

PURPOSE

Alzheimer's disease debuted in 1994 on the list of 12 leading causes of death among Arizona residents. By 2000, Alzheimer's disease was the 7th leading cause of death for all ages and 5th leading cause for Arizonans 65 years of age and older. Alzheimer's disease is a progressive degenerative and increasingly debilitating condition characterized by progressive loss of memory, difficulty in finding right words or understanding what people are saying, difficulty in performing previously routine tasks, and changes in personality. Alzheimer's disease gradually destroys vital nerve cells in brain. At later stages of the disease, persons with Alzheimer's disease are bedridden and susceptible to developing other medical conditions, especially pneumonia. These secondary conditions may also result in death.

The purpose of this report is to provide information to individuals interested in Alzheimer's disease mortality among Arizona residents. The data for 2000 are placed in a temporal context by comparison with the data for the preceding years.

METHODS AND SOURCES

Data on the number and characteristics of Alzheimer's deaths were obtained from the death certificates filed with the Arizona Department of Health Services.

Population denominators for Arizona residents, used to calculate rates, are the latest available estimates for 1991-1999, released in December 1999 by the Population Statistics Unit in the Arizona Department of Economic Security (www.hs.state.az.us/plan/popsets19.htm), and census enumerations for 1990 and 2000 from the U.S. Census Bureau (www.census.gov/).

Beginning with the 2000 data year in Arizona (1999 nationally) two major changes have occurred that affect the computation of mortality rates, tabulation of leading causes of death and analyses of mortality data over time. First, a new revision of the International Classification of Diseases (ICD), used to classify causes of death, was implemented. The Tenth Revision (ICD-10) has replaced the Ninth Revision (ICD-9), which was in effect

since 1979. Second, a new population standard for the age adjustment of mortality rates has replaced the standard based on the 1940 population and used since 1943.

Both changes have profound effects on the comparability of mortality data and continuity in statistical trends. Age-adjusted rates can only be compared to other age-adjusted rates that use the same population standard.

Breaks in comparability of mortality statistics effective with deaths occurring in 2000 also result from the implementation of ICD-10. Among other things, over 55 percent more deaths are classified to Alzheimer's disease in ICD-10 than ICD-9. Almost all of this increase comes from deaths classified in ICD-9 as Presenile dementia but reclassified in ICD-10 to Alzheimer's disease.

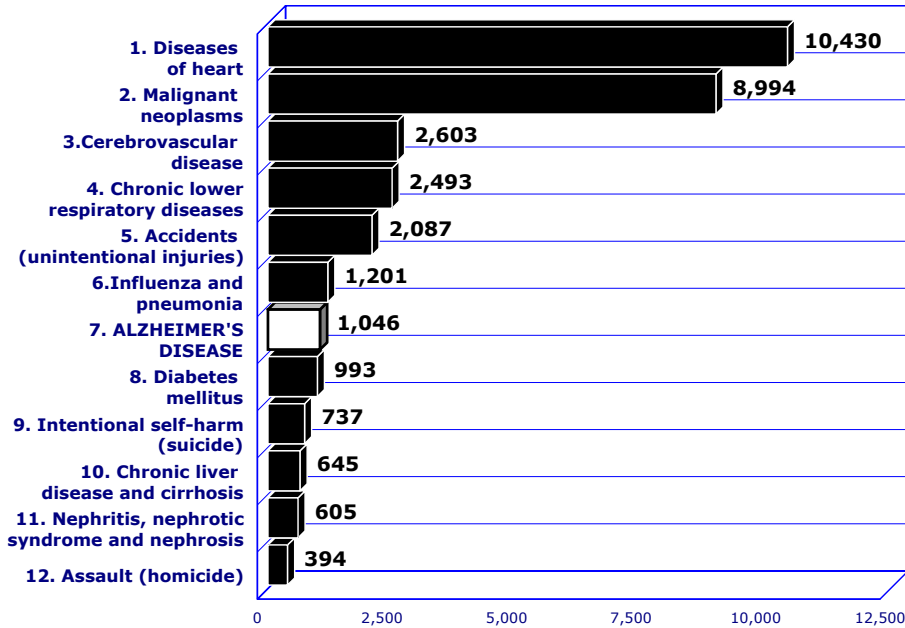
Any comparison of causes of mortality in Arizona between 2000 and previous years needs to take into account the changes in statistical trends that can be attributed to changes in the classification system alone. In order to assess whether changes in cause-specific mortality are "real" or due to new coding and classification procedures, both age-specific and age-adjusted mortality rates used in this report are "comparability-modified".

In order to obtain comparability-modified data, the number of deaths or the death rate for a particular cause of death (such as Alzheimer's disease) classified by ICD-9 is adjusted by multiplying it by the comparability ratio for that cause. Comparability ratios are measures of comparison between ICD-9 and ICD-10. Comparability ratio of 1.0 indicates that the same number of deaths would be assigned to a cause-of-death when ICD-9 or ICD-10 was used. The comparability ratio for Alzheimer's disease is 1.5536, indicating a 55.4 percent increase in Alzheimer's disease death when classified by ICD-10.

It is important to note that the comparability ratios used in this publication are based on the preliminary comparability study conducted by the National Center for Health Statistics and are subject to change once the final comparability study is completed.

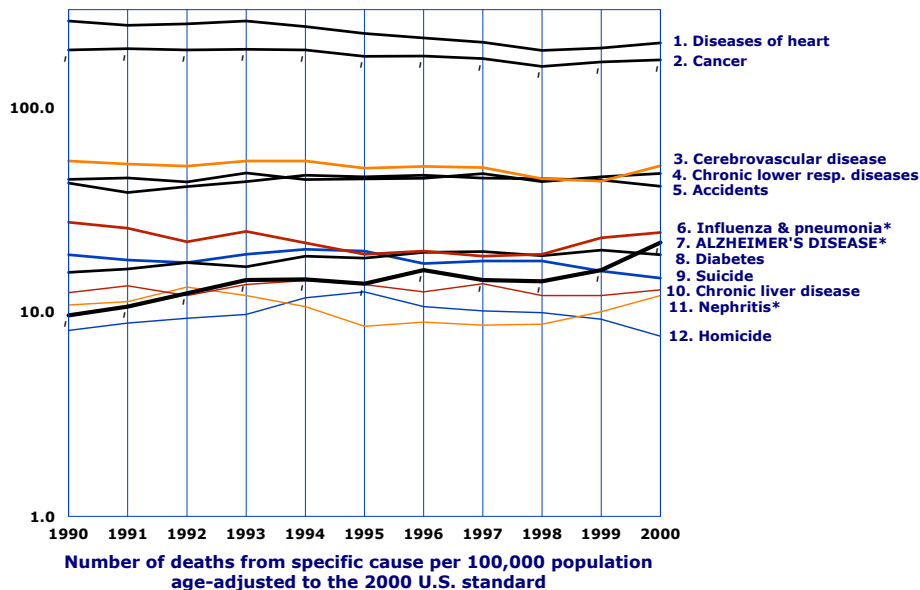
Key Findings

Figure 1
Alzheimer's Disease Among the Leading Causes of Death, Arizona, 2000



The number of deaths from Alzheimer's disease in Arizona in 2000 made Alzheimer's disease the 7th leading cause of deaths for all ages. (Figure 1). More Arizonans died in 2000 from Alzheimer's disease than they did from other chronic diseases, such as diabetes, chronic liver disease and cirrhosis, or nephritis (kidney disease).

Figure 2
Trend in Age-Adjusted Mortality Rates for Alzheimer's Disease and Other Leading Causes of Death by Year, Arizona, 1990-2000



Note: Log scale.

* Comparability-modified rates for 1990-1999.

