
Certain infections and parasitic diseases	A00-B99
Certain intestinal infectious diseases	A00-A08
Diarrhea and gastroenteritis of infectious origin	A09
Tuberculosis	A16-A19
Tetanus	A33, A35
Diphtheria	A36
Whooping cough	A37
Meningococcal infection	A39
Septicemia	A40-A41
Congenital syphilis	A50
Gonococcal infection	A54
Viral diseases	A80-B34
Acute poliomyelitis	A80
Varicella (chickenpox)	B01
Measles	B05
Human immunodeficiency virus (HIV) disease	B20-B24
Mumps	B26
Other and unspecified viral diseases	A81-B00, B02-B04, B06-B19, B25, B27-B34
Candidiasis	B37
Malaria	B50-B54
Pneumocystosis	B59
All other and unspecified infectious and parasitic diseases	A20-A32, A38, A42-A49, A51-A53, A55-A79, B35-B36, B38-B49, B55-B58, B60-B99
Neoplasm	C00-D48
Malignant neoplasm	C00-C97
Hodgkin's disease and non-Hodgkin's lymphomas	C81-C85
Leukemia	C91-C95
Other and unspecified malignant neoplasm	C00-C80, C88-C90, C96-C97
In situ neoplasm, benign, neoplasm and neoplasm of uncertain or unknown behavior	D00-D48
Diseases of the blood and blood forming organs and certain disorders involving the immune mechanism	D50-D89
Anemias	D50-D64
Other diseases of blood and blood forming organs	D65-D76
Certain disorders involving the immune mechanism	D80-D89
Endocrine, nutritional and metabolic diseases	E00-E88
Short stature, not elsewhere classified	E34.3

Cause of Death	ICD-10 Codes
Malnutrition and other nutritional deficiencies	E40-E64
Cystic fibrosis	E84
Volume depletion, disorders of fluid, electrolyte and acid-base balance	E86-E87
All other endocrine, nutritional and metabolic diseases	E00-E32, E34.0-E34.2, E34.4-E34.9, E65-E83, E85, E88
Diseases of the nervous system	G00-G98
Meningitis	G00, G03
Infantile spinal muscular atrophy, type I (Werdnig-Hoffman)	G12.0
Infantile cerebral palsy	G80
Anoxic brain damage, not elsewhere classified	G93.1
Other diseases of nervous system	G04, G06-G11, G12.1-G12.9, G20-G72, G81-G92, G93.0, G93.2-G93.9, G95-G98
Diseases of the ear and mastoid process	H60-H93
Diseases of the circulatory system	I00-I99
Pulmonary heart disease and diseases of pulmonary circulation	I26-I28
Pericarditis, endocarditis and myocarditis	I30, I33, I40
Cardiomyopathy	I42
Cardiac arrest	I46
Cerebrovascular disease	I60-I69
All other diseases of the circulatory system	I00-I25, I31, I34-I38, I44-I45, I47-I51, I70-I99
Diseases of the respiratory system	J00-J98
Acute upper respiratory infections	J00-J06
Influenza and pneumonia	J10-J18
Influenza	J10-J11
Pneumonia	J12-J18
Acute bronchitis and acute bronchiolitis	J20-J21
Bronchitis, chronic and unspecified	J40-J42
Asthma	J45-J46
Pneumonitis due to solids and liquids	J69
Other and unspecified diseases of the respiratory system	J22, J30-J39, J43-J44, J47-J68, J70-J98
Diseases of the digestive system	K00-K92
Gastritis, duodenitis, and noninfective enteritis and colitis	K29, K50-K55
Hernia of abdominal cavity and intestinal obstruction without hernia	K40-K46, K56
All other and unspecified diseases of the digestive system	K00-K28, K30-K38, K57-K92
Diseases of the genitourinary system	N00-N95
Renal failure and other diseases of the kidney	N17-N19, N25, N27
Other and unspecified diseases of the genitourinary system	N00-N15, N20-N23, N26, N28-N95



