

CHAPTER 2

TRENDS AND PATTERNS IN MORTALITY, ARIZONA, 2008-2018

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2A.

TOTAL MORTALITY

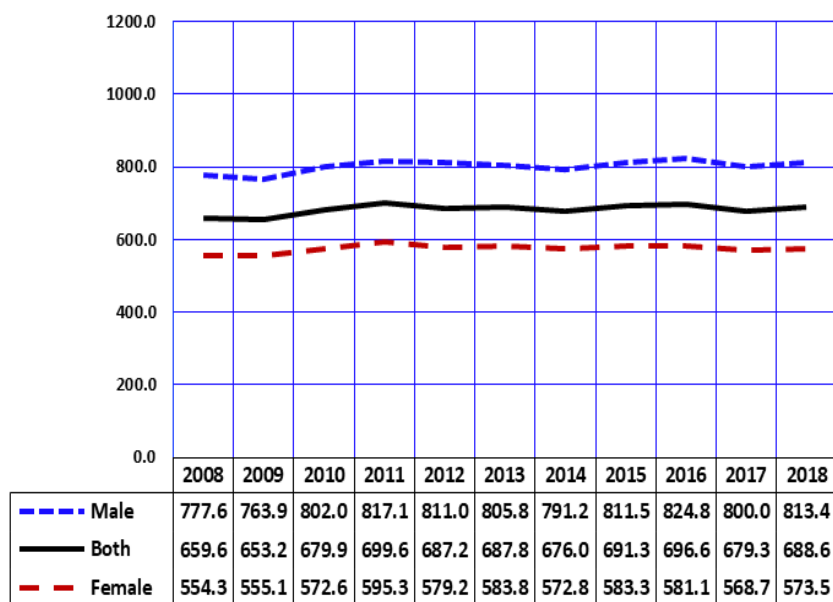
The total number of deaths from all causes among Arizona residents increased by 3.4 percent from 2017 (57,261) to 2018 (59,206; **Table 2A-1**). The age-adjusted mortality rate for all causes of death also increased from 679.3 /100,000 in 2017 to 688.6/100,000 in 2018. When considering race/ethnicity, the biggest increase in age-adjusted mortality occurred among Blacks or African Americans (5.4 percent) and the lowest was recorded among White non-Hispanics (1.3 percent).

Between 2017 and 2018, the increase in mortality did not affect all leading causes of death. A reduction in the number of deaths was recorded for septicemia (17.1 percent), essential (primary) hypertension and hypertensive renal disease (8.8 percent), homicide (3.3 percent) and Alzheimer's disease (1.3 percent).

There were some disparities by gender and race/ethnicity for most selected causes of death. Between 2017 and 2018, not all subgroups (based on gender and race/ethnicity) witnessed an increased in cerebrovascular mortality. While the highest increases in mortality due to cerebrovascular diseases was among Asian females (32.5 percent) and American Indian females (30.2 percent), a decline in mortality due to cerebrovascular diseases was recorded among both Black females (12.7 percent) and males (6.4 percent), Hispanic males (4.7 percent), and Asian males (3.7 percent) during 2017- 2018. In terms of mortality due to diabetes, the overall mortality rate for both males and females decreased from 2017 (23.8/100,000) to 2018 (23.0/100,000) following a period of stability during 2011 to 2014 (**Table 2B-2**). The decrease in deaths due to diabetes between 2017 and 2018 affected all race/ethnic groups, except Black or African Americans who witnessed an increase of 6.5 percent in their age adjusted diabetes mortality rates.

2A. TOTAL MORTALITY

Figure 2A-1
Age-adjusted Mortality Rates^a for all Causes by Gender and Year, Arizona, 2008-2018



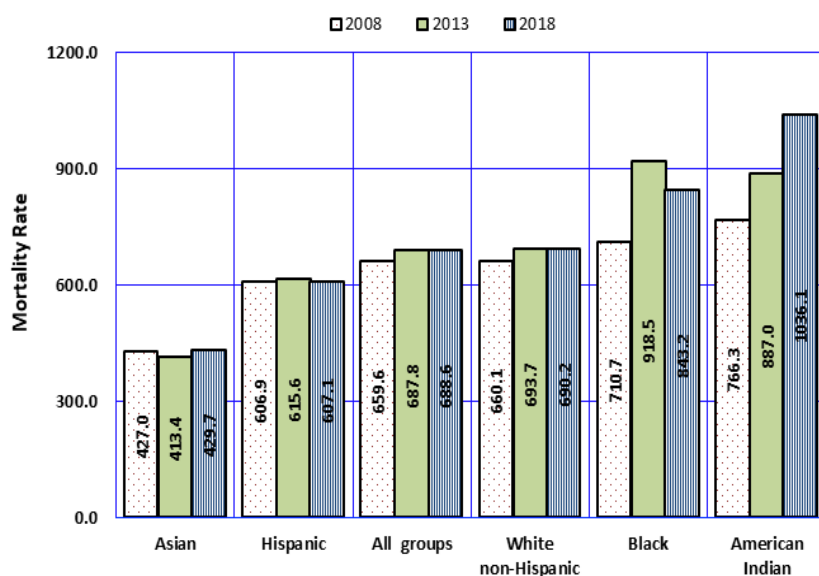
The age-adjusted mortality rates discussed below are based on the year 2000 population standard. All mortality rates in sections 2A and 2B are age-adjusted. A detailed explanation of the age-adjustment of mortality rates is given in the **Technical Notes**.

The total age-adjusted mortality rate increased by 1.4 percent, from 679.3 deaths per 100,000 population in 2017 to 688.6 deaths in 2018 (**Figure 2A-1, Table 2B-2**). Over this period, the age-adjusted mortality rates increased for both males and females.

The gap between male and female mortality rates increased between 2008 and 2018. The male age-adjusted mortality rate was 40.3 percent greater than the female age-adjusted mortality rate in 2008, but 41.8 percent greater in 2018.

Note: ^a Number of deaths per 100,000 persons (adjusted to the 2000 standard U.S. population).

Figure 2A-2
Age-adjusted Mortality Rates^a for all Causes by Race/Ethnicity and Year, Arizona Residents, 2008, 2013, and 2018



The 2018 age-adjusted death rates for the major racial/ethnic groups were as follows: for Asian or Pacific Islander, 429.7 deaths per 100,000 population; Hispanic or Latino, 607.1; White non-Hispanic, 690.2; Black or African American, 843.2; and American Indian or Alaska Native, 1036.1 (**Figure 2A-2, Table 2B-4**).

In 2018, as in 2008 and 2013, American Indians and Blacks had higher total mortality rates than White non-Hispanics, Hispanics, and Asians. The total mortality rates for Asians were lower than the rates of both White non-Hispanics and Hispanics in 2008, 2013, and 2018.

Note: ^a Number of deaths per 100,000 persons (adjusted to the 2000 standard U.S. population).

2A. TOTAL MORTALITY

Figure 2A-3
Percent of Annual Deaths by Month of Occurrence and Residence Status, Arizona, 2018

If there was no monthly variation in proportional contribution to total annual deaths, 8.3 percent (100/12) of deaths should occur monthly. However, when the monthly distribution of resident deaths is examined, January (10.5 percent), March (9.0 percent), and December (8.8 percent), were higher in 2018 from the expected value (**Figure 2A-3**). September was the month with the lowest proportional contributions to the total annual deaths among Arizona residents (AZR).

The majority of the 3,482 non-residents who died in Arizona during 2018 did so during the months of January, March, and February.

August was the month with the lowest percent contribution (6.8 percent) to the annual death among out-of-State residents (OSR) who died in Arizona.

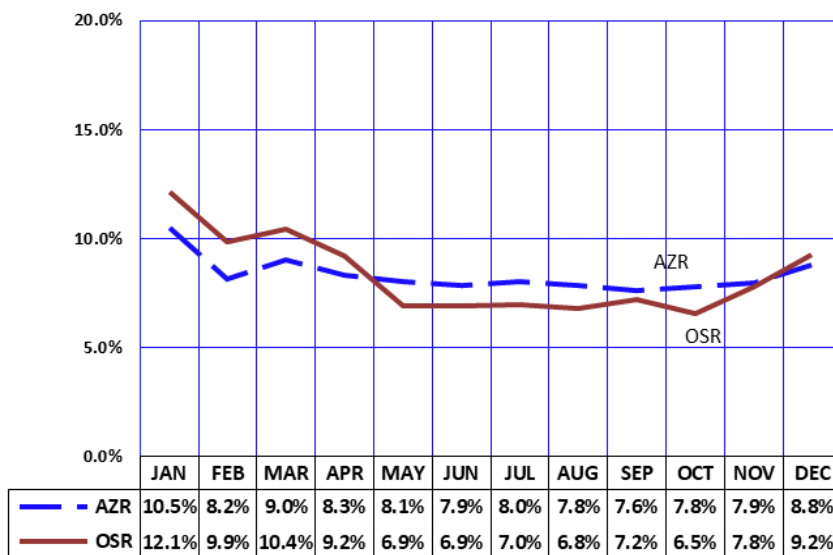
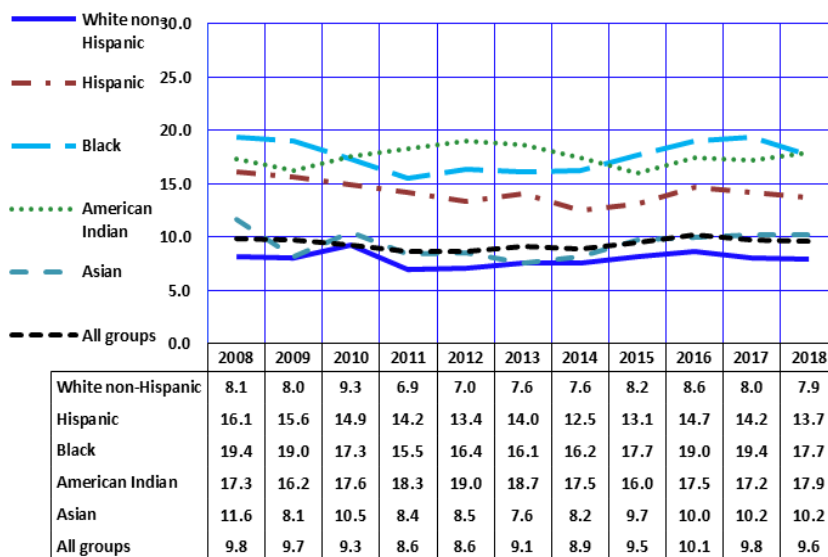


Figure 2A-4
Percentage of Deaths for which Autopsies were Reported by Race/Ethnicity and Year, Arizona Residents, 2008-2018

Autopsies were reported as performed on 5,691 decedents, or 9.6 percent of the deaths that occurred among Arizona residents in 2018. From 2008 – 2018, the percentage of deaths for which autopsies were reported varied from 9.8 percent in 2008, to a low of 8.6 percent in 2011 and 2012, a high of 10.1 percent in 2016, then 9.6 percent in 2018.

The percentage autopsied varies by the decedent's demographic characteristics. By race/ethnicity (**Figure 2A-4**) the percentage autopsied was the lowest for White non-Hispanic than for other racial/ethnic groups. The prevalence of autopsies was substantially greater among American Indian, Black, and Hispanic or Latino sub-populations. A substantial portion of the differential in the use of autopsy by race/ethnicity reflects differences in the age and manner of death. For example, autopsies tend to be more common at younger ages and for deaths by homicide, suicide, accidents, and undetermined manner.



**TABLE 2A-1
NUMBER OF DEATHS BY RACE/ETHNICITY, GENDER, AND YEAR, ARIZONA RESIDENTS, 2008-2018**

	2008	2009	2010	2011	2012 ^a	2013 ^a	2014 ^a	2015 ^a	2016 ^a	2017	2018
TOTAL											
Total	45,128	45,065	45,871	47,547	48,459	49,929	51,074	54,152	56,480	57,261	59,206
Male	23,744	23,535	24,163	24,785	25,577	26,222	27,037	28,814	30,431	30,721	32,067
Female	21,384	21,530	21,708	22,762	22,874	23,703	24,034	25,334	26,046	26,537	27,136
White non-Hispanic											
Total	36,235	35,829	36,066	37,211	38,629	39,543	40,391	42,750	44,092	44,191	45,194
Male	18,758	18,476	18,693	19,307	20,206	20,550	21,207	22,504	23,439	23,375	24,150
Female	17,477	17,353	17,373	17,904	18,416	18,989	19,181	20,242	20,653	20,816	21,044
Hispanic or Latino											
Total	5,313	5,401	5,374	5,575	5,963	6,300	6,444	6,839	7,343	7,539	8,088
Male	2,996	2,978	2,959	2,982	3,323	3,412	3,543	3,814	4,154	4,197	4,629
Female	2,317	2,423	2,415	2,593	2,640	2,888	2,901	3,025	3,189	3,341	3,458
Black or African American											
Total	1,295	1,334	1,336	1,399	1,509	1,593	1,578	1,742	1,925	1,896	2,057
Male	712	697	735	734	803	897	852	971	1,108	1,076	1,104
Female	583	637	601	665	706	696	726	771	817	820	953
American Indian or Alaska Native											
Total	1,722	1,871	1,781	1,681	1,806	1,955	2,074	2,140	2,346	2,355	2,527
Male	981	1,028	1,015	876	993	1,103	1,152	1,187	1,365	1,334	1,445
Female	741	843	766	805	812	852	922	953	981	1,021	1,081
Asian or Pacific Islander											
Total	449	469	487	528	552	538	582	673	769	796	886
Male	230	241	258	269	252	260	280	334	364	377	419
Female	219	228	229	259	300	278	302	339	405	419	467
Refused/Unknown race											
Total	114	161	827	1,153	^b	^b	10 [†]	10 [†]	0 [†]	484	454
Male	67	115	503	617	^b	^b	*	*	*	362	320
Female	47	46	324	536	^b	^b	*	*	*	120	133

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; ^a Deaths with unknown gender (Total, n=3; Hispanic, n=1; American Indian, n=1; Unknown race/ethnicity, n=1, were included in total for 2018); ^b Bridging of race/ethnicity in 2012 and 2013 differed from previous years. Individuals with unknown race were categorized as White non-Hispanic, while individuals with unknown race and Hispanic ethnicity were coded as Hispanic.

**TABLE 2A-2
RESIDENT MORTALITY BY MONTH OF OCCURRENCE AND YEAR, ARIZONA, 2008-2018**

Month of death	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	Count	4,149	3,983	3,950	4,321	4,210	5,079	4,824	5,028	5,119	5,111
Percent	9.2%	8.8%	8.6%	9.1%	8.7%	10.2%	9.4%	9.3%	9.1%	8.9%	10.5%
Count	4,059	3,592	3,582	4,070	4,147	4,383	4,227	4,267	5,135	4,514	4,832
Percent	9.0%	8.0%	7.8%	8.6%	8.6%	8.8%	8.3%	7.9%	9.1%	7.9%	8.2%
Count	4,426	3,954	4,084	4,358	4,414	4,484	4,333	4,819	5,387	5,070	5,353
Percent	9.8%	8.8%	8.9%	9.2%	9.1%	9.0%	8.5%	8.9%	9.5%	8.9%	9.0%
Count	3,949	3,945	3,845	3,967	4,176	4,231	4,278	4,547	4,689	4,854	4,922
Percent	8.8%	8.8%	8.4%	8.3%	8.6%	8.5%	8.4%	8.4%	8.3%	8.5%	8.3%
Count	3,754	3,699	3,811	3,899	3,980	4,076	4,291	4,527	4,603	4,867	4,768
Percent	8.3%	8.2%	8.3%	8.2%	8.2%	8.2%	8.4%	8.4%	8.1%	8.5%	8.1%
Count	3,542	3,500	3,651	3,823	3,868	3,831	4,072	4,396	4,464	4,782	4,666
Percent	7.8%	7.8%	8.0%	8.0%	8.0%	7.7%	8.0%	8.1%	7.9%	8.4%	7.9%
Count	3,467	3,741	3,843	3,791	3,862	3,926	4,071	4,338	4,496	4,739	4,761
Percent	7.7%	8.3%	8.4%	8.0%	8.0%	7.9%	8.0%	8.0%	8.0%	8.3%	8.0%
Count	3,512	3,617	3,756	3,913	3,850	3,893	4,112	4,338	4,432	4,534	4,647
Percent	7.8%	8.0%	8.2%	8.2%	7.9%	7.8%	8.1%	8.0%	7.8%	7.9%	7.8%
Count	3,279	3,604	3,633	3,678	3,849	3,804	3,994	4,183	4,253	4,423	4,505
Percent	7.3%	8.0%	7.9%	7.7%	7.9%	7.6%	7.8%	7.7%	7.5%	7.7%	7.6%
Count	3,636	3,739	3,678	3,888	3,956	3,868	4,184	4,284	4,501	4,548	4,619
Percent	8.1%	8.3%	8.0%	8.2%	8.2%	7.7%	8.2%	7.9%	8.0%	7.9%	7.8%
Count	3,519	3,694	3,806	3,753	3,894	3,924	4,239	4,543	4,518	4,547	4,706
Percent	7.8%	8.2%	8.3%	7.9%	8.0%	7.9%	8.3%	8.4%	8.0%	7.9%	7.9%
Count	3,836	3,997	4,232	4,086	4,253	4,430	4,449	4,882	4,883	5,272	5,208
Percent	8.5%	8.9%	9.2%	8.6%	8.8%	8.9%	8.7%	9.0%	8.6%	9.2%	8.8%
Count	45,128	45,065	45,871	47,547	48,459	49,929	51,074	54,152	56,480	57,261	59,206
Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

**TABLE 2A-3
DEATHS BY DAY AND MONTH OF OCCURRENCE, ARIZONA RESIDENTS, 2018**

Day of death	Month of death												Total
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	205	195	207	160	177	150	143	159	168	140	162	153	2,019
2	214	189	173	172	162	149	159	148	143	139	158	154	1,960
3	241	193	184	172	162	155	160	149	147	136	134	162	1,995
4	210	168	182	182	170	153	159	166	150	148	169	165	2,022
5	226	182	184	192	154	148	117	131	156	159	155	183	1,987
6	222	186	162	159	172	162	175	156	150	141	153	182	2,020
7	235	189	160	182	175	136	164	164	152	131	157	161	2,006
8	238	184	176	152	160	167	156	146	139	149	150	158	1,975
9	212	172	202	184	157	141	177	137	143	144	155	162	1,986
10	214	181	191	168	152	149	135	143	153	148	149	158	1,941
11	203	168	191	154	160	141	149	152	158	154	151	179	1,960
12	198	177	156	168	155	184	140	145	152	152	150	147	1,924
13	180	184	142	153	141	175	140	128	158	144	177	154	1,876
14	192	178	173	166	131	174	130	156	156	173	167	171	1,967
15	177	196	173	173	136	155	159	144	144	165	137	156	1,915
16	179	155	154	158	168	169	166	145	145	135	149	160	1,883
17	203	145	169	150	152	155	146	137	144	138	148	186	1,873
18	197	183	190	175	154	143	132	167	154	157	157	166	1,975
19	198	157	195	162	135	144	158	166	157	142	153	173	1,940
20	191	162	172	149	155	160	169	153	158	177	167	168	1,981
21	199	160	157	160	150	176	182	153	155	153	147	197	1,989
22	197	157	159	150	161	143	146	149	133	159	149	190	1,893
23	203	141	175	159	165	136	145	169	153	148	164	163	1,921
24	177	161	162	149	154	172	132	148	148	156	163	166	1,888
25	186	163	163	175	138	170	177	138	179	146	162	158	1,955
26	192	154	173	177	131	160	201	146	134	156	166	175	1,965
27	175	190	133	168	137	159	148	148	161	159	142	166	1,886
28	197	162	170	132	153	161	132	148	143	141	161	171	1,871
29	188		181	163	166	135	165	149	145	150	170	150	1,762
30	195		163	158	140	144	143	160	127	136	184	203	1,753
31	175		181		145		156	147		143		171	1,118
Total	6,219	4,832	5,353	4,922	4,768	4,666	4,761	4,647	4,505	4,619	4,706	5,208	59,206

**TABLE 2A-4
AGE-SPECIFIC MORTALITY BY PLACE OF DEATH AND DECEDENT STATUS, ARIZONA, 2018**

	Age												Total				
	<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Un- known					
IN HOSPITAL																	
In-patient	352	46	49	173	339	465	1,020	2,083	3,146	3,225	2,262	0	0	13,160			
Out-patient^a	56	42	23	164	228	245	343	539	572	531	314	0	0	3,057			
Died on arrival	*	0	0	*	*	*	*	8	7	8	6	0	0	40 ⁺			
Status unknown	18	10	23	236	422	528	1,165	2,723	4,204	5,264	5,274	0	0	19,867			
Subtotal	430 ⁺	98	95	570 ⁺	990 ⁺	1,240 ⁺	2,530 ⁺	5,353	7,929	9,028	7,856	0	0	36,123			
NOT IN HOSPITAL																	
Nursing home^b	14	7	10	20	48	116	335	899	1,445	1,866	1,969	0	0	6,729			
Residence	0	0	0	*	14	21	90	328	757	1,314	2,084	0	0	4,610 ⁺			
Other^c	*	9	25	262	396	338	515	869	1,390	2,665	5,269	*	*	11,740 ⁺			
Unspecified	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Subtotal	20 ⁺	16	35	280 ⁺	458	475	940	2,096	3,592	5,845	9,322	0 ⁺	0 ⁺	23,083			
TOTAL	447	114	130	858	1,448	1,716	3,471	7,449	11,521	14,873	17,178	1	1	59,206			

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; ^a Includes Emergency Room; ^b Includes other long-term care facilities; ^c Includes hospices.



2B.

LEADING CAUSES OF DEATH

In 2010, the Office of Vital Records (OVR) of the Arizona Department of Health Services implemented the new (version 2003) Standard U.S. death certificate. The new certificate added several new questions: 1) whether tobacco use contributed to the death, and 2) whether, if the decedent was a female, the death was “pregnancy-associated” (defined as death from any cause during pregnancy or within one calendar year of delivery or pregnancy termination).

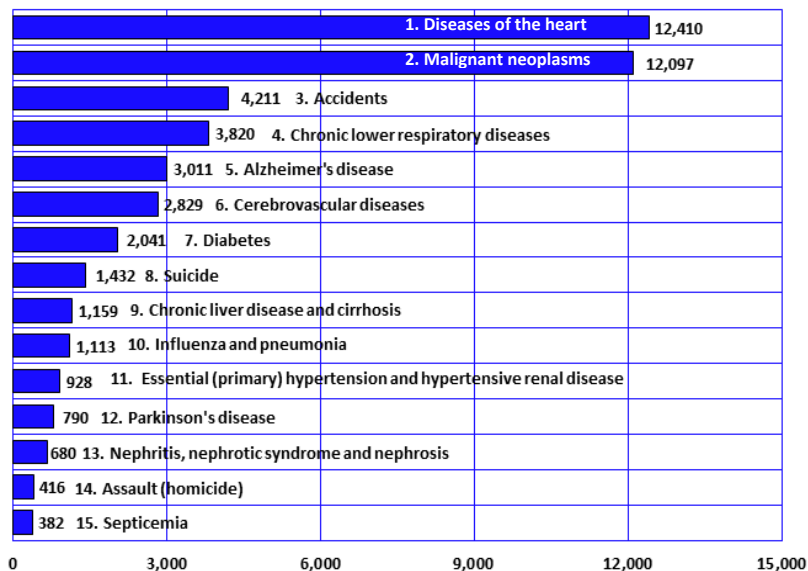
The death certificate now includes a new classification of the decedent’s racial/ethnic status, consistent with the revised federal standards for collecting and reporting racial and ethnic status. These standards were published in the Federal Register on October 30, 1997, as “Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity.” The revised standards are available on the OMB (the Office of Management and Budget) web-site at: <https://www.whitehouse.gov/omb>.

There are now 15 racial categories (including Guamanian or Chamorro; Samoan or Native Hawaiian) to choose from. It is also permitted to indicate more than one race for a decedent. To create frequency counts of race and ethnicity that were adequate to compute statistically reliable mortality rates, race was “bridged”, or essentially collapsed into 5 categories; White non-Hispanic, Hispanic or Latino, Black or African American, Native American or Alaska Native, and Asian or Pacific Islander. When an individual was identified as both Hispanic and any other race, that person was added to the racial/ethnic group with the lowest population. For example, a person identified as both White and Hispanic would be coded as Hispanic, where a person identified as American Indian and Hispanic would be coded as American Indian. Please refer to the technical appendix for further explanation of the racial bridging used in this report.

2B. LEADING CAUSES OF DEATH

Figure 2B-1A
Leading Causes of Death among Arizona Residents in 2018

BASED ON THE NUMBER OF DEATHS DUE TO THE UNDERLYING CAUSE:

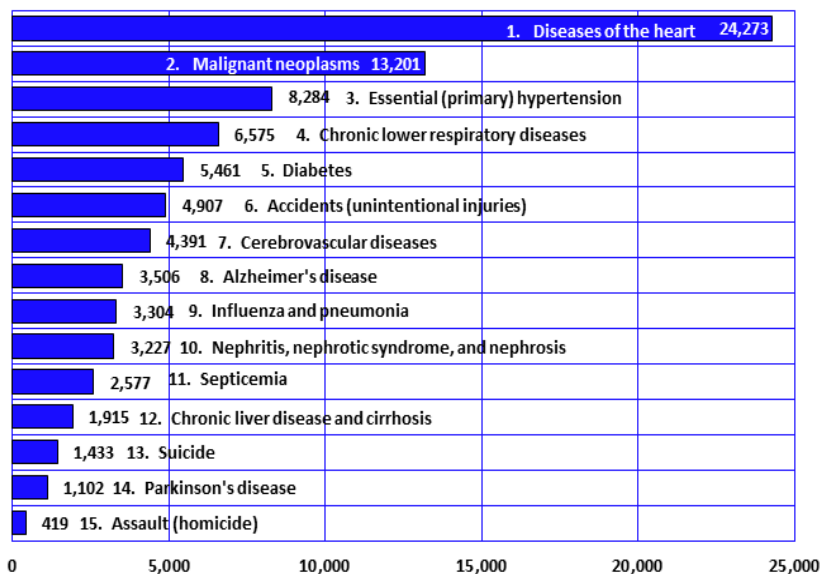


Based on the number of deaths (but not age-adjusted mortality rate), the leading underlying cause of death to Arizona residents in 2018 was *heart disease* (12,410 or 21.0 percent of all deaths), closely followed by *cancer*, which accounted for 12,097 or 20.4 percent of deaths (**Figure 2B-1A, Table 2B-1, Table 5E-14**).

The third leading cause of death, *accidents (unintentional injuries)*, accounted for 4,211 or 7.1 percent of total deaths. Deaths due to *chronic lower respiratory diseases* ranked fourth in 2018, with 3,820 resident deaths reported. Deaths due to *Alzheimer's disease* ranked fifth in 2018, with 3,011 resident deaths reported. Together, these five causes accounted for 60.0 percent of total deaths in 2018. The fifteen leading causes accounted for 79.9 percent of all deaths among Arizona residents.

Figure 2B-1B
Leading Causes of Death among Arizona Residents in 2018

BASED ON THE NUMBER OF DEATHS DUE TO ANY MENTION OF A CAUSE:



For the purpose of mortality statistics, every death is attributed to one underlying condition or underlying cause of death. The underlying cause is defined as the disease or injury that initiated the chain of events leading directly to death. It is selected from up to 20 causes and conditions entered by the physician on the death certificate. The totality of all these conditions is known as multiple cause of death.

In addition to 12,410 deaths that had diseases of the heart assigned as the underlying cause, another 11,863 deaths had diseases of the heart assigned as a secondary cause of death. The sum of these two counts (24,273, **Figure 2B-1B**) is the total number of deaths that had any mention of diseases of the heart on the 2018 death certificates. The ranking based on any mention of the 15 diagnostic categories is different from ranking of the leading causes of death based on the underlying cause. In particular, *Essential hypertension* ranked 11th as the underlying cause but ranked 3rd when any mention of it was counted.

2B. LEADING CAUSES OF DEATH
Five Leading Causes by Gender

Figure 2B-2
Age-adjusted Mortality Rates^a for the Five Leading Causes of Death for Both Genders by Race/Ethnicity, Arizona, 2018

It is important to note that (Figures 2B-2, 2B-3, 2B-4, and 2B-5) are based on the age-adjusted mortality rates and not on the number of deaths.

In 2018, diseases of the heart were the leading cause of death for White non-Hispanics and Blacks while it was the second leading cause of death for the remaining race/ethnic groups. Cancer was the second leading cause of death for White non-Hispanics, and Black or African Americans, but ranked first for Hispanics and Asians. Unintentional injury was among the third leading cause of death for White non-Hispanics, Hispanics, and Blacks, while it ranked first among American Indians and fourth among Asians. (Figure 2B-2, Table 2B-4).

In 2018, chronic lower respiratory diseases were the fourth leading cause of death specific to White non-Hispanics. In parallel, chronic liver disease and cirrhosis ranked fourth among the leading causes of death for American Indians alone. Alzheimer's disease was the fifth leading cause of death for all subgroups, except among Hispanics (cerebrovascular diseases) and American Indians (diabetes). (Table 2B-4).

Rank	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
1	Diseases of heart 144.3	Cancer 118.7	Diseases of heart 166.4	Unintentional injury 144.5	Cancer 102.7
2	Cancer 140.2	Diseases of heart 116.0	Cancer 156.7	Diseases of heart 129.9	Diseases of heart 86.0
3	Unintentional injury 56.3	Unintentional injury 44.5	Unintentional injury 57.6	Cancer 115.3	Cerebro-vascular diseases 27.9
4	Chronic lower respiratory diseases 48.0	Diabetes 35.0	Diabetes 48.9	Chronic liver disease and cirrhosis 88.8	Unintentional injury 24.9
5	Alzheimer's disease 35.1	Cerebro-vascular diseases 34.6	Alzheimer's disease 45.1	Diabetes 73.6	Alzheimer's disease 19.8

Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-3
Age-adjusted Mortality Rates^a for the Five Leading Causes of Death by Race/Ethnicity among Females, Arizona, 2018

Based on age-adjusted mortality rates, cancer was the leading cause of death among White non-Hispanic, Hispanic, and Asian females. Diseases of the heart were the leading cause of death specific to Black and American Indian females (Figure 2B-3, Table 2B-4).

Chronic lower respiratory diseases were the third leading cause of death specific to White non-Hispanic females. Chronic liver disease and cirrhosis was unique to American Indian women and ranked third among the leading causes of death. Diabetes ranked fourth among Blacks females but fifth among Hispanic and American Indian females.

Rank	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
1	Cancer 118.9	Cancer 99.6	Diseases of heart 149.5	Diseases of heart 108.6	Cancer 96.7
2	Diseases of heart 111.4	Diseases of heart 90.1	Cancer 131.2	Cancer 92.6	Diseases of heart 68.5
3	Chronic lower respiratory diseases 46.8	Cerebro-vascular diseases 32.6	Alzheimer's disease 49.9	Chronic liver disease and cirrhosis 77.1	Cerebro-vascular diseases 29.2
4	Alzheimer's disease 41.3	Alzheimer's disease 32.1	Diabetes 44.5	Unintentional injury 74.5	Alzheimer's disease 26.6
5	Unintentional injury 37.8	Diabetes 27.4	Cerebro-vascular diseases 43.9	Diabetes 59.1	Unintentional injury 18.7

Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

**2B. LEADING CAUSES OF DEATH
Five Leading Causes by Gender**

**Figure 2B-4
Age-adjusted Mortality Rates^a for the Five Leading Causes of Death
by Race/Ethnicity among Males, Arizona, 2018**

Rank	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
1	Diseases of heart 181.1	Diseases of heart 147.4	Cancer 193.4	Unintentional injury 224.0	Diseases of heart 112.9
2	Cancer 165.7	Cancer 144.3	Diseases of heart 185.8	Diseases of heart 156.0	Cancer 112.0
3	Unintentional injury 74.7	Unintentional injury 63.5	Unintentional injury 80.4	Cancer 149.6	Unintentional injury 31.5
4	Chronic lower respiratory diseases 49.2	Diabetes 44.0	Diabetes 54.7	Chronic liver disease and cirrhosis 101.9	Diabetes 25.9
5	Intentional Self-harm Suicide 37.5	Cerebro-vascular diseases 36.3	Cerebro-vascular diseases 42.7	Diabetes 92.4	Cerebro-vascular diseases 25.2

Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Based on age-adjusted mortality rates, diseases of the heart followed by cancer were the two leading causes of death among males for all the race/ethnic groups except Black and American Indian males (**Figure 2B-4; Table 2B-4**). Unintentional injury ranked third position for all race/ethnic groups, except among American Indians.

In 2018, based on the age-adjusted mortality rates, diabetes was among the fourth leading causes of death for Hispanic, Black, and Asian males, while chronic lower respiratory diseases, and chronic liver disease ranked fourth for White non-Hispanic males and American Indian males, respectively.

Ranking fifth was suicide (White males) cerebrovascular diseases (Hispanic, Black and Asian males) and diabetes (American Indian males).

**Figure 2B-5
Age-adjusted Mortality Rates^a for the Five Leading Causes of Death
by Gender in Urban^b and Rural Areas, Arizona, 2018**

Rank	Urban male	Urban female	Rural male	Rural female
1	Diseases of heart 168.2	Cancer 113.1	Diseases of heart 208.0	Diseases of heart 119.4
2	Cancer 157.5	Diseases of heart 106.4	Cancer 176.9	Cancer 119.3
3	Unintentional injury 71.3	Alzheimer's disease 39.8	Unintentional injury 102.6	Chronic lower respiratory diseases 52.7
4	Chronic lower respiratory diseases 41.4	Chronic lower respiratory diseases 38.0	Chronic lower respiratory diseases 57.4	Alzheimer's disease 39.3
5	Cerebrovascular diseases 31.8	Unintentional injury 35.3	Intentional Self-harm (suicide) 51.4	Unintentional injury 36.0

Notes: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard; ^b Urban = Maricopa, Pima, Pinal, and Yuma counties. The remaining counties comprise Arizona's rural areas.

In 2018, the profile of the leading causes of death differed by gender for residents of the urban (Maricopa, Pima, Pinal, and Yuma counties) and rural (all the remaining counties) areas of the state (**Figure 2B-5, Table 2B-5**). Diseases of the heart exceeded cancer as the leading causes of death among urban males and rural males and females. Unintentional injury placed third among the leading cause for males but fifth for females, regardless of area of residence.

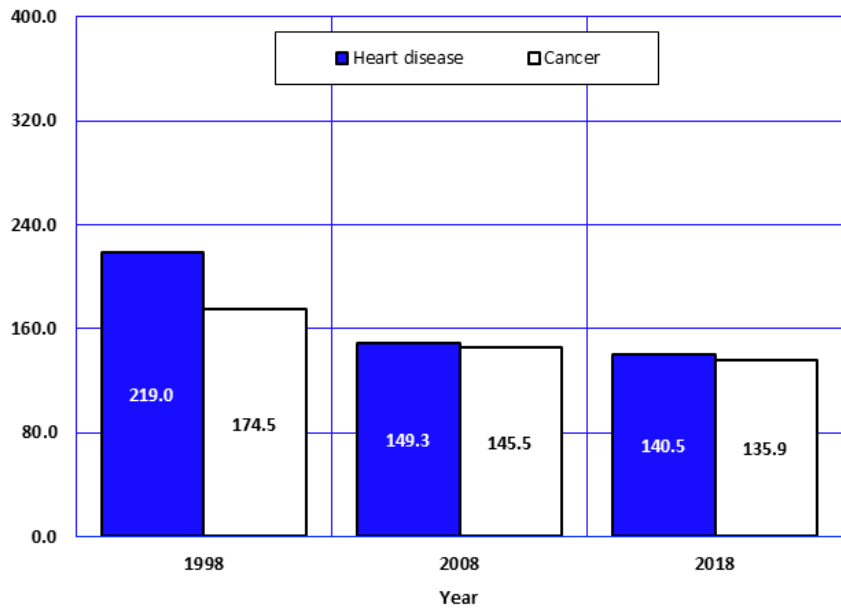
Alzheimer's disease was the third leading cause of death among urban females but the fourth among rural females. Chronic lower respiratory diseases were the fourth leading cause of death in urban areas and among rural males, while it was the third among rural females. Among the fifth leading cause of death, cerebrovascular diseases were specific to urban males while suicide was specific to rural males.