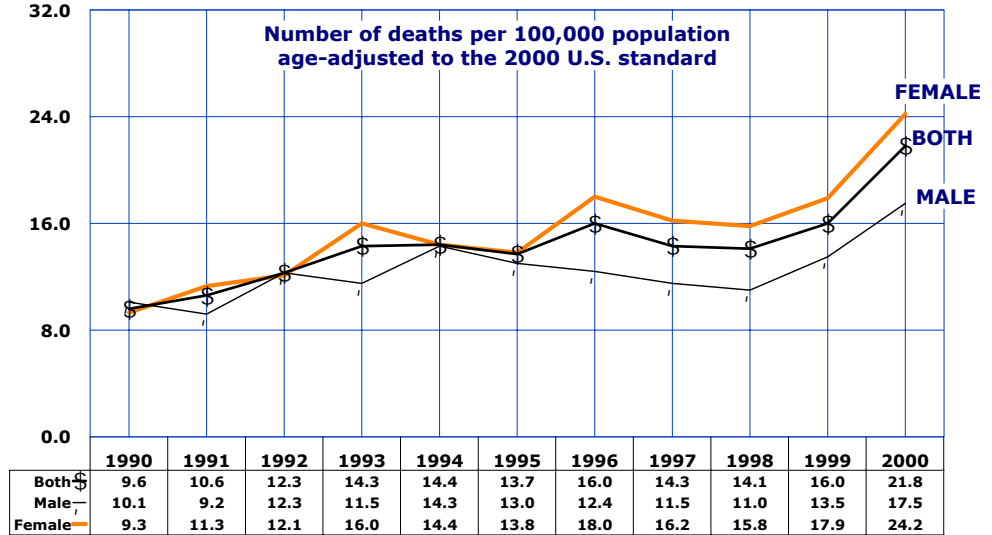
The trend in mortality from Alzheimer's disease (Figure 2) reflects a number of factors such as 1) changes in attitudes of physicians and the public about attributing Alzheimer's disease as a cause of death, 2) availability of improved diagnostic procedures, 3) increase in the number of deaths attributed to Alzheimer's disease due changes in coding and classification of causes of mortality, 4) decreases in several other leading causes of death (homicide, diabetes, suicide, atherosclerosis).

Key Findings

The comparability-modified age-adjusted mortality rate for Alzheimer's disease increased 2.6 times from 9.3/100,000 in 1990 to 24.2/100,000 in 2000 (**Figure 3**). Among males, the comparability-modified age-adjusted mortality rate for Alzheimer's disease increased by 73.3 percent during that time.

In 1990, the Alzheimer's disease mortality risk of females compared to males was 3 percent smaller, while in 2000 the risk was 38.3 percent greater.

Figure 3
Age-Adjusted Mortality Rates for Alzheimer's Disease by Gender and Year, Arizona, 1990-2000

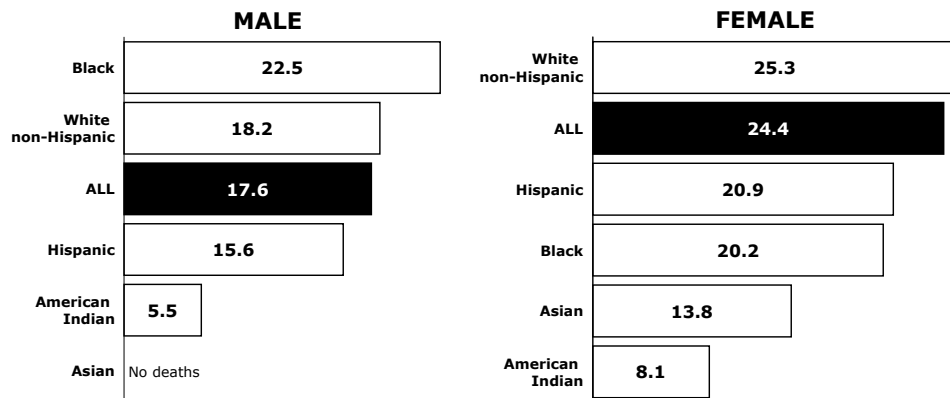


Note: the rates for 1990-1999 are comparability-modified.

The 2000 death rates for Alzheimer's disease among White non-Hispanic females were the highest among race/gender groups in Arizona (**Figure 4**). Black and White non-Hispanics had the highest death rates for Alzheimer's disease among males.

However, the death rate for Black males, based on only five deaths, is unlikely to be reliable. In contrast, White non-Hispanic males accounted for 297 deaths from Alzheimer's disease, and White non-Hispanic females for 662 (or 92 percent of all Alzheimer's deaths among Arizona females).

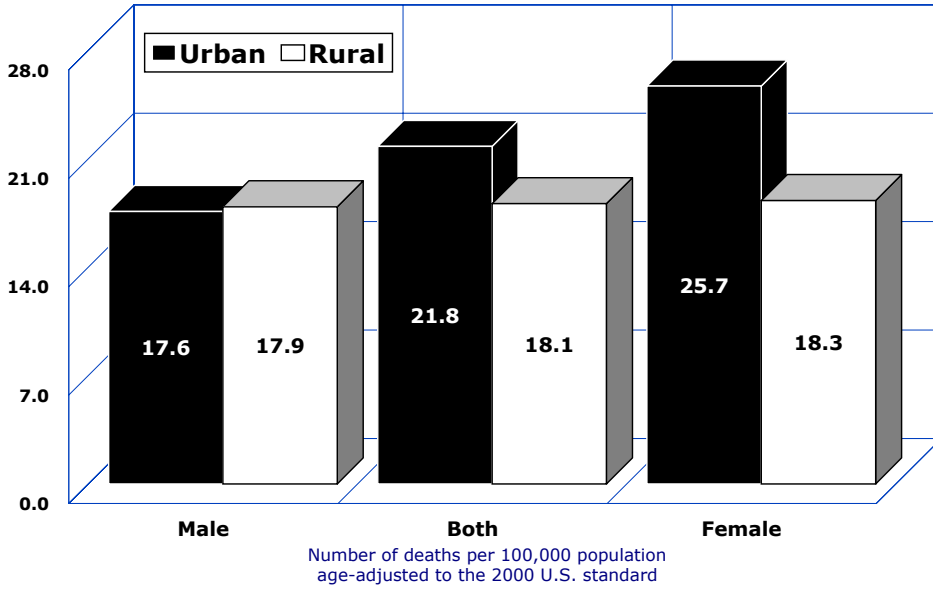
Figure 4
Age-Adjusted Mortality Rates for Alzheimer's Disease by Gender and Race/Ethnic Group, Arizona, 2000



Number of deaths per 100,000 population in specified group age-adjusted to the 2000 U.S. standard

Key Findings

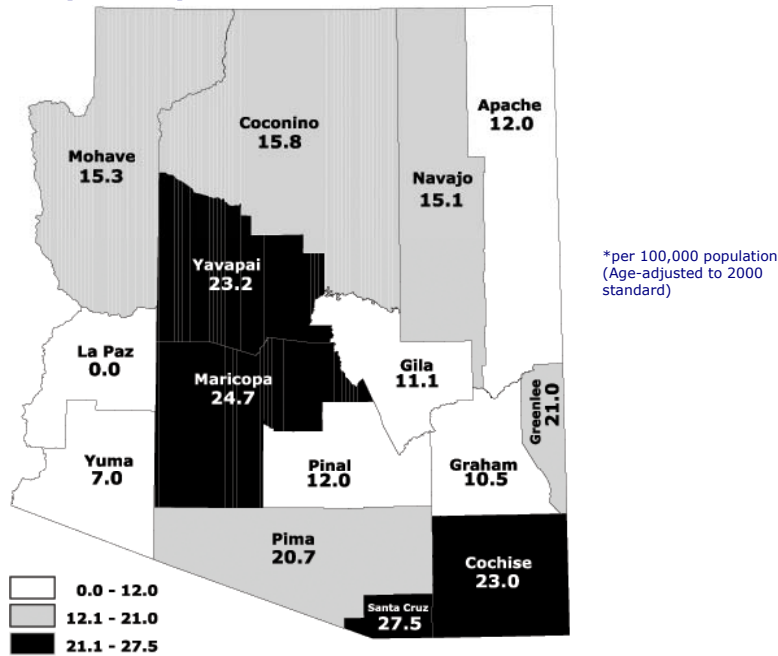
Figure 5
Age-Adjusted Mortality Rates for Alzheimer's Disease by Gender in Urban and Rural Areas, Arizona, 2000



*Urban: Maricopa, Pima, Pinal, and Yuma counties. The remaining counties comprise Arizona's rural areas.

In 2000, the mortality rate for Alzheimer's disease was 20.4 percent higher for urban (21.8/100,000) than rural (18.1/100,000) residents of the State (**Figure 5**). The mortality disadvantage of the urban compared to rural residents was particularly pronounced among females. The 2000 rate of the urban females was 40.4 percent greater than the rate of the rural females (25.7/100,000 vs. 18.3/100,000). In contrast, the mortality rates for Alzheimer's disease among males were similar in the urban and rural areas.