Cause of Death	ICD-10 Codes
Certain conditions originating in the prenatal period	P00-P96
Newborn affected by maternal factors and by complications of pregnancy, labor and delivery	P00-P04
Newborn affected by maternal hypertensive disorders	P00.0
Newborn affected by other maternal conditions which may be unrelated to present pregnancy	P00.1- P00.9
Newborn affected by maternal complications of pregnancy	P01
Newborn affected by incompetent cervix	P01.0
Newborn affected by premature rupture of membranes	P01.1
Newborn affected by multiple pregnancy	P01.5
Newborn affected by other maternal complications of pregnancy	P01.2-P01.4, P01.6-P01.9
Newborn affected by complications of placenta, cord, and membranes	P02
Newborn affected by complications involving placenta	P02.0-P02.3
Newborn affected by complications involving cord	P02.4-P02.6
Newborn affected by chorioamnionitis	P02.7
Newborn affected by other and unspecified abnormalities of membranes	P02.8-P02.9
Newborn affected by other complications of labor and delivery	P03
Newborn affected by noxious influences transmitted via placenta or breast milk	P04
Disorders related to length of gestation and fetal malnutrition	P05-P08
Slow fetal growth and fetal malnutrition	P05
Disorders related to short gestation and low birth weight not elsewhere classified	P07
Extremely low birth weight or extreme immaturity	P07.0-P07.2
Other low birth weight or preterm	P07.1, P07.3
Disorders related to long gestation and high birth weight	P08
Birth trauma	P10-P15
Intrauterine hypoxia and birth asphyxia	P20-P21
Intrauterine hypoxia	P20
Birth asphyxia	P21
Respiratory distress of newborn	P22
Other respiratory conditions originating in the perinatal period	P23-P28
Congenital pneumonia	P23
Neonatal aspiration syndromes	P24
Interstitial emphysema and related conditions originating in the perinatal period	P25
Pulmonary hemorrhage originating in the perinatal period	P26
Chronic respiratory disease originating in the perinatal period	P27
Atelectasis	P28.0-P28.1
All other respiratory conditions originating in the perinatal period	P28.2-P28.9

Cause of Death	ICD-10 Codes
Infections specific to the perinatal period	P35-P39
Bacterial sepsis of newborn	P36
Omphalitis of newborn with or without mild hemorrhage	P38
All other infections specific to the perinatal period	P35, P37, P39
Hemorrhagic and hematological disorders of newborn	P50-P61
Neonatal hemorrhage	P50-P52, P54
Hemorrhagic disease of newborn	P53
Hemolytic disease of newborn due to isoimmunization and other perinatal jaundice	P55-P59
Hematological disorders	P60-P61
Syndrome of infant of a diabetic mother and neonatal diabetes mellitus	P70.0-P70.2
Necrotizing enterocolitis of newborn	P77
Hydrops fetalis not due to hemolytic disease	P83.2
Other perinatal conditions	P29, P70.3-P76, P78-P81, P83.0-P83.1, P83.3-P83.9, P90-P96
Congenital malformations, deformations and chromosomal abnormalities	Q00-Q99
Anencephaly and similar malformations.	Q00
Congenital hydrocephalus	Q03
Spina bifida	Q05
Other congenital malformations of the nervous system	Q01-Q02, Q04, Q06-Q07
Congenital malformations of heart	Q20-Q24
Other congenital malformations of circulatory system	Q25-Q28
Congenital malformations of respiratory system	Q30-Q34
Congenital malformations of digestive system	Q35-Q45
Congenital malformations genitourinary system	Q50-Q64
Congenital malformations and deformations of musculoskeletal system, limbs and integument	Q65-Q85
Down's syndrome	Q90
Edwards syndrome	Q91.0-Q91.3
Patau syndrome	Q91.4-Q91.7
Other congenital malformations and deformations	Q10-Q18, Q86-Q89
Other chromosomal abnormalities, not elsewhere classified	Q92-Q99
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	R00-R99
Sudden infant death syndrome	R95
Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	R00-R53, R55-R59.4, R96-R99
All other diseases	F01-F99, H00-H57, L00-M99