2B. LEADING CAUSES OF DEATH
Diseases of heart and malignant neoplasm (cancer)

Figure 2B-6
Comparison of Age-adjusted Mortality Rates^a for Heart Disease and Cancer (Malignant Neoplasm), Arizona, 1998, 2008, and 2018

The age-adjusted mortality rate for diseases of the heart decreased by 35.8 percent from 219.0 deaths per 100,000 population in 1998 to 140.5/100,000 in 2018 (**Figure 2B-6**). The age-adjusted mortality rate for cancer declined less, by 22.1 percent, from 1998-2018. In Arizona, the relative risk of death from heart disease versus cancer changed from 25.5 percent greater in 1998 to 3.4 percent less in 2018.

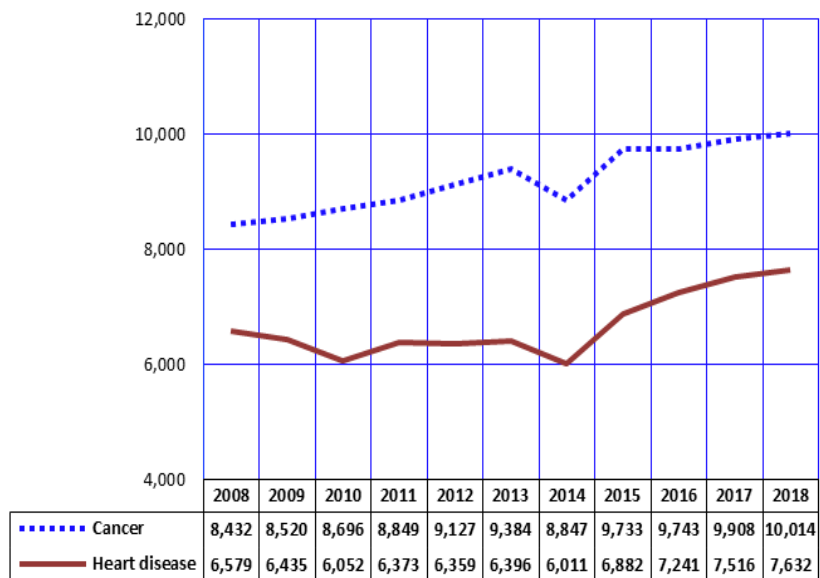
In 2008, 350 more Arizonans died from diseases of the heart than cancer (**Table 2B-1**). In 2018, the number of deaths due to diseases of the heart exceeded by 313 cases (**Table 2B-4**).



Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-7
Number of Deaths from Heart Disease and Cancer among Arizonans 0-84 Years, 2008-2018

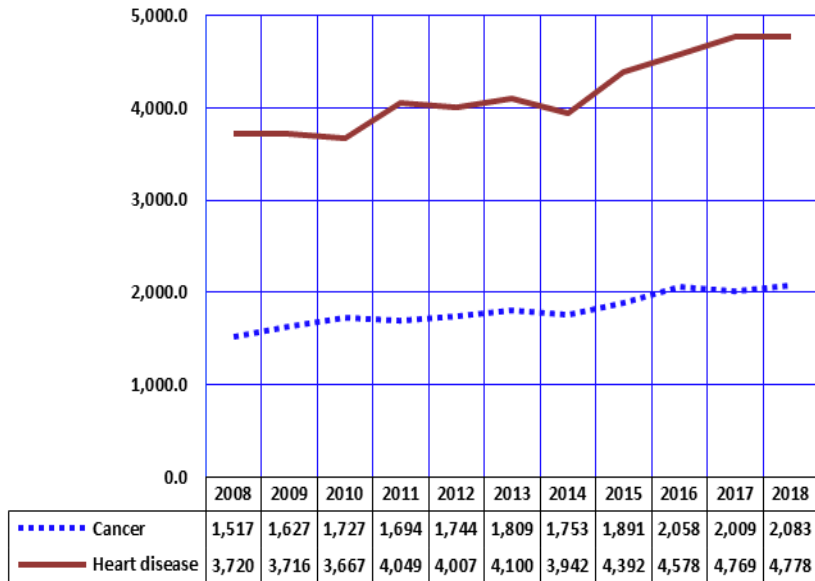
For the past several years, cancer has been the number one cause of death among Arizonans aged 0-84 years (**Figure 2B-7**). Beginning in 1996, the annual number of cancer deaths exceeded the number of deaths from heart disease. In 2018, 2,382 more Arizonans 0-84 years old died from cancer (10,014) than heart disease (7,632).



Note: 2008 counts for cancer and heart disease were updated due to misclassification of 2008 death records.

2B. LEADING CAUSES OF DEATH
Diseases of heart and malignant neoplasm (cancer)

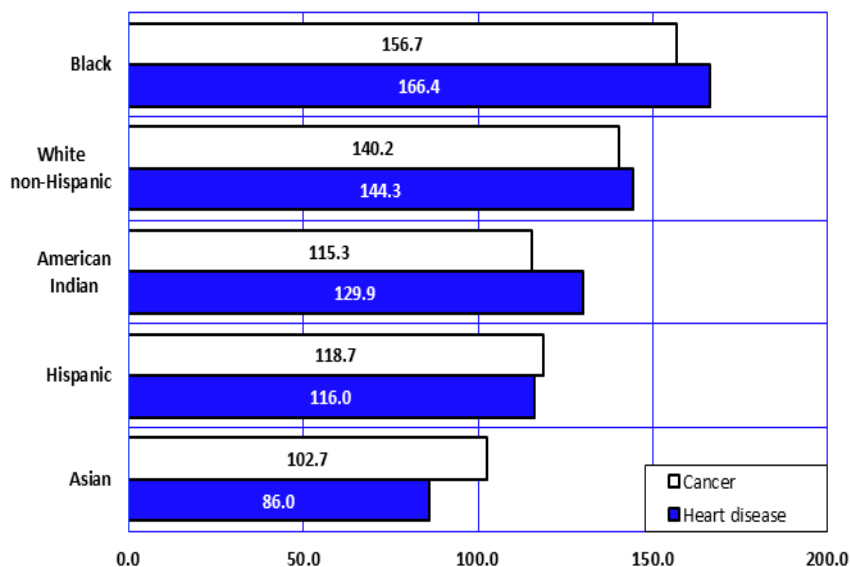
Figure 2B-8
Deaths from Heart Disease and Cancer among Arizonans 85+, 2008-2018



Among Arizonans age 85 and over, heart disease is the number one leading cause of death by a wide margin. In 2018, adults aged 85 and over accounted for 17.2 percent of all deaths from cancer but 38.5 percent of all deaths from heart disease. In 2018, the median age at death for heart disease was 80 years (**Table 2D-3**); and a minority of deaths (44.8 percent, **Table 2D-4**) were premature, i.e., before reaching the expected years of life at birth for all U.S. residents (78.8 years).

However, from 2008 to 2018, the number of deaths from cancer increased by 37.3 percent among Arizonans 85 years or older, more than the increase observed in diseases of the heart (28.4 percent increase).

Figure 2B-9
Age-adjusted Mortality Rates^a for Heart Disease and Cancer by Race/Ethnicity, Arizona, 2018



In Arizona, Black or African Americans were 1.9 times more likely to die from diseases of the heart and 1.5 times more likely to die from malignant neoplasms in 2018 than Asians, the group with the lowest risk of each respective cause of death (**Figure 2B-9**, **Table 2B-4**). Compared to Asians, White non-Hispanic Arizonans were 1.7 times more likely to die of heart disease and 1.4 times more likely to die of cancer.

In 2018, the relative risk of death from heart disease exceeded cancer mortality risk (**Table 2B-3**) for all the racial/ethnic groups, except for Hispanics and Asians.

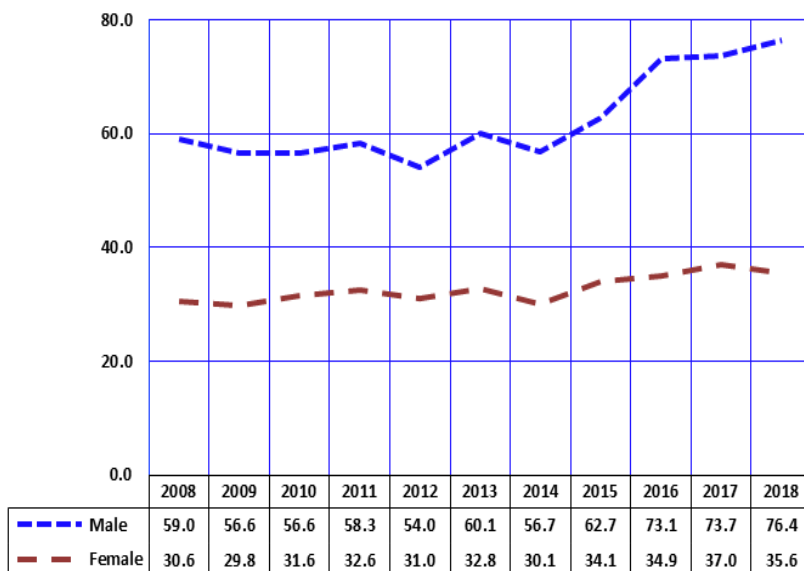
Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

2B. LEADING CAUSES OF DEATH
Accidents (unintentional injury)

Figure 2B-10
Age-adjusted Mortality Rates^a for Accidents (Unintentional Injuries) by Gender and Year, Arizona, 2008-2018

The number of deaths from unintentional injuries increased by 3.1 percent from 4,085 in 2017 to 4,211 in 2018 (**Table 2B-1**). In 2018, based on age-adjusted mortality rates, accidents ranked third as a leading cause of death for males and fifth for females (**Table 2B-4**). From 2017 to 2018, the age-adjusted mortality rate for accidents increased 3.7 percent for males while it decreased 3.8 percent for females (**Figure 2B-10**).

In 2018, 1,032 deaths were caused by motor vehicle accidents, an increase of 5.4 percent from 2017. Heat induced mortality has seen a reduction of 13.0 percent between 2017 and 2018. Deaths due to accidental drowning and submersion decreased by 13.2 percent from 2017 (n=106) to 2018 (n=92). Additionally, Arizonans experienced a 12.3 percent increase in the number of accidental poisonings due to drugs and/or medications from 1,269 deaths in 2017 to 1,425 fatalities in 2018; **Table 2B-9**).

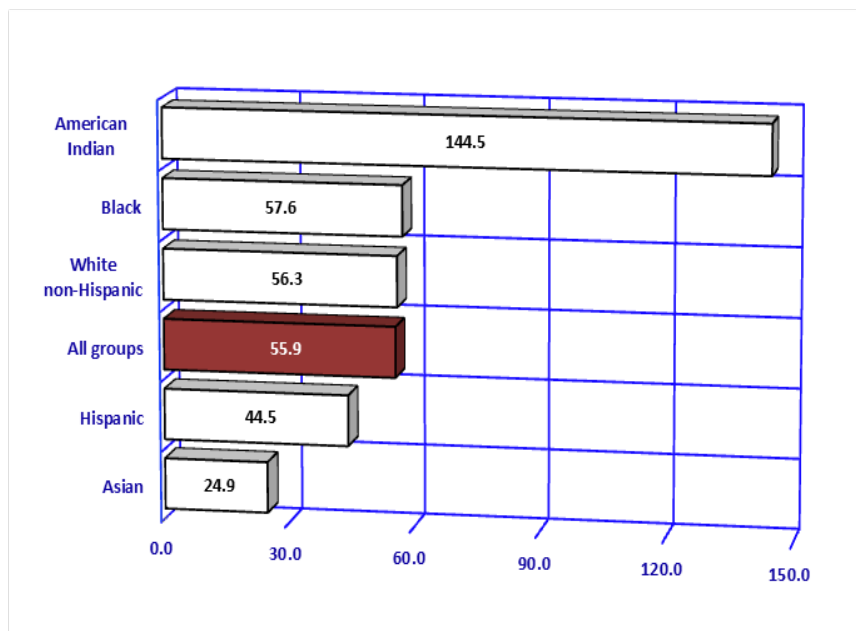


Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-11
Age-adjusted Mortality Rates^a for Accidents (Unintentional Injuries) by Race/Ethnicity, Arizona, 2018

The American Indian death rate for unintentional injuries (144.5/100,000) was 5.8 times greater than the rate for Asians (24.9/100,000), the group with the lowest risk of unintentional injury death among racial/ethnic groups in the state (**Figure 2B-11, Table 2B-4**).

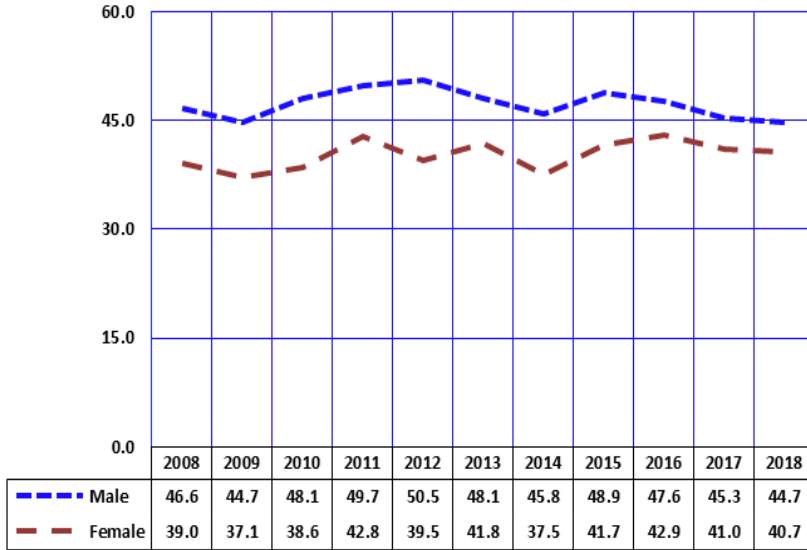
In 2018, Apache (134.1/100,000) and La Paz (123.6/100,000) counties had the two highest age-adjusted mortality rates for unintentional injuries (**Table 5E-11**).



Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

2B. LEADING CAUSES OF DEATH
Chronic lower respiratory diseases

Figure 2B-12
Age-adjusted Mortality Rates^a for Chronic Lower Respiratory Diseases^b by Gender and Year, Arizona, 2008-2018

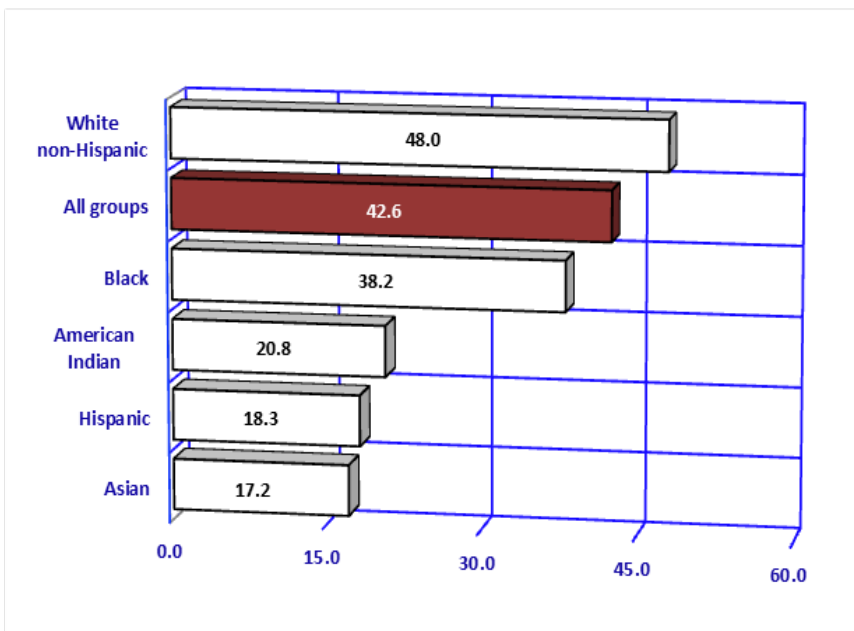


In 2018, chronic lower respiratory diseases (bronchitis, emphysema, asthma) were the 4th leading cause of death among Arizona residents (**Table 2B-1**). From 2017 to 2018, the mortality rate for chronic lower respiratory diseases decreased for both genders, but more so among males (1.3 percent) than females (0.7 percent; **Figure 2B-12, Table 2B-2**).

Urban females had the lowest mortality rate for chronic lower respiratory diseases (38.0/100,000) among the genders and by regional group (**Table 2B-5**). Rural males were the group with the highest mortality risk for chronic lower respiratory diseases (57.4/100,000), followed by rural females (52.7/100,000) and urban males (41.4 deaths per 100,000).

Notes: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard; ^b This ICD-10 title corresponds to Chronic Obstructive Pulmonary Disease (ICD-9 title).

Figure 2B-13
Age-adjusted Mortality Rates^a for Chronic Lower Respiratory Diseases by Race/Ethnicity, Arizona, 2018



Mortality rates for emphysema, chronic bronchitis, asthma, and other lower respiratory disorders were substantially higher among White non-Hispanics (48.0 deaths per 100,000) than any other race/ethnic groups. Asians recorded the lowest rate at 17.2 deaths per 100,000 population (**Figure 2B-13, Table 2B-4**).

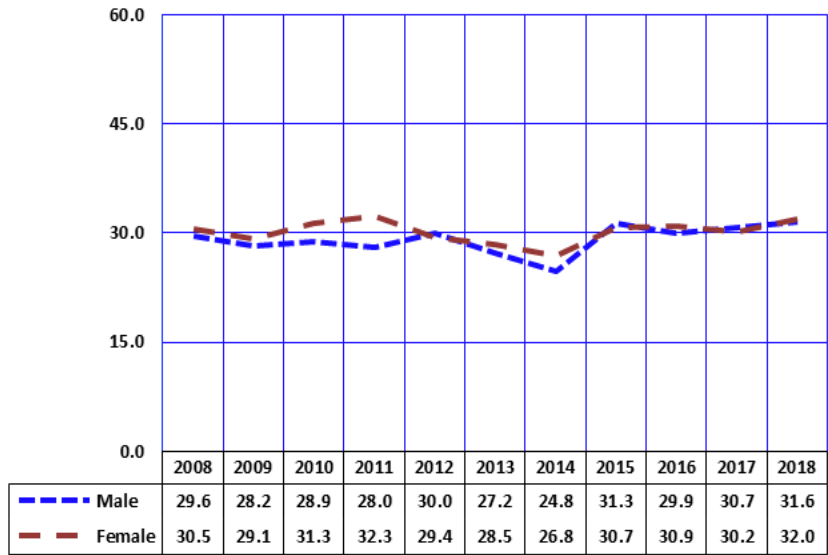
Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

2B. LEADING CAUSES OF DEATH
Cerebrovascular diseases

Cerebrovascular disease and diseases of the heart are two of the leading causes of death that share many risk factors such as hypertension, smoking, obesity, and high levels of cholesterol. The age-adjusted mortality rate for cerebrovascular diseases increased by 4.6 percent from 30.7 deaths per 100,000 population in 2017 to 32.1/100,000 in 2018 (Table 2B-3).

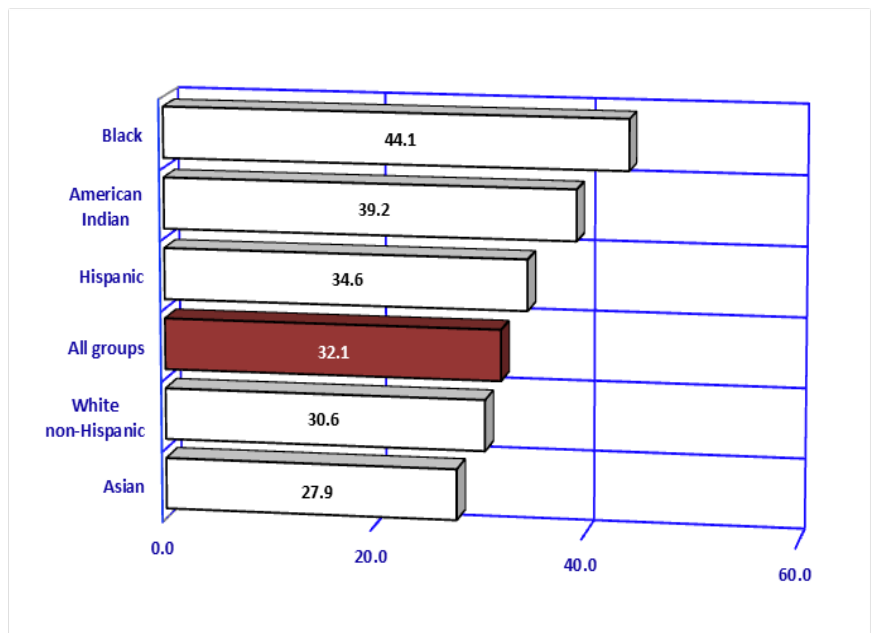
With some exceptions, the risk of dying from cerebrovascular diseases was generally higher among females than males for the period 2008-2018. In 2012, the age-adjusted mortality rate for stroke was greater among males than females, with male risk being slightly higher than female risk (Figure 2B-14). In 2018 as in 2015 and 2017, males experienced a higher risk of dying from cerebrovascular diseases than females. (Figure 2B-14, Table 2B-2).

Figure 2B-14
Age-adjusted Mortality Rates^a for Cerebrovascular Disease by Gender and Year, Arizona, 2008-2018



Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-15
Age-adjusted Mortality Rates^a for Cerebrovascular Disease by Race/Ethnicity, Arizona, 2018

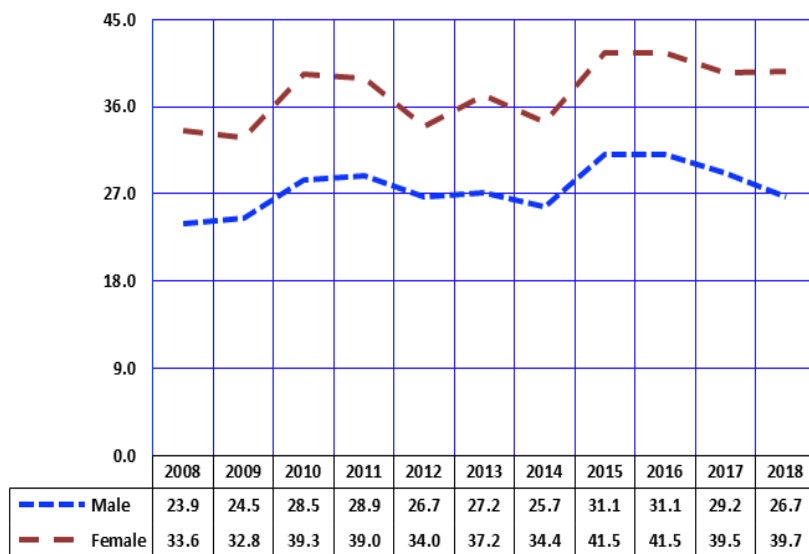


Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Compared to Arizona's overall rate, Black or African Americans were 1.4 times more likely to die from cerebrovascular disease in 2018 (Figure 2B-15, Table 2B-4). The 2018 mortality rate for cerebrovascular disease among Asians (27.9/100,000) was the lowest among racial/ethnic groups.

2B. LEADING CAUSES OF DEATH
Alzheimer's disease

Figure 2B-16
Age-adjusted Mortality Rates^a for Alzheimer's Disease by Gender and Year, Arizona, 2008-2018

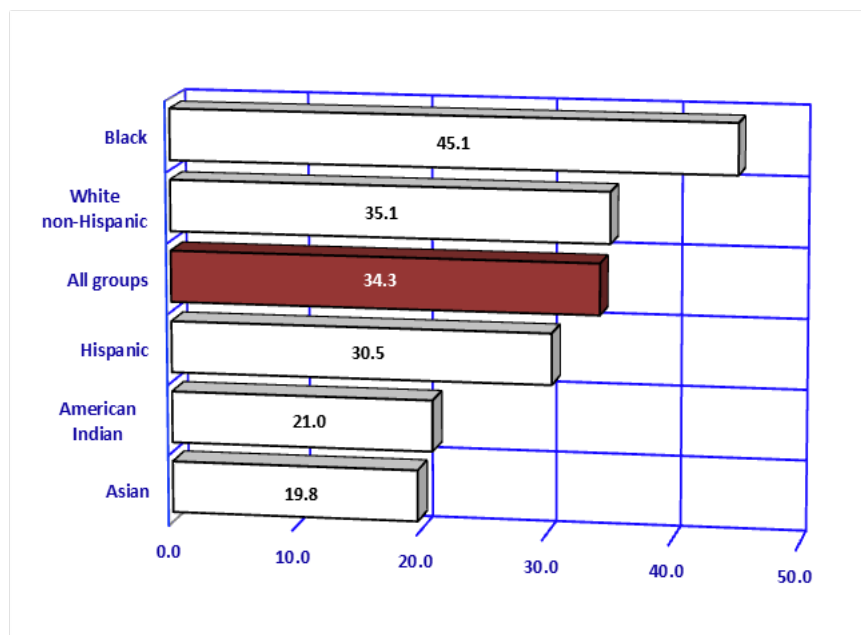


Based on the number of deaths in 2018, Alzheimer's disease was the 3rd leading cause of death for females and 8th leading cause for males (**Table 2B-4**)

From 2017 to 2018, the age-adjusted mortality rate for Alzheimer's disease decreased by 8.6 percent for males while it increased by 0.5 percent for females (**Figure 2B-16**).

Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-17
Age-adjusted Mortality Rates^a for Alzheimer's Disease by Race/Ethnicity, Arizona, 2018



The age-adjusted mortality rates for Alzheimer's disease in 2018 were higher among Black or African Americans (45.1/100,000), White non-Hispanics (35.1/100,000) than the other racial/ethnic groups. Rates lower than the state average were recorded among Asians (19.8/100,000), American Indians (21.0/100,000), and Hispanics (30.5/100,000); **Figure 2B-17, Table 2B-4**).

White non-Hispanic residents of Arizona disproportionately contributed to mortality from Alzheimer's disease. In 2018, White non-Hispanics accounted for 55.8 percent (**Table 10C-1**) of the state's population, but 84.6 percent of all deaths from Alzheimer's disease (2,548 out of 3,011; **Table 2B-4**).

In 2018, the overall median age at death from Alzheimer's disease was 87, specifically 85 years for males and 88 years for females (**Table 2D-3**).

Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

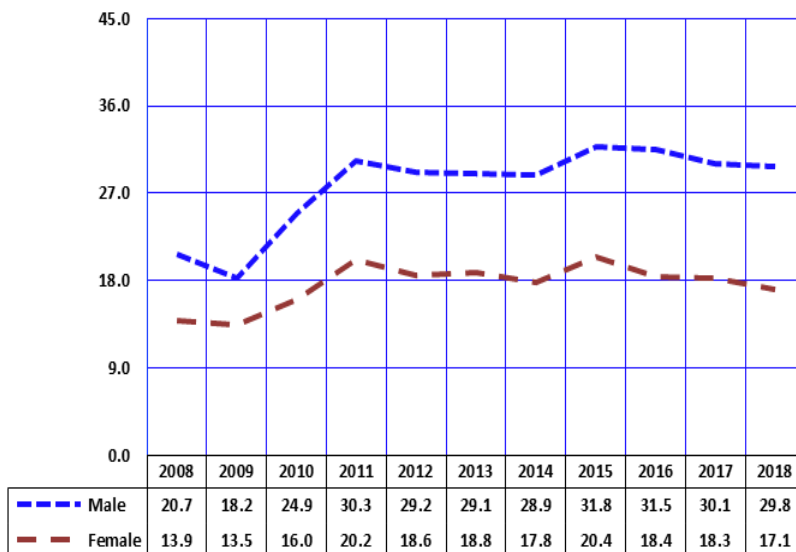
2B. LEADING CAUSES OF DEATH
Diabetes

Figure 2B-18
Age-adjusted Mortality Rates^a for Diabetes by Gender and Year,
Arizona, 2008-2018

From 2008-2018, mortality rates for diabetes decreased among males (44.0 percent) while it declined among females (23.0 percent; **Figure 2B-18**).

In addition to 2,041 deaths that had diabetes assigned as the underlying cause in 2018, another 3,420 deaths had diabetes assigned as a contributing factor. The diabetes-related death rate of 61.7/100,000 (**Table 6A-6**) was 2.7 times greater than the rate for diabetes as an underlying cause (23.0/100,000; **Table 2B-2**).

The diabetes-related death rate includes all mentions of diabetes on the death certificate as the underlying or other than underlying cause.

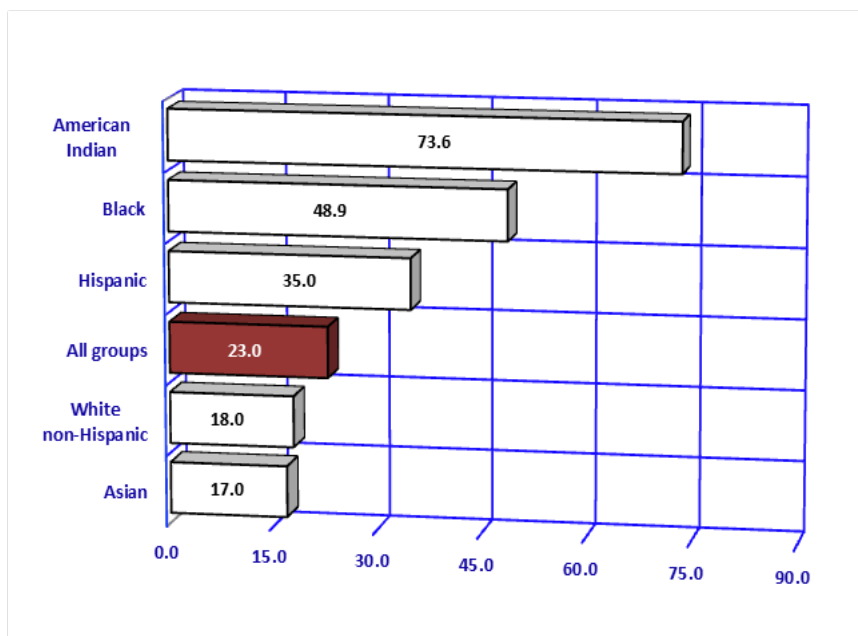


Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-19
Age-adjusted Mortality Rates^a for Diabetes by Race/Ethnicity,
Arizona, 2018

In 2018, compared to Arizona's rate, American Indians were 3.2 times more likely to die from diabetes (73.6 deaths per 100,000; **Figure 2B-19, Table 2B-4**). The rate of 17.0 deaths per 100,000 among Asians was the lowest rate among all racial/ethnic groups in the state.

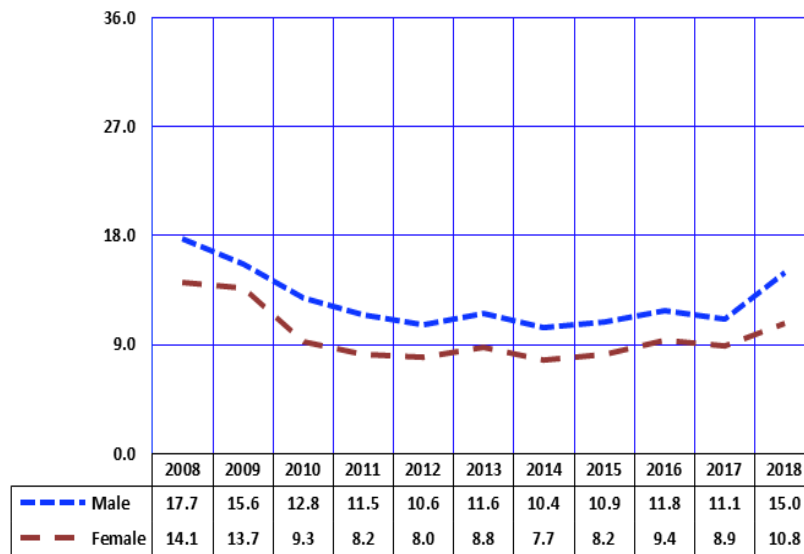
Among the 15 Arizona counties, Graham (55.0/100,000) and Navajo (45.3/100,000) counties had the highest mortality rates for diabetes recorded in 2018 (**Table 5E-11**).



Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

2B. LEADING CAUSES OF DEATH
Influenza and pneumonia

Figure 2B-20
Age-adjusted Mortality Rates^a for Influenza and Pneumonia by Gender and Year, Arizona, 2008-2018



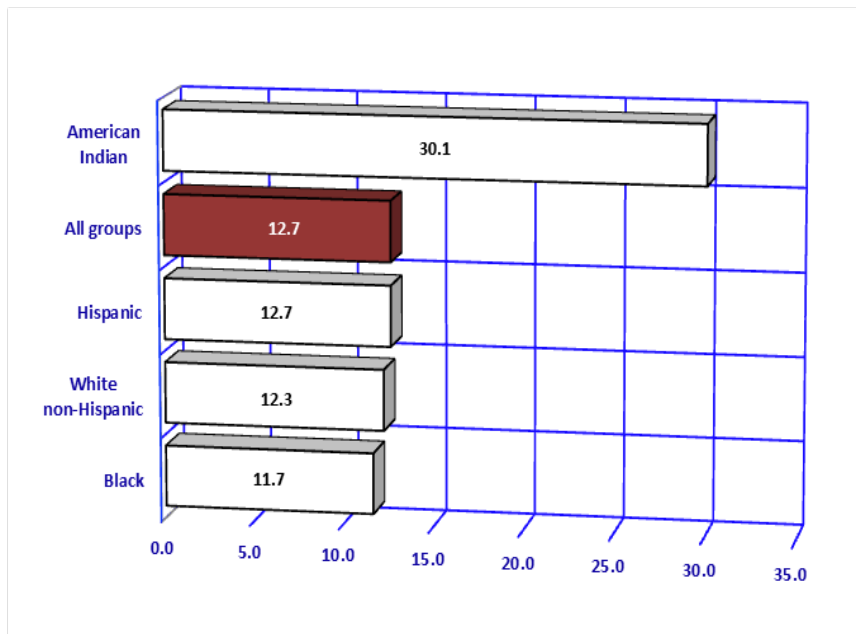
The number of deaths from influenza and pneumonia increased by 3.5 percent from 1,075 in 2008 to 1,113 in 2018. (Table 2B-1). Among the 1,113 deaths, influenza was identified as the underlying cause for 213 of them, while pneumonia was listed as the underlying cause on 900 death certificates (Table 2B-6).

The mortality rate for influenza and pneumonia increased for females from 8.9 deaths in 2017 to 10.8 deaths per 100,000 in 2018 (Figure 2B-20, Table 2B-2). The mortality rate for influenza and pneumonia also increased for males from 11.1/100,000 in 2017 to 15.0 deaths per 100,000 in 2018.

In 2018, the age-adjusted mortality rate for Arizona males was 38.9 percent greater than that of Arizona females.

Note: ^a Number of deaths per 100,000 population age-adjusted 2000 U.S. standard.

Figure 2B-21
Age-adjusted Mortality Rates^a for Influenza and Pneumonia by Race/Ethnicity, Arizona, 2018



In 2018, American Indian residents of Arizona had the highest mortality rate for influenza and pneumonia (30.1 deaths per 100,000) among the racial/ethnic groups. The age-adjusted mortality of 11.7/100,000 among Blacks was the lowest rate in the state (Figure 2B-21, Table 2B-4).

County comparisons show that in 2018 influenza and pneumonia mortality rates were lower in Coconino, Pinal, Santa Cruz, Cochise and Maricopa Counties than in the remaining counties (Table 5E-11).