Figure 6
Age-Adjusted Mortality Rates* for Alzheimer's Disease by County of Residence, Arizona, 2000



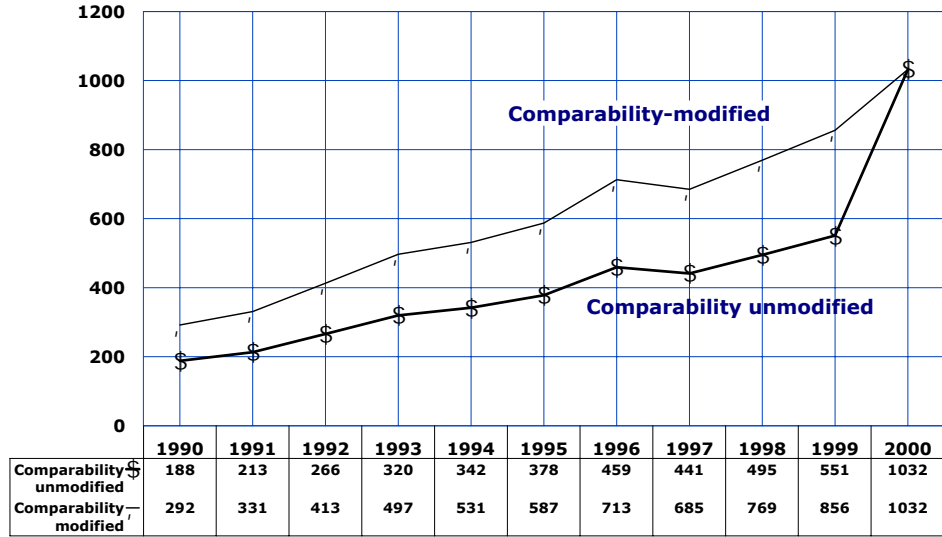
In 2000, mortality from Alzheimer's disease among the fifteen Arizona counties ranged from no deaths in La Paz County to a rate of 27.5 deaths per 100,000 persons in Santa Cruz County (**Figure 6**). Maricopa and Yavapai counties, which accounted for approximately 63 percent of the total population of the State, made a substantially higher contribution to mortality from Alzheimer's disease (737 out of 1,046 deaths, or 70.5 percent of all deaths from Alzheimer's disease). These two counties accounted for 64 percent of all Arizonans 85 years and older in the State, the group at the highest risk of death from Alzheimer's disease.

Key Findings

The magnitude of the increases in mortality from Alzheimer's disease (Figure 7) may be problematic. The available comparability ratio for Alzheimer's disease of 1.5536 is based on the 1996 U.S. mortality data, and it may substantially underestimate later increases in 1997, 1998, and 1999. The comparability ratio based on 1999 data could be as high as 1.9

The comparability ratio of 1.9 applied to the (unmodified) 1999 data would produce 1,047 deaths from Alzheimer's disease (551X1.9) in that year, suggesting that mortality may have actually decreased from 1999 to 2000.

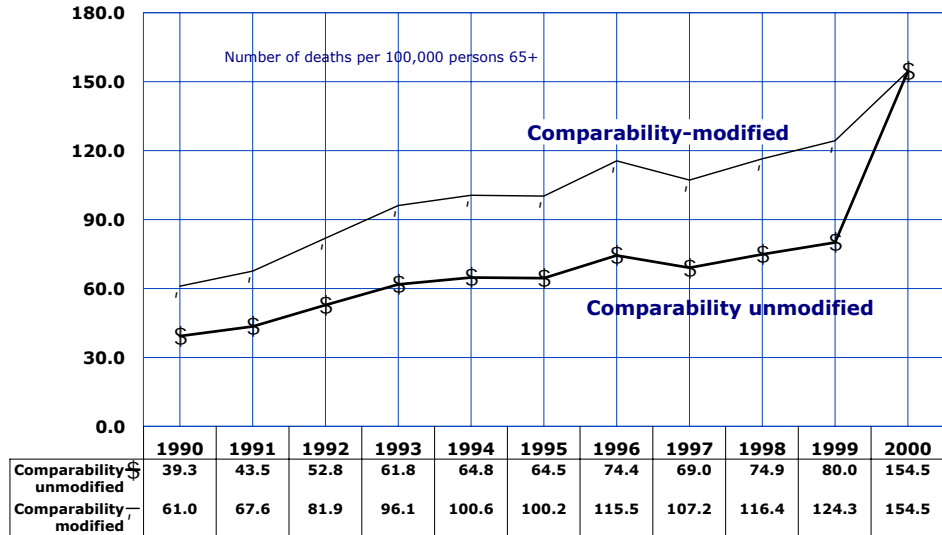
Figure 7
Comparability-modified* and Comparability-unmodified Mortality from Alzheimer's Disease Among Arizona Elderly Residents 65 Years and Older, 1990-2000



* Comparability-modified: the annual number of deaths for 1990-1999 that would have been classified as Alzheimer's disease had the ICD-10 classification system and rules for coding been in place.

Figure 8
Comparability-modified* and Comparability-unmodified Mortality Rates for Alzheimer's Disease Among Arizona Elderly Residents 65 Years and Older, 1990-2000

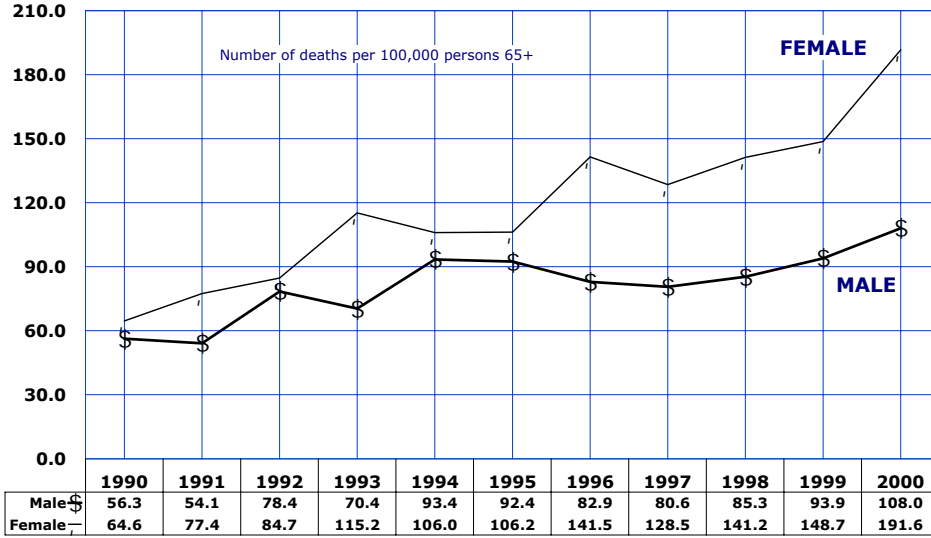
The magnitude of the increases in mortality rates for Alzheimer's disease (Figure 8) is, of course, equally problematic. The comparability ratio of 1.9 (rather than 1.5536) applied to the (unmodified) 1999 rate would produce a comparability-modified rate of 152.0 /100,000 (80.0X1.9) in that year, only slightly smaller than the rate recorded in the year 2000.



* Comparability-modified rates: the rates based on the annual number of deaths for 1990-1999 that would have been classified as Alzheimer's disease had the ICD-10 classification system and rules for coding been in place.

Key Findings

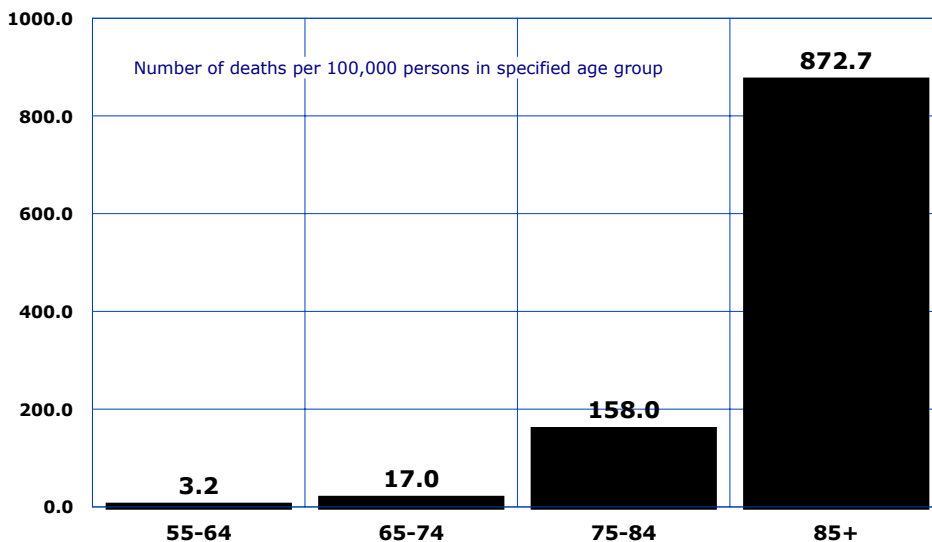
Figure 9
Mortality Rates for Alzheimer's Disease by Gender and Year
Among Arizona Elderly Residents 65 Years and Older,
1990-2000



* The rates for 1990-1999 are comparability-modified.