Cause of Death	ICD-10 Codes
External causes of mortality	U01, V01-Y84
Accidents (unintentional injuries)	V01-X59
Transport accident	V01-V99
Motor vehicle accidents	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3,-V80.2, V80.6-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
Other unspecified transport accidents	V01, V05-V06, V09.1, V09.3-V09.9, V10-V11, V15-V18, V19.3, V19.8, V19.9, V80.0-V80.2, V80.6-V80.9, V81.2-V81.9, V82.2-V82.9, V87.9, V88.9, V89.1, V89.3, V89.9, V90-V99
Falls	W00-W19
Accidental discharge of firearms	W32-W34
Accidental drowning and submersion	W65-W74
Accidental suffocation and strangulation in bed	W75
Other accidental suffocation and strangulation	W76-W77, W81-W84
Accidental inhalation and ingestion of food or other objects causing obstruction of respiratory tract	W78-W80
Accidents caused by exposure to smoke, fire and flames	X00-X09
Accidental poisoning and exposure to noxious substances	X40-X49
Other and unspecified accidents	W20-W31, W35-W64, W85-W99, X10-X39, X50-X59
Assault (homicide)	X85-Y09
Assault (homicide) by hanging, strangulation and suffocation	X91
Assault (homicide) by discharge of firearms	X93-X95
Neglect, abandonment and other maltreatment syndromes	Y06-Y07
Assault (homicide) by other and unspecified means	U01.0-U01.3, X85-X90, X92, X96-X99, Y00-Y05, Y08-Y09
Complications of medical and surgical care	Y40-Y84
Other external causes	X60-X84, Y10-Y36

**ADDITIONAL CAUSES OF DEATH AND THEIR CORRESPONDING ICD-10 CODES (1999-PRESENT)**

(These categories are not included as part of the 113 cause of death or 130 causes of infant death lists. They are independent of these two lists but are valid cause of death codes to use for the causes indicated.)

Cause of Death	ICD-10 Codes
Alcohol-related deaths	F10, G31.2, G62.1, I42.6, K29.2, K70, R78.0, X45, X65, Y15
Breast cancer (females)	C50
Cervical cancer	C53
Colon-rectal-cancer	C18-C21
Drug-related deaths	F11-F11.5, F11.7-F11.9, F12-F12.5, F12.7-F12.9, F13-F13.5, F13.7-F13.9, F14-F14.5, F14.7-F14.9, F15-F15.5, F15.7-F15.9, F16-F16.5, F16.7-F16.9, F17.0, F17.3-F17.5, F17.7-F17.9, F18-F18.5, F18.7-F18.9, F19-F19.5, F19.7-F19.9, X40-X44, X60-X64, X85, Y10-Y14
Enterocolitis due to Clostridium Difficile (C. difficile)	A04.7
Firearm deaths	W32-W34, X72-X74, X93-X95, Y22-Y24, Y35.0, U01.4
Human Immunodeficiency virus (HIV) infection	B24
Lung cancer	C33-C34
Maternal death	A34, O00-O95, O98-O99
Prostate cancer	C61, D29

## LIST OF ICD-9-CM CODES USED IN PATIENT CARE CHARTS AND TABLES

Condition	ICD-9-CM Codes
Infectious and parasitic diseases	001-139
Neoplasms	140-239
Endocrine, nutritional, and metabolic diseases and immunity disorders	240-279
Diseases of the blood and blood-forming organs	280-289
Mental disorders	290-319
Diseases of the nervous system and sense organs	320-389
Diseases of the circulatory system	390-459
Diseases of the respiratory system	460-519
Diseases of the digestive system	520-579
Diseases of the genitourinary system	580-629
Complications of pregnancy, childbirth, and the puerperium	630-679
Diseases of the skin and subcutaneous tissue	680-709
Diseases of the musculoskeletal system and connective tissue	710-739
Congenital anomalies	740-759
Certain conditions originating in the perinatal period	760-779
Symptoms, signs, and ill-defined conditions	780-799
Injury and poisoning	800-999
Supplementary classification (classification of factors influencing health status and contact with health service)	V01-V89