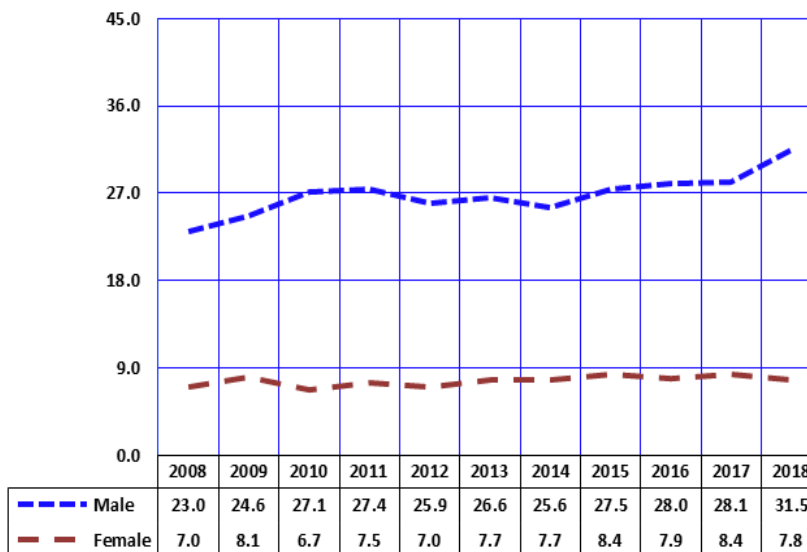
Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

2B. LEADING CAUSES OF DEATH
Suicide

Figure 2B-22
Age-adjusted Mortality Rates^a for Suicide by Gender and Year, Arizona, 2008-2018

In 2018, based on age-adjusted mortality rates, suicide was the 6th leading cause of death among males. It ranked as the 11th cause of mortality for females. The overall age-adjusted suicide rate increased from 18.0 suicides per 100,000 in 2017 to 19.5 in 2018 (**Table 2B-4**).

From 2017 to 2018, suicide mortality increased by 12.1 percent among males, while it decreased 7.1 percent among females (**Figure 2B-22, Table 2B-4**). In 2018, suicide posed a 4 times greater mortality risk for males (31.5/100,000) than for females (7.8/100,000).

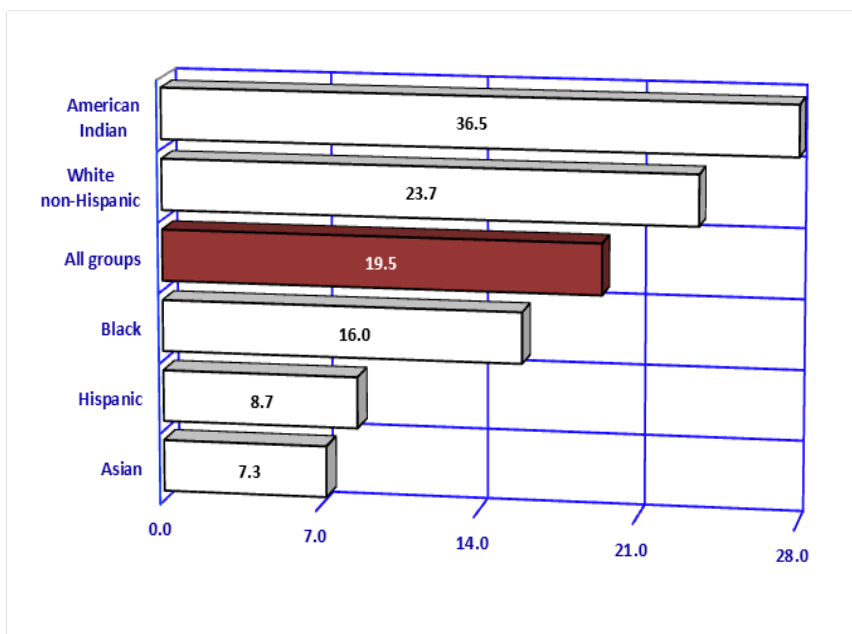


Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-23
Age-adjusted Mortality Rates^a for Suicide by Race/Ethnicity, Arizona, 2018

In 2018, American Indians had the highest age-adjusted suicide rate (36.5 suicides per 100,000) among racial/ethnic groups, followed by White non-Hispanics (23.7/100,000), while Asians recorded the lowest age-adjusted suicide rate (7.3/100,000; **Figure 2B-23, Table 2B-4**).

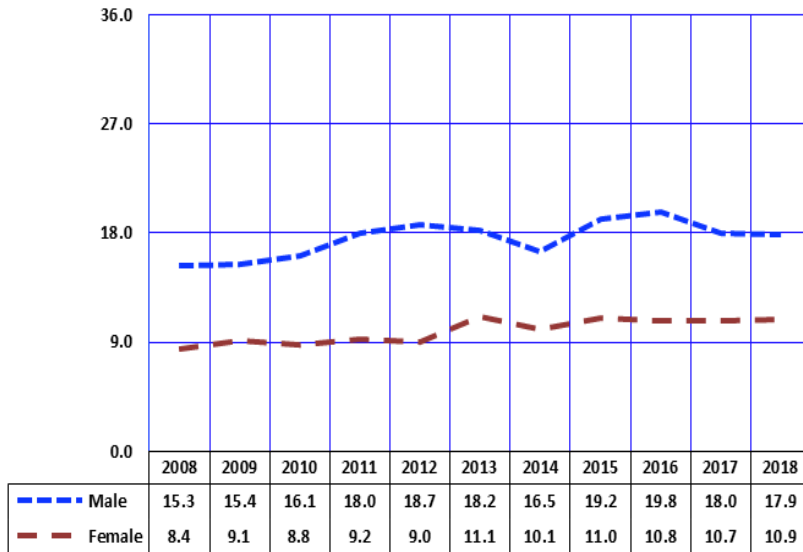
The 2018 age-adjusted mortality rates for suicide varied across the state, from a low rate of 9.7 suicides per 100,000 residents in Graham County to a high of 50.0 suicides per 100,000 residents in La Paz County (**Table 5E-11**).



Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

2B. LEADING CAUSES OF DEATH
Chronic liver disease and cirrhosis

Figure 2B-24
Age-adjusted Mortality Rates^a for Chronic Liver Disease and Cirrhosis
by Gender and Year, Arizona, 2008-2018



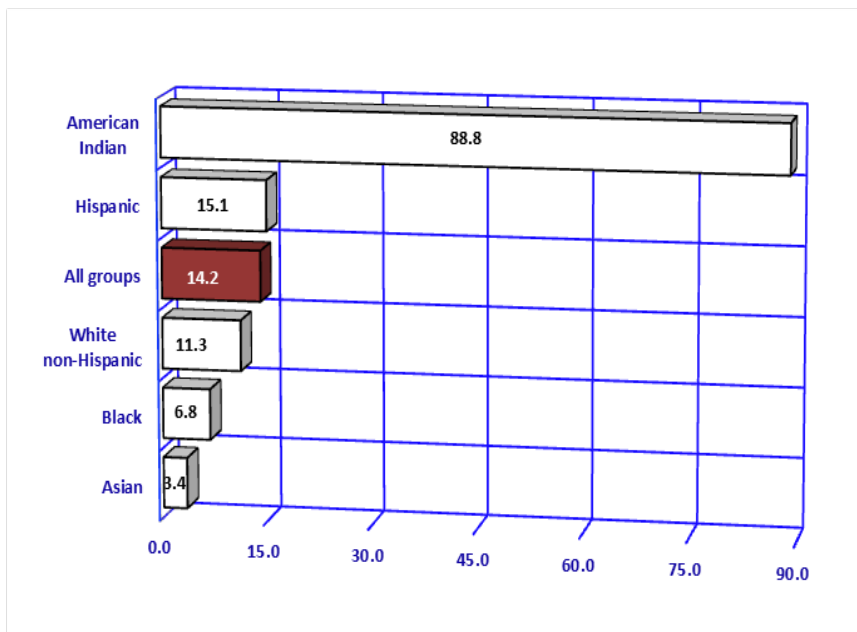
Chronic liver disease and cirrhosis was the 9th leading cause of death in Arizona in 2018 (**Figure 2B-1, Table 2B-1**). Among the 1,159 deaths due to chronic liver disease and cirrhosis, 712 (61.4 percent) were males (**Table 2B-4**).

Among females, the age-adjusted mortality rate for chronic liver disease and cirrhosis increased 1.9 percent from 2017 to 2018. Among males, the mortality rate decreased 0.6 percent from 18.0/100,000 in 2017 to 17.9/100,000 in 2018 (**Figure 2B-24, Table 2B-3**).

In 2018, La Paz, Navajo, Apache, and Gila counties had the highest mortality rates for chronic liver disease and cirrhosis (**Table 5E-11**).

Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-25
Age-adjusted Mortality Rates^a for Chronic Liver Disease and Cirrhosis
by Race/Ethnicity, Arizona, 2018



In 2018, chronic liver disease and cirrhosis mortality rate was exceedingly high among American Indians (88.8 deaths per 100,000 population) than any racial/ethnic groups in the state (**Figure 2B-25, Table 2B-4**). Death rate for chronic liver disease and cirrhosis among Asians, Blacks and White non-Hispanics were all below the state average (14.2 deaths per 100,000 population).

Compared to the median age at death from all causes (76 years), those who died from chronic liver disease and cirrhosis were on average 16 years younger (60 years, **Table 2D-3**). In 2018, the median age at death of American Indians who died from chronic liver disease and cirrhosis was 49.5 years, which was 10.5 years younger than all the other race/ethnic groups (**Table 2D-3**).

Note: ^a Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

**TABLE 2B-1
NUMBER OF DEATHS FOR THE LEADING CAUSES OF MORTALITY BY YEAR, ARIZONA, 2008-2018**

Rank in 2008	Rank in 2018	Cause of death	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	1	Diseases of heart	10,299	10,151	9,719	10,424	10,366	10,497	9,953	11,274	11,820	12,285	12,410
2	2	Malignant neoplasms	9,949	10,147	10,423	10,543	10,871	11,193	10,600	11,624	11,801	11,917	12,097
3	3	Accidents (unintentional injury)	2,951	2,887	2,834	2,959	2,804	3,137	3,011	3,403	3,899	4,085	4,211
4	4	Chronic lower respiratory diseases	2,896	2,808	2,892	3,143	3,167	3,295	3,185	3,648	3,788	3,779	3,820
6	5	Alzheimer's disease	2,086	2,086	2,314	2,336	2,154	2,384	2,345	2,942	3,081	3,050	3,011
5	6	Cerebrovascular diseases	2,089	2,010	2,051	2,067	2,096	2,047	1,995	2,463	2,536	2,647	2,829
7	7	Diabetes	1,162	1,078	1,372	1,721	1,698	1,744	1,776	2,050	2,013	2,037	2,041
9	8	Intentional self-harm (suicide)	968	1,060	1,070	1,113	1,070	1,116	1,124	1,233	1,256	1,304	1,432
10	9	Chronic liver disease and cirrhosis	778	818	843	933	971	1,040	984	1,120	1,169	1,122	1,159
8	10	Influenza and pneumonia	1,075	1,007	729	649	635	724	669	739	859	852	1,113
14	11	Essential primary hypertension and hypertensive renal disease	475	475	498	725	739	711	758	896	1,010	1,018	928
13	12	Parkinson's disease	487	446	488	545	579	578	569	719	712	749	790
12	13	Nephritis, nephrotic syndrome and nephrosis	488	532	516	409	440	391	353	498	485	535	680
15	14	Assault (homicide)	461	360	404	387	376	383	294	364	416	430	416
11	15	Septicemia	539	528	425	321	319	354	336	436	505	461	382
		ALL CAUSES	45,128	45,065	45,871	47,547	48,459	49,929	51,074	54,152	56,480	57,261	59,206

Notes: The cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10). The causes of death for 2008-2018 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. The ICD-10 code for the underlying cause of death was missing for as many as 140 in 2008.

**TABLE 2B-2
AGE-ADJUSTED MORTALITY RATES^a BY GENDER AND YEAR FOR SELECTED LEADING CAUSES OF DEATH,
ARIZONA, 2008-2018**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
TOTAL, ALL CAUSES											
Total	659.6	653.2	679.9	699.6	687.2	687.2	676.0	691.3	696.6	679.3	688.6
Male	777.6	763.9	802.0	817.1	811.0	805.8	791.2	811.5	824.8	800.0	813.4
Female	554.3	555.1	572.6	595.3	579.2	583.8	572.8	583.3	581.1	568.7	573.5
CARDIOVASCULAR DISEASE											
Total	194.1	188.8	188.6	201.0	193.3	187.7	171.6	189.0	190.8	189.9	188.4
Male	235.8	228.1	225.1	239.2	233.6	229.0	206.9	226.7	230.7	228.6	225.2
Female	158.1	154.9	156.7	168.0	159.1	152.4	140.7	156.1	155.9	155.5	155.6
-----DISEASES OF HEART											
Total	149.3	145.9	143.3	152.7	145.8	143.0	129.9	141.3	142.5	141.9	140.5
Male	189.3	183.1	179.8	192.8	184.4	183.6	164.1	177.1	180.5	179.4	176.3
Female	115.1	114.1	112.2	119.0	113.7	109.2	100.5	110.5	109.8	109.3	109.1
-----CEREBROVASCULAR DISEASE											
Total	30.3	28.9	30.7	30.6	29.9	28.2	26.2	31.1	30.7	30.7	32.1
Male	29.6	28.2	28.9	28.0	30.0	27.2	24.8	31.3	29.9	30.7	31.6
Female	30.5	29.1	31.3	32.3	29.4	28.5	26.8	30.7	30.9	30.2	32.0
MALIGNANT NEOPLASMS											
Total	145.5	147.2	150.5	151.3	149.8	149.6	136.3	144.0	140.7	136.6	135.9
Male	173.8	174.9	180.6	179.3	180.3	175.0	160.8	169.0	166.3	161.0	161.8
Female	123.0	125.8	127.1	129.5	125.9	129.9	116.8	123.8	120.0	116.6	114.7
CHRONIC LOWER RESPIRATORY DISEASE											
Total	42.1	40.5	42.6	45.9	44.2	44.5	41.1	45.1	45.0	43.0	42.6
Male	46.5	44.7	48.1	49.7	50.5	48.1	45.8	48.9	47.6	45.3	44.7
Female	38.9	37.1	38.6	42.8	39.5	41.8	37.5	41.7	42.9	41.0	40.7
ACCIDENTS (UNINTENTIONAL INJURIES)											
Total	44.7	43.1	43.8	45.5	42.4	46.3	43.3	48.1	53.7	55.3	55.9
Male	59.0	56.6	56.6	58.3	54.0	60.1	56.7	62.7	73.1	73.7	76.4
Female	30.6	29.8	31.6	32.6	31.0	32.8	30.1	34.1	34.9	37.0	35.6
-----MOTOR VEHICLE ACCIDENTS											
Total	13.6	11.6	11.1	12.1	11.4	11.4	10.3	12.6	13.9	13.8	14.1
Male	19.5	16.8	15.9	17.6	16.8	16.3	14.5	18.0	20.1	19.5	20.0
Female	7.9	6.5	6.4	6.9	6.3	6.6	6.0	7.2	7.8	8.2	8.3
INFLUENZA AND PNEUMONIA											
Total	15.6	14.6	10.9	9.7	9.1	10.0	8.9	9.4	10.4	9.9	12.7
Male	17.7	15.6	12.8	11.5	7.4	11.6	10.4	10.9	11.8	11.1	15.0
Female	14.1	13.7	9.3	8.2	5.6	8.8	7.7	8.2	9.4	8.9	10.8

**TABLE 2B-2 (continued)
AGE-ADJUSTED MORTALITY RATES^a BY GENDER AND YEAR FOR SELECTED LEADING CAUSES OF DEATH,
ARIZONA, 2008-2018**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ALZHEIMER'S DISEASE											
Total	29.8	29.5	35.1	35.2	29.9	33.2	30.9	37.3	37.3	35.2	34.3
Male	23.9	24.5	28.5	28.9	41.5	27.2	25.7	31.1	31.1	29.2	26.7
Female	33.6	32.8	39.3	39.0	52.8	37.2	34.4	41.5	41.5	39.5	39.7
DIABETES											
Total	17.0	15.7	20.1	24.8	23.5	23.6	23.0	25.7	24.5	23.8	23.0
Male	20.7	18.2	24.9	30.3	29.2	29.1	28.9	31.8	31.5	30.1	29.8
Female	13.9	13.5	16.0	20.2	18.6	18.8	17.8	20.4	18.4	18.3	17.1
CHRONIC LIVER DISEASE AND CIRRHOISIS											
Total	11.7	12.2	12.3	13.4	13.6	14.5	13.2	14.9	15.1	14.2	14.2
Male	15.3	15.4	16.1	18.0	18.7	18.2	16.5	19.2	19.8	18.0	17.9
Female	8.4	9.1	8.8	9.2	9.0	11.1	10.1	11.0	10.8	10.7	10.9
NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS											
Total	7.1	7.7	7.6	6.0	6.2	5.3	4.6	6.3	5.8	6.2	7.7
Male	8.6	9.2	9.0	7.2	8.9	6.1	5.2	7.7	6.9	7.7	9.0
Female	5.9	6.5	6.4	5.1	6.7	4.8	4.2	5.2	4.9	4.9	6.7
INTENTIONAL SELF-HARM (SUICIDE)											
Total	14.8	16.1	16.7	17.2	16.2	17.0	16.5	17.8	17.7	18.0	19.5
Male	23.0	24.6	27.1	27.4	25.9	26.6	25.6	27.5	28.0	28.1	31.5
Female	7.0	8.1	6.7	7.5	7.0	7.7	7.7	8.4	7.9	8.4	7.8
ASSAULT (HOMICIDE)											
Total	7.1	5.5	6.5	6.1	5.9	5.9	4.6	5.6	6.3	6.4	6.1
Male	11.2	8.0	10.5	9.6	8.6	9.2	7.1	8.6	9.9	10.0	9.8
Female	2.7	2.9	2.4	2.6	3.1	2.5	2.1	2.5	2.5	2.8	2.4
SEPTICEMIA											
Total	7.9	7.7	7.4	4.7	4.5	4.8	4.4	5.4	6.2	5.5	4.4
Male	9.4	8.2	10.8	5.4	6.1	5.6	5.0	6.4	7.1	5.9	5.0
Female	6.7	7.3	5.1	4.0	4.8	4.3	4.0	4.6	5.5	5.1	3.9

Notes: ^a The number of deaths per 100,000 population adjusted to the 2000 U.S. standard. The cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10). Beginning in 2000, the causes of death are classified by ICD-10.

**TABLE 2B-4
NUMBER OF DEATHS AND AGE-ADJUSTED MORTALITY RATES^a FOR SELECTED CAUSES OF DEATH BY RACE/ETHNICITY AND
GENDER, ARIZONA, 2018**

	NUMBER OF DEATHS																	
	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Total, all causes^b	59,206	32,067	27,136	45,194	24,150	21,044	8,088	4,629	3,458	2,057	1,104	953	2,527	1,445	1,081	886	419	467
Major cardiovascular diseases	16,645	8,986	7,659	13,272	7,162	6,110	1,996	1,105	891	545	269	276	416	213	203	257	126	131
Diseases of heart	12,410	7,030	5,380	10,044	5,682	4,362	1,394	808	586	382	197	185	294	157	137	174	96	78
Coronary heart disease	8,940	5,381	3,559	7,199	4,328	2,871	1,029	629	400	273	152	121	205	121	84	137	80	57
Malignant neoplasms	12,097	6,675	5,422	9,577	5,339	4,238	1,564	835	729	390	210	180	271	144	127	228	100	128
Malignant neoplasm of trachea, bronchus and lung	2,640†	1,436	1,200†	2,250	1,216	1,034	213	112	101	89	52	37	20†	16	*	52	26	26
Malignant neoplasm of colon, rectum, and anus	1,126	641	485	845	466	379	181	113	68	44	28	16	25	16	9	27	15	12
Malignant neoplasm of breast	820†	10†	805	631	6	625	110†	*	107	40†	*	34	12	0	12	24	0	24
Malignant neoplasm of prostate	695	695	0	560	560	0	74	74	0	26	26	0	20	20	0	9	9	0
Malignant melanoma of skin	210†	150†	60†	200	144	56	10†	*	*	0†	*	0	0	0	0	0†	*	*
Malignant neoplasm of cervix uteri	78	0	80†	47	0	47	20	0	20	3	0	*	3	0	*	2	0	*
Accidents (unintentional injury)	4,211	2,768	1,443	2,693	1,674	1,019	832	598	234	186	132	54	398	291	107	55	33	22
Accidental poisoning	1,550†	1,114	430†	915	630	285	375	285	90	89	70	19	128	95	33	10†	9	*
Falls	1,090†	520†	571	896	422	474	115	56	59	15	9	6	40	24	16	20†	*	13
Motor vehicle accidents	1,032	729	303	539	378	161	254	186	68	49	31	18	172	123	49	17	10	7
Accidental drowning and submersion	90†	70†	30†	56	40	16	20†	13	*	10†	7	*	10†	*	*	0†	*	*
Chronic lower respiratory diseases	3,820	1,834	1,986	3,417	1,623	1,794	214	118	96	82	38	44	43	18	25	32	12	20
Alzheimer's disease	3,011	1,010	2,001	2,548	845	1,703	305	113	192	77	26	51	38	15	23	34	6	28
Cerebrovascular diseases	2,829	1,258	1,571	2,168	958	1,210	403	191	212	96	45	51	83	32	51	56	21	35
Diabetes	2,041	1,227	814	1,222	762	460	455	266	189	121	63	58	183	100	83	37	22	15
Intentional self-harm (suicide)	1,432	1,146	286	1,049	825	224	185	159	26	55	44	11	113	94	19	19	13	6
Chronic liver disease and cirrhosis	1,160†	712	450†	649	387	262	236	171	65	20	12	8	236	129	107	10†	6	*
Influenza and pneumonia	1,113	591	522	837	446	391	157	82	75	30	17	13	69	39	30	15	6	9
Essential (primary) hypertension and hypertensive renal disease	928	426	502	667	301	366	147	74	73	52	20	32	31	19	12	22	7	15
Parkinson's disease	790†	531	260†	663	446	217	80	49	31	11	11	0	20†	13	*	16	10	6
Nephritis, nephrotic syndrome and nephrosis	680†	363	320†	435	245	190	131	67	64	46	24	22	53	17	36	10†	9	*
Assault (homicide)	420†	340†	80†	132	94	38	152	133	19	68	57	11	53	43	10	10†	*	*
Septicemia	380†	200†	180†	256	139	117	75	37	38	10†	*	10	34	18	16	0†	*	*
Human immunodeficiency virus (HIV) disease	80†	70†	10†	44	37	7	20†	15	*	6	6	0	10†	*	*	0†	*	0
Injury by firearms	1,140†	991	150†	751	644	107	225	206	19	88	76	12	55	48	7	10†	6	*
Drug-induced deaths	1,770†	1,199	570†	1,130	717	413	398	300	98	105	81	24	90	63	27	10†	11	*
Opioid-induced deaths	1,100†	760†	350†	708	459	249	280	216	64	53	36	17	48	34	14	10†	*	*
Alcohol-induced deaths	1,190†	820†	370†	676	466	210	184	148	36	23	14	9	284	173	111	10†	*	*

**TABLE 2B-4 (continued)
NUMBER OF DEATHS AND AGE-ADJUSTED MORTALITY RATES^a FOR SELECTED CAUSES OF DEATH BY RACE/ETHNICITY AND GENDER, ARIZONA, 2018**

	AGE-ADJUSTED MORTALITY RATES ^a																	
	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Total, all causes	688.6	813.4	573.5	690.2	808.2	579.8	607.1	736.8	493.9	843.2	945.3	746.7	1036.1	1293.0	816.9	429.7	487.7	388.2
Major cardiovascular diseases	188.4	225.2	155.6	189.8	227.1	155.9	167.5	203.0	137.4	241.1	254.7	227.4	186.0	216.7	160.8	128.2	148.9	113.7
Diseases of heart	140.5	176.3	109.1	144.3	181.1	111.4	116.0	147.4	90.1	166.4	185.8	149.5	129.9	156.0	108.6	86.0	112.9	68.5
Coronary heart disease	100.8	134.3	71.9	102.9	137.1	72.7	86.2	115.9	62.1	117.5	143.1	96.6	92.8	125.1	68.5	67.1	93.6	49.8
Malignant neoplasms	135.9	161.8	114.7	140.2	165.7	118.9	118.7	144.3	99.6	156.7	193.4	131.2	115.3	149.6	92.6	102.7	112.0	96.7
Malignant neoplasm of trachea, bronchus and lung	28.9	33.8	24.6	31.5	36.4	27.3	17.6	20.7	15.0	35.6	47.7	26.2	9.0	17.9	**	22.8	26.3	20.4
Malignant neoplasm of colon, rectum, and anus	12.9	15.8	10.3	12.7	14.9	10.7	13.8	20.0	9.0	17.2	26.2	10.8	10.8	16.3	6.9	12.5	18.3	9.0
Malignant neoplasm of breast	9.5	0.3	17.6	9.9	0.2	18.7	7.7	**	13.8	13.8	**	24.9	5.1	0.0	9.1	10.4	0.0	17.6
Malignant neoplasm of prostate	7.7	17.4	0.0	7.7	17.1	0.0	6.7	15.8	0.0	12.7	30.5	0.0	9.6	23.7	0.0	4.7	12.1	0.0
Malignant melanoma of skin	2.4	3.7	1.4	3.2	4.7	1.9	0.4	**	**	**	**	0.0	0.0	0.0	0.0	**	**	**
Malignant neoplasm of cervix uteri	1.0	0.0	2.0	0.9	0.0	1.7	1.2	0.0	2.2	**	0.0	**	**	0.0	**	**	0.0	**
Accidents (unintentional injury)	55.9	76.4	35.6	56.3	74.7	37.8	44.5	63.5	26.0	57.6	80.4	34.1	144.5	224.0	74.5	24.9	31.5	18.7
Accidental poisoning	22.5	32.3	12.5	24.6	33.9	15.0	17.3	25.9	8.6	25.8	39.4	11.3	45.1	69.6	22.4	3.5	6.7	**
Falls	12.4	13.2	11.5	12.6	13.3	11.9	10.3	11.0	9.5	7.9	11.0	5.6	17.2	24.1	12.4	10.6	**	12.3
Motor vehicle accidents	14.1	20.0	8.3	12.3	17.3	7.4	12.1	18.7	6.0	13.9	17.0	10.7	60.7	91.1	33.1	6.2	7.9	4.8
Accidental drowning and submersion	1.3	2.0	0.7	1.5	2.2	0.7	0.7	1.1	**	2.5	3.7	**	2.7	**	**	**	**	**
Chronic lower respiratory diseases	42.6	44.7	40.7	48.0	49.2	46.8	18.3	22.7	14.8	38.2	41.4	35.9	20.8	22.2	20.2	17.2	17.2	17.3
Alzheimer's disease	34.3	26.7	39.7	35.1	26.6	41.3	30.5	28.2	32.1	45.1	38.8	49.9	21.0	21.1	20.6	19.8	8.8	26.6
Cerebrovascular diseases	32.1	31.6	32.0	30.6	29.9	30.8	34.6	36.3	32.6	44.1	42.7	43.9	39.2	37.4	40.5	27.9	25.2	29.2
Diabetes	23.0	29.8	17.1	18.0	24.0	12.6	35.0	44.0	27.4	48.9	54.7	44.5	73.6	92.4	59.1	17.0	25.9	11.4
Intentional self-harm (suicide)	19.5	31.5	7.8	23.7	37.5	10.2	8.7	15.2	2.4	16.0	24.6	6.6	36.5	61.8	12.3	7.3	11.0	4.1
Chronic liver disease and cirrhosis	14.2	17.9	10.9	11.3	13.7	9.1	15.1	22.9	8.3	6.8	8.5	5.5	88.8	101.9	77.1	3.4	5.7	**
Influenza and pneumonia	12.7	15.0	10.8	12.3	14.4	10.6	12.7	14.9	11.0	11.7	12.9	9.9	30.1	40.1	22.6	8.2	9.4	7.3
Essential (primary) hypertension and hypertensive renal disease	10.5	10.7	10.2	9.3	9.3	9.3	12.9	14.1	11.7	23.6	18.9	27.2	13.4	19.3	9.0	11.6	8.1	13.5
Parkinson's disease	9.0	13.7	5.3	9.2	13.8	5.5	7.8	11.2	5.3	6.3	15.4	0.0	9.1	18.0	**	8.4	13.7	4.8
Nephritis, nephrotic syndrome and nephrosis	7.7	9.0	6.7	6.3	7.7	5.1	10.5	11.5	9.6	21.5	24.8	18.7	23.0	13.6	29.0	6.5	11.3	**
Assault (homicide)	6.1	9.8	2.4	3.6	4.9	2.3	6.6	11.4	1.6	19.3	**	6.9	17.9	29.1	6.9	**	**	**
Septicemia	4.4	5.0	3.9	3.9	4.5	3.4	5.7	5.4	5.7	5.6	3.8	7.6	13.4	14.2	12.1	1.3	**	**
Human immunodeficiency virus (HIV) disease	1.1	1.9	0.3	0.9	1.5	0.3	1.0	1.6	**	1.9	3.7	0.0	2.1	**	**	**	**	0.0
Injury by firearms	15.5	27.1	4.2	16.6	28.4	5.1	9.9	18.2	1.6	24.8	40.2	7.5	18.2	33.3	4.3	3.7	4.7	**
Drug-induced deaths	25.4	34.6	16.1	29.3	38.0	20.4	18.4	27.4	9.3	30.9	45.9	14.9	31.2	43.7	18.9	4.6	8.3	**
Opioid-induced deaths	16.1	22.0	10.0	19.1	25.2	12.8	12.6	19.1	6.0	14.8	19.3	10.1	16.2	22.9	9.6	**	**	**
Alcohol-induced deaths	15.2	21.1	9.7	12.9	18.0	8.1	10.7	18.5	3.9	8.1	9.2	6.8	105.5	137.5	78.8	3.0	**	**

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; ^a The number of deaths per 100,000 resident population age-adjusted to the 2000 U.S. standard; The rates for cervical cancer are per 100,000 females; The rate for prostate cancer is per 100,000 males; ^b Includes records with unknown gender and race/ethnicity.

**TABLE 2B-5
AGE-ADJUSTED MORTALITY RATES^a FOR SELECTED CAUSES OF DEATH BY URBAN/RURAL AREA AND GENDER,
ARIZONA, 2018**

	Arizona			Urban			Rural		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
	Total, all causes	688.6	813.4	573.5	668.2	786.0	561.3	781.3	937.0
Major cardiovascular diseases	188.4	225.2	155.6	182.8	217.6	152.3	210.0	254.6	168.0
Diseases of heart	140.5	176.3	109.1	135.0	168.2	106.4	162.0	208.0	119.4
Coronary heart disease	100.8	134.3	71.9	95.2	125.2	69.7	122.4	168.9	79.8
Malignant neoplasms	135.9	161.8	114.7	132.8	157.5	113.1	146.7	176.9	119.3
Malignant neoplasm of trachea, bronchus and lung	28.9	33.8	24.6	27.8	32.5	23.9	32.7	38.4	27.4
Malignant neoplasm of colon, rectum, and anus	12.9	15.8	10.3	12.7	15.2	10.6	13.3	18.3	8.6
Malignant neoplasm of breast	9.5	0.3	17.6	9.4	0.3	17.3	9.7	0.0	18.5
Malignant neoplasm of prostate	7.7	17.4	0.0	7.4	16.9	0.0	9.0	19.2	0.0
Malignant melanoma of skin	2.4	3.7	1.4	2.4	3.7	1.3	2.5	3.5	1.5
Malignant neoplasm of cervix uteri	1.0	0.0	2.0	1.0	0.0	1.9	1.2	0.0	2.4
Accidents (unintentional injury)	55.9	76.4	35.6	53.3	71.3	35.3	69.5	102.6	36.0
Accidental poisoning	22.5	32.3	12.5	22.1	31.5	12.7	23.4	35.0	11.3
Motor vehicle accidents	14.1	20.0	8.3	12.1	16.8	7.5	24.8	37.8	11.8
Falls	12.4	13.2	11.5	12.8	13.4	12.0	10.8	12.6	9.1
Accidental drowning and submersion	1.3	2.0	0.7	1.2	1.8	0.6	2.2	3.1	1.3
Chronic lower respiratory diseases	42.6	44.7	40.7	39.6	41.4	38.0	55.0	57.4	52.7
Alzheimer's disease	34.3	26.7	39.7	34.8	27.6	39.8	31.9	22.5	39.3
Cerebrovascular diseases	32.1	31.6	32.0	31.7	31.8	31.1	33.5	30.8	35.4
Diabetes	23.0	29.8	17.1	23.1	30.2	17.0	22.6	27.8	17.8
Intentional self-harm (suicide)	19.5	31.5	7.8	17.2	27.8	6.9	32.2	51.4	12.7
Chronic liver disease and cirrhosis	14.2	17.9	10.9	12.5	16.0	9.2	24.4	28.2	20.9
Influenza and pneumonia	12.7	15.0	10.8	12.1	14.6	10.1	15.4	17.3	13.6
Essential (primary) hypertension and hypertensive renal disease	10.5	10.7	10.2	10.9	10.9	10.8	8.9	10.0	7.9
Parkinson's disease	9.0	13.7	5.3	9.3	14.2	5.5	7.8	11.8	4.3
Nephritis, nephrotic syndrome and nephrosis	7.7	9.0	6.7	7.4	8.8	6.2	9.6	10.4	8.7
Assault (homicide)	6.1	9.8	2.4	6.1	9.9	2.1	6.2	8.5	3.9
Septicemia	4.4	5.0	3.9	4.2	4.9	3.6	5.4	5.6	5.2
(HIV) disease	1.1	1.9	0.3	1.2	2.1	0.3	0.4	0.6	0.3
Injury by firearms	15.5	27.1	4.2	14.5	25.7	3.5	19.9	31.6	8.4
Drug-induced deaths	25.4	34.6	16.1	25.5	34.8	16.1	23.6	31.5	15.1
Opioid-induced deaths	16.1	22.0	10.0	16.7	22.8	10.5	11.8	17.0	6.2
Alcohol-induced deaths	15.2	21.1	9.7	12.4	17.7	7.5	31.8	40.7	23.4

Notes: ^a The number of deaths per 100,000 population in specified group age-adjusted to the 2000 standard U.S.; The causes of death for 2008 are classified by the Tenth Revision of the International Classification of Diseases (ICD-10); The rates for cervical cancer are per 100,000 females; the rates for prostate cancer are per 100,000 males.