The comparability-modified death rate for *Alzheimer's disease*, the fifth leading cause of elderly female mortality in Arizona in 2000, almost tripled from 64.6/100,000 in 1990 to 191.6/100,000 in 2000 (**Figure 9**). For elderly males, the mortality rate for *Alzheimer's disease*, their seventh leading cause of death, increased by 91.8 percent from 56.3/100,000 in 1990 to 108.0/100,000 in 2000. In 1990, the *Alzheimer's disease* mortality risk of elderly females compared to males was 14.7 percent greater, while in 2000 the risk was 77.4 percent greater.

Figure 10
Age-Specific Mortality Rates for Alzheimer's Disease
Among Arizonans Aged 55 and Over in 2000

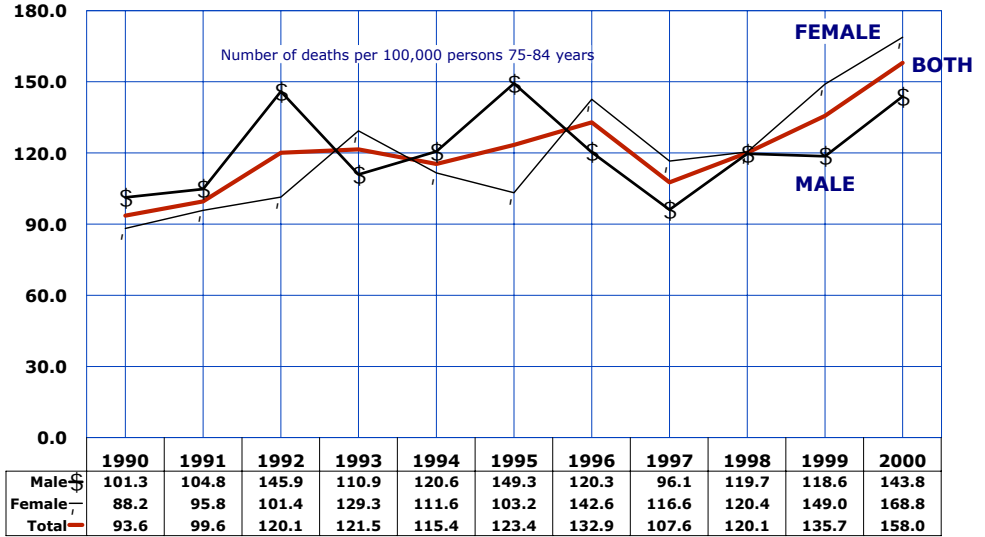


Risk of death from *Alzheimer's disease* increases sharply with age (**Figure 10**). In the eleven-year period from 1990 to 2000, only four deaths from *Alzheimer's disease* were to Arizonans under age 55. In 2000, nine out of every ten deaths from *Alzheimer's disease* were to persons aged 75 and older.

Key Findings

Figure 11
Mortality Rates for Alzheimer's Disease by Gender and Year
Among Arizonans 75-84 Years Old, 1990-2000

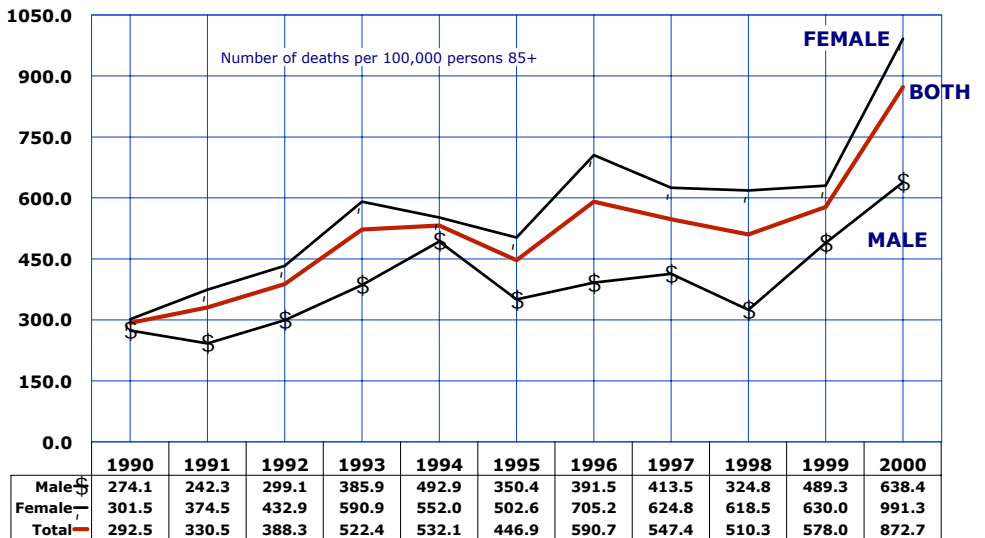
Mortality rates for Alzheimer's disease among Arizonans 75-84 years old were higher among females than males in 6 of the eleven years from 1990 to 2000 (**Figure 11**). In 2000, the Alzheimer's disease mortality risk of elderly females compared to males in this age group was 17.4 percent greater (168.8 deaths per 100,000 females vs. 143.8 deaths per 100,000 males).



* The rates for 1990-1999 are comparability-modified.

Figure 12
Mortality Rates for Alzheimer's Disease by Gender and Year
Among Arizonans 85 Years and Older, 1990-2000

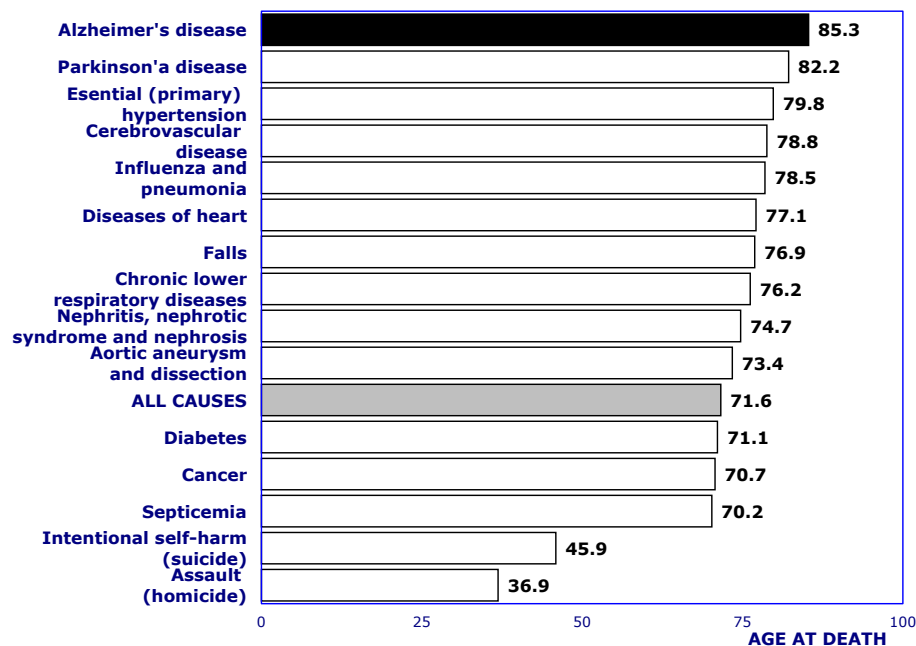
Among Arizonans 85 years and older, the mortality rates for Alzheimer's disease among females exceeded the male rates in every year from 1990 to 2000 (**Figure 12**). In 1990, the Alzheimer's disease mortality risk of elderly females compared to males in this age group was 10 percent greater, while in 2000 the risk was 55.3 percent greater.