## METHODS USED TO RANK LEADING SITES OF CANCER DEATHS

Site of Cancer Death	ICD-10 Codes
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	C00-C97
Malignant neoplasms of lip, oral cavity, and pharynx	C00-C14
Malignant neoplasms of esophagus	C15
Malignant neoplasms of stomach	C16
Malignant neoplasms of colon, rectum and anus	C18-C21
Malignant neoplasms of liver /intrahepatic bile ducts	C22.0, C22.2-C22.4, C22.7, C22.9
Malignant neoplasms of gallbladder	C23
Malignant neoplasms of pancreas	C25
Malignant neoplasms of larynx	C32
Malignant neoplasms of lung and bronchus	C33-C34
Malignant neoplasms of bones and joints	C40-C41
Malignant neoplasms of skin	C43
Malignant mesothelioma**	C45
Malignant kaposi sarcoma**	C46
Malignant neoplasms of soft tissue including heart**	C47, C49, C38.0, C45.2
Malignant neoplasms of breast	C50
Malignant neoplasms of vulva	C51
Malignant neoplasms of cervix uteri	C53
Malignant neoplasms of corpus uteri and uterus, part unspecified	C54, C55
Malignant neoplasms of ovary	C56
Malignant neoplasms of prostate	C61
Malignant neoplasms of testis	C62
Malignant neoplasms of kidney and renal pelvis	C64-C65
Malignant neoplasms of urinary bladder	C67
Malignant neoplasms eye and orbit	C69
Malignant neoplasms of meninges, brain and other parts of central nervous system	C70-C72
Malignant neoplasms of thyroid	C73

Site of Cancer Death	ICD-10 Codes
Malignant neoplasms of lymphoid, hematopoietic, and related tissue	C81-C96
Hodgkin's lymphoma	C81
Non-Hodgkin's lymphoma	C82-C85, C96.3
Multiple myeloma	C90.0, C90.2
Leukemia	C90.1, C91-C95
Lymphocytic leukemia	C91
Acute lymphocytic leukemia	C91.0
Chronic lymphocytic leukemia	C91.1
Myeloid and monocytic leukemia	C92-C93
Acute myeloid leukemia	C92.0, C92.4-C92.5, C94.0, C94.2
Acute monocytic leukemia	C93.0
Chronic myeloid leukemia	C92.1
Other and unspecified malignant neoplasms of lymphoid, Hematopoietic, and related tissue	C96
All other and unspecified malignant neoplasms	C17, C24, C26-C31, C36-C39, C44, C48, C52, C57-C60, C63, C66, C68, C74-C80, C97

\*\*These variables can be created with or without Mesothelioma (C45) and Kaposi Sarcoma (C46) as separated groupings. The list above documents both possibilities. Note that this is only possible with ICD10.

## INDEX TO CHARTS AND TABLES

(Numbers refer to chart and table numbers)

	Chart	Table
<b>A</b>		
Accidents (Unintentional Injuries), all causes	4.19,4.20	4.19,4.20
Accidents (Unintentional Injuries), motor vehicle	6.5,6.6	4.19,6.5,6.6
Accidents (Unintentional Injuries), firearms	4.25,4.26	4.25,4.26
Accomplishments, program	4.61,4.62	4.61
Accreditation	1.7,1.8	1.7,1.8
Acquired immune deficiency syndrome	(see HIV)	
Alcoholism	4.27,4.28,6.3	4.27,4.28,6.3
Alzheimer's Disease	4.50,4.51	4.50,4.51
Ambulatory medical visits	5.20-5.31, 5.36	5.20-5.31
Ambulatory medical visits, leading causes	5.21-5.31	5.21-5.30
Ambulatory medical visits, by patient age	5.32,5.33	5.32
Ambulatory medical visits, preventive	5.37	
Ambulatory medical visits, by type of provider	5.34	5.34
Area Offices	2.2	
Asthma	4.56	4.56
<b>B</b>		
Births	3.1-3.6	3.1-3.4
Budget, IHS	1.6	1.6
<b>C</b>		
Cancer (Malignant Neoplasms)	4.31-4.40	4.31-4.39
Cancer, lung	4.33,4.34	4.33,4.34
Cancer, leading sites	4.35-4.40	4.35-4.39
Cerebrovascular diseases	4.48,4.49	4.48,4.49
Chronic liver disease and cirrhosis	4.29,4.30	4.29,4.30
Community health nursing	6.7-6.10	6.7-6.10
Community health representatives	6.11-6.16	6.11-6.14
Compact and contract awards, Tribal health	5.1,5.2,5.3	5.1,5.2
<b>D</b>		
Dental services	5.38,5.39	5.38
Diabetes	4.44,4.45	4.44,4.45
Drug abuse	6.1,6.2	6.1,6.2