**TABLE 2B-6
DEATHS AND DEATH RATES BY GENDER FOR SELECTED CAUSES,
ARIZONA RESIDENTS, 2018**

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	Number of deaths			Crude death rate per 100,000 persons		
	Total	Male	Female	Total	Male	Female
Total, all causes^a	59,206	32,067	27,136	836.7	911.3	762.8
Salmonella infections	0†	*	0	**	**	0.0
Shigellosis and amebiasis	0	0	0	0.0	0.0	0.0
Certain other intestinal infections	184	76	108	2.6	2.2	3.0
Enterocolitis due to Clostridium difficile	119	47	72	1.7	1.3	2.0
Tuberculosis	10†	*	*	0.1	**	**
Respiratory tuberculosis	0†	0	*	**	0.0	**
Other tuberculosis	10†	*	*	0.1	**	**
Whooping cough	0	0	0	0.0	0.0	0.0
Scarlet fever and erysipelas	0	0	0	0.0	0.0	0.0
Meningococcal infection	0	0	0	0.0	0.0	0.0
Septicemia	382	199	183	5.4	5.7	5.1
Syphilis	0†	*	*	**	**	**
Acute poliomyelitis	0	0	0	0.0	0.0	0.0
Arthropod-borne encephalitis	0	0	0	0.0	0.0	0.0
Measles	0	0	0	0.0	0.0	0.0
Viral hepatitis	141	100	41	2.0	2.8	1.2
Human immunodeficiency virus (HIV) disease	79	66	13	1.1	1.9	0.4
Malaria	0	0	0	0.0	0.0	0.0
Other and unspecified infectious and parasitic diseases	262	152	110	3.7	4.3	3.1
Malignant neoplasms	12,097	6,675	5,422	171.0	189.7	152.4
Malignant neoplasm of lip, oral cavity and pharynx	165	127	38	2.3	3.6	1.1
Malignant neoplasm of esophagus	332	271	61	4.7	7.7	1.7
Malignant neoplasm of stomach	236	134	102	3.3	3.8	2.9
Malignant neoplasm of colon, rectum, and anus	1,126	641	485	15.9	18.2	13.6
Malignant neoplasm of liver and intrahepatic bile ducts	559	378	181	7.9	10.7	5.1
Malignant neoplasm of pancreas	952	513	439	13.5	14.6	12.3
Malignant neoplasm of larynx	64	48	16	0.9	1.4	0.4
Malignant neoplasm of trachea, bronchus and lung	2,640	1,436	1,204	37.3	40.8	33.8
Malignant melanoma of skin	209	150	59	3.0	4.3	1.7
Malignant neoplasm of breast	815	10	805	11.5	0.3	22.6
Malignant neoplasm of cervix uteri	78	0	78	1.1	0.0	2.2
Malignant neoplasm of corpus uteri and uterus, part unspecified	180	0	180	2.5	0.0	5.1
Malignant neoplasm of ovary	291	0	291	4.1	0.0	8.2
Malignant neoplasm of prostate	695	695	0	9.8	19.8	0.0
Malignant neoplasm of kidney and renal pelvis	351	250	101	5.0	7.1	2.8
Malignant neoplasm of bladder	358	276	82	5.1	7.8	2.3
Malignant neoplasm of meninges, brain and other parts of central nervous system	366	206	160	5.2	5.9	4.5
Malignant neoplasm of lymphoid, hematopoietic and related tissue	1,198	719	479	16.9	20.4	13.5
Hodgkin's disease	22	12	10	0.3	0.3	0.3
Non-Hodgkin's lymphoma	398	235	163	5.6	6.7	4.6
Leukemia	476	288	188	6.7	8.2	5.3
Multiple myeloma and immunoproliferative neoplasms	297	181	116	4.2	5.1	3.3
Other and unspecified malignant neoplasms of lymphoid tissue	10†	*	*	**	**	**
All other and unspecified malignant neoplasm	1,482	821	661	20.9	23.3	18.6
In situ neoplasms	401	221	180	5.7	6.3	5.1
Anemias	69	34	35	1.0	1.0	1.0
Diabetes	2,041	1,227	814	28.8	34.9	22.9

TABLE 2B-6 (continued)
DEATHS AND DEATH RATES BY GENDER FOR SELECTED CAUSES,
ARIZONA RESIDENTS, 2018

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	Number of deaths			Crude death rate per 100,000 persons		
	Total	Male	Female	Total	Male	Female
Nutritional deficiencies	351	159	192	5.0	4.5	5.4
Malnutrition	331	151	180	4.7	4.3	5.1
Other nutritional deficiencies	20	8	12	0.3	0.2	0.3
Obesity	206	125	81	2.9	3.6	2.3
Meningitis	10†	*	*	0.1	**	**
Parkinson's disease	790	531	259	11.2	15.1	7.3
Alzheimer's disease	3,011	1,010	2,001	42.6	28.7	56.2
Major cardiovascular diseases	16,645	8,986	7,659	235.2	255.4	215.3
Diseases of heart	12,410	7,030	5,380	175.4	199.8	151.2
Acute rheumatic fever and chronic rheumatic heart disease	98	41	57	1.4	1.2	1.6
Hypertensive heart disease	1,400	711	689	19.8	20.2	19.4
Hypertensive heart and renal disease	153	81	72	2.2	2.3	2.0
Ischemic heart disease	7,540	4,670	2,870	106.6	132.7	80.7
Acute myocardial infarction	1,562	930	632	22.1	26.4	17.8
Other acute ischemic heart disease	38	23	15	0.5	0.7	0.4
Other forms of chronic ischemic heart disease	5,940	3,717	2,223	83.9	105.6	62.5
Atherosclerotic cardiovascular disease	1,716	1,134	582	24.3	32.2	16.4
All other forms of chronic ischemic heart disease	4,224	2,583	1,641	59.7	73.4	46.1
Other heart diseases	3,219	1,527	1,692	45.5	43.4	47.6
Acute and subacute endocarditis	29	14	15	0.4	0.4	0.4
Diseases of pericardium and acute myocarditis	19	11	8	0.3	0.3	0.2
Heart failure	777	390	387	11.0	11.1	10.9
All other forms of heart disease	2,394	1,112	1,282	33.8	31.6	36.0
Essential (primary) hypertension and hypertensive renal disease	928	426	502	13.1	12.1	14.1
Cerebrovascular diseases	2,829	1,258	1,571	40.0	35.8	44.2
Atherosclerosis	110	52	58	1.6	1.5	1.6
Other diseases of circulatory system	368	220	148	5.2	6.3	4.2
Aortic aneurysm and dissection	193	128	65	2.7	3.6	1.8
Other disease of arteries, arterioles and capillaries	175	92	83	2.5	2.6	2.3
Other disorders of circulatory system	114	63	51	1.6	1.8	1.4
Influenza and pneumonia	1,113	591	522	15.7	16.8	14.7
Influenza	213	95	118	3.0	2.7	3.3
Pneumonia	900	496	404	12.7	14.1	11.4
Other acute lower respiratory infections	10†	*	6	0.2	**	0.2
Acute bronchiolitis	10†	*	6	0.1	**	0.2
Unspecified acute lower respiratory infection	0†	*	0	**	**	0.0
Chronic lower respiratory diseases	3,820	1,834	1,986	54.0	52.1	55.8
Bronchitis, chronic and unspecified	10†	*	*	0.1	**	**
Emphysema	187	99	88	2.6	2.8	2.5
Asthma	91	40	51	1.3	1.1	1.4
Other chronic lower respiratory diseases	3,534	1,691	1,843	49.9	48.1	51.8
Pneumoconioses and chemical effects	10†	9	*	0.2	0.3	**
Pneumonitis due to solids and liquids	235	145	90	3.3	4.1	2.5
Other disease of respiratory system	910	498	412	12.9	14.2	11.6
Peptic ulcer	71	38	33	1.0	1.1	0.9
Diseases of appendix	10†	*	*	0.1	**	**
Hernia	37	12	25	0.5	0.3	0.7

TABLE 2B-6 (continued)
DEATHS AND DEATH RATES BY GENDER FOR SELECTED CAUSES,
ARIZONA RESIDENTS, 2018

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	Number of deaths			Crude death rate per 100,000 persons		
	Total	Male	Female	Total	Male	Female
Chronic liver disease and cirrhosis	1,159	712	447	16.4	20.2	12.6
Alcoholic liver disease	724	478	246	10.2	13.6	6.9
Other chronic liver disease and cirrhosis	435	234	201	6.1	6.7	5.6
Cholelithiasis and other disorders of gallbladder	73	36	37	1.0	1.0	1.0
Nephritis, nephrotic syndrome and nephrosis	680	363	317	9.6	10.3	8.9
Acute and rapidly progressive nephritic and nephrotic syndrome	10†	*	*	0.1	**	**
Chronic glomerulonephritis	0†	*	*	**	**	**
Renal failure	670	357	313	9.5	10.1	8.8
Others disorders of kidney	0	0	0	0.0	0.0	0.0
Infections of kidney	20	9	11	0.3	0.3	0.3
Hyperplasia of prostate	9	9	0	0.1	0.3	0.0
Inflammatory diseases of female pelvic organs	0†	0	*	**	0.0	**
Pregnancy, childbirth and the puerperium	33	0	33	0.5	0.0	0.9
Pregnancy with abortive outcome	0	0	0	0.0	0.0	0.0
Other complications of pregnancy, childbirth and the puerperium	33	0	33	0.5	0.0	0.9
Perinatal conditions	220	130	90	3.1	3.7	2.5
Congenital malformations	232	126	106	3.3	3.6	3.0
Symptoms, signs, abnormal findings ^a	1,188	564	624	16.8	16.0	17.5
Total accidents	4,211	2,768	1,443	59.5	78.7	40.6
Transport accidents	1,105	789	316	15.6	22.4	8.9
Motor vehicle accidents	1,032	729	303	14.6	20.7	8.5
Other land transport accidents	30†	22	*	0.4	0.6	**
Water, air, space	47	38	9	0.7	1.1	0.3
Nontransport accidents	3,106	1,979	1,127	43.9	56.2	31.7
Falls	1,090	519	571	15.4	14.7	16.1
Accidental discharge of firearms	10†	9	*	0.1	0.3	**
Accidental drowning and submersion	92	67	25	1.3	1.9	0.7
Accidental exposure to smoke, fire and flames	23	14	9	0.3	0.4	0.3
Accidental poisoning	1,545	1,114	431	21.8	31.7	12.1
Other and unspecified non-transport accidents	346	256	90	4.9	7.3	2.5
Intentional self-harm (suicide)	1,432	1,146	286	20.2	32.6	8.0
By discharge of firearms	800	701	99	11.3	19.9	2.8
By other means	632	445	187	8.9	12.6	5.3
Assault (homicide)	416	336	80	5.9	9.5	2.2
By discharge of firearms	291	247	44	4.1	7.0	1.2
By other means	125	89	36	1.8	2.5	1.0
Legal intervention	20†	22	*	0.3	0.6	**
Events of undetermined intent	150	101	49	2.1	2.9	1.4
Discharge of firearms	20†	12	*	0.2	0.3	**
Other and unspecified events of undetermined intent	135	89	46	1.9	2.5	1.3
Operations of war	0	0	0	0.0	0.0	0.0
Complications of medical and surgical care	114	62	52	1.6	1.8	1.5
Injury by firearms	1,140	991	149	16.1	28.2	4.2
Drug-induced deaths	1,766	1,199	567	25.0	34.1	15.9
Opioid-induced deaths	1,104	759	345	15.6	21.6	9.7
Alcohol-induced deaths	1,185	815	370	16.7	23.2	10.4

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; ^a Includes records with unknown gender; The list of Causes of Death was developed for the general analysis of ICD-10 mortality statistics and for ranking of leading causes of death. It is similar in structure and content and replaces the list of 72 Selected Causes of Death used for ICD-9 mortality statistics.

**TABLE 2B-7
NUMBER OF DEATHS FROM DISEASES OF THE HEART BY CATEGORY, GENDER, AND YEAR, ARIZONA, 2008-2018**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
ALL FORMS OF HEART DISEASE	TOTAL	10,299	10,151	9,719	10,423	10,366	10,497	9,953	11,274	11,820	12,285	12,410
	Male	5,701	5,558	5,351	5,748	5,731	5,910	5,575	6,286	6,702	6,973	7,030
	Female	4,598	4,593	4,368	4,675	4,635	4,587	4,378	4,988	5,118	5,312	5,380
Acute rheumatic fever and chronic rheumatic heart disease	TOTAL	57	51	42	69	51	64	74	52	77	79	98
	Male	24	16	15	22	19	17	26	20	33	27	41
	Female	33	35	27	47	32	47	48	32	44	52	57
Hypertensive heart and renal disease	TOTAL	48	35	36	49	51	49	65	71	111	147	153
	Male	22	18	16	22	28	27	31	36	56	73	81
	Female	26	17	20	27	23	22	34	35	55	74	72
Ischemic heart disease	TOTAL	7,487	7,372	7,043	7,498	7,294	7,159	6,650	7,264	7,734	7,814	7,540
	Male	4,337	4,233	4,076	4,409	4,279	4,259	3,957	4,391	4,703	4,829	4,670
	Female	3,150	3,139	2,967	3,089	3,015	2,900	2,693	2,873	3,031	2,985	2,870
Hypertensive heart disease	TOTAL	675	698	644	739	761	943	991	1,118	1,114	1,122	1,400
	Male	348	340	302	348	375	462	491	517	554	526	711
	Female	327	358	342	391	386	481	500	601	560	596	689
Other heart diseases	TOTAL	2,032	1,995	1,954	2,069	2,209	2,282	2,173	2,769	2,784	3,123	3,219
	Male	970	951	942	947	1,030	1,145	1,070	1,322	1,356	1,518	1,527
	Female	1,062	1,044	1,012	1,121	1,179	1,137	1,103	1,447	1,428	1,605	1,692

**TABLE 2B-8
NUMBER OF DEATHS FOR SELECTED SUBCATEGORIES OF MALIGNANT NEOPLASMS BY GENDER AND YEAR,
ARIZONA, 2008-2018**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ALL CANCERS^a	TOTAL^b	9,949	10,147	10,423	10,543	11,193	10,600	11,624	11,801	11,917	12,097
	Male	5,367	5,432	5,639	5,639	5,932	5,731	6,263	6,429	6,493	6,675
	Female	4,582	4,715	4,784	4,903	5,243	4,869	5,361	5,372	5,424	5,422
ICD-9 140-149/ICD-10 C00-C14 - Malignant neoplasm of lip, oral cavity and pharynx (oropharyngeal cancer)	TOTAL	151	125	134	132	144	137	160	205	180	165
	Male	101	89	98	105	106	98	109	157	128	127
	Female	50	36	36	27	38	39	51	48	52	38
ICD-9 150/ICD-10 C15 - Malignant neoplasm of esophagus	TOTAL	262	266	273	288	325	286	303	310	333	332
	Male	212	214	220	232	260	230	249	246	273	271
	Female	50	52	53	56	65	56	54	64	60	61
ICD-9 151/ICD-10 C16 - Malignant neoplasm of stomach	TOTAL	200	179	199	211	204	186	211	226	203	236
	Male	121	105	123	131	118	109	121	128	124	134
	Female	79	74	76	80	86	77	90	98	79	102
ICD-9 153, 154/ICD-10 C18-C21 - Malignant neoplasm of colon, rectum, rectosigmoid junction and anus	TOTAL	897	887	952	927	946	953	1,022	1,069	1,118	1,126
	Male	467	463	520	482	523	510	568	591	639	641
	Female	430	424	432	445	423	443	454	478	479	485
ICD-9 157/ICD-10 C25 - Malignant neoplasm of pancreas	TOTAL	636	622	707	708	813	769	852	901	914	952
	Male	340	304	373	355	450	400	461	494	484	513
	Female	296	318	334	353	363	369	391	407	430	439
ICD-9 162/ICD-10 C33-C34 - Malignant neoplasm of trachea, bronchus and lung	TOTAL	2,636	2,691	2,655	2,654	2,772	2,543	2,885	2,689	2,754	2,640
	Male	1,478	1,480	1,465	1,474	1,512	1,385	1,533	1,452	1,487	1,436
	Female	1,158	1,211	1,190	1,180	1,260	1,158	1,352	1,237	1,267	1,204
ICD-9 172/ICD-10 C43 - Malignant melanoma of skin	TOTAL	168	226	191	187	216	215	213	191	190	209
	Male	115	160	133	125	147	147	142	131	129	150
	Female	53	66	58	62	69	68	71	60	61	59
ICD-9 174,175/ICD-10 C50 - Malignant neoplasm of breast	TOTAL	734	716	732	747	740 [†]	729	810 [†]	853	834	815
	Male	9	8	12	6	*	6	*	9	8	10
	Female	725	708	720	741	740	723	809	844	826	805

**TABLE 2B-8 (continued)
NUMBER OF DEATHS FOR SELECTED SUBCATEGORIES OF MALIGNANT NEOPLASMS BY GENDER AND YEAR,
ARIZONA, 2008-2018**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ICD-9 180/ICD-10 C53 - Malignant neoplasm of cervix uteri	TOTAL	60	64	68	72	73	86	75	84	82	78
	Female	60	64	68	72	73	86	75	84	82	78
ICD-9 179, 182/ ICD-10 C54-C55 - Malignant neoplasm of body of uterus and of uterus, part unspecified	TOTAL	115	108	138	159	131	140	176	180	168	200
	Female	115	108	138	159	131	140	176	180	168	200
ICD-9 185/ICD-10 C61 - Malignant neoplasm of prostate	TOTAL	568	551	549	574	581	570	572	633	697	659
	Male	568	551	549	574	581	570	572	633	697	659
ICD-9 188/ICD-10 C67 - Malignant neoplasm of bladder	TOTAL	258	264	247	355	316	293	305	355	367	358
	Male	192	206	183	245	244	221	241	255	267	279
	Female	66	58	64	109	72	72	64	100	100	83
ICD-9 189/ICD-10 C64-C65 - Malignant neoplasm of kidney and other and unspecified urinary organs	TOTAL	247	240	286	267	252	274	254	309	308	323
	Male	154	161	189	178	171	179	177	224	205	208
	Female	93	79	97	89	81	95	77	85	103	115
ICD-9 191, 192/ICD-10 C70-C72 - Malignant neoplasm of brain	TOTAL	268	275	268	275	337	325	339	323	340	339
	Male	152	151	153	145	196	172	194	190	195	194
	Female	116	124	115	130	141	153	145	133	145	145
ICD-9 201/ICD-10 81 - Hodgkin's disease	TOTAL	17	16	22	19	17	26	10†	30	22	29
	Male	10	9	12	9	8	16	10	21	10	15
	Female	7	7	10	10	9	10	*	9	12	14
ICD-9 200, 202/ICD-10 C82-C85 - Malignant lymphoma other than Hodgkin's disease	TOTAL	433	388	379	392	372	416	371	397	399	388
	Male	230	212	219	212	214	251	196	216	221	240
	Female	203	176	160	180	158	165	175	181	178	148
ICD-9 203/ICD-10 C88, C90 - Multiple myeloma and immunoproliferative neoplasms	TOTAL	203	189	206	219	221	247	221	240	243	270
	Male	123	107	117	133	128	129	133	139	149	162
	Female	80	82	89	86	93	118	88	101	94	108
Other malignant neoplasms	TOTAL	2,096	2,340	2,417	2,357	2,409	2,571	2,455	2,613	2,731	2,743
	Male	1,095	1,212	1,273	1,234	1,273	1,400	1,323	1,397	1,477	1,464
	Female	1,001	1,128	1,144	1,123	1,136	1,171	1,132	1,216	1,254	1,279

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; ‡ All cancers total includes other forms of cancer; ^b Total includes records with unknown gender.

**TABLE 2B-9
NUMBER OF DEATHS FROM UNINTENTIONAL INJURIES IN ACCIDENTS BY CATEGORY AND YEAR AMONG
ARIZONA RESIDENTS, 2008-2018**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total unintentional injury deaths	2,951	2,887	2,834	2,959	2,804	3,137	3,011	3,403	3,899	4,085	4,211
Railway accident	9	8	12	6	7	7	8	6	11	9	7
Motor vehicle accident	891	771	711	787	747	767	702	855	967	979	1,032
Water transport accident	*	*	*	*	*	*	0	*	*	7	7
Accident involving aircraft	32	15	16	21	13	9	*	7	10	17	10
Poisoning by drugs/medicaments	689	802	798	781	731	853	885	955	1,095	1,269	1,425
Poisoning by gases and vapors	77	85	81	102	86	112	94	105	153	105	120
Falls	748	731	762	776	782	870	881	1,014	1,103	1,076	1,090
Fire, flames, smoke	50	31	25	33	43	68	30	25	40	51	23
Excessive natural heat	33	39	51	57	51	56	32	43	99	108	94
Excessive natural cold	25	24	17	22	9	28	19	20	21	24	15
Contact with venomous snakes and lizards	*	0	*	0	*	0	0	0	0	*	*
Contact with venomous spiders	0	0	0	0	0	*	0	0	0	*	0
Contact with scorpions	0	0	0	0	0	*	0	0	0	0	0
Contact with hornets, wasps, bees	0	0	0	0	0	*	0	*	*	*	*
Bitten or struck by dog	*	*	*	*	*	*	*	*	*	*	0
Lightning	0	*	*	*	*	*	0	*	*	*	0
Storms and floods	0	0	*	0	0	0	0	0	0	12	*
Accidental drowning and submersion	78	99	86	86	83	72	78	81	105	106	92
Choked on food	35	43	39	34	38	29	33	34	33	38	40
Choked on other objects	53	49	57	44	44	57	56	53	38	39	29
Mechanical suffocation	29	25	28	25	23	21	35	40	35	41	25
Accidental discharge of firearms	10	7	11	8	*	9	6	*	7	8	10
Exposure to electric current	6	7	*	6	0	6	*	*	10	*	*
Overexertion	0	0	*	0	0	0	0	0	0	*	0
Adverse effects of drugs in therapeutic use	7	8	10	*	6	10	10	12	*	*	11
Misadventures to patients during medical/surgical care	40	42	41	45	42	46	32	20	43	96	103

Notes: * Cell suppressed due to count less than 6; Beginning in 2000, the data are classified by the Tenth Revision of the International Classification of Diseases (ICD-10).

**TABLE 2B-10
NUMBER OF DEATHS FROM MOTOR VEHICLE-RELATED INJURIES BY PERSON INJURED, GENDER, AND YEAR,
ARIZONA RESIDENTS, 2008-2018**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
TOTAL											
Total	891	771	711	787	747	767	702	855	967	979	1,032
Male	632	554	501	562	541	541	492	605	693	691	729
Female	259	217	210	225	206	226	210	250	274	288	303
Motorcyclist											
Total	113	100†	69	113	130	111	100	121	126	137	130
Male	106	94	61	96	113	98	93	106	118	122	114
Female	7	*	8	17	17	13	7	15	8	15	16
Pedestrian											
Total	136	122	152	153	128	152	138	160	218	245	251
Male	101	90	115	111	88	105	100	115	150	161	171
Female	35	32	37	42	40	47	38	45	68	84	80
Pedal cyclist											
Total	10†	20†	20†	20†	11	20†	20†	20†	20†	30†	20†
Male	11	19	20	16	11	19	15	15	18	24	18
Female	*	*	*	*	0	*	*	*	*	*	*
Other person											
Total	630	528	469	502	478	481	445	558	601	568	630
Male	414	351	305	339	329	319	284	369	407	384	426
Female	216	177	164	163	149	162	161	189	194	184	204

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; Beginning in 2000, the data are classified by the Tenth Revision of the International Classification of Diseases (ICD-10).

**TABLE 2B-11
LEADING CAUSES OF DEATH BY PLACE OF DEATH AND DECEDENT STATUS, ARIZONA, 2018**

Causes of death	TOTAL	IN HOSPITAL					NOT IN HOSPITAL				Subtotal
		In-patient	Out-patient ^a	Died on arrival	Status Unknown	Subtotal	Nursing home ^b	Residence	Other ^c		
TOTAL, ALL CAUSES	59,206	13,160	3,057	39	19,867	36,123	6,729	4,610	11,744	23,083	
Diseases of heart	12,410	2,586	988	7	4,608	8,189	929	955	2,337	4,221	
Coronary heart disease	8,940	1,575	796	7	3,599	5,977	616	693	1,654	2,963	
Malignant neoplasms	12,100†	1,807	134	*	5,415	7,360†	2,429	680	1,628	4,737	
Malignant neoplasm of trachea, bronchus and lung	2,640	419	32	0	1,174	1,625	537	137	341	1,015	
Malignant neoplasm of colon, rectum, and anus	1,130†	123	12	*	544	680†	219	65	162	446	
Malignant neoplasm of breast	815	111	13	0	347	471	168	47	129	344	
Malignant neoplasm of prostate	700†	69	*	*	351	430†	109	47	114	270	
Malignant neoplasm of cervix uteri	80†	7	*	0	27	40†	27	*	11	40†	
Malignant neoplasm of uterus	4,210†	927	602	*	1,014	2,550†	355	95	1,214	1,664	
Accidents (unintentional injury)	1,550†	161	243	*	751	1,160†	12	*	373	390†	
Accidental poisoning	1,090	377	30	0	141	548	301	71	170	542	
Falls	1,030†	244	248	*	*	500†	20	6	508	534	
Motor vehicle accidents	90†	12	23	0	16	51	*	0	39	40†	
Accidental drowning and submersion	3,820†	726	112	*	1,504	2,350†	452	364	659	1,475	
Chronic lower respiratory diseases	3,011	49	13	0	726	788	192	552	1,479	2,223	
Alzheimer's disease	2,830†	679	74	*	621	1,380†	530	312	612	1,454	
Cerebrovascular diseases	2,040†	404	203	*	835	1,450†	178	191	225	594	
Diabetes	1,430†	97	112	*	752	960†	7	*	460	470†	
Intentional self-harm (suicide)	1,159	457	23	0	286	766	227	66	100	393	
Chronic liver disease and cirrhosis	1,113	740	40	0	83	863	102	66	82	250	
Influenza and pneumonia	930†	106	51	*	380	540†	104	104	181	389	
Essential (primary) hypertension & hypertensive renal disease	790	50	8	0	259	317	78	109	286	473	
Parkinson's disease	680†	262	27	*	184	470†	47	84	75	206	
Nephritis, nephrotic syndrome and nephrosis	416	63	118	0	84	265	0	0	151	151	
Assault (homicide)	382	281	15	0	19	315	44	10	13	67	
Septicemia	80†	30	*	0	23	60†	11	7	*	23	
Human immunodeficiency virus (HIV) disease	1,140†	80	163	0	498	741	*	0	398	400†	
Injury by firearms	1,770†	235	267	*	847	1,350†	31	8	377	416	
Drug-induced deaths	1,100†	103	159	0	595	857	11	*	232	250†	
Opioid-induced deaths	1,190†	323	64	*	420	810†	202	42	133	377	

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; ^a Includes Emergency Room; ^b Includes other long-term care facilities; ^c Includes hospices.



2C.

AGE-SPECIFIC MORTALITY

Six age-specific profiles of mortality are given on the following pages. The six developmental periods in the life span are:

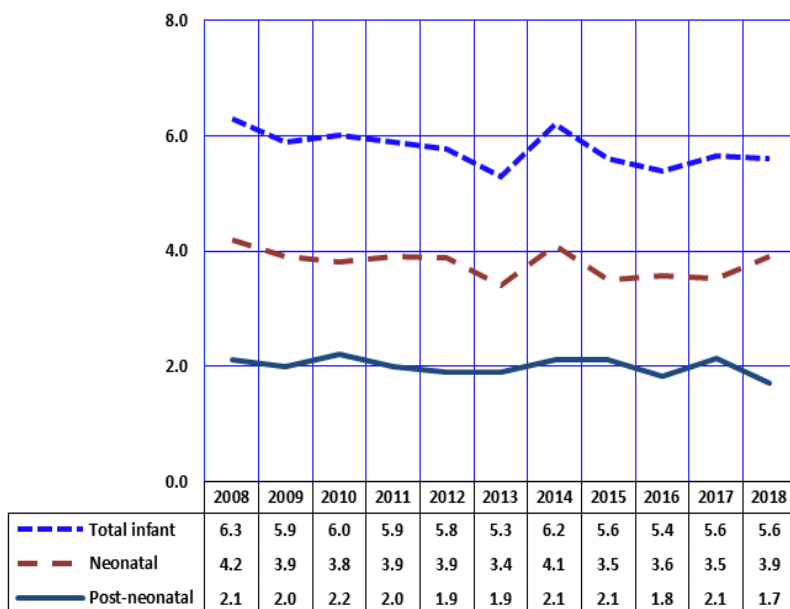
- **Infants** less than one year of age
- **Children** 1 to 14 years old
- **Adolescents** or persons 15 to 19 years old
- **Young adults** or persons 20 to 44 years old
- **Middle-aged adults** or persons 45 to 64 years old
- **Elderly** or persons 65 years or older.

For each age group, cause-specific mortality is compared between urban (i.e., Maricopa, Pima, Pinal, and Yuma counties) and rural (all other counties) regions and between genders. Urban and rural regions also are compared in gender-specific total mortality.

A comparison of age-specific mortality for causes of death is provided in **Table 2C-27**. A comparison of age-specific mortality rates is presented in **Table 2C-28**.

2C.AGE-SPECIFIC MORTALITY
Infant mortality

Figure 2C-1
Infant Mortality Rates by Neonatal/Postneonatal Age and Year, Arizona, 2008-2018



Infant mortality is defined as the number of deaths within the first year of life. The infant mortality rate is computed as the number of infant deaths in a calendar year per 1,000 live births recorded for the same period.

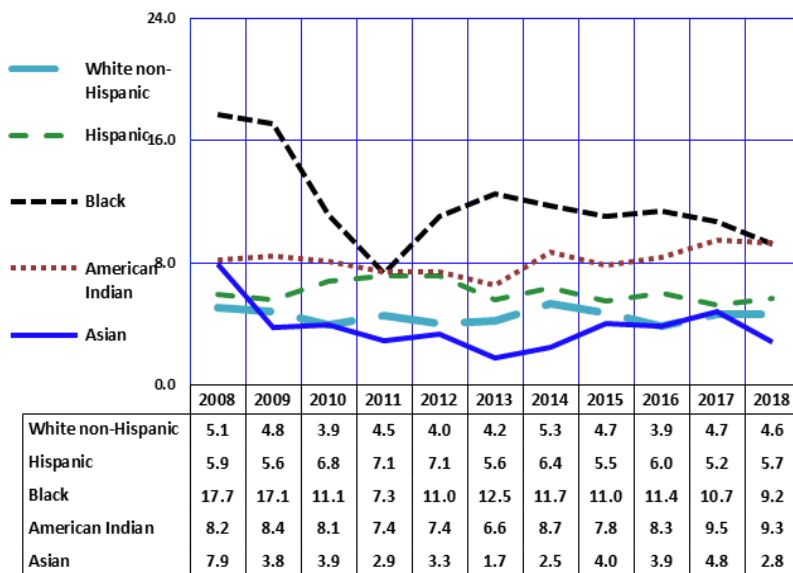
In 2018, 447 Arizona infants died before reaching their first birthday, 254 fewer than the latest peak of 701 infant deaths in 2007, and a decrease of 14 deaths in comparison to 2017 (**Table 2C-2**).

Even if the infant mortality rate remained the same as it was in 2007, 151 fewer infant deaths can be attributed to the absolute reduction in the number of births by 22,148 from 2007 to 2018 ($((22,148 \times 6.8)/1,000) = 151$).

Based on the actual number of infant deaths and live births in 2018, the infant mortality remained unchanged from 2017 to 2018 (**Figure 2C-1**).

Notes: Neonatal deaths are those deaths affecting infants age 0-27 days; Post-neonatal deaths are deaths to infants aged 28 days-1 year.

Figure 2C-2
Infant Mortality Rates^a by Race/Ethnicity and Year, Arizona, 2008-2018



In 2018, 90.8 percent (406/447)* of all infant death records were successfully matched to their corresponding birth records.

The mortality risk for infants varies by race/ethnicity. Infants born to Asian or Pacific Islander mothers had the lowest mortality rates among the racial/ethnic groups in 2018 (**Figure 2C-2, Table 2C-2**).

In 2018, Black or African American and American Indian infants had the worst survival chances among the racial/ethnic groups (**Figure 2C-2**).

* Infant death records that were not linked to their corresponding birth certificates include unrecorded home births (i.e., no birth certificates was issued) and out-of-State births (i.e., the State issuing the certificate of birth did not send a copy to Arizona).

Note: ^a Number of infant deaths per 1,000 live births in specified group.

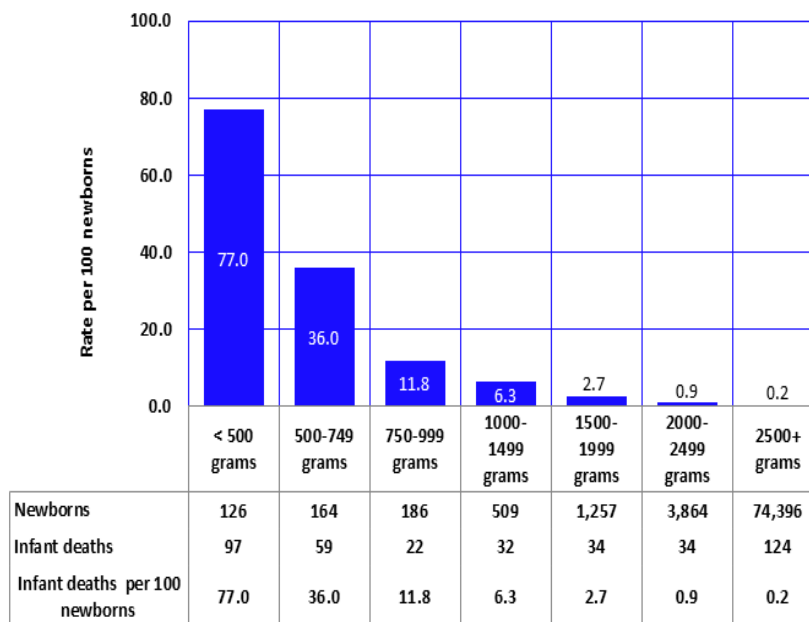
2C.AGE-SPECIFIC MORTALITY
Infant mortality

Figure 2C-3
Proportion of Infant Deaths by Birthweight, Arizona, 2018

Newborn weight at birth is one of the most important predictors of an infant’s survival chances. In 2018, the mortality rate among babies weighing less than 500 grams at birth was 77.0 per 100 live births (**Figure 2C-3**).

The absolute number of low birthweight births remained lower in 2018 at 6,106 than at its peak in 2007 (7,285). The proportion of babies whose weight at birth was less than 1,000 grams increased slightly from 7.7 percent of all low birthweight births in 2017 to 7.8 percent in 2018 (**Table 1B-3**).

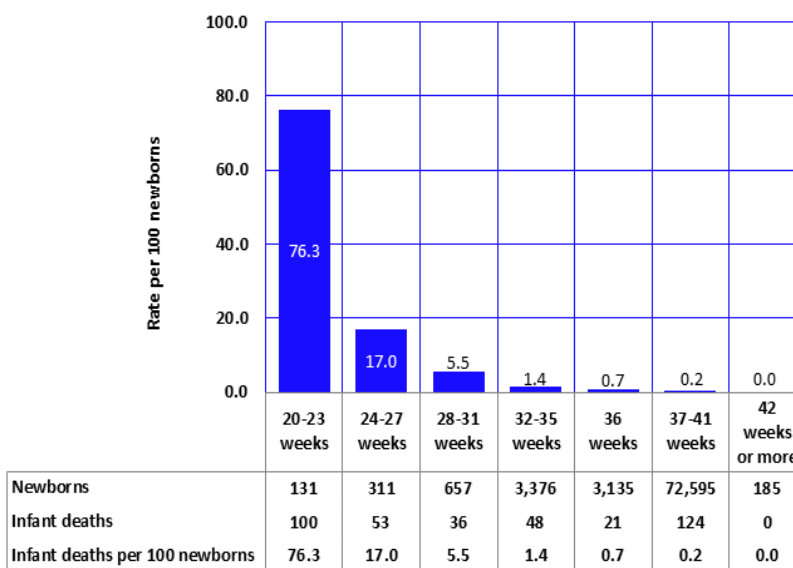
Together, infants weighing less than 1,500 grams accounted for 1.2 percent of births and 51.7 percent of all infant deaths with a matching birth record.



Note: 37 cases in the complete 2018 birth file had missing birthweight estimates.

As with low birthweight infants, preterm and very preterm babies contribute greatly to the total infant mortality rate because of their higher risk of mortality. For example, births occurring between 20-27 weeks of gestation accounted for only 0.5 percent of all births but 37.7 percent of infant deaths with a matching death record. Births at 20-23 weeks of gestation have a very high infant mortality rate of 76.3 per 100 live births (**Figure 2C-4**). Overall, preterm infants (those born at less than 37 weeks of gestation) accounted for 9.5 percent of all births (**Table 1B-2**) and 68.7 percent of all infant deaths (only those with matching death records).

Figure 2C-4
Proportion of Infant Deaths by Gestational Age, Arizona, 2018

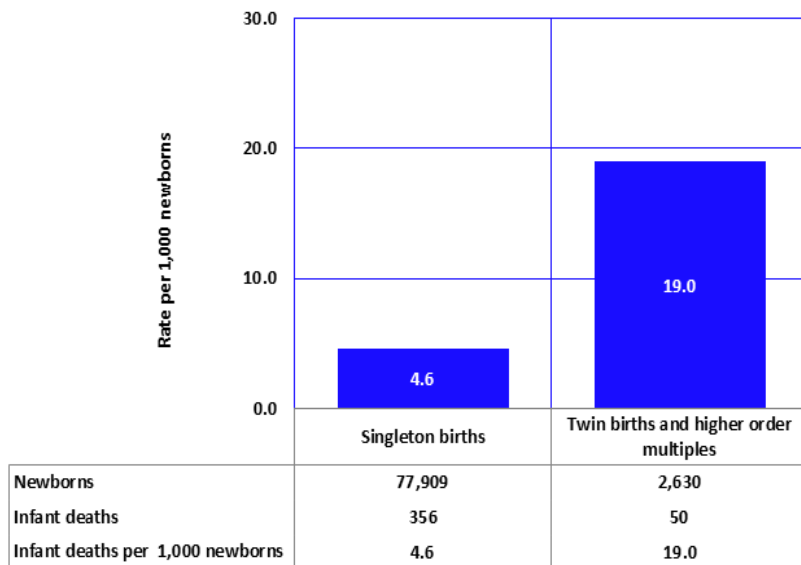


Note: Counts of newborns listed in Figures 2C-3 and 2C-4 of the 2017 printed report have been adjusted in the online version of the report to reflect the actual numbers of resident births.