* The rates for 1990-1999 are comparability-modified.

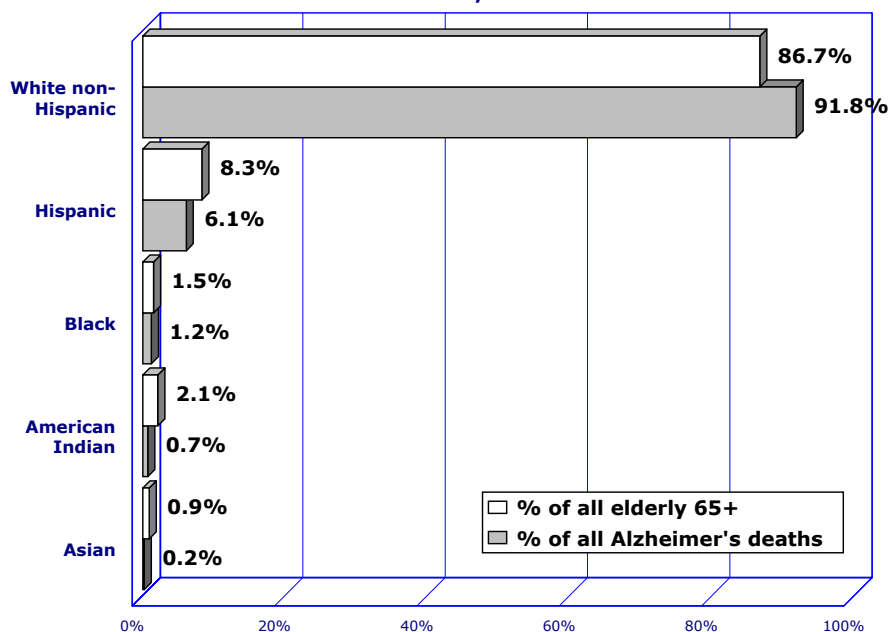
Key Findings

Figure 13
Average Age At Death for Selected Leading Causes of Death, Arizona, 2000



In 2000, Alzheimer's disease had the highest average age at death of 85.3 years, exceeding the average age at death for all causes by 14 years (**Figure 13**). Only 11.9 percent of deaths from Alzheimer's disease occurred before the age of 76.7 years, i.e., before the expected years of life were reached.

Figure 14
Percent of Elderly 65+ by Race/Ethnicity and Proportional Contribution to Mortality from Alzheimer's Disease, Arizona, 2000



White non-Hispanic elderly residents of Arizona disproportionately contributed to total mortality from Alzheimer's disease. In 2000, White non-Hispanics accounted for 86.7 percent of all elderly 65 years and older, but 91.8 percent of all deaths from Alzheimer's disease (**Figure 14**).

White non-Hispanic residents of the State may be at higher risk for Alzheimer's disease because they live longer than the other race/ethnic groups. In 2000, White non-Hispanics were the only group with less than 50 percent of all deaths (47.3 percent) occurring before the expected years of life were reached. The 2000 premature death ratio was 38.7 percent for White non-Hispanic females and 55.4 percent for White non-Hispanic males. In contrast, at least 70 percent of deaths among ethnic minorities occurred prematurely.

TABLE 1
NUMBER OF DEATHS FROM ALZHEIMER'S DISEASE AND OTHER LEADING CAUSES OF MORTALITY
BY YEAR, ARIZONA, 1990-2000

Rank in 2000	Cause of death	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
1	DISEASES OF HEART	8,666	8,619	9,185	9,955	9,851	10,104	9,995	10,002	10,276	10,355	10,430
2	MALIGNANT NEOPLASMS	6,778	7,109	7,331	7,648	7,951	7,993	8,327	8,429	8,503	8,851	8,994
3	CEREBROVASCULAR DISEASES	1,738	1,775	1,802	2,035	2,127	2,191	2,340	2,445	2,414	2,320	2,603
4	CHRONIC LOWER RESPIRATORY DISEASES	1,582	1,672	1,666	1,936	1,856	2,037	2,140	2,355	2,395	2,499	2,493
5	ACCIDENTS (UNINTENTIONAL INJURY)	1,538	1,425	1,572	1,686	1,879	1,973	2,091	2,104	2,182	2,192	2,087
6	INFLUENZA AND PNEUMONIA	1,186 (828)	1,171 (818)	1,080 (754)	1,272 (888)	1,191 (832)	1,179 (823)	1,284 (896)	1,282 (895)	1,489 (1,040)	1,724 (1,204)	1,201
7	ALZHEIMER'S DISEASE	194 (301)	220 (342)	272 (423)	325 (505)	347 (539)	381 (592)	461 (716)	444 (690)	496 (771)	553 (859)	1,046
8	DIABETES	541	573	653	645	767	810	898	946	1,006	1,046	993
9	INTENTIONAL SELF-HARM (SUICIDE)	692	658	660	755	816	858	762	810	845	773	737
10	CHRONIC LIVER DISEASE AND CIRRHOSIS	330	380	365	383	413	406	427	428	412	397	645
11	NEPHRITIS, NEPHROTIC SYNDROME AND NEPHROSIS	282 (347)	308 (379)	377 (464)	362 (446)	335 (413)	299 (368)	326 (402)	331 (408)	373 (460)	419 (516)	605
12	ASSAULT (HOMICIDE)	302	334	351	387	477	530	459	443	447	430	394
13	SEPTICEMIA	204 (244)	233 (278)	256 (306)	277 (331)	226 (271)	246 (294)	276 (330)	318 (380)	291 (348)	334 (399)	346
ALL CAUSES		28,471	29,173	30,814	33,295	34,282	35,428	36,579	37,151	38,395	39,673	40,202

Note: the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10). The causes of death for 2000 are classified by ICD-10, replacing the Ninth Revision (ICD-9) used during 1979-1999. The group titles, such as Cardiovascular diseases, Infectious and parasitic diseases or Other cardiovascular diseases are not ranked to determine the leading causes of death.

For selected two of the leading causes of death the numbers in parentheses present **comparability modified data**: the annual number of deaths for 1990-1999 that would have been classified as influenza and pneumonia or Alzheimer's, had the ICD-10 classification system and coding rules been in place. The comparability ratio for influenza and pneumonia is 0.6982, a decrease of about 30.2 percent due to ICD-10. The comparability ratio for Alzheimer's disease is 1.5536, indicating a 55.4 percent increase in Alzheimer's disease death when classified by ICD-10. The comparability ratio for nephritis is 1.2320, an increase of about 23.2 percent due to ICD-10. The comparability ratio for septicemia is 1.1949. The comparability ratios for other causes of death in the above table are within the 1.0 - 1.1 range.

TABLE 2
AGE-ADJUSTED* MORTALITY RATES FOR ALZHEIMER'S DISEASE AND OTHER LEADING CAUSES OF DEATH,
ARIZONA, 1990-2000

Cause of death	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
DISEASES OF HEART	263.8	251.2	255.5	263.9	247.7	229.3	218.0	207.6	189.4	194.6	206.1
MALIGNANT NEOPLASMS	190.4	193.3	190.5	191.9	190.7	177.5	178.0	172.9	158.2	166.4	170.4
CEREBROVASCULAR DISEASES	54.6	52.8	51.5	54.6	54.6	50.3	51.3	50.7	44.7	43.5	51.7
CHRONIC LOWER RESPIRATORY DISEASES	44.4	45.1	43.1	47.7	44.3	44.6	44.9	47.3	43.3	45.7	47.4
ACCIDENTS (UNINTENTIONAL INJURY)	42.6	38.3	40.9	43.3	46.5	45.7	46.5	45.0	44.7	44.1	41.1
INFLUENZA AND PNEUMONIA**	27.4	25.6	22.0	24.7	21.7	19.1	19.8	18.7	19.1	23.0	24.4
ALZHEIMER'S DISEASE**	9.6	10.6	12.3	14.3	14.4	13.7	16.0	14.3	14.1	16.0	21.8
DIABETES	15.6	16.2	17.4	16.6	18.7	18.3	19.5	19.7	18.8	20.0	19.0
INTENTIONAL SELF-HARM (SUICIDE)	19.0	17.9	17.4	19.1	20.2	19.8	17.2	17.7	17.7	15.8	14.6
CHRONIC LIVER DISEASE AND CIRRHOSIS	12.4	13.4	12.0	13.6	14.2	13.6	12.5	13.7	12.0	12.0	12.8
NEPHRITIS, NEPHROTIC SYNDROME AND NEPHROSIS**	10.7	10.8	12.9	11.6	10.3	8.3	8.6	8.5	8.5	9.7	11.7
ASSAULT (HOMICIDE)	8.1	8.8	9.3	9.7	11.7	12.5	10.6	10.1	9.9	9.2	7.6
SEPTICEMIA**	7.3	8.0	8.4	8.5	6.8	6.8	7.3	8.0	7.4	8.1	6.7
ALL CAUSES	839.9	825.5	834.3	865.0	850.1	804.8	796.4	771.8	720.9	752.8	785.6

*Adjusted to the 2000 standard U.S. population. The cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10). The causes of death for 2000 are classified by ICD-10. The causes of death for 1990-1999 are classified by the Ninth Revision (ICD-9). The rates are per 100,000 population.