	Chart	Table
<b>E</b>		
Educational attainment	2.5	2.5
Education, patient	6.21-6.24	6.21-6.24
Employment	2.6	2.5
Environmental health	6.17-6.20	6.17-6.19
Enterocolitis due to Clostridium difficile	4.53	4.53
<b>F</b>		
Facilities, inpatient and ambulatory	1.5	
Facilities, sanitation	6.17-6.20	6.17-6.19
Firearm injuries	4.25,4.26	4.25,4.26
<b>G</b>		
Grant awards, Tribal Health	5.1,5.2,5.3	5.1,5.2
<b>H</b>		
Heart Disease	4.46,4.47	4.46,4.47
Homicide, all causes	4.23,4.24	4.23,4.24
Hospital admissions	5.5	5.5
Hospital average daily patient load	5.6,5.35	5.6
Hospital beds	5.19	5.19
Hospital discharges, injuries and poisonings	6.4	
Hospital discharge rates	5.18	5.18
Hospital discharge rates, alcohol-related	6.3	6.3
Hospitalization, leading causes	5.7-5.17	5.7-5.16
Hospital workload, by patient age	5.32,5.33	5.32
Human immunodeficiency virus (HIV)	4.54,4.55	4.54,4.55
<b>I</b>		
Income	2.7	2.5
Infant mortality, rates	3.8,3.9	3.8,3.9
Infant mortality, leading causes	3.10-3.12	3.10
Inpatient admissions	5.5	5.5
Inpatient average daily patient load	5.6,5.35	5.6
Inpatient beds	5.19	5.19
Inpatient discharges, injuries and poisonings	6.4	
Inpatient discharge rates	5.18	5.18
Inpatient discharge rates, alcohol-related	6.3	6.3

	Chart	Table
Inpatient, leading causes	5.7-5.17	5.7-5.16
Inpatient workload, by patient age	5.32,5.33	5.32
<b>L</b>		
Laboratory services	1.8	1.8
Life expectancy at birth	4.58	4.58
<b>M</b>		
Malignant neoplasms	(see cancer)	
Map of Area Offices	2.2	
Maternal deaths	3.7	3.7
Mortality rates, age-specific	4.12-4.16	4.12,4.14
Mortality rates, all causes	4.57,4.60	4.57,4.60
Mortality rates, selected causes	4.11	4.11
Mortality rates, specific causes	(see cause name)	
Mortality, leading causes	4.1-4.10	4.1-4.9
<b>N</b>		
Neonatal mortality	3.9	3.9
Neonatal mortality, leading causes	3.11	3.10
Nursing, community/public	6.7-6.10	6.7-6.10
<b>O</b>		
Organizational structure	1.1-1.4	
Outpatient visits	5.20, 5.36	5.20
Outpatient visits, leading causes	5.21-5.31	5.21-5.30
Outpatient visits, by patient age	5.21-5.28,5.32-5.33	5.21-5.28,5.32
Outpatient visits, preventive	5.37	
Outpatient visits, by type of provider	5.34	5.34

	Chart	Table
<b>P</b>		
Patient education	6.21-6.24	6.21-6.24
Parkinson's disease	4.52	4.52
Pneumonia and influenza	4.41,4.42	4.41,4.42
Poisoning	4.17, 4.18	4.17,4.18
Population, service	2.1,2.2	2.1
Population, by age and sex	2.3	2.3
Population, by age	2.4	2.4
Postneonatal mortality	3.9	3.9
Postneonatal mortality, leading causes	3.12	3.10
Poverty level	(see Income)	
Public health nursing	6.7-6.10	6.7-6.10
<b>S</b>		
Sanitation facilities	6.17-6.20	6.17-6.19
Socio-economic factors	2.5-2.7	2.5
Suicide, all causes	4.21, 4.22	4.21, 4.22
<b>T</b>		
Tuberculosis	4.43	4.43
<b>U</b>		
Unemployment	(see employment)	
Urban programs	1.4,2.8,5.1-5.4	2.8,5.2-5.4
<b>Y</b>		
Years of Potential Life Lost	4.59	4.58







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