Note: 115 cases in the complete 2018 birth file had missing gestational age. Three of which were missing in the linked infant death file.

2C.AGE-SPECIFIC MORTALITY
Infant mortality

Figure 2C-4.2
Infant Mortality Rates for Single and Multiple Births, Arizona, 2018



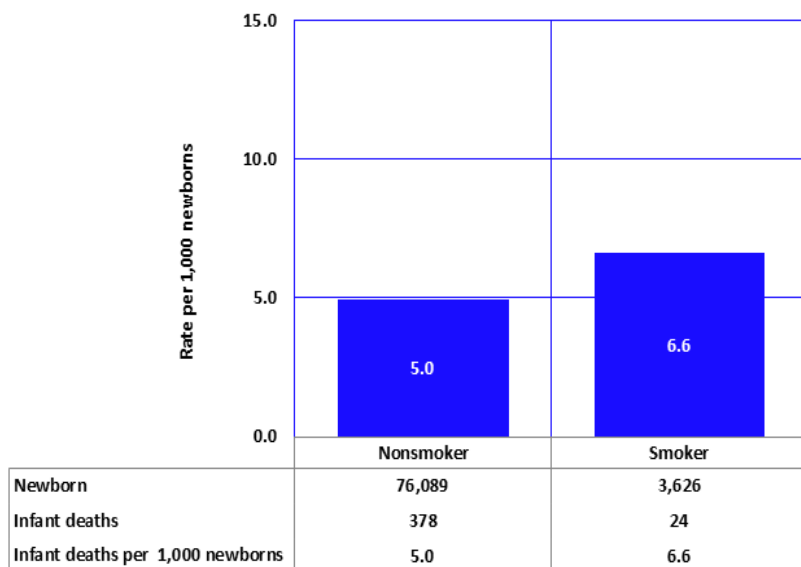
Note: 0 cases in the complete 2018 birth file were missing plurality.

As already noted in Section 1B, infants born in multiple deliveries tend to be born at shorter gestations and smaller than those in singleton deliveries. In 2018, infants born in multiple deliveries were 12.4 times more likely (47.3 vs. 3.8 percent) to be born earlier than expected (at less than 37 completed weeks of gestation) and smaller (at less than 2,500 grams) than singleton births (**Figure 1B-10**).

The infant mortality rate for single births was 4.6/1,000 live births in 2018 (**Figure 2C-4.2**). The infant mortality rate for twin births or higher order multiples (19.0/1,000 live births) was 4.2 times higher than the infant mortality for singleton births.

Babies born in multiple deliveries accounted for 3.3 percent of births (**Table 1B-16**), but 12.3 percent of all infant deaths in Arizona in 2018 (only those with matching birth and death records).

Figure 2C-4.3
Infant Mortality Rates by Mother's Smoking Status during Pregnancy, Arizona, 2018



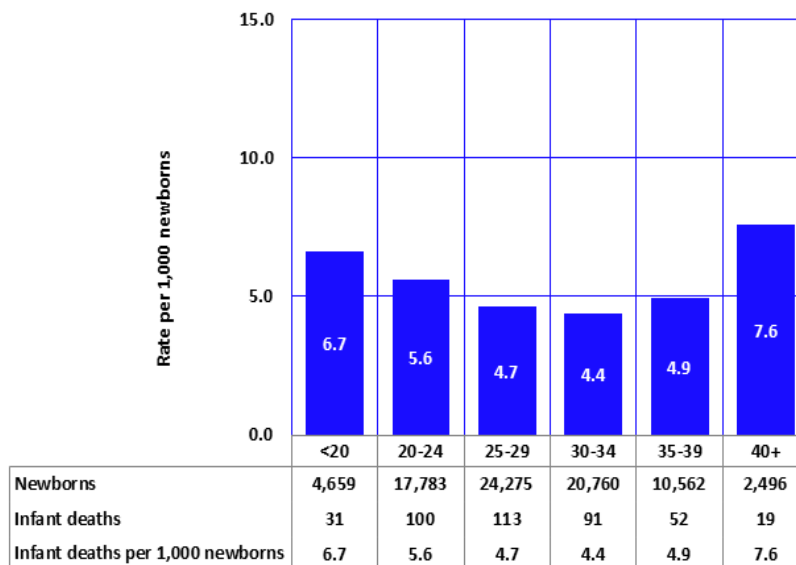
Note: 824 cases in the complete 2018 birth file were missing mothers' smoking status.

Smoking during pregnancy has been shown to increase the risk of preterm delivery, low birth weight and infant mortality. In 2018, among the 3,626 mothers who smoked during pregnancy, the risk of infant mortality was 1.3 times higher than among nonsmoker mothers (**Figure 2C-4.3**).

2C.AGE-SPECIFIC MORTALITY
Infant mortality

Figure 2C-4.4
Infant Mortality Rates by Mother's Age Group, Arizona, 2018

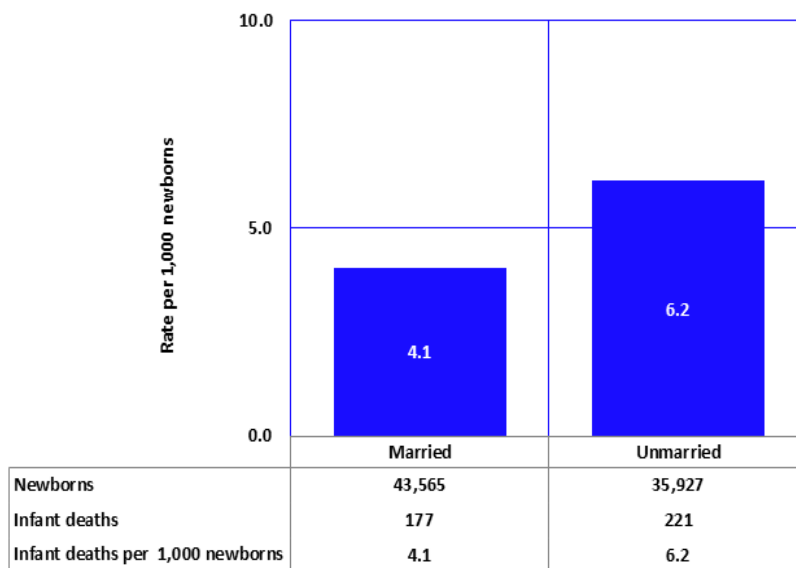
Infant mortality rates vary with maternal age. In 2018, infant mortality decreased with increasing maternal age through 30-34, but increased somewhat for infants born to women 35 years or older. Infants born to younger mothers (less than 20 years) and older mothers (40 years or over) had the highest infant mortality rates (**Figure 2C-4.4**).



Note: 4 cases in the complete 2018 birth file were missing mother's age.

Infants born to unmarried mothers accounted for the absolute majority of infant deaths in 2018 (221 infant deaths) compared to married mothers (177 infant deaths). In 2018, more children were born to married women (43,565) than their unmarried counterparts (35,927; **Table 1B-25**). Infants of unmarried mothers had an infant mortality rate of 6.2 deaths per 1,000 live births, 1.5 times higher than the rate for infants of married mothers (4.1 infant deaths per 1,000 live births; **Figure 2C-4.5**). The effect of marital status on infant mortality suggests that marital status is a proxy measure of factors traditionally related to infant mortality such as poverty conditions, access to health care and social support. Mother's marital status may signify the presence or absence of emotional, social, and financial resources.

Figure 2C-4.5
Infant Mortality Rates by Mother's Marital Status, Arizona, 2018



Note: 1,047 cases in the complete 2018 birth file were missing mother's marital status.

**TABLE 2C-1
INFANT, NEONATAL, AND POSTNEONATAL MORTALITY RATES AND PERCENT OF POSTNEONATAL DEATHS,
UNITED STATES, ARIZONA AND URBAN/RURAL COUNTIES OF ARIZONA, 2008-2018**

UNITED STATES	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Infant mortality ^a	6.7	6.4	6.1	6.0	6.0	6.0	5.8	5.9	5.8	5.8	5.7
Neonatal mortality ^a	4.3	4.2	4.0	4.0	4.0	4.0	3.9	3.9	3.8	3.8	3.8
Postneonatal mortality ^a	2.3	2.2	2.1	2.0	2.0	2.0	1.8	1.9	2.0	1.9	1.9
Percent postneonatal mortality ^b	34.3	33.3	34.4	33.3	33.3	33.3	31.0	32.2	34.5	32.8	33.3
ARIZONA, STATEWIDE TOTAL											
Infant mortality ^a	6.3	5.9	6.0	5.9	5.8	5.3	6.2	5.6	5.4	5.6	5.6
Neonatal mortality ^a	4.2	3.9	3.8	3.9	3.9	3.4	4.1	3.5	3.6	3.5	3.9
Postneonatal mortality ^a	2.1	2.0	2.2	2.0	1.9	1.9	2.1	2.1	1.8	2.1	1.7
Percent postneonatal mortality ^b	33.3	34.0	36.7	34.3	32.9	35.3	33.4	37.8	33.7	37.7	30.4
URBAN COUNTIES											
Infant mortality ^a	6.3	5.9	5.7	5.8	5.7	5.2	6.1	5.3	5.2	5.2	5.5
Neonatal mortality ^a	4.3	4.0	3.7	3.9	3.9	3.3	4.0	3.3	3.5	3.4	3.8
Postneonatal mortality ^a	2.0	2.0	2.0	1.9	1.9	1.8	2.1	2.0	1.7	2.0	1.6
Percent postneonatal mortality ^b	31.8	33.0	35.1	32.6	32.9	35.1	34.1	37.4	32.5	36.6	29.9
RURAL COUNTIES											
Infant mortality ^a	6.2	5.5	7.4	6.6	5.9	5.8	6.6	7.3	5.6	6.9	6.2
Neonatal mortality ^a	3.5	3.9	4.5	3.7	3.9	3.7	4.5	4.4	3.1	3.7	4.1
Postneonatal mortality ^a	2.7	2.0	2.9	2.9	2.0	2.2	2.1	3.0	2.4	3.2	2.1
Percent postneonatal mortality ^b	43.6	38.7	37.7	43.8	33.8	37.3	31.6	40.5	43.8	46.7	33.3

Notes: ^a Rates per 1,000 live births; the U.S. rates are from the National Center for Health Statistics; ^b Total infant mortality = 100 percent; Urban = Maricopa, Pima, Pinal, and Yuma Counties; the remaining counties comprise Arizona's rural areas; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area; production errors in prior publication have been corrected.

**TABLE 2C-2
NUMBER AND RATE^a OF INFANT DEATHS BY RACE/ETHNICITY AND GENDER, ARIZONA, 2008-2018
NUMBER OF INFANT DEATHS**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
White non-Hispanic											
Total	215	192	151	171	154	161	213	181	146	166	160
Male	114	109	88	98	81	93	122	99	87	93	94
Female	101	83	63	73	73	68	91	82	59	73	66
Hispanic or Latino											
Total	251	215	235	229	236	185	216	189	203	173	187
Male	142	115	144	122	138	97	108	94	111	98	110
Female	109	100	91	107	98	88	108	95	92	74	76
Black or African American											
Total	76	75	48	32	52	59	53	48	50	49	43
Male	42	41	20	16	22	20	35	24	23	30	18
Female	34	34	28	16	30	29	18	24	27	19	25
American Indian or Alaska Native											
Total	52	52	47	43	41	36	45	39	42	46	44
Male	27	28	28	15	22	19	24	21	22	23	20
Female	25	24	19	28	19	17	21	18	20	23	23
Asian or Pacific Islander											
Total	27	13	10†	10†	10†	10†	10†	10†	13	16	10†
Male	15	6	9	8	8	*	6	*	7	10	*
Female	12	7	*	*	*	*	*	9	6	6	*
All groups^b											
Total	625	547	519	504	495	447	535	473	454	461	447
Male	343	299	302	267	271	242	295	243	250	262	250
Female	282	248	217	237	224	205	240	230	204	198	195

INFANT MORTALITY RATES

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
White non-Hispanic											
Total	5.1	4.8	3.9	4.5	4.0	4.2	5.3	4.7	3.9	4.7	4.6
Male	5.3	5.4	4.4	5.0	4.1	4.7	5.9	5.0	4.5	5.1	5.2
Female	4.9	4.3	3.3	3.9	3.9	3.7	4.7	4.4	3.2	4.2	3.9
Hispanic or Latino											
Total	5.9	5.6	6.8	7.1	7.1	5.6	6.4	5.5	6.0	5.2	5.7
Male	6.5	5.8	8.3	7.3	8.1	5.7	6.2	5.4	6.4	5.8	6.5
Female	5.2	5.3	5.4	6.8	6.1	5.5	6.6	5.6	5.5	4.5	4.7
Black or African American											
Total	17.7	17.1	11.1	7.3	11.0	12.5	11.7	11.0	11.4	10.7	9.2
Male	18.7	18.0	9.1	7.3	9.2	12.3	14.9	10.7	10.3	12.6	7.9
Female	16.6	16.2	13.1	7.4	12.8	12.7	8.3	11.3	12.5	8.6	10.5
American Indian or Alaska Native											
Total	8.2	8.4	8.1	7.4	7.4	6.6	8.7	7.8	8.3	9.5	9.3
Male	8.5	9.0	9.5	5.1	7.8	6.7	9.4	8.3	8.7	9.2	8.2
Female	7.9	7.8	6.6	9.7	6.9	6.4	8.1	7.3	8.0	9.8	10.2
Asian or Pacific Islander											
Total	7.9	3.8	3.9	2.9	3.3	1.7	2.5	4.0	3.9	4.8	2.8
Male	8.5	3.4	5.4	4.4	4.2	**	3.7	**	4.0	5.9	**
Female	7.2	4.3	**	**	**	**	**	5.7	3.7	3.7	**
All groups^b											
Total	6.3	5.9	6.0	5.9	5.8	5.3	6.2	5.6	5.4	5.6	5.6
Male	6.8	6.3	6.8	6.1	6.2	5.5	6.6	5.6	5.8	6.3	6.1
Female	5.8	5.5	5.1	5.7	5.4	5.0	5.7	5.5	4.9	4.9	5.0

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; ^a Number of infant deaths per 1,000 live births in specified ethnic/gender group; infant deaths are by the race/ethnicity of the decedent; For consistency with the national data, the denominators used to calculate infant mortality rates were changed from race/ethnicity of parents to race/ethnicity of mother as stated on the birth certificate; The change in the basis for calculating infant mortality rates results in lower rates for white infants and higher rates for most minority infants than when they are computed by the previous method; ^b Includes records with other and unknown ethnic group.

**TABLE 2C-3
NUMBER AND RATE^a OF INFANT DEATHS BY RACE/ETHNICITY AND AGE GROUP, 2008-2018
NUMBER OF INFANT DEATHS**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
White non-Hispanic											
Total	215	192	151	171	154	161	213	181	146	166	160
Neonatal	138	129	96	120	100	97	138	108	92	106	116
Postneonatal	77	63	55	51	54	64	75	73	54	60	44
Hispanic or Latino											
Total	251	215	235	229	236	185	216	189	203	173	187
Neonatal	175	150	156	152	170	131	149	130	142	115	136
Postneonatal	76	65	79	77	66	54	67	59	61	58	51
Black or African American											
Total	76	75	48	32	52	59	53	48	50	49	43
Neonatal	51	46	32	20	34	38	34	25	33	30	25
Postneonatal	25	29	16	12	18	21	19	23	17	19	18
American Indian or Alaska Native											
Total	52	52	47	43	41	36	45	39	42	46	44
Neonatal	29	26	22	19	21	20	26	16	21	20	25
Postneonatal	23	26	25	24	20	16	19	23	21	26	19
Asian or Pacific Islander											
Total	30 [†]	10 [†]	10 [†]	10	10 [†]	10 [†]	10 [†]	10 [†]	13	16	10 [†]
Neonatal	22	10	11	10	7	*	*	*	13	7	*
Postneonatal	*	*	*	0	*	*	*	*	0	9	*
All groups^b											
Total	625	547	519	504	495	447	535	473	454	461	447
Neonatal	419	361	330	331	332	289	354	294	301	287	311
Postneonatal	206	186	189	173	163	158	181	179	153	174	136

INFANT MORTALITY RATES

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
White non-Hispanic											
Total	5.1	4.8	3.9	4.5	4.0	4.2	5.3	4.7	3.9	4.7	4.6
Neonatal	3.3	3.2	2.5	3.1	2.6	2.5	3.4	2.8	2.4	3.0	3.3
Postneonatal	1.8	1.6	1.4	1.3	1.4	1.7	1.9	1.9	1.4	1.7	1.3
Hispanic or Latino											
Total	5.9	5.6	6.8	7.1	7.1	5.6	6.4	5.5	6.0	5.2	5.7
Neonatal	4.1	3.9	4.5	4.7	5.1	4.0	4.4	3.8	4.2	3.5	4.1
Postneonatal	1.8	1.7	2.3	2.4	2.0	1.6	2.0	1.7	1.8	1.7	1.5
Black or African American											
Total	17.7	17.1	11.1	7.3	11.0	12.5	11.7	11.0	11.4	10.7	9.2
Neonatal	11.9	10.5	7.4	4.6	7.2	8.0	7.5	7.7	7.5	6.5	5.4
Postneonatal	5.8	6.6	3.7	2.7	3.8	4.4	4.2	5.3	3.9	4.1	3.9
American Indian or Alaska Native											
Total	8.2	8.4	8.1	7.4	7.4	6.6	8.7	7.8	8.3	9.5	9.3
Neonatal	4.6	4.2	3.8	3.3	3.8	3.7	5.1	3.2	4.2	4.1	5.3
Postneonatal	3.6	4.2	4.3	4.1	3.6	2.9	3.7	4.6	4.2	5.3	4.0
Asian or Pacific Islander											
Total	7.9	3.8	3.9	2.9	3.3	1.7	2.5	4.0	3.9	4.8	2.8
Neonatal	6.4	2.9	3.3	2.9	1.9	**	2.2	3.7	3.9	2.1	**
Postneonatal	**	**	**	0.0	**	**	**	**	0.0	2.7	**
All groups^b											
Total	6.3	5.9	6.0	5.9	5.8	5.3	6.2	5.6	5.4	5.6	5.6
Neonatal	4.2	3.9	3.8	3.9	3.9	3.4	4.1	3.5	3.6	3.5	3.9
Postneonatal	2.1	2.0	2.2	2.0	1.9	1.9	2.1	2.1	1.8	2.1	1.7

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; ^a Number of infant deaths per 1,000 live births in specified ethnic/gender group; infant deaths are by the race/ethnicity of the decedent; for consistency with the national data, the denominators used to calculate infant mortality rates were changed from race/ethnicity of parents to race/ethnicity of mother as stated on the birth certificate; the change in the basis for calculating infant mortality rates results in lower rates for white infants and higher rates for most minority infants than when they are computed by the previous method; ^b Includes records with other and unknown ethnic group.

**TABLE 2C-4
NEONATAL, POSTNEONATAL, AND TOTAL INFANT MORTALITY BY CHILD'S GENDER AND MOTHER'S RACE/ETHNICITY,
ARIZONA, 2018**

	NUMBER OF DEATHS BY AGE			MORTALITY RATES ^a		
	Total	Neonatal	Postneonatal	Total	Neonatal	Postneonatal
TOTAL, ALL GROUPS	447	311	136	5.6	3.9	1.7
Male	250	177	73	6.1	4.3	1.8
Female	195	132	63	5.0	3.4	1.6
White non-Hispanic	160	116	44	4.6	3.3	1.3
Male	94	70	24	5.2	3.9	1.3
Female	66	46	20	3.9	2.7	1.2
Hispanic or Latino	187	136	51	5.7	4.1	1.5
Male	110	79	31	6.5	4.7	1.8
Female	76	56	20	4.7	3.5	1.2
Black or African American	43	25	18	9.2	5.4	3.9
Male	18	10	8	7.9	4.4	3.5
Female	25	15	10	10.5	6.3	4.2
American Indian or Alaska Native	44	25	19	9.3	5.3	4.0
Male	20	11	9	8.2	4.5	3.7
Female	23	13	10	10.2	5.7	4.4
Asian or Pacific Islander	10†	*	*	2.8	**	**
Male	10†	*	*	**	**	**
Female	0†	*	*	**	**	**

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; ^a Number of deaths per 1,000 live births in specified gender group by mother's race/ethnicity; denominators are from Table 5B-8.

**TABLE 2C-5
NUMBER OF DEATHS FOR SELECTED LEADING CAUSES OF INFANT MORTALITY^a BY YEAR, ARIZONA, 2008-2018**

Causes of death	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Congenital malformations, deformations and chromosomal abnormalities	145	122	114	107	118	101	121	117	105	92	122
of brain, spinal cord or nervous system	24	15	21	13	19	13	24	20	14	18	17
of respiratory system	*	*	9	*	6	*	*	8	7	*	13
Short gestation and low birth weight	91	101	64	60	62	56	63	53	55	64	73
Maternal complications	53	31	27	33	46	28	39	39	28	31	21
Sudden infant death syndrome	21	42	34	25	13	14	13	15	7	14	14
Accidents (unintentional injuries)	19	18	18	23	16	14	27	29	16	23	13
Intrauterine hypoxia or birth asphyxia	11	*	*	11	*	6	9	*	6	11	*
Assault (homicide)	*	*	6	6	*	*	6	*	*	10	*
Respiratory distress syndrome	11	8	7	*	*	*	*	*	*	6	*
Influenza and pneumonia	*	10	*	*	*	*	*	*	*	*	*
Total, all causes	625	547	519	504	495	447	535	473	454	461	447

Notes: * Cell suppressed due to count less than 6; ^a Leading causes of infant mortality are based on the list of 130 causes of infant death according to the Tenth Revision, International Classification of Diseases (ICD-10).

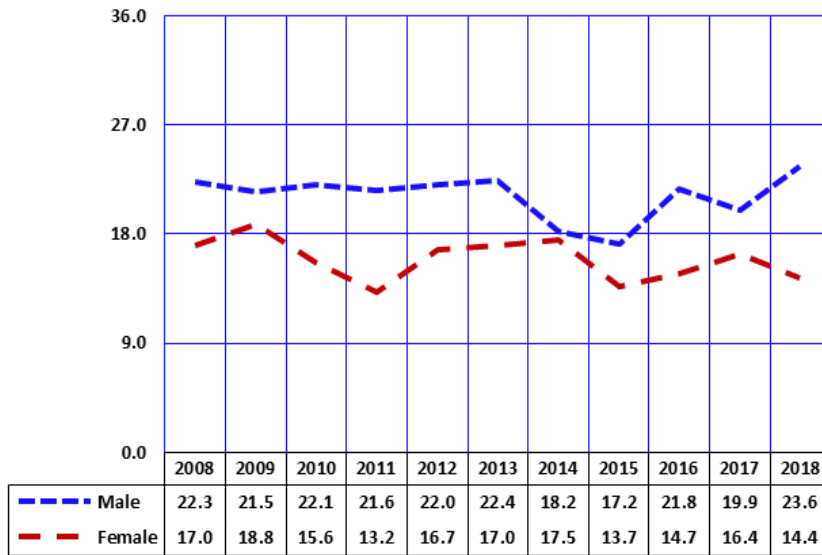
**TABLE 2C-6
INFANT MORTALITY RATES^a FOR SELECTED LEADING CAUSES OF DEATH BY YEAR, ARIZONA, 2008-2018**

Causes of death	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Congenital malformations, deformations and chromosomal abnormalities	1.5	1.3	1.3	1.3	1.4	1.2	1.4	1.4	1.2	1.1	1.5
of brain, spinal cord or nervous system	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2
of respiratory system	**	**	0.1	**	0.1	**	**	0.1	0.1	**	0.2
Short gestation and low birth weight	0.9	1.1	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.8	0.9
Maternal complications	0.5	0.3	0.3	0.4	0.5	0.3	0.5	0.5	0.3	0.4	0.3
Accidents (unintentional injuries)	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.2
Sudden infant death syndrome	0.2	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2
Intrauterine hypoxia or birth asphyxia	0.1	**	**	0.1	**	0.1	0.1	**	0.1	0.1	**
Assault (homicide)	**	**	0.1	0.1	**	**	0.1	**	**	0.1	**
Respiratory distress syndrome	0.1	0.1	0.1	**	**	**	**	**	**	0.1	**
Influenza and pneumonia	**	0.1	**	**	**	**	**	**	**	**	**
Total, all causes	6.3	5.9	6.0	5.9	5.8	5.3	6.2	5.6	5.4	5.6	5.6

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; ^a Number of infant deaths per 1,000 live births; leading causes of infant mortality are based on the list of 130 causes of infant death according to the Tenth Revision, International Classification of Diseases (ICD-10).

2C.AGE-SPECIFIC MORTALITY
Childhood mortality (ages 1-14 years)

Figure 2C-5
Mortality Rates^a by Gender and Year among Children 1-14 Years,
Arizona, 2008-2018

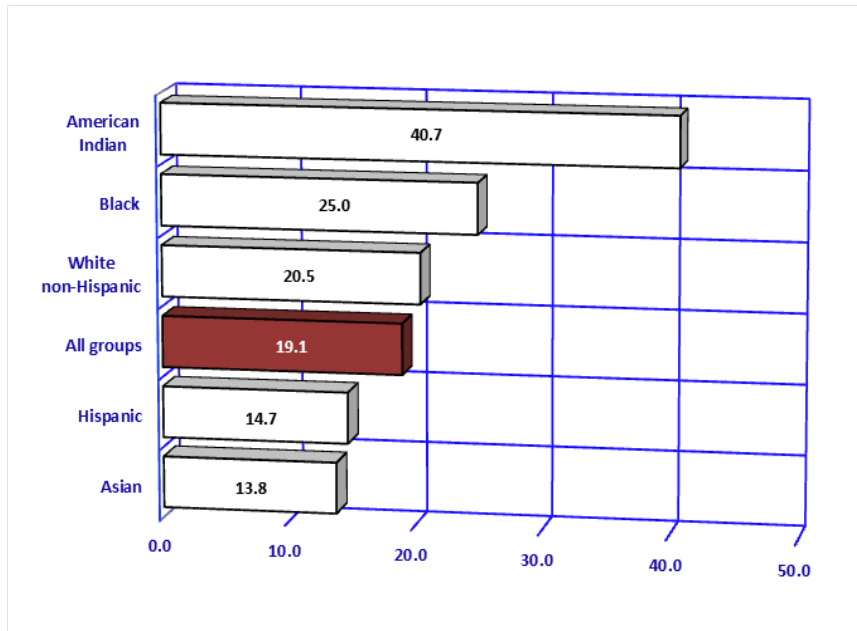


In 2018, a total of 244 deaths were recorded among 1,279,440 children aged 1-14 years residing in Arizona. The 2018 childhood mortality rate was 19.1 per 100,000, representing an increase from 18.2 the rate recorded in 2017 (**Table 2C-7**). Between 2017 and 2018 the mortality rate for male children witnessed an increase while the rate for female children decreased (**Figure 2C-5, Table 2C-7**).

The five causes with the greatest mortality rates in childhood from 2008-2018 were *accidents (unintentional injuries), malignant neoplasms, congenital malformations, homicide, and suicide (Table 2C-7)*.

Note: ^a Number of deaths per 100,000 persons, 1-14 years old in specified group.

Figure 2C-6
Mortality Rates^a by Race/Ethnicity among Children 1-14 Years,
Arizona, 2018



American Indian children had the highest total mortality rate (40.7 deaths per 100,000) in 2018, followed by Black or African American children (25.0/100,000; **Figure 2C-6**). The mortality rates of Asian and Hispanic or Latino children were lower than the average rate for all groups.

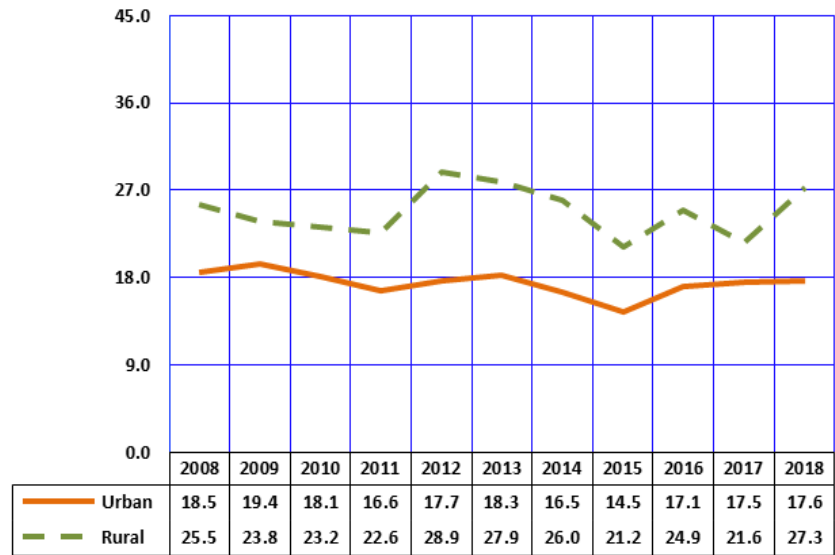
It is important to note that the mortality rate of Asians is based on a very low death count (**Table 2C-10**) thus not statistically reliable. In 2018, there were fewer than 6 children who died from congenital anomalies or by means of suicide among this age group (**Table 2C-10**).

Note: ^a Number of deaths per 100,000 persons, 1-14 years old in specified group.

2C.AGE-SPECIFIC MORTALITY
Childhood mortality (ages 1-14 years)

Figure 2C-7
Mortality Rates^a by Urban/Rural Area^b and Year among Children 1-14 Years, Arizona, 2008-2018

From 2017 to 2018, mortality rates increased for both rural and urban children (**Figure 2C-7, Table 2C-8**). Between 2008 and 2018, urban childhood mortality rates have been lower than rural childhood mortality rates in each year during the 11-year period. During the same period, urban children witnessed a 4.9 percent decrease in their mortality rate while rural children have seen an increase of 7.1 percent in their death rate.

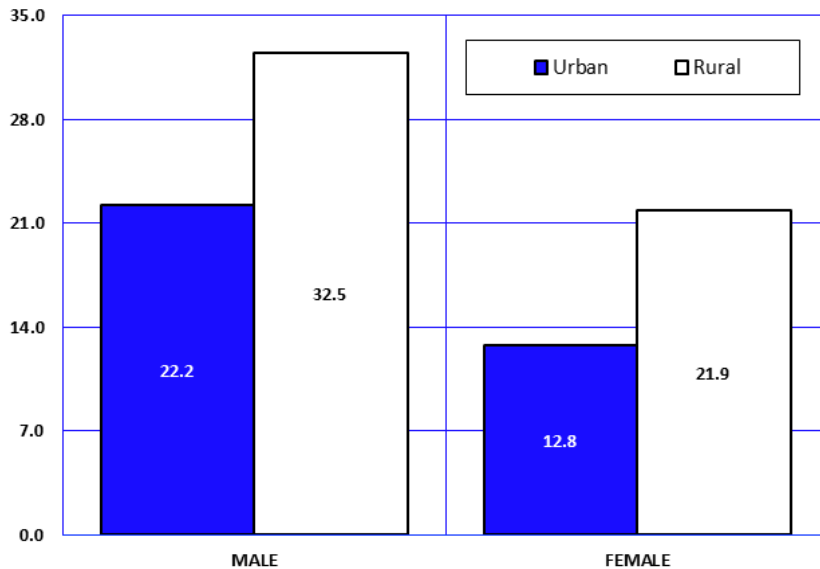


Notes: ^a Number of deaths per 100,000 persons, 1-14 years old in specified group; ^b Urban counties are Maricopa, Pima, Pinal, and Yuma Counties. Rural counties are those remaining.

Figure 2C-8
Mortality Rates^a by Gender in Urban/Rural^b Areas among Children 1-14 Years, Arizona, 2018

From 2017 to 2018, the mortality rate for accidents decreased for urban children but increased substantially for rural children (**Table 2C-8**). In 2018, the mortality rate for unintentional injuries among rural children (8.5/100,000) was 57.4 percent higher than the rate among urban children (5.4/100,000; **Table 2C-8**). In the same year, 24 children died of accidental drowning; most of them resided in urban areas (**Table 2C-10**).

Rural females aged 1-14 years old had the lowest mortality risk among gender by area groups in 2018, followed by urban females, urban males, and rural males.



Notes: ^a Number of deaths per 100,000 persons, 1-14 years old in specified group; ^b Urban counties include Maricopa, Pima, Pinal, and Yuma Counties. Rural counties are those remaining.

**TABLE 2C-7
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES^b OF DEATH AMONG CHILDREN (1-14 YEARS) BY GENDER,
ARIZONA, 2008-2018**

Gender/Cause	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
MALE												
Accidents (unintentional injuries)	7.8	8.0	8.2	9.6	7.4	8.6	6.5	5.7	7.0	6.8	8.4	7.7
Motor vehicle accidents	2.5	4.2	3.1	4.0	3.5	4.5	2.5	2.0	4.0	2.9	3.2	28.0
Drowning	2.9	2.6	2.5	2.6	2.2	1.8	2.2	1.9	2.3	2.3	3.2	10.3
Other	2.4	1.2	2.6	3.1	1.7	2.3	1.9	1.9	0.6	1.5	2.0	-16.7
Malignant neoplasms	2.5	3.1	1.9	1.7	2.8	2.5	1.7	1.7	1.6	2.3	2.3	-8.0
Intentional self-harm (suicide)	0.9	0.4	1.2	1.1	1.1	0.6	1.1	1.1	0.8	1.7	2.0	122.2
Congenital malformations	1.8	1.5	1.5	1.7	1.8	0.9	0.9	0.9	1.1	0.9	1.2	-33.3
Assault (homicide)	1.2	0.9	2.0	0.9	0.9	1.4	0.9	1.2	0.9	0.6	0.5	-61.7
ALL CAUSES	22.3	21.5	22.1	21.6	22.0	22.4	18.2	17.2	21.8	19.9	23.6	5.8
(Number of all deaths)	(152)	(148)	(143)	(141)	(143)	(146)	(118)	(111)	(140)	(129)	(154)	1.3
FEMALE												
Accidents (unintentional injuries)	4.6	5.5	5.1	3.2	3.7	4.5	3.7	4.3	4.5	5.1	3.3	-28.3
Motor vehicle accidents	2.8	2.9	2.4	1.1	1.8	2.6	2.6	1.9	2.7	2.2	2.4	-14.3
Other	0.9	2.0	1.4	0.8	1.1	0.6	0.6	1.8	1.0	1.6	0.5	-46.8
Drowning	0.9	0.6	1.3	1.3	0.8	1.3	0.5	0.6	0.8	1.3	0.5	-46.8
Malignant neoplasms	2.0	1.8	2.2	2.4	2.4	2.1	2.9	0.5	1.3	2.4	2.6	30.0
Congenital malformations	1.5	1.4	1.6	1.0	2.3	2.4	1.3	2.1	0.6	1.1	1.3	-13.3
Assault (homicide)	0.9	1.8	0.3	1.3	1.1	1.6	1.3	1.3	1.3	1.0	1.3	44.4
Influenza and pneumonia	0.6	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	-50.0
ALL CAUSES	17.0	18.8	15.6	13.2	16.7	17.0	17.5	13.7	14.7	16.4	14.4	-15.3
(Number of all deaths)	(110)	(123)	(97)	(83)	(104)	(106)	(109)	(85)	(91)	(102)	(90)	(-18.2)
TOTAL												
Accidents (unintentional injuries)	6.2	6.8	6.7	6.5	5.6	6.6	5.1	5.0	5.8	6.0	5.9	-4.8
Motor vehicle accidents	2.6	3.6	2.8	2.6	2.7	3.5	2.5	2.0	3.4	2.6	2.8	8.2
Drowning	2.0	1.6	1.9	2.0	1.5	1.6	1.3	1.3	1.6	1.8	1.9	-6.2
Other	1.6	1.6	2.0	2.0	1.4	1.5	1.3	1.8	0.8	1.6	1.3	-18.8
Malignant neoplasms	2.3	2.5	2.0	2.0	2.6	2.3	2.3	1.1	1.4	2.4	2.4	4.3
Intentional self-harm (suicide)	0.6	0.3	0.7	0.9	0.6	0.6	0.9	0.9	0.7	1.3	1.3	116.7
Congenital malformations	1.7	1.4	1.6	1.3	2.0	1.6	1.1	1.5	0.9	1.0	1.3	-23.5
Assault (homicide)	1.1	1.3	1.2	1.1	1.0	1.5	1.1	1.3	1.1	0.8	0.9	-18.2
ALL CAUSES	19.7	20.2	18.9	17.5	19.4	19.8	17.9	15.4	18.3	18.2	19.1	-3.0
(Number of all deaths)	(262)	(271)	(240)	(224)	(247)	(252)	(227)	(196)	(231)	(231)	(244)	(-6.9)

Notes: ^a Number of deaths per 100,000 children 1-14 years old; ^b The five causes with the greatest number of deaths over the 2008-2018 period; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2008-2018 are classified by ICD-10, replacing the Ninth Revision (ICD-9); measures of comparison between ICD-9 and ICD-10 – the “comparability ratios” – for the causes of death shown in this report are provided in the **Technical Notes**.