**Comparability-modified rates.

TABLE 3
AGE-ADJUSTED* MORTALITY RATES FOR ALZHEIMER'S DISEASE BY GENDER AND YEAR,
ARIZONA, 1990-2000

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total	9.6	10.6	12.3	14.3	14.4	13.7	16.0	14.3	14.1	16.0	21.8
Male	10.1	9.2	12.3	11.5	14.3	13.0	12.4	11.5	11.0	13.5	17.5
Female	9.3	11.3	12.1	16.0	14.4	13.8	18.0	16.2	15.8	17.9	24.2

* Adjusted to the 2000 U.S. standard population. The rates are per 100,000 persons in specified group.
 Note: the rates for 1990-1999 are comparability-modified.

TABLE 4
NUMBER OF DEATHS FROM ALZHEIMER'S DISEASE BY GENDER AND YEAR,
ARIZONA, 1990-2000

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Comparability-modified*											
Total	301	342	423	505	539	592	716	690	771	859	1,046
Male	126	118	174	155	211	236	228	230	250	289	326
Female	175	224	249	350	328	358	488	460	521	570	720
Comparability-unmodified											
Total	194	220	272	325	347	381	461	444	496	553	1,046
Male	81	76	112	100	136	152	147	148	161	186	326
Female	113	144	160	225	211	229	314	296	335	367	720

* Comparability-modified: the annual number of deaths for 1990-1999 that would have been classified as Alzheimer's disease, had the ICD-10 classification system and coding rules been in place.

TABLE 5
NUMBER OF DEATHS* FROM ALZHEIMER'S DISEASE BY RACE/ETHNIC GROUP AND GENDER,
ARIZONA, 1990-2000

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All groups	Total	194	220	272	325	347	381	461	444	496	553	1046
	Male	81	76	112	100	136	152	147	148	161	186	326
	Female	113	144	160	225	211	229	314	296	335	367	720
White non-Hispanic	Total	184	205	254	310	330	358	433	411	455	504	959
	Male	75	72	104	92	128	144	139	134	145	171	297
	Female	109	133	150	218	202	214	294	277	310	333	662
Hispanic	Total	9	12	13	9	9	17	21	27	32	33	64
	Male	5	4	6	4	4	6	6	11	13	13	22
	Female	4	8	7	5	5	11	15	16	19	20	42
Black	Total	1	1	3	1	5	3	4	5	7	9	13
	Male	1	0	1	1	3	1	1	2	3	2	5
	Female	0	1	2	0	2	2	3	3	4	7	8
American Indian	Total	0	2	2	4	1	3	3	1	2	3	7
	Male	0	0	1	2	0	1	1	1	0	0	2
	Female	0	2	1	2	1	2	2	0	2	3	5
Asian	Total	0	0	0	1	2	0	0	0	0	1	2
	Male	0	0	0	1	1	0	0	0	0	0	0
	Female	0	0	0	0	1	0	0	0	0	1	2
Other/ Unknown	Total	0	0	0	0	0	0	0	0	0	3	1
	Female	0	0	0	0	0	0	0	0	0	3	1

* Comparability-unmodified.

TABLE 6
NUMBER OF DEATHS* FROM ALZHEIMER'S DISEASE BY URBAN/RURAL AREA AND GENDER,
ARIZONA, 1990-2000

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total State	Total	194	220	272	325	347	381	461	444	496	553	1046
	Male	81	76	112	100	136	152	147	148	161	186	326
	Female	113	144	160	225	211	229	314	296	335	367	720
Urban	Total	161	177	231	289	311	332	408	367	406	471	891
	Male	71	57	92	89	124	131	133	123	135	161	263
	Female	90	120	139	200	187	201	275	244	271	310	628
Rural	Total	33	43	41	36	36	49	53	76	90	82	155
	Male	10	19	20	11	12	21	14	25	26	25	63
	Female	23	24	21	25	24	28	39	51	64	57	92

* Comparability-unmodified.

TABLE 7
NUMBER OF DEATHS* FROM ALZHEIMER'S DISEASE BY COUNTY OF RESIDENCE AND YEAR,
ARIZONA, 1990-2000

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total State	194	220	272	325	347	381	461	444	496	553	1046
Apache	1	0	1	1	0	1	2	1	1	1	5
Cochise	2	11	6	10	5	13	9	15	26	9	26
Coconino	2	0	5	0	3	5	0	1	1	6	8
Gila	3	2	2	5	5	5	5	6	7	14	8
Graham	2	1	0	1	0	0	3	2	1	2	3
Greenlee	0	2	0	1	0	0	0	0	0	0	1
Maricopa	110	109	169	205	204	255	280	251	269	320	679
Mohave	3	4	4	5	7	6	7	18	17	12	29
Navajo	1	1	3	3	4	2	6	3	7	6	10
Pima	44	62	57	69	94	67	113	100	126	135	183
Pinal	7	10	6	9	7	5	9	5	6	15	19
Santa Cruz	0	0	1	0	1	4	4	4	6	7	7
Yavapai	11	12	13	10	10	13	17	26	23	25	58
Yuma	7	6	5	6	6	5	6	11	5	1	10
La Paz	1	0	0	0	1	0	0	0	1	0	0
Unknown	0	0	0	0	0	0	0	1	0	0	0

* Comparability-unmodified.

**TABLE 8
NUMBER OF DEATHS* FROM ALZHEIMER'S DISEASE BY AGE GROUP AND GENDER,
ARIZONA, 1990-2000**

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total, all ages	Total	194	220	272	325	347	381	461	444	496	553	1046
	Male	81	76	112	100	136	152	147	148	161	186	326
	Female	113	144	160	225	211	229	314	296	335	367	720
45-54	Total	0	1	1	1	0	0	0	2	0	0	0
	Female	0	1	1	1	0	0	0	2	0	0	0
55-64	Total	6	6	3	3	5	3	1	1	1	2	14
	Male	6	2	2	0	1	1	0	1	0	1	6
	Female	0	4	1	3	4	2	1	0	1	1	8
65-74	Total	26	25	28	25	32	43	34	44	33	46	62
	Male	12	8	16	8	20	17	16	20	14	12	27
	Female	14	17	12	17	12	26	18	24	19	34	35
75-84	Total	91	102	129	137	137	157	177	151	189	211	372
	Male	41	45	66	53	61	83	70	59	83	81	146
	Female	50	57	63	84	76	74	107	92	106	130	226
85+	Total	71	86	109	158	173	178	248	246	273	294	598
	Male	22	21	28	39	54	51	60	68	64	92	147
	Female	49	65	81	119	119	127	188	178	209	202	451
Unknown	Total	0	0	2	1	0	0	1	0	0	0	0
	Male	0	0	0	0	0	0	1	0	0	0	0
	Female	0	0	2	1	0	0	0	0	0	0	0

* Comparability-unmodified.

TABLE 9
ALZHEIMER'S DISEASE AND OTHER LEADING CAUSES OF DEATH AMONG ELDERLY 65 YEARS AND OVER
BY YEAR, ARIZONA, 1990-2000

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total, all causes	20296	20726	22045	23719	24267	25028	26129	26837	27686	28943	29323
Diseases of heart	7229	7120	7639	8251	8209	8384	8271	8287	8489	8583	8702
Malignant neoplasms	4849	5029	5296	5478	5740	5795	6056	6130	6079	6374	6499
Cerebrovascular disease	1563	1576	1597	1794	1887	1959	2081	2184	2136	2047	2315
Chronic lower respiratory diseases	1335	1422	1435	1687	1628	1772	1870	2034	2107	2207	2211
Alzheimer's disease	188	213	266	320	342	378	459	441	495	551	1032
Influenza and pneumonia	1060	1013	940	1111	1008	1015	1107	1074	1282	1471	1027
Diabetes	395	428	453	457	549	596	625	683	717	742	716
Unintentional injury	346	358	417	438	464	451	523	560	577	603	652
Nephritis, nephrotic syndrome and nephrosis	234	266	326	307	279	251	262	282	312	334	507
Parkinson's disease	126	122	150	177	189	201	238	275	268	349	338
Septicemia	150	171	183	196	157	169	211	221	181	232	246

Note: The numbers of deaths for 1990-1999 are comparability-unmodified.

TABLE 10
ALZHEIMER'S DISEASE AND OTHER LEADING CAUSES OF DEATH AMONG ELDERLY MALES 65 YEARS AND OVER
BY YEAR, ARIZONA, 1990-2000

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total, all causes	10309	10506	11259	11828	12015	12309	12781	13013	13492	14141	14107
Diseases of heart	3641	3559	3824	4106	4063	4168	4147	4053	4248	4307	4372
Malignant neoplasms	2643	2811	2938	2996	3146	3157	3295	3328	3266	3424	3472
Chronic lower respiratory diseases	728	819	794	931	876	908	932	1043	1068	1084	1094
Cerebrovascular disease	639	633	680	676	763	763	834	837	838	852	918
Influenza and pneumonia	524	485	455	539	467	493	545	488	617	731	479
Unintentional injury	183	182	243	232	241	220	280	289	290	293	328
Alzheimer's disease	75	74	110	100	135	151	146	147	161	185	320
Diabetes	179	197	197	188	230	248	274	301	334	355	314
Nephritis, nephrotic syndrome and nephrosis	127	138	178	161	138	115	119	144	159	175	247
Parkinson's disease	75	68	96	116	129	131	147	172	164	203	195
Septicemia	78	82	88	101	69	91	100	103	89	112	108

Note: The numbers of deaths for 1990-1999 are comparability-unmodified.

TABLE 11
ALZHEIMER'S DISEASE AND OTHER LEADING CAUSES OF DEATH AMONG ELDERLY FEMALES 65 YEARS AND OVER
BY YEAR, ARIZONA, 1990-2000

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total, all causes	9987	10220	10786	11891	12252	12719	13348	13824	14194	14799	15216
Diseases of heart	3588	3561	3815	4145	4146	4216	4124	4234	4241	4275	4330
Malignant neoplasms	2206	2218	2358	2482	2594	2638	2761	2802	2813	2949	3027
Chronic lower respiratory diseases	607	603	641	756	752	864	938	991	1039	1123	1117
Cerebrovascular disease	924	943	917	1118	1124	1196	1247	1347	1298	1195	1397
Alzheimer's disease	113	139	156	220	207	227	313	294	334	366	712
Influenza and pneumonia	536	528	485	572	541	522	562	586	665	740	548
Diabetes	216	231	256	269	319	348	351	382	383	387	402
Unintentional injury	163	176	174	206	223	231	243	271	287	310	324
Nephritis, nephrotic syndrome and nephrosis	107	128	148	146	141	136	143	138	153	159	260
Parkinson's disease	51	54	54	61	60	70	91	103	104	146	143
Septicemia	72	89	95	95	88	78	111	118	92	120	138

Note: The numbers of deaths for 1990-1999 are comparability-unmodified.

TABLE 12
ALZHEIMER'S DISEASE AND OTHER LEADING CAUSES OF DEATH AMONG ELDERLY 65 YEARS AND OVER BY
GENDER, AREA AND RACE/ETHNICITY, ARIZONA, 2000

	Total	Gender		Area			Race/Ethnicity					
		Male	Female	Urban*	Rural	Un- known	White non- Hispanic	His- panic	Black	American Indian	Asian	Other/ Unknown
Total	29323	14107	15216	23753	5564	6	25772	2193	528	634	154	42
Diseases of heart	8702	4372	4330	7120	1579	3	7705	631	168	148	42	8
Malignant neoplasms	6499	3472	3027	5222	1276	1	5764	474	114	101	31	15
Cerebrovascular diseases	2315	918	1397	1882	433	0	2026	172	48	44	21	4
Chronic lower respiratory diseases	2211	1094	1117	1819	392	0	2072	92	18	19	5	5
Alzheimer's disease	1032	320	712	878	154	0	948	61	13	7	2	1
Influenza and pneumonia	1027	479	548	821	206	0	883	92	14	34	4	0
Diabetes	716	314	402	562	154	0	491	133	26	58	7	1
Total accidents	652	328	324	508	144	0	558	48	10	33	2	1
Nephritis, nephrotic syndrome and nephrosis	507	247	260	388	119	0	398	74	15	18	1	1
Parkinson's disease	338	195	143	291	47	0	309	15	4	9	1	0
Septicemia	246	108	138	190	56	0	196	32	3	14	0	1

* Urban= Maricopa, Pima, Pinal and Yuma counties. The remaining counties comprise Arizona's rural areas.

TABLE 13
ALZHEIMER'S DISEASE AND OTHER LEADING CAUSES OF DEATH AMONG ELDERLY 65-74 YEARS OLD BY
GENDER, AREA AND RACE/ETHNICITY, ARIZONA, 2000

	Total	Gender		Area			Race/Ethnicity					
		Male	Female	Urban*	Rural	Un- known	White non- Hispanic	His- panic	Black	American Indian	Asian	Other/ Unknown
Total	7733	4476	3257	6015	1717	1	6419	774	185	264	66	42
Malignant neoplasms	2512	1426	1086	1965	547	0	2183	195	56	50	18	15
Diseases of heart	1995	1293	702	1545	450	0	1681	189	48	59	12	8
Chronic lower respiratory diseases	674	359	315	547	127	0	619	34	7	6	3	
Cerebrovascular diseases	433	221	212	340	93	0	341	57	10	11	12	4
Diabetes	248	114	134	190	58	0	148	57	9	31	2	1
Total accidents	180	105	75	128	52	0	136	17	3	23	1	1
Nephritis, nephrotic syndrome and nephrosis	159	79	80	122	37	0	110	33	7	9	0	1
Influenza and pneumonia	141	89	52	107	34	0	106	23	5	5	2	0
Septicemia	81	41	40	64	17	0	62	12	3	4	0	1
Alzheimer's disease	62	27	35	51	11	0	55	5	0	2	0	1
Parkinson's disease	36	21	15	32	4	0	31	2	2	1	0	0

* Urban= Maricopa, Pima, Pinal and Yuma counties. The remaining counties comprise Arizona's rural areas.

**TABLE 14
ALZHEIMER'S DISEASE AND OTHER LEADING CAUSES OF DEATH AMONG ELDERLY 75-84 YEARS OLD BY
GENDER, AREA AND RACE/ETHNICITY, ARIZONA, 2000**

	Total	Gender		Area			Race/Ethnicity					
		Male	Female	Urban*	Rural	Un- known	White non- Hispanic	His- panic	Black	American Indian	Asian	Other/ Unknown
Total	11871	6057	5814	9590	2277	4	10581	834	185	209	49	13
Diseases of heart	3407	1832	1575	2779	626	2	3045	227	62	53	18	2
Malignant neoplasms	2843	1525	1318	2291	551	1	2549	203	43	35	9	4
Chronic lower respiratory diseases	1035	514	521	848	187	0	984	38	6	6	1	0
Cerebrovascular diseases	950	410	540	760	190	0	837	69	21	14	7	2
Alzheimer's disease	372	146	226	307	65	0	330	33	7	2	0	0
Influenza and pneumonia	363	185	178	288	75	0	320	28	2	13	0	0
Diabetes	311	146	165	242	69	0	222	59	9	18	3	0
Total accidents	237	121	116	176	61	0	214	14	3	5	0	1
Nephritis, nephrotic syndrome and nephrosis	200	99	101	148	52	0	164	22	6	7	0	1
Parkinson's disease	180	106	74	152	28	0	164	9	0	7	0	0
Septicemia	89	41	48	63	26	0	66	16	0	6	0	1

* Urban= Maricopa, Pima, Pinal and Yuma counties. The remaining counties comprise Arizona's rural areas.