**TABLE 2C-8
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES^b OF DEATH AMONG CHILDREN (1-14 YEARS)
IN URBAN AND RURAL AREAS^c, ARIZONA, 2008-2018**

Area/Cause	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
URBAN												
Accidents (unintentional injuries)	5.4	6.4	6.0	5.7	4.7	5.5	4.5	4.3	5.0	5.8	5.4	0.0
Motor vehicle accidents	2.0	3.2	2.5	1.7	1.9	2.6	2.0	1.7	2.6	2.1	2.1	7.6
Drowning	1.8	1.8	1.8	2.2	1.5	1.8	1.4	1.2	1.8	2.1	2.0	10.8
Other	1.7	1.5	1.7	1.7	1.3	1.1	1.1	1.4	0.6	1.6	1.4	-17.6
Malignant neoplasms	2.6	2.6	2.3	2.1	2.6	2.4	2.3	1.1	1.4	2.5	2.5	-2.9
Congenital malformations	1.7	1.3	1.8	1.3	2.1	1.8	1.0	1.5	0.9	1.0	1.4	-17.0
Assault (homicide)	1.1	1.3	1.3	1.2	0.9	1.5	1.0	1.2	1.1	0.6	0.7	-34.3
Diseases of heart	0.4	0.3	0.3	0.4	0.6	0.3	0.3	0.3	0.5	0.2	0.5	25.0
ALL CAUSES	18.5	19.4	18.1	16.6	17.7	18.3	16.5	14.5	17.1	17.5	17.6	-5.1
(Number of all deaths)	(210)	(221)	(197)	(182)	(192)	(200)	(180)	(158)	(186)	(192)	(194)	(-7.6)
RURAL												
Accidents (unintentional injuries)	10.3	8.8	10.8	11.3	10.9	12.6	8.9	9.5	10.8	6.8	8.5	-17.6
Motor vehicle accidents	6.4	5.8	4.3	7.5	7.1	8.7	5.5	3.3	8.5	5.1	7.4	15.9
Drowning	2.5	1.0	2.2	0.5	1.6	0.0	1.1	1.7	0.0	0.0	1.1	-55.2
Other	1.5	1.9	4.3	3.2	2.2	3.8	2.2	4.5	2.3	1.7	0.0	-100.0
Intentional self-harm (suicide)	1.5	0.5	1.1	0.5	1.1	1.6	2.2	2.8	1.7	4.0	3.4	130.8
Malignant neoplasms	0.5	1.9	0.5	1.6	2.2	1.6	2.2	1.1	1.7	1.7	1.7	246.2
Assault (homicide)	1.0	1.5	0.5	0.5	1.6	1.6	1.7	1.7	1.1	1.7	1.7	73.1
Congenital malformations	1.5	1.9	0.5	1.6	1.6	0.5	1.7	1.7	0.6	1.1	0.0	-100.0
ALL CAUSES	25.5	23.8	23.2	22.6	28.9	27.9	26.0	21.2	24.9	21.6	27.3	6.9
(Number of all deaths)	(52)	(49)	(43)	(42)	(53)	(51)	(47)	(38)	(44)	(38)	(48)	(-7.7)
TOTAL												
Accidents (unintentional injuries)	6.2	6.8	6.7	6.5	5.6	6.6	5.1	5.0	5.8	6.0	5.9	-4.8
Motor vehicle accidents	2.6	3.6	2.8	2.6	2.7	3.5	2.5	2.0	3.4	2.6	2.8	8.2
Drowning	2.0	1.6	1.9	2.0	1.5	1.6	1.3	1.3	1.6	1.8	1.9	-6.2
Other	1.6	1.6	2.0	2.0	1.4	1.5	1.3	1.8	0.8	1.6	1.3	-18.8
Malignant neoplasms	2.3	2.5	2.0	2.0	2.6	2.3	2.3	1.1	1.4	2.4	2.4	4.3
Intentional self-harm (suicide)	0.6	0.3	0.7	0.9	0.6	0.6	0.9	0.9	0.7	1.3	1.3	116.7
Congenital malformations	1.7	1.4	1.6	1.3	2.0	1.6	1.1	1.5	0.9	1.0	1.3	-23.5
Assault (homicide)	1.1	1.3	1.2	1.1	1.0	1.5	1.1	1.3	1.1	0.8	0.9	-18.2
ALL CAUSES	19.7	20.2	18.9	17.5	19.4	19.8	17.9	15.4	18.3	18.2	19.1	-3.0
(Number of all deaths)	(262)	(271)	(240)	(224)	(247)	(252)	(227)	(196)	(231)	(231)	(244)	(-6.9)

Notes: ^a Number of deaths per 100,000 children 1-14 years old; ^b The five causes with the greatest number of deaths over the 2008-2018 period; ^c Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see **Technical Notes** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2008-2018 are classified by ICD-10; measures of comparison between ICD-9 and ICD-10 - the "comparability ratios" - for the causes of death shown in this report are provided in the **Technical Notes**.

**TABLE 2C-9
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES OF DEATH AMONG CHILDREN (1-14 YEARS) BY GENDER
IN URBAN AND RURAL AREAS^b, ARIZONA, 2008-2018**

Area/Gender	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
URBAN												
Male	21.1	20.6	20.0	20.8	20.0	21.3	16.2	16.2	19.9	18.4	22.2	5.2
Female	15.9	18.2	16.2	12.3	15.2	15.2	16.8	12.7	14.3	16.6	12.8	-19.5
TOTAL	18.5	19.4	18.1	16.6	17.7	18.3	16.5	14.5	17.1	17.5	17.6	-4.9
RURAL												
Male	27.9	25.7	33.9	26.4	32.1	29.0	30.5	23.1	33.5	27.9	32.5	16.5
Female	23.0	21.8	12.1	18.7	25.5	26.6	21.3	19.3	16.1	15.0	21.9	-4.8
TOTAL	25.5	23.8	23.2	22.6	28.9	27.9	26.0	21.2	24.9	21.6	27.3	7.1
TOTAL												
Male	22.3	21.5	22.1	21.6	22.0	22.4	18.2	17.2	21.8	19.9	23.6	5.8
Female	17.0	18.8	15.6	13.2	16.7	17.0	17.5	13.7	14.7	16.4	14.4	-15.3
TOTAL	19.7	20.2	18.9	17.5	19.4	19.8	17.9	15.4	18.3	18.2	19.1	-3.0

Notes: ^a Rates are presented per 100,000 children 1-14 years old; ^b Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area.

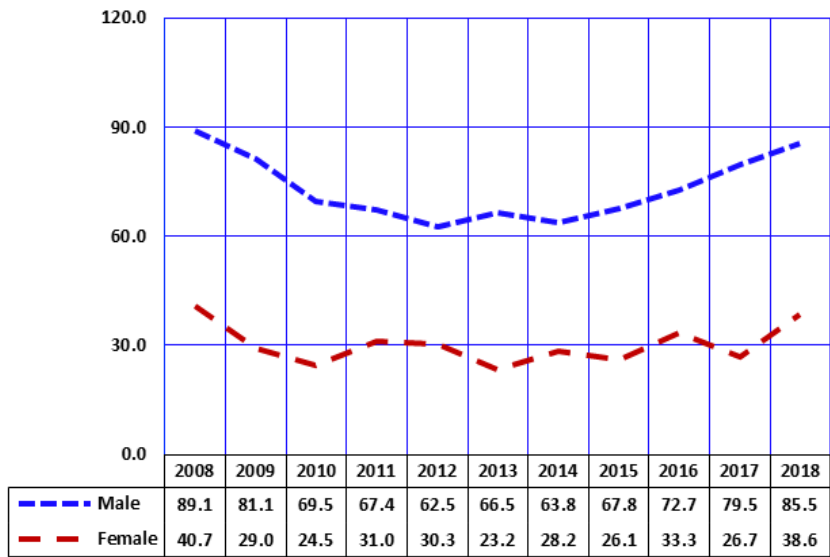
**TABLE 2C-10
LEADING CAUSES OF DEATH AMONG CHILDREN (1-14 YEARS) BY GENDER, AREA, AND RACE/ETHNICITY, ARIZONA, 2018**

Cause of death	Total	Gender		Area ^a			Race/ethnicity				
		Male	Female	Urban	Rural	Unknown	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or other Pacific Islander
Accidents (unintentional injury)	76	55	21	60	15	*	38	22	7	9	0
Motor vehicle accidents	40†	21	15	23	13	0	14	10	*	8	0
Accidental drowning and submersion	20†	21	*	22	*	0	15	8	*	0	0
Malignant neoplasms	30†	15	16	28	*	0	16	13	*	*	0
Leukemia	10†	*	8	9	0	0	*	*	0	0	0
Intentional self-harm (suicide)	20†	13	*	11	6	0	*	*	*	6	*
Congenital malformations	20†	8	8	15	0	*	9	*	*	*	*
Assault (homicide)	10†	*	8	8	*	0	7	*	*	*	0
By other means	10†	*	6	*	*	0	*	0	*	*	0
By discharge of firearms	0†	*	*	*	*	0	*	*	0	0	0
Influenza and pneumonia	10†	*	*	*	*	0	*	*	0	*	0
Chronic lower respiratory diseases	0†	*	*	*	0	0	*	*	*	0	0
Asthma	0†	*	*	*	0	0	*	*	*	0	0
Total, all causes	244	154	90	194	48	2	107	84	19	28	6

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; ^a Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas.

2C.AGE-SPECIFIC MORTALITY
Adolescent mortality (ages 15-19 years)

Figure 2C-9
Mortality Rates^a by Gender and Year among Adolescents 15-19 Years,
Arizona, 2008-2018

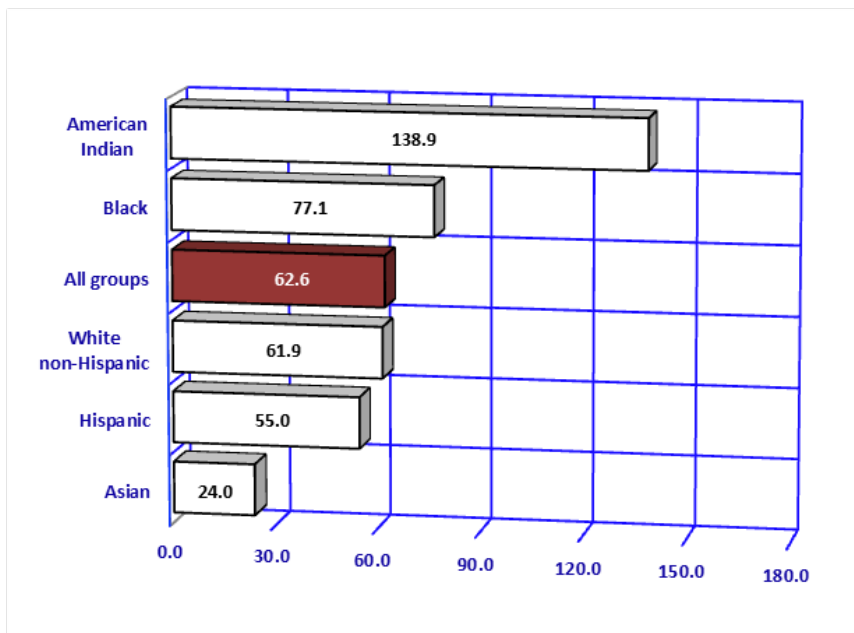


Adolescence refers to individuals between the ages of 15 and 19, an important developmental period marking the transition from childhood to adulthood. In 2018, an estimated 471,388 adolescents resided in Arizona, comprising 6.7 percent of the State's population (**Table 10A-1**). The lives of 295 resident adolescents prematurely ended in 2018, resulting in a total mortality rate of 62.6 deaths per 100,000 adolescents. This mortality rate was 4.7 percent lower than the 2008 rate (**Table 2C-11**).

The likelihood of dying was approximately two-fold greater for adolescent boys than for adolescent girls in 2018 (**Figure 2C-9, Table 2C-11**).

Notes: ^a Number of deaths per 100,000 persons, 15 - 19 years old in specified group.

Figure 2C-10
Mortality Rates^a by Race/Ethnicity among Adolescents 15-19 Years,
Arizona, 2018



The five causes with the greatest number of deaths over the 2008-2018 period were *unintentional injuries in accidents, suicide, homicide, malignant neoplasms, and diseases of heart* (**Table 2C-14**).

In 2018, adolescents who were Asian, Hispanic, or White had greater survival chances than the state average for all adolescents. American Indian had the lowest survival chances of all racial/ethnic groups (**Figure 2C-10**). If the 2018 mortality risk of Asian adolescents (i.e., their mortality rate) was applied to all adolescents, only 182 would have died: 113 less than the 295 who actually did.

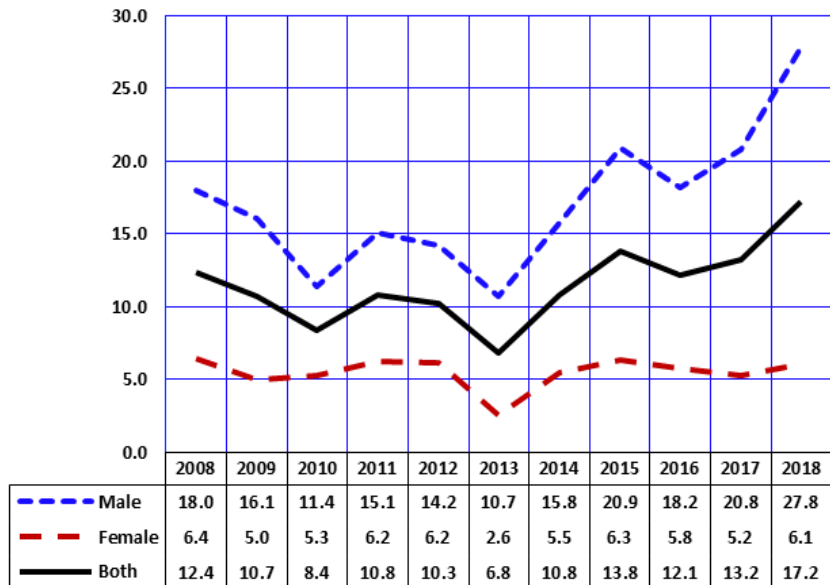
Note: ^a Number of deaths per 100,000 persons, 15 - 19 years old in specified group.

2C.AGE-SPECIFIC MORTALITY
Adolescent mortality (ages 15-19 years)

Figure 2C-11
Suicide Rates^a by Gender and Year among Adolescents 15-19 Years, Arizona, 2008-2018

In 2018, eighty one suicide deaths were recorded among Arizonans age 15-19 years, an increase from 62 in 2017 (Table 2C-14). In 2018, as in prior years, male adolescents accounted for the absolute majority (82.7 percent) of completed suicides.

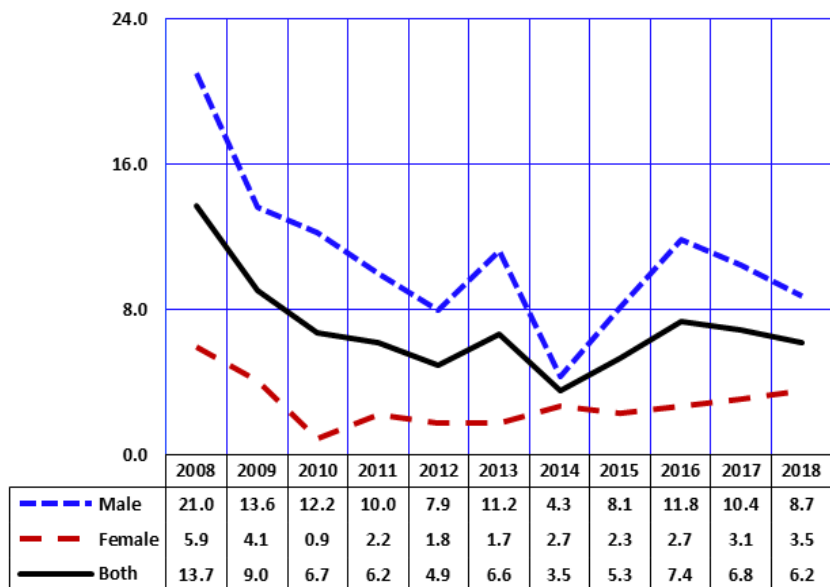
The suicide rate in 2013 was the lowest recorded since at least 1990 (Figure 2C-11, Table 2C-11). Compared to 2008, the adolescent male suicide rate (27.8) was 54.4 percent higher in 2018 while the adolescent female suicide rate (6.1) was 4.7 percent lower during the same year. The male to female ratio in suicide mortality rates increased from 2.8:1 in 2008 to 4.6:1 in 2018. In other words, male adolescents were almost 5 times more likely to kill themselves in 2018 than female adolescents, compared to 2.8 times more likely in 2008.



Note: ^a Number of suicide deaths per 100,000 persons, 15 - 19 years old in specified group.

Figure 2C-12
Homicide Rates^a by Gender and Year among Adolescents 15-19 Years, Arizona, 2008-2018

From 2008 to 2018, homicide rates decreased for both adolescent males and females (Figure 2C-12, Table 2C-11). From 2008 to 2012, the homicide rate decreased by 62.4 percent for adolescent males, and by 69.5 percent for adolescent females. A shift occurred in 2013, as the adolescent homicide mortality rate increased for males while still declining for females. From 2017 to 2018, the overall rate of adolescent homicide deaths decreased by 8.8 percent. Looking at gender specific homicide mortality, there was a decrease of 16.3 percent for males but an increase of 12.9 percent for females.



Note: ^a Number of homicide deaths per 100,000 persons, 15 - 19 years old in specified group.

**TABLE 2C-11
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES^b OF DEATH AMONG ADOLESCENTS (15-19 YEARS) BY GENDER,
ARIZONA, 2008-2018**

Gender/Cause	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
MALE												
Accidents (unintentional injuries)	33.0	34.4	27.0	29.3	28.8	28.1	22.3	20.9	27.9	33.3	32.4	-1.8
Other	11.1	19.1	11.8	0.8	10.4	12.8	7.3	8.1	14.8	17.9	19.1	72.1
Motor vehicle accidents	21.9	15.3	15.2	18.8	18.3	15.3	15.0	12.8	13.1	15.4	13.3	-39.3
Intentional self-harm (suicide)	18.0	16.1	11.4	15.1	14.2	10.7	15.8	20.9	18.2	20.8	27.8	54.4
Assault (homicide)	21.0	13.6	12.2	10.0	7.9	11.2	4.3	8.1	11.8	10.4	8.7	-58.6
Malignant neoplasms	5.1	3.4	2.5	2.1	2.9	2.5	2.6	3.8	2.5	2.1	2.5	-51.0
Diseases of heart	0.4	1.3	2.1	1.3	0.0	0.4	1.3	0.4	0.0	0.8	1.7	325.0
ALL CAUSES	89.1	81.1	69.5	67.4	62.5	66.5	63.8	67.8	72.7	79.5	85.5	-4.1
(Number of all deaths)	(208)	(191)	(165)	(161)	(150)	(161)	(149)	(159)	(172)	(191)	(206)	(-1.0)
FEMALE												
Accidents (unintentional injuries)	18.3	9.1	9.4	9.7	15.8	7.9	7.7	9.0	15.5	11.8	20.8	13.7
Motor vehicle accidents	12.4	6.3	4.5	5.8	13.2	6.1	5.0	6.3	11.5	8.3	13.0	4.8
Other	5.9	2.7	4.9	0.9	2.6	1.7	2.7	2.7	4.0	3.5	7.8	32.2
Intentional self-harm (suicide)	6.4	5.0	5.3	6.2	6.2	2.6	5.5	6.3	5.8	5.2	6.1	-4.7
Assault (homicide)	5.9	4.1	0.9	2.2	1.8	1.7	2.7	2.3	2.7	3.1	3.5	-40.7
Malignant neoplasms	4.1	3.2	2.7	4.4	1.8	3.5	4.1	2.7	2.2	1.3	0.9	-78.0
Diseases of heart	0.9	1.4	0.9	0.9	0.0	0.9	0.9	0.9	1.8	0.9	0.9	0.0
ALL CAUSES	40.7	29.0	24.5	31.0	30.3	23.2	28.2	26.1	33.3	26.7	38.6	-5.2
(Number of all deaths)	(89)	(64)	(55)	(70)	(69)	(53)	(62)	(58)	(75)	(61)	(89)	0.0
TOTAL												
Accidents (unintentional injuries)	25.9	22.1	18.4	19.8	22.5	18.3	15.2	15.1	21.9	22.8	26.7	3.1
Other	8.6	11.2	8.4	0.9	6.6	7.4	5.1	5.5	9.5	10.9	13.6	58.1
Motor vehicle accidents	17.3	11.0	10.0	12.5	15.8	10.8	10.1	9.6	12.3	11.9	13.2	-23.7
Intentional self-harm (suicide)	12.4	10.7	8.4	10.8	10.3	6.8	10.8	13.8	12.1	13.2	17.2	38.6
Assault (homicide)	13.7	9.0	6.7	6.2	4.9	6.6	3.5	5.3	7.4	6.8	6.2	-54.7
Malignant neoplasms	4.6	3.3	2.6	3.2	2.4	3.0	3.3	3.3	2.4	1.7	1.7	-63.0
Diseases of heart	0.9	1.3	1.5	1.1	0.0	0.6	1.1	0.7	0.9	0.9	1.3	44.4
ALL CAUSES	65.7	55.9	47.7	49.7	47.1	45.5	46.5	47.5	53.5	53.7	62.6	-4.7
(Number of all deaths)	(297)	(255)	(220)	(231)	(220)	(214)	(211)	(217)	(247)	(252)	(295)	(-0.7)

Notes: ^a Number of deaths per 100,000 adolescents 15-19 years old; ^b The five causes with the greatest number of deaths over the 2008-2018 period; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2008-2018 are classified by ICD-10, replacing the Ninth Revision (ICD-9); measures of comparison between ICD-9 and ICD-10 – the “comparability ratios” – for the causes of death shown in this report are provided in the **Technical Notes**.

**TABLE 2C-12
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES^b OF DEATH AMONG ADOLESCENTS (15-19 YEARS)
IN URBAN AND RURAL AREAS^c, ARIZONA, 2008-2018**

Area/Cause	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
URBAN												
Accidents (unintentional injuries)	23.7	18.7	17.0	18.4	17.0	15.8	12.5	13.4	20.4	19.6	25.9	9.3
Other	8.9	9.1	7.7	1.0	5.1	6.5	3.7	4.9	8.2	10.3	13.7	53.9
Motor vehicle accidents	14.8	9.6	9.3	10.8	11.9	9.3	8.9	8.5	12.2	9.3	12.2	-17.6
Intentional self-harm (suicide)	9.4	9.6	7.2	8.5	8.1	5.0	9.6	12.7	11.2	11.5	12.4	31.9
Assault (homicide)	15.3	9.6	6.7	6.4	4.8	6.8	3.7	5.9	7.9	7.8	6.5	-57.5
Malignant neoplasms	4.6	3.2	2.3	2.8	2.8	3.5	3.7	2.8	2.8	1.8	1.7	-63.0
Diseases of heart	1.1	1.3	1.5	1.3	0.0	0.5	1.3	0.5	0.8	1.0	1.0	-9.1
ALL CAUSES	61.4	51.5	43.6	45.3	38.8	42.4	42.5	44.2	50.7	49.9	57.2	-6.8
(Number of all deaths)	(230)	(194)	(169)	(177)	(153)	(169)	(163)	(171)	(199)	(199)	(230)	0.0
RURAL												
Accidents (unintentional injuries)	36.0	36.9	25.5	26.9	52.1	31.8	29.9	24.5	30.3	39.9	30.2	-16.1
Motor vehicle accidents	28.6	17.2	13.4	21.5	37.0	19.3	17.1	15.8	13.0	25.6	18.7	-34.6
Other	7.4	19.7	12.1	0.0	15.1	12.4	12.8	8.6	17.3	14.2	11.5	55.4
Intentional self-harm (suicide)	26.1	16.0	14.8	22.9	21.9	16.6	17.1	20.2	17.3	22.8	44.5	70.5
Assault (homicide)	7.5	6.1	6.7	5.4	5.5	5.5	2.9	1.4	2.9	1.4	4.3	-42.5
Diseases of heart	0.0	1.2	1.3	0.0	0.0	0.0	0.0	1.4	1.4	0.0	2.9	0.0
Malignant neoplasms	6.2	3.7	4.0	5.4	0.0	0.0	1.4	5.8	0.0	1.4	1.4	-77.4
ALL CAUSES	83.3	75.0	68.6	72.7	90.5	62.1	68.4	66.2	66.4	74.1	91.9	10.3
(Number of all deaths)	(67)	(61)	(51)	(54)	(66)	(45)	(48)	(46)	(46)	(52)	(64)	(-4.5)
TOTAL												
Accidents (unintentional injuries)	25.9	22.1	18.4	19.8	22.5	18.3	15.2	15.1	21.9	22.8	26.7	3.1
Other	8.6	11.2	8.4	0.9	6.6	7.4	5.1	5.5	9.5	10.9	13.6	58.1
Motor vehicle accidents	17.3	11.0	10.0	12.5	15.8	10.8	10.1	9.6	12.3	11.9	13.2	-23.7
Intentional self-harm (suicide)	12.4	10.7	8.4	10.8	10.3	6.8	10.8	13.8	12.1	13.2	17.2	38.6
Assault (homicide)	13.7	9.0	6.7	6.2	4.9	6.6	3.5	5.3	7.4	6.8	6.2	-54.7
Malignant neoplasms	4.6	3.3	2.6	3.2	2.4	3.0	3.3	3.3	2.4	1.7	1.7	-63.0
Diseases of heart	0.9	1.3	1.5	1.1	0.0	0.6	1.1	0.7	0.9	0.9	1.3	44.4
ALL CAUSES	65.7	55.9	47.7	49.7	47.1	45.5	46.5	47.5	53.5	53.7	62.6	-4.7
(Number of all deaths)	(297)	(255)	(220)	(231)	(220)	(214)	(211)	(217)	(247)	(252)	(295)	(-0.7)

Notes: ^a Number of deaths per 100,000 adolescents 15-19 years old; ^b The five causes with the greatest number of deaths over the 2008-2018 period; ^c Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see **Technical Notes** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2008-2018 are classified by ICD-10; measures of comparison between ICD-9 and ICD-10 - the "comparability ratios" - for the causes of death shown in this report are provided in the **Technical Notes**.

**TABLE 2C-13
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES OF DEATH AMONG ADOLESCENTS (15-19 YEARS)
BY GENDER IN URBAN AND RURAL AREAS^b, ARIZONA, 2008-2018**

Area/Gender	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
URBAN												
Male	84.3	73.8	62.8	62.2	50.8	62.0	59.8	60.8	69.6	73.9	78.3	-7.1
Female	36.8	27.6	23.4	27.4	26.1	21.7	24.2	26.6	30.9	24.7	35.2	-4.3
TOTAL	61.4	51.5	43.6	45.3	38.8	42.4	42.5	44.2	50.7	49.9	57.2	-6.8
RURAL												
Male	109.0	112.6	104.9	94.6	123.3	91.4	85.8	106.8	84.9	111.6	124.4	14.1
Female	56.2	35.4	30.3	49.6	53.3	31.2	50.0	23.6	47.1	34.9	58.4	3.9
TOTAL	83.3	75.0	68.6	72.7	90.5	62.1	68.4	66.2	66.4	74.1	91.9	10.3
TOTAL												
Male	89.1	81.1	69.5	67.4	62.5	66.5	63.8	67.8	72.7	79.5	85.5	-4.1
Female	40.7	29.0	24.5	31.0	30.3	23.2	28.2	26.1	33.3	26.7	38.6	-5.2
TOTAL	65.7	55.9	47.7	49.7	47.1	45.5	46.5	47.5	53.5	53.7	62.6	-4.7

Notes: ^a Rates are presented per 100,000 children 15-19 years old; ^b Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see **Technical Notes** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area.

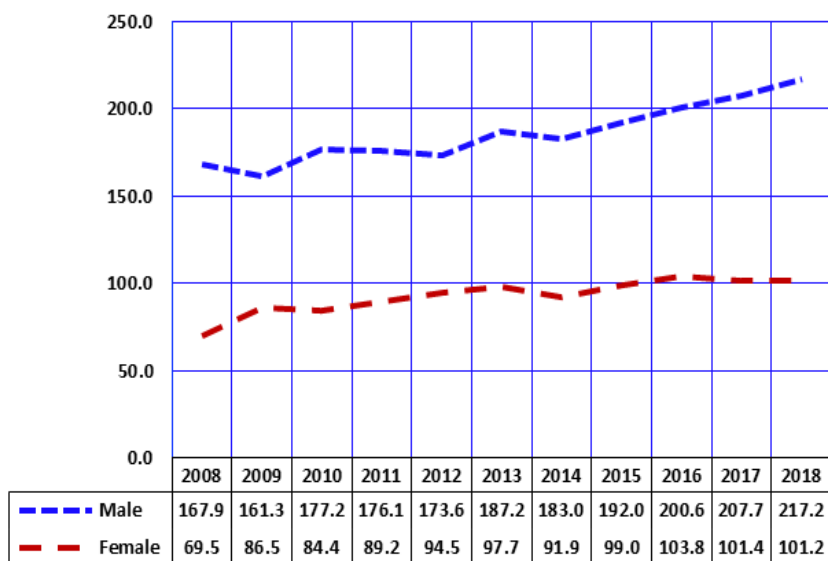
**TABLE 2C-14
LEADING CAUSES OF DEATH AMONG ADOLESCENTS (15-19 YEARS) BY GENDER, AREA, AND RACE/ETHNICITY,
ARIZONA, 2018**

Cause of death	Total		Gender		Area ^a			Race/ethnicity					
	130 [†]	78	48	104	21	*	56	49	9	10	*	0	Refused/Unknown
Accidents (unintentional injury)	130 [†]	78	48	104	21	*	56	49	9	10	*	0	Refused/Unknown
Motor vehicle accidents	60 [†]	32	30	49	13	0	21	29	*	7	0	0	Refused/Unknown
Accidental poisoning	50 [†]	39	14	47	6	0	31	17	*	*	*	0	Refused/Unknown
Accidental drowning and submersion	0 [†]	*	*	*	*	0	*	0	*	0	*	0	Refused/Unknown
Intentional self-harm (suicide)	80 [†]	67	14	50	31	0	34	23	*	20	*	0	Refused/Unknown
By other means	50 [†]	38	12	27	23	0	15	12	*	20	*	0	Refused/Unknown
By discharge of firearms	30 [†]	29	*	23	8	0	19	11	*	0	0	0	Refused/Unknown
Assault (homicide)	30 [†]	21	8	26	*	0	*	15	7	*	*	0	Refused/Unknown
By discharge of firearms	20 [†]	19	*	22	*	0	*	12	7	*	*	0	Refused/Unknown
By other means	10 [†]	*	*	*	*	0	*	*	0	0	0	0	Refused/Unknown
Malignant neoplasms	10 [†]	6	*	7	*	0	*	*	0	*	0	0	Refused/Unknown
Diseases of the heart	10 [†]	*	*	*	*	0	*	*	0	0	0	0	Refused/Unknown
Events of undetermined intent	10 [†]	*	*	*	*	0	*	*	0	0	0	0	Refused/Unknown
Total, all causes^b	295	206	89	230	64	1	125	111	21	33	4	1	

Notes: * Cell suppressed due to count less than 6; [†] Sum rounded to nearest tens unit due to addend less than 6; ^a May include death records where the county of residence could not be classified as urban or rural; Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; ^b May include other causes of death not shown above. In 2018, there were no cases of mortality for Symptoms, signs, abnormal findings.

2C.AGE-SPECIFIC MORTALITY
Young adult mortality (ages 20-44 years)

Figure 2C-13
Mortality Rates^a by Gender and Year among Young Adults 20-44 Years, Arizona, 2008-2018

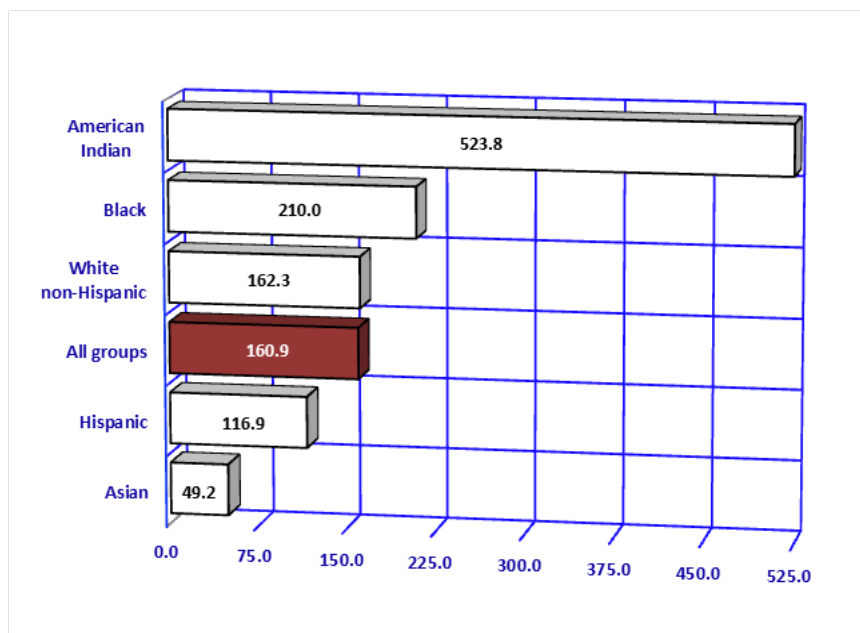


In 2018, 32.7 percent of Arizona residents were between 20 and 44 years of age. Among the six developmental periods examined in the life span, young adulthood, with an estimated 2.3 million individuals, easily represented the largest segment of the population. However, only 6.3 percent of all deaths occurred during young adulthood.

The number of deaths among young adults rose 31.7 percent from 2008 to 2018. Compared to 2017, the young adult mortality rate increased 4.6 percent for males and decreased 0.2 percent for females (**Figure 2C-13, Table 2C-15**).

Note: ^a Number of deaths per 100,000 persons, 20-44 years old in specified group.

Figure 2C-14
Mortality Rates^a by Race/Ethnicity among Young Adults 20-44 Years, Arizona, 2018



The 2018 mortality among young adults shows racial/ethnic disparities. American Indians aged 20-44 years had the highest mortality rates while Asians of the same age group recorded the lowest mortality rate across all groups.

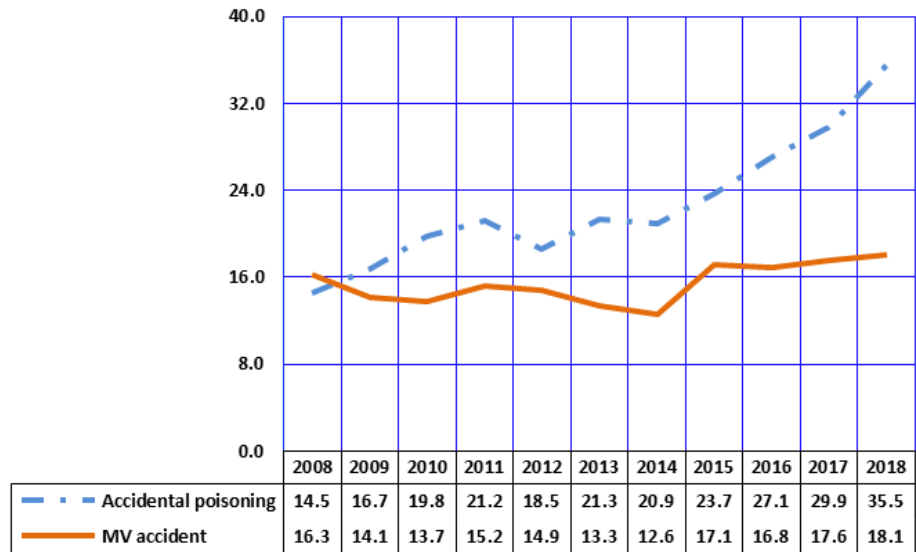
American Indian young adults had a mortality rate 2.5 times greater than Black or African American adults, the racial/ethnic group with the second highest young adult mortality rate. The American Indian young adult mortality rate was 3.3 times higher than the state average for young adults and 10.6 times greater than Asian young adults.