TABLE 15
ALZHEIMER'S DISEASE AND OTHER LEADING CAUSES OF DEATH AMONG ELDERLY 85 YEARS AND OVER BY
GENDER, AREA AND RACE/ETHNICITY, ARIZONA, 2000

	Total	Gender		Area			Race/Ethnicity					
		Male	Female	Urban*	Rural	Un-known	White non-Hispanic	Hispanic	Black	American Indian	Asian	Other/Unknown
Total	9719	3574	6145	8148	1570	1	8772	585	158	161	39	4
Diseases of heart	3300	1247	2053	2796	503	1	2979	215	58	36	12	0
Malignant neoplasms	1144	521	623	966	178	0	1032	76	15	16	4	1
Cerebrovascular diseases	932	287	645	782	150	0	848	46	17	19	2	0
Alzheimer's disease	598	147	451	520	78	0	563	23	6	3	2	1
Influenza and pneumonia	523	205	318	426	97	0	457	41	7	16	2	0
Chronic lower respiratory diseases	502	221	281	424	78	0	469	20	5	7	1	0
Total accidents	235	102	133	204	31	0	208	17	4	5	1	0
Diabetes	157	54	103	130	27	0	121	17	8	9	2	0
Nephritis, nephrotic syndrome and nephrosis	148	69	79	118	30	0	124	19	2	2	1	0
Parkinson's disease	122	68	54	107	15	0	114	4	2	1	1	0
Septicemia	76	26	50	63	13	0	68	4	0	4	0	0

* Urban= Maricopa, Pima, Pinal and Yuma counties. The remaining counties comprise Arizona's rural areas.

TABLE 16
POPULATION AT RISK: ELDERLY 65 YEARS AND OVER BY GENDER, AGE GROUP
AND RACE/ETHNICITY, ARIZONA, 1990 AND 2000

		AGE GROUP	1990	2000
ALL GROUPS	Total	65-74	290044	363841
		75-84	151013	235473
		85+	37717	68525
		ALL 65+	478774	667839
	Male	65-74	131571	171689
		75-84	62897	101550
		85+	12469	23028
		ALL 65+	206937	296267
	Female	65-74	158473	192152
		75-84	88116	133923
		85+	25248	45497
		ALL 65+	271837	371572
WHITE NON-HISPANIC	Total	65-74	255829	308175
		75-84	135526	209934
		85+	33277	61153
		ALL 65+	424632	579262
	Male	65-74	116101	146642
		75-84	56420	90937
		85+	10766	20459
		ALL 65+	183287	258038
	Female	65-74	139728	161533
		75-84	79106	118997
		85+	22511	40694
		ALL 65+	241345	321224
HISPANIC	Total	65-74	22647	35070
		75-84	9990	16160
		85+	2639	4274
		ALL 65+	35276	55504
	Male	65-74	10341	15912
		75-84	4100	6766
		85+	958	1460
		ALL 65+	15399	24138
	Female	65-74	12306	19158
		75-84	5890	9394
		85+	1681	2814
		ALL 65+	19877	31366

TABLE 16 (continued)
POPULATION AT RISK: ELDERLY 65 YEARS AND OVER BY GENDER, AGE GROUP
AND RACE/ETHNICITY, ARIZONA, 1990 AND 2000

		AGE GROUP	1990	2000
BLACK	Total	65-74	4169	5893
		75-84	2055	2840
		85+	628	988
		ALL 65+	6852	9721
	Male	65-74	1871	2773
		75-84	820	1145
		85+	221	317
		ALL 65+	2912	4235
	Female	65-74	2298	3120
		75-84	1235	1695
		85+	407	671
		ALL 65+	3940	5486
AMERICAN INDIAN	Total	65-74	6133	8537
		75-84	2971	3959
		85+	1060	1388
		ALL 65+	10164	13884
	Male	65-74	2719	3746
		75-84	1316	1637
		85+	463	515
		ALL 65+	4498	5898
	Female	65-74	3414	4791
		75-84	1655	2322
		85+	597	873
		ALL 65+	5666	7986
ASIAN	Total	65-74	1635	4286
		75-84	628	1558
		85+	158	399
		ALL 65+	2421	6243
	Male	65-74	711	1700
		75-84	322	638
		85+	72	174
		ALL 65+	1105	2512
	Female	65-74	924	2586
		75-84	306	920
		85+	86	225
		ALL 65+	1316	3731

Source: census enumerations for 1990 and 2000 from the U.S. Bureau of the Census.

TABLE 17
POPULATION AT RISK: ELDERLY 65 YEARS AND OVER BY GENDER, AGE GROUP
AND COUNTY OF RESIDENCE, ARIZONA, 1990 AND 2000

		1990			2000		
		Male	Female	Total	Male	Female	Total
Arizona	65-74	131571	158473	290044	171689	192152	363841
	75-84	62897	88116	151013	101550	133923	235473
	85+	12469	25248	37717	23028	45497	68525
	Total	206937	271837	478774	296267	371572	667839
Apache	65-74	1118	1346	2464	1640	1838	3478
	75-84	584	656	1240	708	927	1635
	85+	183	252	435	252	376	628
	Total	1885	2254	4139	2600	3141	5741
Cochise	65-74	3802	4112	7914	5060	5127	10187
	75-84	1641	2045	3686	2592	3078	5670
	85+	264	592	856	532	976	1508
	Total	5707	6749	12456	8184	9181	17365
Coconino	65-74	2419	2498	4917	2455	2560	5015
	75-84	1114	1293	2407	1040	1394	2434
	85+	165	326	491	239	455	694
	Total	3698	4117	7815	3734	4409	8143
Gila	65-74	1687	1900	3587	2767	2981	5748
	75-84	647	856	1503	1550	1876	3426
	85+	155	297	452	360	625	985
	Total	2489	3053	5542	4677	5482	10159
Graham	65-74	907	1033	1940	1040	1151	2191
	75-84	495	669	1164	572	794	1366
	85+	100	146	246	141	287	428
	Total	1502	1848	3350	1753	2232	3985
Greenlee	65-74	280	298	578	234	271	505
	75-84	123	135	258	132	138	270
	85+	26	34	60	25	49	74
	Total	429	467	896	391	458	849
Maricopa	65-74	69334	87293	156627	87063	101753	188816
	75-84	34605	51877	86482	54457	75579	130036
	85+	7123	15025	22148	12942	27185	40127
	Total	111062	154195	265257	154462	204517	358979
Mohave	65-74	6537	6695	13232	9751	9316	19067
	75-84	2474	2674	5148	4881	5526	10407
	85+	312	581	893	852	1402	2254
	Total	9323	9950	19273	15484	16244	31728

TABLE 17 (continued)
POPULATION AT RISK: ELDERLY 65 YEARS AND OVER BY GENDER, AGE GROUP
AND COUNTY OF RESIDENCE, ARIZONA, 1990 AND 2000

		1990			2000		
		Male	Female	Total	Male	Female	Total
Navajo	65-74	1929	2189	4118	2954	3109	6063
	75-84	828	964	1792	1271	1611	2882
	85+	191	274	465	313	500	813
	Total	2948	3427	6375	4538	5220	9758
Pima	65-74	24378	30455	54833	28873	34043	62916
	75-84	11731	17148	28879	18350	25149	43499
	85+	2453	5311	7764	4326	8746	13072
	Total	38562	52914	91476	51549	67938	119487
Pinal	65-74	4877	5345	10222	9001	8989	17990
	75-84	2240	2551	4791	4393	4780	9173
	85+	368	560	928	805	1203	2008
	Total	7485	8456	15941	14199	14972	29171
Santa Cruz	65-74	906	1096	2002	1101	1298	2399
	75-84	384	522	906	586	778	1364
	85+	66	172	238	122	229	351
	Total	1356	1790	3146	1809	2305	4114
Yavapai	65-74	7938	8413	16351	10065	10192	20257
	75-84	3411	4117	7528	5924	7106	13030
	85+	610	1124	1734	1214	2315	3529
	Total	11959	13654	25613	17203	19613	36816
Yuma	65-74	4581	4985	9566	7928	8013	15941
	75-84	2208	2205	4413	4310	4426	8736
	85+	375	495	870	778	1001	1779
	Total	7164	7685	14849	13016	13440	26456
La Paz	65-74	878	815	1693	1757	1511	3268
	75-84	412	404	816	784	761	1545
	85+	78	59	137	127	148	275
	Total	1368	1278	2646	2668	2420	5088

Source: census enumerations for 1990 and 2000 from the U.S. Bureau of the Census.