Note: ^a Number of deaths per 100,000 persons, 20-44 years old in specified group.

2C.AGE-SPECIFIC MORTALITY
Young adult mortality (ages 20-44 years)

Figure 2C-15
Mortality Rates^a for Motor Vehicle-Related Injuries and Accidental Poisoning
by Year among Young Adults 20-44 Years, Arizona, 2008-2018

In 2018, 823 deaths of young adults were attributed to accidental poisoning (**Table 2C-18**), an increase of 21.2 percent from 2017. The mortality rate for accidental poisoning among young adults (35.5 /100,000) exceeded the mortality rate for motor vehicle-related injuries. In the past decade, excess of mortality due to accidental poisoning has been consistently recorded in each year since 2009 (**Figure 2C-15**). Among the young adults 20-44 years, 778 accidental poisoning deaths were due to drug overdose (ICD-10 X40-44) and 38 deaths were due to alcohol poisoning (ICD-10 X45).

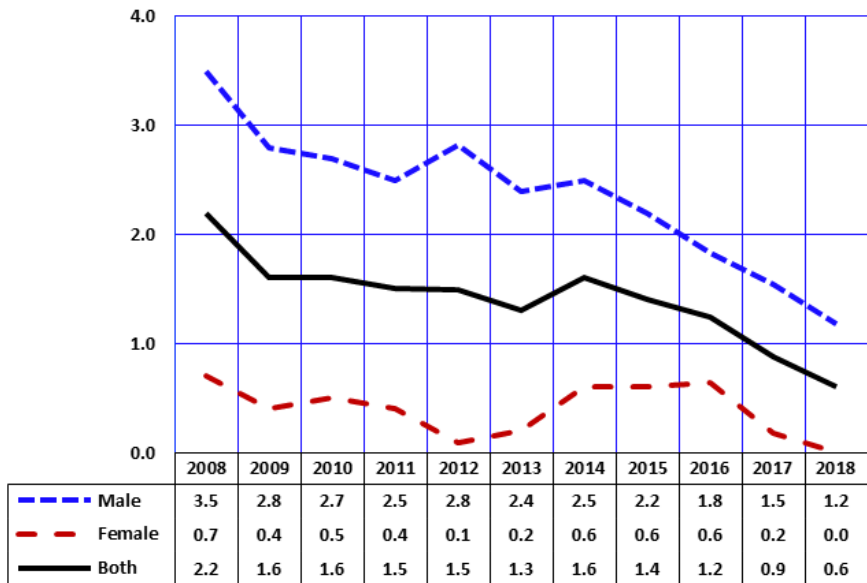


Note: ^a Number of motor vehicle and accidental poisoning deaths per 100,000 persons, 20-44 years old in specified group.

Figure 2C-16
Mortality Rates^a for HIV Disease by Gender and Year among
Young Adults 20-44 Years, Arizona, 2008-2018

In 2018, of the 79 deaths from *HIV disease* about 17.7 percent occurred among Arizonans 20-44 years old (**Table 2C-27**), a decrease from 22.7 percent in 2017. Males accounted for all of the young adult deaths from *HIV disease* in 2018 (**Table 2C-18**).

The mortality rate for HIV disease among young male adults decreased 65.7 percent from 3.5/100,000 adults 20-44 years in 2008 to 1.2/100,000 in 2018.



Note: ^a Number of HIV deaths per 100,000 persons, 20-44 years old in specified group.

**TABLE 2C-15
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES^b OF DEATH AMONG YOUNG ADULTS (20-44 YEARS) BY GENDER
ARIZONA, 2008-2018**

Gender/Cause	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
MALE												
Accidents (unintentional injuries)	54.4	53.7	52.6	57.9	52.8	56.7	54.3	63.3	71.2	76.7	86.0	58.1
Other	30.6	33.4	27.5	8.7	31.2	38.0	35.9	38.6	46.9	52.6	59.9	95.8
Motor vehicle accidents	23.8	20.2	19.8	20.6	21.6	18.7	18.4	24.7	24.3	24.1	26.1	9.7
Intentional self-harm (suicide)	23.5	25.1	31.5	32.4	29.0	30.8	28.7	30.8	30.9	33.5	36.9	57.0
Assault (homicide)	19.2	13.4	20.1	18.2	16.1	16.1	13.3	16.6	17.8	19.4	17.9	-6.9
Diseases of heart	13.3	14.0	11.7	14.7	13.5	14.2	14.0	13.6	12.0	14.7	13.3	0.0
Malignant neoplasms	12.6	12.0	12.8	11.0	12.3	13.4	11.2	13.0	11.3	12.0	10.9	-13.5
ALL CAUSES	167.9	161.3	177.2	176.1	173.6	187.2	183.0	192.0	200.6	207.7	217.2	29.4
(Number of all deaths)	(2,001)	(1,944)	(1,920)	(1,923)	(1,910)	(2,082)	(2,071)	(2,191)	(2,304)	(2,421)	(2,588)	29.3
FEMALE												
Accidents (unintentional injuries)	20.4	20.8	22.4	25.2	22.8	24.5	21.3	28.2	26.6	29.3	30.5	49.5
Other	12.1	13.3	15.0	2.1	15.1	16.9	14.7	19.1	17.5	18.6	20.8	71.9
Motor vehicle accidents	8.3	7.5	7.4	9.7	7.7	7.6	6.6	9.1	9.0	10.7	9.7	16.9
Malignant neoplasms	13.7	15.9	14.0	15.7	17.6	17.4	14.0	13.5	16.7	14.5	16.2	18.2
Intentional self-harm (suicide)	6.0	9.4	6.8	8.9	8.7	9.6	9.0	10.5	9.9	11.2	9.6	60.0
Diseases of heart	5.8	6.7	4.6	6.4	7.0	5.6	6.6	7.2	5.1	7.0	6.3	8.6
Assault (homicide)	3.2	4.0	3.5	2.4	4.3	3.4	2.9	3.2	3.7	3.8	3.7	15.6
ALL CAUSES	69.5	86.5	84.4	89.2	94.5	97.7	91.9	99.0	103.8	101.4	101.2	45.6
(Number of all deaths)	(828)	(973)	(876)	(933)	(990)	(1,033)	(991)	(1,080)	(1,137)	(1,123)	(1,139)	37.6
TOTAL												
Accidents (unintentional injuries)	38.0	37.8	37.8	41.9	38.2	41.0	38.2	46.1	49.4	53.6	59.0	55.3
Other	21.7	23.7	24.1	5.5	23.3	27.7	25.6	29.0	32.6	36.0	40.9	88.5
Motor vehicle accidents	16.3	14.1	13.7	15.2	14.9	13.3	12.6	17.1	16.8	17.6	18.1	11.0
Intentional self-harm (suicide)	15.0	17.5	19.4	20.9	19.1	20.5	19.1	20.9	20.6	22.6	23.6	57.3
Malignant neoplasms	9.7	13.9	13.4	13.3	14.9	15.3	12.6	13.2	13.9	13.2	13.5	39.2
Assault (homicide)	13.1	8.8	12.0	10.5	10.3	9.9	8.2	10.0	11.0	11.8	11.0	-16.0
Diseases of heart	11.5	10.5	8.2	10.6	10.3	10.0	10.4	10.5	8.6	10.9	9.9	-13.9
ALL CAUSES	123.0	125.2	131.8	133.6	135.0	143.5	138.6	146.6	153.3	155.9	160.9	30.8
(Number of all deaths)	(2,829)	(2,917)	(2,796)	(2,856)	(2,900)	(3,115)	(3,062)	(3,271)	(3,441)	(3,544)	(3,727)	31.7

Notes: ^a Rates are presented per 100,000 persons 20-44 years old; ^b The five causes with the greatest number of deaths over the 2008-2018 period; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2008-2018 are classified by ICD-10, replacing the Ninth Revision (ICD-9); measures of comparison between ICD-9 and ICD-10 – the “comparability ratios” – for the causes of death shown in this report are provided in the **Technical Notes**.

**TABLE 2C-16
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES^b OF DEATH AMONG YOUNG ADULTS (20-44 YEARS)
IN URBAN AND RURAL AREAS^c, ARIZONA, 2008-2018**

Area/Cause	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
URBAN												
Accidents (unintentional injuries)	34.4	32.7	33.5	36.6	32.3	35.4	33.8	40.1	43.9	49.0	55.2	60.5
Other	20.2	21.5	22.0	4.3	20.2	23.9	22.7	25.4	28.9	34.3	39.5	95.5
Motor vehicle accidents	14.2	11.2	11.5	12.4	12.1	11.5	11.1	14.7	15.1	14.8	15.7	10.6
Intentional self-harm (suicide)	16.4	13.6	17.7	18.1	17.0	18.3	16.8	19.0	18.4	19.7	20.6	25.6
Malignant neoplasms	14.2	15.6	13.3	13.5	14.1	15.3	12.7	13.1	13.5	13.0	13.5	-4.9
Assault (homicide)	13.2	9.7	11.0	10.0	9.5	9.4	8.1	9.6	10.7	11.3	11.1	-15.9
Diseases of heart	8.9	8.7	8.0	9.6	9.5	9.3	9.7	10.1	8.3	10.3	9.2	3.4
ALL CAUSES	113.6	113.0	119.7	120.3	118.8	130.1	126.2	131.9	137.1	140.7	148.0	30.3
(Number of all deaths)	(2,239)	(2,203)	(2,203)	(2,232)	(2,215)	(2,451)	(2,422)	(2,557)	(2,676)	(2,783)	(2,986)	33.4
RURAL												
Accidents (unintentional injuries)	57.1	64.7	63.9	71.9	74.4	74.9	61.2	78.6	77.9	75.3	81.3	42.4
Other	29.2	35.4	36.9	10.3	42.7	50.8	39.6	47.9	51.3	39.4	48.5	66.1
Motor vehicle accidents	28.0	29.4	27.0	33.0	31.7	24.2	21.7	30.8	26.7	36.0	32.8	17.1
Intentional self-harm (suicide)	20.4	29.1	30.2	37.6	32.4	33.6	32.3	32.1	33.5	40.1	43.5	113.2
Diseases of heart	9.4	15.0	9.6	16.7	14.5	14.0	14.4	13.0	10.3	14.3	14.0	48.9
Malignant neoplasms	12.5	15.9	13.8	12.0	19.0	15.4	11.4	13.3	16.7	13.6	12.4	-0.8
Assault (homicide)	14.6	7.8	16.0	12.8	14.8	13.0	7.2	10.6	10.6	10.9	10.4	-28.8
ALL CAUSES	174.2	191.6	203.7	210.2	233.4	226.5	207.1	224.7	240.9	236.6	238.1	36.7
(Number of all deaths)	(590)	(662)	(574)	(593)	(662)	(647)	(602)	(657)	(705)	(697)	(712)	20.7
TOTAL												
Accidents (unintentional injuries)	38.0	37.8	37.8	41.9	38.2	41.0	38.2	46.1	49.4	53.6	59.0	55.3
Other	21.7	23.7	24.1	5.5	23.3	27.7	25.6	29.0	32.6	36.0	40.9	88.5
Motor vehicle accidents	16.3	14.1	13.7	15.2	14.9	13.3	12.6	17.1	16.8	17.6	18.1	11.0
Intentional self-harm (suicide)	15.0	17.5	19.4	20.9	19.1	20.5	19.1	20.9	20.6	22.6	23.6	57.3
Malignant neoplasms	9.7	13.9	13.4	13.3	14.9	15.3	12.6	13.2	13.9	13.2	13.5	39.2
Assault (homicide)	13.1	10.5	12.0	10.5	10.3	9.9	8.2	10.0	11.0	11.8	11.0	-16.0
Diseases of heart	11.5	8.8	8.2	10.6	10.3	10.0	10.4	10.5	8.6	10.9	9.9	-13.9
ALL CAUSES	123.0	125.2	131.8	133.6	135.0	143.5	138.6	146.6	153.3	155.9	160.9	30.8
(Number of all deaths)	(2,829)	(2,917)	(2,796)	(2,856)	(2,900)	(3,115)	(3,062)	(3,271)	(3,441)	(3,544)	(3,727)	31.7

Notes: ^a Rates are presented per 100,000 young adults 20-44 years old; ^b The five causes with the greatest number of deaths statewide over the 2008-2018 period; ^c Urban = Maricopa, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see **Technical Notes** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2008-2018 are classified by ICD-10, replacing the Ninth Revision (ICD-9); measures of comparison between ICD-9 and ICD-10 – the “comparability ratios” – for the causes of death shown in this report are provided in the **Technical Notes**.

**TABLE 2C-17
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES OF DEATH AMONG YOUNG ADULTS (20-44 YEARS)
BY GENDER IN URBAN AND RURAL AREAS^b, ARIZONA, 2008-2018**

Area/Gender	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
URBAN												
Male	154.2	143.9	159.4	158.7	154.0	169.0	165.6	171.9	178.4	187.7	198.0	28.4
Female	69.4	79.5	78.4	80.3	81.9	89.2	85.1	90.1	94.0	91.4	95.2	37.2
TOTAL	113.6	113.0	119.7	120.3	118.8	130.1	126.2	131.9	137.1	140.7	148.0	30.3
RURAL												
Male	244.4	258.9	281.0	271.6	288.4	296.4	278.8	294.2	315.6	307.7	332.7	36.1
Female	102.9	123.5	121.6	144.8	174.6	151.6	130.0	149.8	160.1	159.3	135.0	31.2
TOTAL	174.2	191.6	203.7	210.2	233.4	226.5	207.1	224.7	240.9	236.6	238.1	36.7
TOTAL												
Male	167.9	161.3	177.2	176.1	173.6	187.2	183.0	192.0	200.6	207.7	217.2	29.4
Female	69.5	86.5	84.4	89.2	94.5	97.7	91.9	99.0	103.8	101.4	101.2	45.6
TOTAL	123.0	125.2	131.8	133.6	135.0	143.5	138.6	146.6	153.3	155.9	160.9	30.8

Notes: ^a Rates are presented per 100,000 persons 20-44 years old; ^b Urban = Maricopa, Pima, and Yuma counties; the remaining counties comprise Arizona's rural areas; see **Technical Notes** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area.

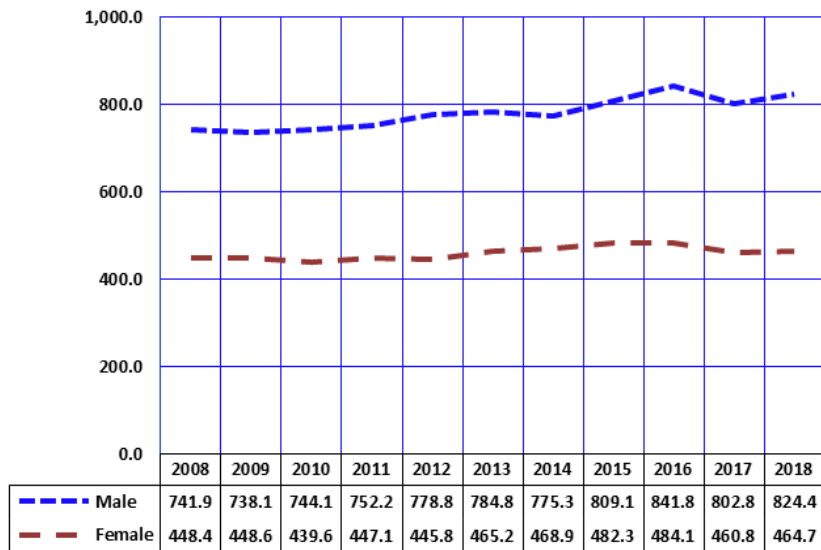
**TABLE 2C-18
LEADING CAUSES OF DEATH AMONG YOUNG ADULTS (20-44 YEARS) BY GENDER, AREA, AND RACE/ETHNICITY,
ARIZONA, 2018**

Cause of death	Total		Gender		Area ^a			Race/ethnicity				
	Total	Male	Female	Urban	Rural	Unknown	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Refused/Unknown
Accidents (unintentional injury)	1,368	1,025	343	1,114	243	11	665	404	84	196	13	6
Accidental poisoning	820 [†]	613	210	707	111	*	439	248	46	79	*	6
Motor vehicle accidents	420	311	109	316	98	6	173	125	21	95	6	0
Intentional self-harm (suicide)	550 [†]	439	108	415	130	*	325	104	35	73	8	*
By other means	290 [†]	213	72	203	81	*	162	49	15	54	*	*
By discharge of firearms	260 [†]	226	36	212	49	*	163	55	20	19	*	*
Malignant neoplasms	310 [†]	130	182	272	37	*	169	88	22	18	13	*
Malignant neoplasm of breast	40 [†]	*	42	40	*	0	24	7	8	*	*	*
Malignant neoplasm of lymphoid, hematopoietic and related tissue	30 [†]	21	12	29	*	0	16	10	*	*	*	0
Malignant neoplasm of meninges, brain and other parts of central nervous system	30 [†]	13	13	23	*	0	16	7	*	*	*	0
Assault (homicide)	260 [†]	213	42	224	31	0	63	104	47	38	*	*
By discharge of firearms	190 [†]	166	26	178	14	0	47	85	38	21	*	0
By other means	60 [†]	47	16	46	17	0	16	19	9	17	*	*
Diseases of heart	230	159	71	185	42	*	128	47	19	29	7	0
Chronic liver disease and cirrhosis	155	88	67	95	60	0	52	21	0	82	0	0
Diabetes	70 [†]	43	25	61	7	0	29	19	9	9	*	0
Cerebrovascular diseases	40 [†]	23	21	38	*	*	15	21	*	*	*	0
Influenza and pneumonia	40 [†]	23	14	27	8	*	15	12	*	9	0	0
Obesity	30 [†]	20	13	28	*	0	13	12	*	*	0	0
Human immunodeficiency virus (HIV) disease	10 [†]	14	0	13	*	0	*	*	*	*	*	0
Total, all causes	3,727	2,588	1,139	2,986	712	29	1,812	994	274	577	54	16

Notes: * Cell suppressed due to count less than 6; [†] Sum rounded to nearest tens unit due to addend less than 6; ^a Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas.

2C.AGE-SPECIFIC MORTALITY
Middle-aged adult mortality (ages 45-64 years)

Figure 2C-17
Mortality Rates^a by Gender and Year among Middle-Aged Adults 45-64 Years, Arizona, 2008-2018



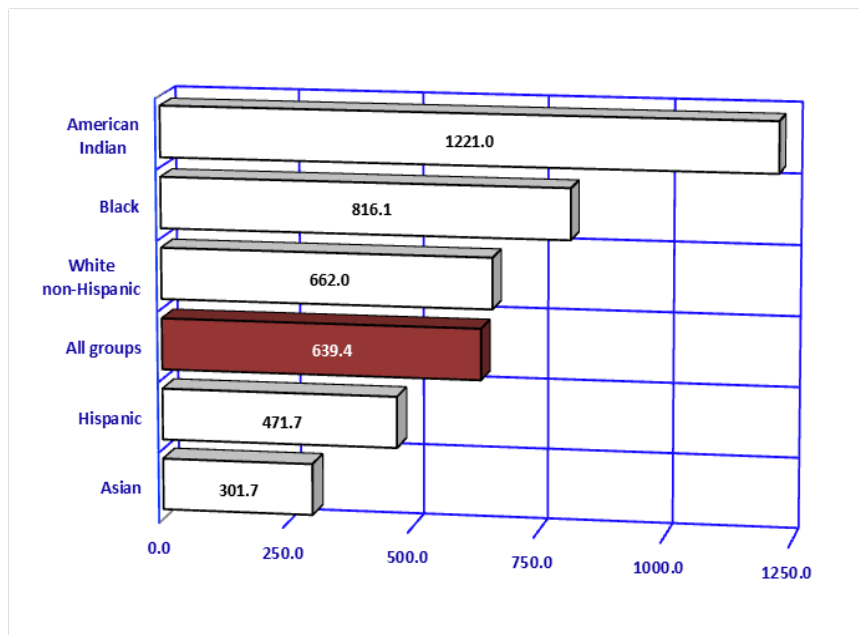
In 2018, the 1,707,764 middle-aged adult residents aged 45 to 64 experienced 10,920 deaths, or an average of 30 deaths, per day. The total number of deaths among 45-64 year old Arizona residents in 2018 (10,920) was the highest number recorded since 1980, and is likely the greatest number of deaths among this age group in Arizona's history (**Table 2C-19**).

The 2018 total mortality rate among middle-age females was 3.6 percent higher, and among middle-aged males 11.1 percent higher than their respective rates in 2008 (**Figure 2C-17, Table 2C-19**). In 2018, the mortality rate for males age 45 - 64 was almost twofold the female mortality of the same age group.

The five causes with the greatest number of deaths in 2008-2018 were *malignant neoplasms, diseases of heart, accidents, chronic liver disease and cirrhosis, and chronic lower respiratory diseases* (**Table 2C-19**).

Note: ^a Number of deaths per 100,000 persons, 45-64 years old in specified group.

Figure 2C-18
Mortality Rates^a by Race/Ethnicity among Middle-Aged Adults 45-64 Years, Arizona, 2018



American Indian, Black or African American, and White non-Hispanic middle-aged adults had the three highest mortality rates (1221.0/100,000, 816.1/100,000, and 662.0/100,000, respectively) among the racial/ethnic groups.

If the 2018 total mortality rate for Asian middle-aged adults applied to all Arizona residents 45-64 years old, 5,153 middle-aged adults would have died rather than the 10,920 who actually did.

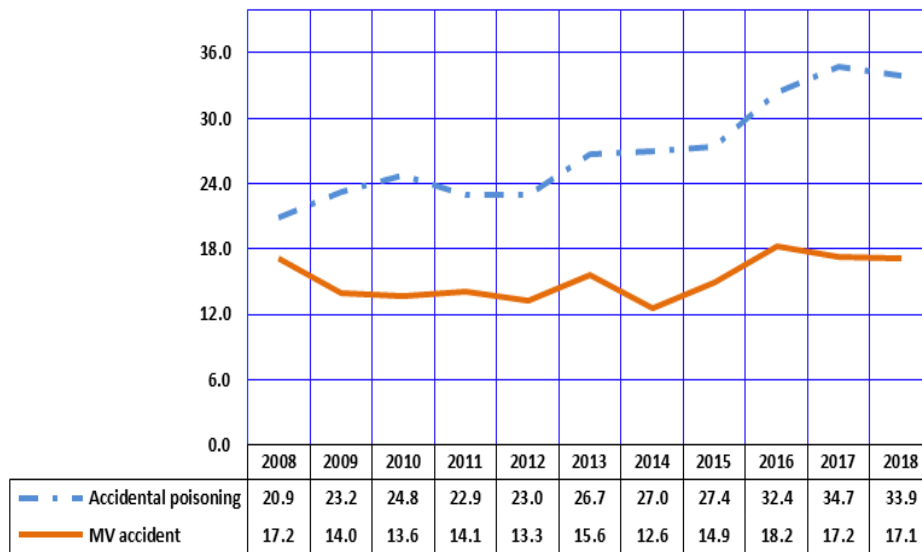
Note: ^a Number of deaths per 100,000 persons, 45-64 years old in specified group.

2C.AGE-SPECIFIC MORTALITY
Middle-aged adult mortality (ages 45-64 years)

The 2018 mortality rate due to accidental poisoning was 33.9 per 100,000 adults aged 45-64 years, a decrease of 2.3 percent from 2017. In 2018, about 579 deaths were attributed to accidental poisoning (**Table 2C-22**). Of the accidental poisoning deaths in this age group, 522 were drug overdoses (ICD-10 X40-X44) and 53 were alcohol poisoning (ICD-10 X45).

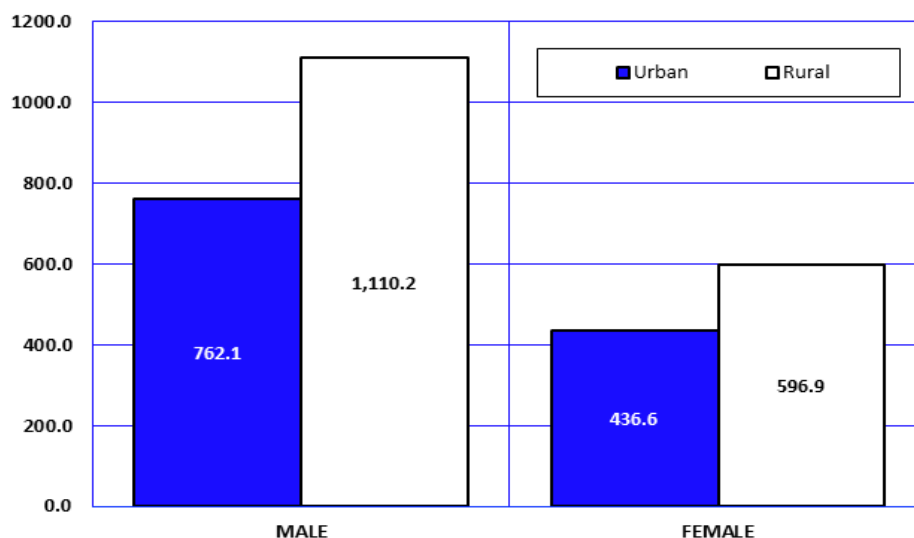
Beginning in 2007, the mortality rate for accidental poisoning exceeded the mortality rate for motor vehicle-related injuries among the middle-aged (**Figure 2C-19**). In 2018, accidental poisoning mortality rate of 33.9 per 100,000 middle-aged adults was 2.0 times higher than the mortality rate of 17.1 per 100,000 for motor vehicle accidents. White non-Hispanics accounted for about 66.7 percent of all accidental poisoning deaths (**Table 2C-22**).

Figure 2C-19
Mortality Rates^a for Accidental Poisoning and Motor Vehicle-related Injuries by Year among Middle-Aged Adults 45-64 Years, Arizona, 2008-2018



Note: ^a Number of motor vehicle and accidental poisoning deaths per 100,000 persons, 45-64 years old in specified group.

Figure 2C-20
Mortality Rates by Gender in Urban^a and Rural Areas among Middle-Aged Adults 45-64 Years, Arizona, 2018



In 2018, as in the past, rural middle-aged males had the worse survival chances than the remaining of the sub-groups (**Figure 2C-20, Table 2C-21**). The mortality rate for rural middle-aged males in 2018 was 1.5 times greater than for urban males, 1.9 fold greater than rural females, and 2.5 fold greater than urban females.

Note: ^a Urban counties include Maricopa, Pima, Pinal, and Yuma counties.

**TABLE 2C-19
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES^b OF DEATH AMONG MIDDLE-AGED ADULTS (45-64 YEARS)
BY GENDER, ARIZONA, 2008-2018**

Gender/Cause	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
MALE												
Malignant neoplasms	184.5	182.2	188.3	186.3	196.6	191.4	171.5	186.4	184.1	180.7	177.8	-3.6
Diseases of heart	175.5	169.0	160.7	165.3	155.1	159.3	143.2	166.6	170.1	164.7	162.5	-7.4
Accidents (unintentional injuries)	76.5	71.9	69.2	68.9	68.0	77.9	73.5	76.8	100.4	98.8	95.5	24.8
Other	51.9	51.1	54.6	19.8	47.9	54.5	54.0	54.5	71.5	72.1	70.5	35.8
Motor vehicle accidents	24.6	20.8	19.9	21.4	20.1	23.3	19.4	22.3	28.9	26.8	25.0	1.6
Chronic liver disease and cirrhosis	39.2	38.0	42.1	49.6	50.2	46.7	43.1	48.1	47.8	45.5	45.7	16.6
Intentional self-harm (suicide)	35.1	37.0	40.9	41.3	41.8	38.3	37.7	40.3	41.2	37.4	43.3	23.4
ALL CAUSES	741.9	738.1	744.1	752.2	778.8	784.8	775.3	809.1	841.8	802.8	824.4	11.1
(Number of all deaths)	(5,450)	(5,472)	(5,659)	(5,760)	(5,999)	(6,088)	(6,111)	(6,444)	(6,781)	(6,570)	(6,839)	25.5
FEMALE												
Malignant neoplasms	151.4	154.2	153.9	156.9	155.1	160.7	145.0	155.6	150.9	143.9	146.3	-3.4
Diseases of heart	63.4	59.4	55.9	61.8	60.5	54.6	54.0	60.8	66.7	58.2	62.7	-1.1
Accidents (unintentional injuries)	34.2	36.1	36.6	32.8	33.0	38.0	33.7	35.8	38.4	42.2	37.3	9.1
Other	24.2	28.5	29.0	7.4	26.1	29.8	27.4	27.9	30.4	18.6	27.7	14.5
Motor vehicle accidents	10.0	7.6	7.7	7.1	6.9	8.2	6.2	7.9	8.1	8.2	9.7	-3.0
Chronic lower respiratory diseases	24.3	19.2	19.3	21.6	24.2	24.8	24.8	23.0	25.8	26.4	27.6	13.6
Diabetes	16.0	14.2	17.0	21.3	22.3	23.6	22.8	27.4	24.6	22.6	22.1	38.1
ALL CAUSES	448.4	448.6	439.6	447.1	445.8	465.2	468.9	482.3	484.1	460.8	464.7	3.6
(Number of all deaths)	(3,449)	(3,483)	(3,553)	(3,638)	(3,631)	(3,810)	(3,914)	(4,066)	(4,130)	(3,997)	(4,081)	18.3
TOTAL												
Malignant neoplasms	167.6	167.9	170.6	171.2	175.2	175.6	157.9	170.6	167.0	161.8	161.6	-3.6
Diseases of heart	118.2	112.9	106.7	112.0	106.5	105.5	97.4	112.2	116.9	109.9	111.2	-5.9
Accidents (unintentional injuries)	54.9	53.6	52.4	50.3	50.0	57.4	53.0	55.7	68.5	69.7	65.6	19.5
Other	37.7	39.5	38.8	13.4	36.7	41.8	40.4	40.8	50.3	52.5	48.5	28.6
Motor vehicle accidents	17.2	14.0	13.6	14.1	13.3	15.6	12.6	14.9	18.2	17.2	17.1	-0.6
Chronic liver disease and cirrhosis	29.7	29.1	30.2	34.3	35.0	34.7	33.6	37.7	36.3	35.1	34.0	14.5
Chronic lower respiratory diseases	24.7	21.5	20.0	23.6	25.1	24.7	25.4	26.6	28.2	27.3	28.4	15.0
ALL CAUSES	591.8	590.0	587.2	595.0	607.6	620.7	617.7	641.0	657.8	626.8	639.4	8.0
(Number of all deaths)	(8,899)	(8,855)	(9,212)	(9,398)	(9,630)	(9,898)	(10,025)	(10,510)	(10,911)	(10,567)	(10,920)	22.7

Notes: ^a Rates are presented per 100,000 middle-aged adults 45-64 years old; ^b The five causes with the greatest number of deaths over the 2008-2018 period; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2008-2018 are classified by ICD-10; measures of comparison between ICD-9 and ICD-10 – the “comparability ratios” – for the causes of death shown in this report are provided in the **Technical Notes**.

**TABLE 2C-20
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES^b OF DEATH AMONG MIDDLE-AGED ADULTS (45-64 YEARS)
IN URBAN AND RURAL AREAS^c, ARIZONA, 2008-2018**

Area/Cause	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
URBAN												
Malignant neoplasms	162.8	165.4	164.6	166.5	171.8	169.1	153.8	164.8	162.1	156.3	156.4	-3.9
Diseases of heart	109.8	101.3	98.6	103.9	95.9	96.5	89.5	100.3	106.3	101.7	100.2	-8.7
Accidents (unintentional injuries)	51.6	48.8	47.5	45.4	47.6	51.5	47.3	50.2	61.3	61.3	60.0	16.3
Other	36.8	37.3	36.5	12.4	35.7	38.5	36.7	37.8	45.3	46.6	46.0	25.0
Motor vehicle accidents	14.8	11.5	11.1	11.9	11.9	13.0	10.6	12.4	16.0	14.7	14.0	-5.4
Chronic liver disease and cirrhosis	27.4	25.7	27.2	30.8	31.5	29.9	31.5	32.6	30.3	30.1	29.9	9.1
Chronic lower respiratory diseases	23.6	20.2	19.2	20.6	22.9	22.6	23.4	25.0	25.9	24.0	24.4	3.4
ALL CAUSES	559.5	559.4	552.4	561.5	575.8	579.8	584.2	596.5	613.0	583.1	595.1	6.4
(Number of all deaths)	(6,918)	(6,979)	(7,098)	(7,274)	(7,513)	(7,631)	(7,855)	(8,128)	(8,485)	(8,223)	(8,527)	23.3
RURAL												
Malignant neoplasms	188.1	176.9	193.1	186.3	187.8	204.7	175.4	196.4	184.3	182.9	186.2	-1.0
Diseases of heart	156.0	164.3	137.4	143.7	152.5	142.2	133.3	163.5	159.6	140.1	162.6	4.2
Accidents (unintentional injuries)	68.1	71.4	66.2	67.6	55.3	75.8	73.3	72.6	83.8	91.5	86.9	27.6
Other	40.8	46.6	42.6	16.5	36.4	51.7	52.8	46.6	58.3	64.2	55.6	36.3
Motor vehicle accidents	27.3	24.8	23.6	22.5	18.9	24.1	20.5	26.0	25.5	27.2	31.3	14.6
Chronic liver disease and cirrhosis	39.6	43.3	41.9	49.3	47.5	57.1	41.7	59.2	61.9	56.6	53.5	35.1
Chronic lower respiratory diseases	29.5	27.4	22.2	36.3	33.2	32.3	34.1	33.9	37.9	41.7	49.1	66.4
ALL CAUSES	727.8	713.2	708.3	716.6	720.2	786.8	751.4	821.2	808.3	781.1	842.7	15.8
(Number of all deaths)	(1,946)	(1,927)	(2,010)	(2,035)	(2,017)	(2,191)	(2,091)	(2,275)	(2,219)	(2,152)	(2,317)	19.1
TOTAL												
Malignant neoplasms	167.6	167.9	170.6	171.2	175.2	175.6	157.9	170.6	167.0	161.8	161.6	-3.6
Diseases of heart	118.2	112.9	106.7	112.0	106.5	105.5	97.4	112.2	116.9	109.9	111.2	-5.9
Accidents (unintentional injuries)	54.9	53.6	52.4	50.3	50.0	57.4	53.0	55.7	68.5	69.7	65.6	19.5
Other	37.7	39.5	38.8	13.4	36.7	41.8	40.4	40.8	50.3	52.5	48.5	28.6
Motor vehicle accidents	17.2	14.0	13.6	14.1	13.3	15.6	12.6	14.9	18.2	17.2	17.1	-0.6
Chronic liver disease and cirrhosis	29.7	29.1	30.2	34.3	35.0	34.7	33.6	37.7	36.3	35.1	34.0	14.5
Chronic lower respiratory diseases	24.7	21.5	20.0	23.6	25.1	24.7	25.4	26.6	28.2	27.3	28.4	15.0
ALL CAUSES	591.8	590.0	587.2	595.0	607.6	620.7	617.7	641.0	657.8	626.8	639.4	8.0
(Number of all deaths)	(8,899)	(8,855)	(9,212)	(9,398)	(9,630)	(9,898)	(10,025)	(10,510)	(10,911)	(10,567)	(10,920)	22.7

Notes: ^a Rates are presented per 100,000 middle-aged adults 45-64 years old; ^b The five causes with the greatest number of deaths over the 2008-2018 period; ^c Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see **Technical Notes** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2008-2018 are classified by ICD-10; measures of comparison between ICD-9 and ICD-10 – the “comparability ratios” – for the causes of death shown in this report are provided in the **Technical Notes**.

TABLE 2C-21
MORTALITY RATES^a FOR THE SELECED FIVE LEADING CAUSES OF DEATH AMONG MIDDLE-AGED ADULTS (45-64 YEARS)
BY GENDER IN URBAN AND RURAL AREAS^b, ARIZONA, 2008-2018

Area/Gender	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
URBAN												
Male	693.2	697.6	690.0	703.5	724.9	726.0	728.1	746.1	769.7	736.7	762.1	9.9
Female	431.1	426.5	423.0	427.8	434.7	441.0	448.0	454.8	464.5	437.4	436.6	1.3
TOTAL	559.5	559.4	552.4	561.5	575.8	579.8	584.2	596.5	613.0	583.1	595.1	6.4
RURAL												
Male	953.6	896.8	924.9	918.6	968.7	1018.5	953.9	1054.9	1079.2	1025.4	1110.2	16.4
Female	518.4	543.0	504.0	526.1	486.1	568.8	561.6	603.7	557.3	556.0	596.9	15.1
TOTAL	727.8	713.2	708.3	716.6	720.2	786.8	751.4	821.2	808.3	781.1	842.7	15.8
TOTAL												
Male	741.9	738.1	744.1	752.2	778.8	784.8	775.3	809.1	841.8	802.8	824.4	11.1
Female	448.4	448.6	439.6	447.1	445.8	465.2	468.9	482.3	484.1	460.8	464.7	3.6
TOTAL	591.8	590.0	587.2	595.0	607.6	620.7	617.7	641.0	657.8	626.8	639.4	8.0

Notes: ^a Rates are presented per 100,000 persons 45-64 years old; ^b Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see **Technical Notes** for more information.

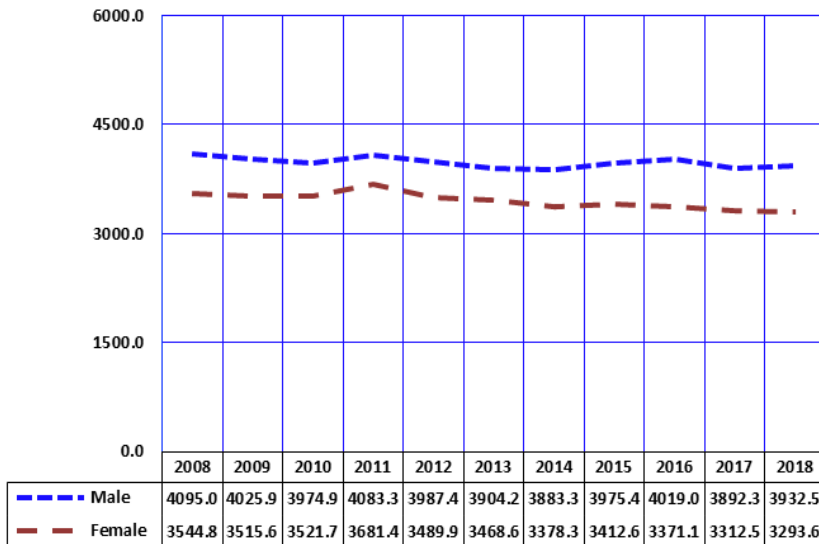
**TABLE 2C-22
LEADING CAUSES OF DEATH AMONG MIDDLE-AGED ADULTS (45-64 YEARS) BY GENDER, AREA, AND RACE/ETHNICITY,
ARIZONA, 2018**

Cause of death	Total	Gender		Area ^a			Race/ethnicity					
		Male	Female	Urban	Rural	Unknown	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Unknown
Malignant neoplasms	2,760	1,475	1,285	2,241	512	7	1,947	485	143	95	63	27
Malignant neoplasm of trachea, bronchus and lung	540†	298	238	422	113	*	427	51	33	6	14	*
Malignant neoplasm of colon, rectum, and anus	320†	195	121	262	53	*	221	52	22	12	7	*
Malignant neoplasm of breast	250†	*	252	215	38	*	178	47	13	6	9	*
Malignant neoplasm of pancreas	200†	115	87	153	49	0	134	42	13	9	*	0
Diseases of heart	1,899	1,348	551	1,436	447	16	1,317	314	120	78	31	39
Accidents (unintentional injury)	1,120	792	328	859	239	22	713	191	54	126	12	24
Accidental poisoning	580†	403	176	473	92	14	386	99	32	40	*	18
Motor vehicle accidents	292	207	85	200	86	6	165	56	14	50	7	0
Falls	90†	63	31	71	22	*	62	12	*	15	0	*
Chronic liver disease and cirrhosis	580†	379	201	429	147	*	315	121	16	118	*	*
Diabetes	563	369	194	454	105	*	271	144	46	80	13	9
Chronic lower respiratory diseases	490†	243	242	350	135	0	420	33	13	9	*	7
Intentional self-harm (suicide)	450†	359	93	357	92	*	376	45	13	8	*	*
By discharge of firearms	260†	224	35	193	64	*	229	16	8	*	*	*
By other means	190†	135	58	164	28	*	147	29	*	6	*	*
Cerebrovascular diseases	320†	183	140	249	73	*	197	73	22	16	11	*
Influenza and pneumonia	200†	114	81	145	48	*	132	36	11	14	0	*
Nephritis, nephrotic syndrome and nephrosis	130†	81	45	98	28	0	65	30	11	16	*	*
Essential (primary) hypertension and hypertensive renal disease	130†	78	47	101	23	*	70	27	11	11	*	*
Septicemia	100†	58	39	74	22	*	48	25	*	18	*	0
Viral hepatitis	90†	60	25	69	16	0	55	18	*	7	*	0
Assault (homicide)	80†	72	10	67	13	*	32	28	10	6	*	*
By discharge of firearms	60†	50	*	48	6	*	18	23	8	*	*	*
By other means	30†	22	*	19	7	*	14	*	*	*	*	*
Human immunodeficiency virus (HIV) disease	50†	41	9	47	*	0	28	13	*	*	*	*
Total, all causes^b	10,920	6,839	4,081	8,527	2,317	76	7,259	1,952	590	774	186	159

Note: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; ^a Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; ^b May include other causes of death not shown above.

2C.AGE-SPECIFIC MORTALITY
Elderly mortality (ages 65 years and older)

Figure 2C-21
Mortality Rates^a by Gender and Year among Elderly 65 Years and Older, Arizona, 2008-2018



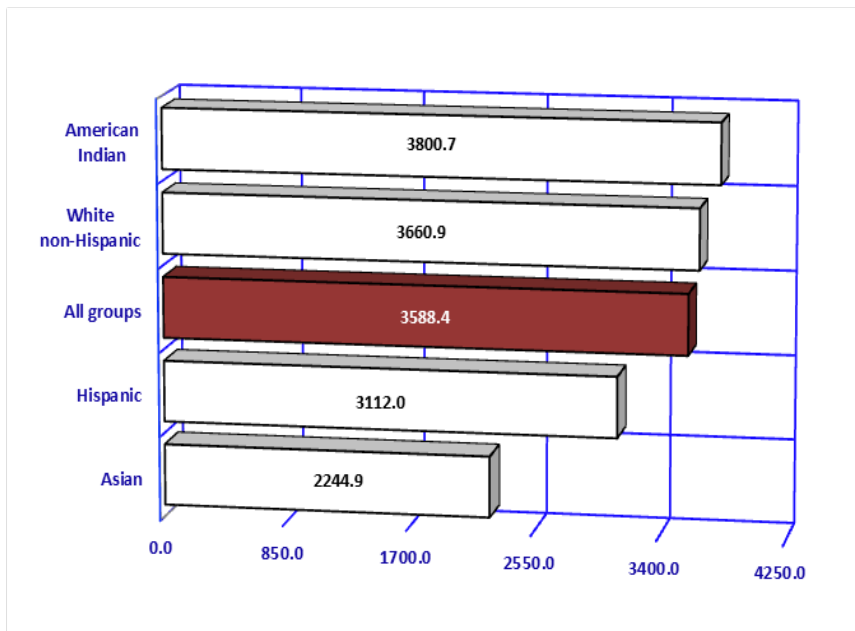
In 2018, an estimated 1,214,261 residents age 65 years and older resided in the state (Table 10A-1). No other age group has as great of a disproportionate gender distribution as the elderly. As a result of the higher total mortality rates for males at earlier ages, more elderly women than men were alive in 2018.

The 2018 elderly mortality rate of 3588.4 per 100,000 was 5.4 percent lower than the 2008 rate of 3,791.3 (Table 2C-23).

The 2018 total mortality rate among elderly females was 7.1 percent lower than their rate in 2008. The mortality rate among elderly males decreased 4.0 percent during the same period (Figure 2C-21, Table 2C-23).

Note: ^a Number of deaths per 100,000 persons, 65+ years old in specified group.

Figure 2C-22
Mortality Rates^a by Race/Ethnicity among Elderly 65 Years and Older, Arizona, 2018



In 2018 the mortality rate for Arizona's American Indian elderly residents was 1.7 times that of the Asian elderly population. The mortality rate of 2,244.9/100,000 among elderly Asians was the lowest rate among the racial/ethnic groups (Figure 2C-22). Hispanic or Latino elderly had the second lowest mortality rate in 2018 at 3,112.0/100,000.

Note: ^a Number of deaths per 100,000 persons, 65+ years old in specified group.

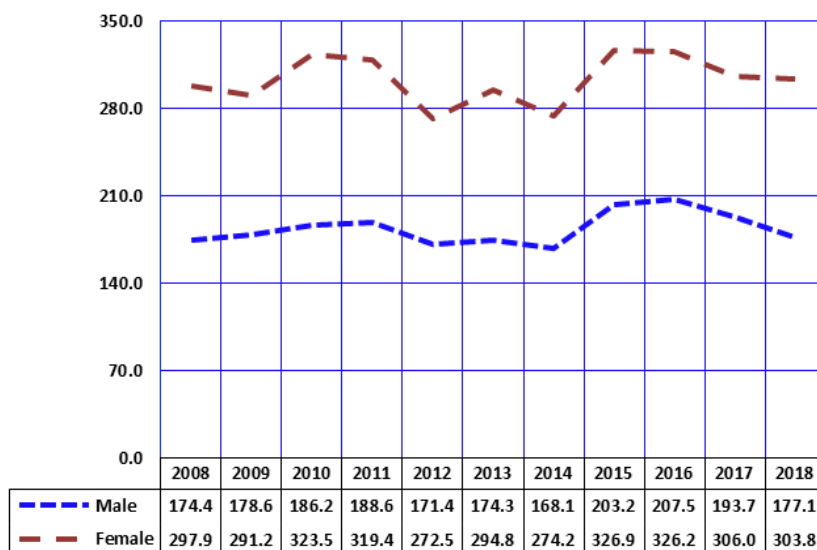
2C.AGE-SPECIFIC MORTALITY
Elderly mortality (ages 65 years and older)

Tables 2C-23 and 2C-24 provide mortality rates for the five causes with the greatest number of deaths over the 2008–2018 period.

In 2018, Alzheimer’s disease (2,979 deaths; **Table 2C-26**) accounted for 6.8 percent of elderly mortality. From 2017 to 2018, mortality due to Alzheimer’s disease decreased for both genders (**Figure 2C-23**).

There were 1,987 deaths from Alzheimer’s disease among elderly females in 2018, approximately twice the number of deaths from this cause among males (992; **Table 2C-26**). White non-Hispanic elderly accounted for 84.8 percent of the 2018 deaths from Alzheimer’s disease (based on data in **Table 2C-26**).

Figure 2C-23
Trends in Mortality Rates for Alzheimer’s Disease^a by Gender and Year among Elderly 65 Years and Older, Arizona, 2008-2018

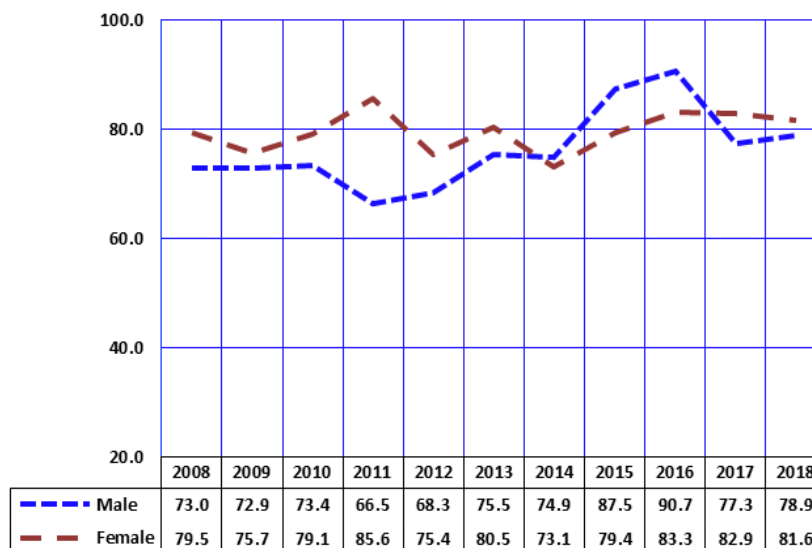


Note: ^a Number of deaths due to Alzheimer’s disease per 100,000 persons, 65+ years old in specified group.

Among unintentional injury deaths unrelated to motor vehicles, Arizona’s elderly experienced high mortality from *fall-related injuries* (**Figure 2C-24**). In 2018, 976 elderly Arizonans 65 years or older died from *fall-related injuries*, compared to 947 in 2017, representing a 3.1 percent increase between these two years (**Table 2C-26**).

In 2018, Arizonans aged 85 years old or older experienced the largest number of *fall-related deaths* (538), followed by Arizonans 75-84 years old (290), and those aged 65-74 years old (148).

Figure 2C-24
Trends in Mortality Rates for Falls and Fall-related Injuries^a by Gender and Year among Elderly 65 Years and Older, Arizona, 2008-2018



Note: ^a Number of deaths due to falls and fall-related injuries per 100,000 persons, 65+ years old in specified group.

**TABLE 2C-23
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES^b OF DEATH AMONG ELDERLY (65 YEARS AND OLDER) BY GENDER,
ARIZONA, 2008-2018**

Gender/Cause	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
MALE												
Diseases of heart	1114.1	1073.3	992.8	1065.5	1022.2	1007.0	908.6	970.0	1003.2	1002.5	984.3	-11.7
Malignant neoplasms	1006.6	1017.3	1007.7	1007.4	992.6	958.6	899.1	931.7	927.9	893.5	901.1	-10.5
Chronic lower respiratory diseases	316.8	303.6	310.9	318.4	319.9	302.7	290.2	308.7	298.2	288.3	280.8	-11.4
Cerebrovascular diseases	188.9	182.8	169.3	164.4	165.5	151.8	144.4	183.0	176.8	178.6	187.1	-1.0
Alzheimer's disease	174.4	178.6	186.2	188.6	171.4	174.3	168.1	203.2	207.5	193.7	177.1	1.5
ALL CAUSES	4095.0	4025.9	3974.9	4083.3	3987.4	3904.2	3883.3	3975.4	4019.0	3892.3	3932.5	-4.0
(Number of all deaths)	(15,589)	(15,462)	(15,967)	(16,517)	(17,101)	(17,489)	(18,292)	(19,665)	(20,781)	(21,144)	(22,030)	41.3
FEMALE												
Diseases of heart	860.8	855.9	804.8	847.2	794.5	763.7	694.9	756.2	741.0	743.4	726.4	-15.6
Malignant neoplasms	691.1	701.6	702.5	710.9	678.6	697.9	628.1	670.5	642.2	628.7	601.8	-12.9
Alzheimer's disease	297.9	291.2	323.5	319.4	272.5	294.8	274.2	326.9	326.2	306.0	303.8	2.0
Chronic lower respiratory diseases	279.3	273.5	272.6	301.4	268.6	283.6	248.3	286.8	288.1	271.7	265.6	-4.9
Cerebrovascular diseases	229.2	218.5	229.9	231.0	208.0	198.1	191.1	210.5	218.4	208.0	215.3	-6.1
ALL CAUSES	3544.8	3515.6	3521.7	3681.4	3489.9	3468.6	3378.3	3412.6	3371.1	3312.5	3293.6	-7.1
(Number of all deaths)	(16,625)	(16,636)	(16,909)	(17,798)	(17,855)	(18,494)	(18,718)	(19,815)	(20,408)	(21,055)	(21,542)	29.6
TOTAL												
Diseases of heart	974.3	953.3	890.4	946.8	898.3	874.8	793.1	854.5	861.8	862.8	845.4	-13.2
Malignant neoplasms	832.4	843.0	841.5	846.1	821.8	816.9	752.6	790.7	773.8	750.7	739.9	-11.1
Chronic lower respiratory diseases	296.1	287.0	290.1	309.1	292.0	292.3	267.6	296.8	292.8	279.3	272.6	-7.9
Alzheimer's disease	242.6	240.8	260.9	259.8	226.4	239.8	225.4	270.0	271.5	254.2	245.3	1.1
Cerebrovascular diseases	211.1	202.5	202.3	200.7	188.6	176.9	169.6	197.8	199.2	194.4	202.3	-4.2
ALL CAUSES	3791.3	3744.2	3728.2	3864.8	3716.9	3667.5	3610.4	3671.5	3669.5	3579.6	3588.4	-5.4
(Number of all deaths)	(32,214)	(32,098)	(32,876)	(34,318)	(34,958)	(35,983)	(37,010)	(39,480)	(41,189)	(42,199)	(43,572)	35.3

Notes: ^a Rates are presented per 100,000 elderly persons 65 years and older; ^b The five causes with the greatest number of deaths over the 2008-2018 period; * Total (number of all deaths) includes 2 unknown gender; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2008-2018 are classified by ICD-10, replacing the Ninth Revision (ICD-9).

**TABLE 2C-24
MORTALITY RATES^a FOR THE SELECTED FIVE LEADING CAUSES^b OF DEATH AMONG ELDERLY (65 YEARS AND OLDER)
IN URBAN AND RURAL AREAS^c, ARIZONA, 2008-2018**

Area/Cause	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
URBAN												
Diseases of heart	971.9	952.2	888.5	932.0	891.8	862.3	781.0	830.2	835.5	839.1	829.2	-14.7
Malignant neoplasms	817.9	835.0	834.0	846.2	825.5	807.6	748.7	783.6	756.6	737.1	724.0	-11.5
Chronic lower respiratory diseases	289.2	282.2	288.7	311.3	288.9	286.3	267.8	292.0	285.8	265.3	257.5	-11.0
Alzheimer's disease	261.3	263.2	284.9	288.9	251.5	272.0	252.6	291.9	286.0	262.6	253.4	-3.0
Cerebrovascular diseases	206.4	206.1	201.5	202.0	192.8	180.1	172.6	198.1	197.5	193.8	203.2	-1.6
ALL CAUSES	3765.0	3765.4	3738.3	3886.0	3740.3	3663.4	3615.6	3650.2	3624.7	3531.0	3568.4	-5.2
(Number of all deaths)	(25,374)	(25,596)	(26,043)	(27,302)	(27,824)	(28,442)	(29,416)	(31,179)	(32,370)	(33,146)	(34,397)	35.6
RURAL												
Diseases of heart	979.3	950.4	889.9	990.4	912.5	919.1	834.0	935.2	947.2	940.3	900.8	-8.0
Malignant neoplasms	883.7	865.3	864.6	840.5	802.6	847.8	764.5	810.8	828.2	792.5	794.6	-10.1
Chronic lower respiratory diseases	322.1	302.5	291.6	298.9	299.6	314.0	264.3	311.1	311.2	328.6	327.6	1.7
Alzheimer's disease	166.7	152.1	169.6	145.1	130.2	117.2	118.7	184.1	211.9	218.2	211.3	26.8
Cerebrovascular diseases	228.2	187.0	204.1	193.1	171.9	164.1	157.9	195.8	204.0	193.6	196.1	-14.1
ALL CAUSES	3863.1	3628.5	3657.5	3741.1	3590.0	3665.4	3558.1	3706.3	3771.9	3708.2	3634.9	-5.9
(Number of all deaths)	(6,789)	(6,441)	(6,773)	(6,935)	(7,058)	(7,505)	(7,526)	(8,196)	(8,653)	(8,905)	(9,099)	34.0
TOTAL												
Diseases of heart	974.3	953.3	890.4	946.8	898.3	874.8	793.1	854.5	861.8	862.8	845.4	-13.2
Malignant neoplasms	832.4	843.0	841.5	846.1	821.8	816.9	752.6	790.7	773.8	750.7	739.9	-11.1
Chronic lower respiratory diseases	296.1	287.0	290.1	309.1	292.0	292.3	267.6	296.8	292.8	279.3	272.6	-7.9
Alzheimer's disease	242.6	240.8	260.9	259.8	226.4	239.8	225.4	270.0	271.5	254.2	245.3	1.1
Cerebrovascular diseases	211.1	202.5	202.3	200.7	188.6	176.9	169.6	197.8	199.2	194.4	202.3	-4.2
ALL CAUSES	3791.3	3744.2	3728.2	3864.8	3716.9	3667.5	3610.4	3671.5	3669.5	3579.6	3588.4	-5.4
(Number of all deaths)	(32,214)	(32,098)	(32,876)	(34,318)	(34,958)	(35,983)	(37,010)	(39,480)	(41,189)	(42,199)	(43,572)	35.3

Notes: ^a Rates are presented per 100,000 elderly persons 65 years and older; ^b The five causes with the greatest number of deaths over the 2008-2018 period; ^c Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see **Technical Notes** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2008-2018 are classified by ICD-10, replacing the Ninth Revision (ICD-9); measures of comparison between ICD-9 and ICD-10 – the "comparability ratios" – for the causes of death shown in this report are provided in the **Technical Notes**.

**TABLE 2C-25
MORTALITY RATES^a FOR THE FIVE LEADING CAUSES OF DEATH AMONG ELDERLY (65 YEARS AND OLDER)
BY GENDER IN URBAN AND RURAL AREAS^b, ARIZONA, 2008-2018**

Area/Gender	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	% change from 2008
URBAN												
Male	4053.2	4013.8	3976.9	4107.6	3980.1	3898.2	3888.6	3944.3	3960.2	3799.2	3891.3	-4.0
Female	3534.9	3567.5	3543.8	3705.0	3543.8	3470.8	3388.5	3405.1	3344.3	3306.7	3297.9	-6.7
TOTAL	3765.0	3765.4	3738.3	3886.0	3740.3	3663.4	3615.6	3650.2	3624.7	3531.0	3568.4	-5.2
RURAL												
Male	4216.1	4021.7	3917.1	3948.9	3952.6	3895.3	3826.7	4027.0	4133.9	4142.9	4043.4	-4.1
Female	3555.8	3286.5	3418.2	3547.4	3256.0	3454.5	3309.8	3409.1	3435.2	3304.1	3253.6	-8.5
TOTAL	3863.1	3628.5	3657.5	3741.1	3590.0	3665.4	3558.1	3706.3	3771.9	3708.2	3634.9	-5.9
TOTAL												
Male	4095.0	4025.9	3974.9	4083.3	3987.4	3904.2	3883.3	3975.4	4019.0	3892.3	3932.5	-4.0
Female	3544.8	3515.6	3521.7	3681.4	3489.9	3468.6	3378.3	3412.6	3371.1	3312.5	3293.6	-7.1
TOTAL	3791.3	3744.2	3728.2	3864.8	3716.9	3667.5	3610.4	3671.5	3669.5	3579.6	3588.4	-5.4

Notes: ^a Rates are presented per 100,000 persons 65 years and older; ^b Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see **Technical Notes** for more information.

**TABLE 2C-26
LEADING CAUSES OF DEATH AMONG ELDERLY (65 YEARS AND OLDER) BY GENDER, AREA, AND RACE/ETHNICITY,
ARIZONA, 2018**

Cause of death	Gender		Area ^a		Race/ethnicity							
	Total	Male	Female	Urban	Rural	Unknown	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Refused/Unknown
Diseases of heart	10,265	5,514	4,751	7,993	2,255	17	8,592	1,025	242	187	136	83
Malignant neoplasms	8,984	5,048	3,936	6,979	1,989	16	7,441	974	224	155	152	38
Malignant neoplasm of trachea, bronchus and lung	2,089	1,133	956	1,601	484	*	1,812	161	55	14	36	11
Malignant neoplasm of lymphoid, hematopoietic and related tissue	960 [†]	576	379	764	189	*	780	109	27	20	17	*
Malignant neoplasm of colon, rectum, and anus	770 [†]	431	342	611	162	0	608	115	19	13	16	*
Malignant neoplasm of pancreas	740 [†]	393	350	598	143	*	618	83	15	14	9	*
Malignant neoplasm of prostate	647	647	0	496	150	*	529	65	22	17	8	6
Malignant neoplasm of breast	520 [†]	7	511	401	117	0	429	55	15	*	13	*
Chronic lower respiratory diseases	3,310	1,573	1,737	2,482	820	8	2,984	174	65	33	29	25
Alzheimer's disease	2,979	992	1,987	2,443	529	7	2,525	301	77	35	33	8
Cerebrovascular diseases	2,456	1,048	1,408	1,959	491	6	1,956	305	72	60	44	19
Accidents (unintentional injury)	1,508	811	697	1,223	281	*	1,217	160	31	56	27	17
Falls	980 [†]	442	534	827	149	0	823	97	12	22	18	*
Motor vehicle accidents	220 [†]	157	62	163	56	0	165	32	*	12	*	*
Diabetes	1,408	814	594	1,140	266	*	921	291	66	94	22	14
Influenza and pneumonia	870 [†]	446	425	682	187	*	686	107	16	44	15	*
Essential (primary) hypertension and hypertensive disease	790 [†]	341	452	667	125	*	596	119	35	20	18	*
Parkinson's disease	770 [†]	517	256	640	133	0	653	76	11	15	15	*
Nephritis, nephrotic syndrome and nephrosis	533	270	263	408	125	0	365	92	34	31	11	0
Septicemia	270 [†]	131	134	206	58	*	197	47	9	11	*	0
Total, all causes^b	43,572	22,030	21,542	34,397	9,099	76	35,731	4,760	1,110	1,071	627	273

Notes: * Cell suppressed due to count less than 6; [†] Sum rounded to nearest tens unit due to addend less than 6; ^a Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; ^b May include other causes of death not shown above.

COMPARATIVE CAUSE-SPECIFIC MORTALITY BY AGE GROUP

**TABLE 2C-27
COMPARISON OF CAUSES OF MORTALITY BY AGE GROUP, ARIZONA, 2018**

	All ages	Infants <1	Children 1-14	Adoles- cents 15-19	Young adults 20-44	Middle- aged adults 45-64	Elderly 65+	Un- known
Total, all causes	59,206	447	244	295	3,727	10,920	43,572	1
Salmonella infections	0†	0	0	0	0	0	*	0
Shigellosis and amebiasis	0	0	0	0	0	0	0	0
Certain other intestinal infections	180†	*	*	0	*	29	146	0
Enterocolitis due to Clostridium difficile	120†	0	0	0	*	15	100	0
Tuberculosis	10	0	0	0	0	0	10	0
Respiratory tuberculosis	0†	0	0	0	0	0	*	0
Other tuberculosis	6	0	0	0	0	0	6	0
Whooping cough	0	0	0	0	0	0	0	0
Scarlet fever and erysipelas	0	0	0	0	0	0	0	0
Meningococcal infection	0	0	0	0	0	0	0	0
Septicemia	380†	*	*	0	15	97	265	0
Syphilis	0†	0	0	0	0	*	*	0
Acute poliomyelitis	0	0	0	0	0	0	0	0
Arthropod-borne encephalitis	0	0	0	0	0	0	0	0
Measles	0	0	0	0	0	0	0	0
Viral hepatitis	141	0	0	0	6	85	50	0
Human immunodeficiency virus (HIV) disease	79	0	0	0	14	50	15	0
Malaria	0	0	0	0	0	0	0	0
Other and unspecified infectious and parasitic diseases	260†	6	11	*	14	62	166	0
Malignant neoplasms	12,100†	*	31	8	312	2,760	8,984	0
Malignant neoplasm of lip, oral cavity and pharynx	165	0	0	0	6	43	116	0
Malignant neoplasm of esophagus	330†	0	0	0	*	95	232	0
Malignant neoplasm of stomach	236	0	0	0	18	57	161	0
Malignant neoplasm of colon, rectum, and anus	1,126	0	0	0	37	316	773	0
Malignant neoplasm of liver and intrahepatic bile ducts	560†	0	*	0	8	190	360	0
Malignant neoplasm of pancreas	950†	0	*	0	6	202	743	0
Malignant neoplasm of larynx	64	0	0	0	0	21	43	0
Malignant neoplasm of trachea, bronchus and lung	2,640	0	0	0	15	536	2,089	0
Malignant melanoma of skin	209	0	0	0	11	56	142	0
Malignant neoplasm of breast	815	0	0	0	43	254	518	0
Malignant neoplasm of cervix uteri	78	0	0	0	15	38	25	0
Malignant neoplasm of corpus uteri and uterus, part unspecified	180	0	0	0	7	47	126	0
Malignant neoplasm of ovary	291	0	0	0	11	87	193	0
Malignant neoplasm of prostate	695	0	0	0	0	48	647	0
Malignant neoplasm of kidney and renal pelvis	350†	0	*	0	6	105	238	0
Malignant neoplasm of bladder	360†	0	0	0	*	40	315	0

**TABLE 2C-27 (continued)
COMPARISON OF CAUSES OF MORTALITY BY AGE GROUP, ARIZONA, 2018**

	All ages	Infants <1	Children 1-14	Adolescents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+	Un-known
Malignant neoplasm of meninges, brain and other parts of central nervous system	370†	*	9	*	26	104	223	0
Malignant neoplasm of lymphoid, hematopoietic and related tissue	1,200†	*	9	*	33	198	955	0
Hodgkin's disease	20†	0	0	0	*	*	16	0
Non-Hodgkin's lymphoma	400†	*	0	0	11	63	323	0
Leukemia	480†	0	9	*	19	80	366	0
Multiple myeloma and immunoproliferative neoplasms	300†	0	0	0	*	50	246	0
Other and unspecified malignant neoplasms of lymphoid tissue	10†	0	0	0	0	*	*	0
All other and unspecified malignant neoplasm	1,480†	0	9	*	62	323	1,085	0
In situ neoplasms	400†	0	*	0	9	48	342	0
Anemias	70†	*	*	*	6	9	50	0
Diabetes	2,040†	0	0	*	68	563	1,408	0
Nutritional deficiencies	351	0	0	0	8	17	326	0
Malnutrition	331	0	0	0	8	16	307	0
Other nutritional deficiencies	20†	0	0	0	0	*	19	0
Obesity	206	0	0	0	33	102	71	0
Meningitis	10†	*	0	0	*	*	*	0
Parkinson's disease	790†	0	0	0	*	16	773	0
Alzheimer's disease	3,010†	0	0	0	*	31	2,979	0
Major cardiovascular diseases	16,645	8	10	7	290	2,437	13,893	0
Diseases of heart	12,410†	*	*	6	230	1,899	10,265	0
Acute rheumatic fever and chronic rheumatic heart disease	100†	0	0	0	*	14	82	0
Hypertensive heart disease	1,400†	0	0	*	45	229	1,125	0
Hypertensive heart and renal disease	150†	0	0	0	*	12	138	0
Ischemic heart disease	7,540†	0	*	0	88	1,177	6,274	0
Acute myocardial infarction	1,562	0	0	0	24	250	1,288	0
Other acute ischemic heart disease	40†	0	0	0	*	6	31	0
Other forms of chronic ischemic heart disease	5,940†	0	*	0	63	921	4,955	0
Atherosclerotic cardiovascular disease	1,716	0	0	0	36	516	1,164	0
All other forms of chronic ischemic heart disease	4,220†	0	*	0	27	405	3,791	0
Other heart diseases	3,220†	*	*	*	92	467	2,646	0
Acute and subacute endocarditis	29	0	0	0	7	8	14	0
Diseases of pericardium and acute myocarditis	20†	0	*	0	*	6	9	0
Heart failure	780†	0	0	0	*	60	712	0
All other forms of heart disease	2,390†	*	*	*	78	393	1,911	0
Essential (primary) hypertension and hypertensive renal disease	928	0	0	0	10	125	793	0
Cerebrovascular diseases	2,830†	*	*	0	44	323	2,456	0
Atherosclerosis	110	0	0	0	0	14	96	0

TABLE 2C-27 (continued)
COMPARISON OF CAUSES OF MORTALITY BY AGE GROUP, ARIZONA, 2018

	All ages	Infants <1	Children 1-14	Adolescents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+	Un-known
Other diseases of circulatory system	370†	*	*	*	6	76	283	0
Aortic aneurysm and dissection	190†	0	0	*	*	45	144	0
Other disease of arteries, arterioles and capillaries	180†	*	*	0	*	31	139	0
Other disorders of circulatory system	110†	*	0	0	7	35	71	0
Influenza and pneumonia	1,110†	*	7	*	37	195	871	0
Influenza	210†	0	*	0	7	32	171	0
Pneumonia	900†	*	*	*	30	163	700	0
Other acute lower respiratory infections	10†	0	*	0	0	*	7	0
Acute bronchiolitis	10†	0	*	0	0	*	*	0
Unspecified acute lower respiratory infection	0†	0	0	0	0	0	*	0
Chronic lower respiratory diseases	3,820†	0	*	*	21	485	3,310	0
Bronchitis, chronic and unspecified	10†	0	0	0	*	*	*	0
Emphysema	190†	0	0	0	*	28	158	0
Asthma	90†	0	*	*	15	28	44	0
Other chronic lower respiratory diseases	3,530†	0	0	0	*	427	3,103	0
Pneumoconioses and chemical effects	10†	0	0	0	0	*	10	0
Pneumonitis due to solids and liquids	240†	0	0	*	9	33	192	0
Other disease of respiratory system	910†	*	*	*	13	134	755	0
Peptic ulcer	70†	0	0	0	*	14	53	0
Diseases of appendix	10†	0	0	0	*	*	7	0
Hernia	40†	*	*	0	*	*	30	0
Chronic liver disease and cirrhosis	1,160†	*	*	*	155	580	422	0
Alcoholic liver disease	724	0	0	0	125	410	189	0
Other chronic liver disease and cirrhosis	440†	*	*	0	30	170	233	0
Cholelithiasis and other disorders of gallbladder	73	0	0	0	0	10	63	0
Nephritis, nephrotic syndrome and nephrosis	680†	0	*	0	20	126	533	0
Acute and rapidly progressive nephritic and nephrotic syndrome	10†	0	0	0	0	*	*	0
Chronic glomerulonephritis	0†	0	0	0	0	*	*	0
Renal failure	670†	0	*	0	20	121	528	0
Others disorders of kidney	0	0	0	0	0	0	0	0
Infections of kidney	20†	0	0	0	*	6	13	0
Hyperplasia of prostate	10†	0	0	0	0	*	8	0
Inflammatory diseases of female pelvic organs	0†	0	0	0	0	*	*	0
Pregnancy, childbirth and the puerperium	33	0	0	0	24	9	0	0
Pregnancy with abortive outcome	0	0	0	0	0	0	0	0
Other complications of pregnancy, childbirth and the puerperium	33	0	0	0	24	9	0	0

**TABLE 2C-27 (continued)
COMPARISON OF CAUSES OF MORTALITY BY AGE GROUP, ARIZONA, 2018**

	All ages	Infants <1	Children 1-14	Adoles- cents 15-19	Young adults 20-44	Middle- aged adults 45-64	Elderly 65+	Un- known
Perinatal conditions	220†	218	*	*	0	0	0	0
Congenital anomalies, deformations and chromosomal abnormalities	230†	122	16	*	22	35	35	0
Symptoms, signs, abnormal findings	1,189	47	8	0	84	128	921	*
Total accidents	4,211	13	76	126	1,368	1,120	1,508	0
Transport accidents	1,030†	*	36	62	420	292	219	0
Motor vehicle accidents	1,110†	*	36	63	441	323	239	0
Other land transport accidents	30†	0	0	*	10	11	*	0
Water, air, space	47	0	0	0	11	20	16	0
Nontransport accidents	3,106	10	40	63	927	797	1,269	0
Falls	1,090†	0	*	0	19	94	976	0
Accidental discharge of firearms	10†	0	*	*	*	*	*	0
Accidental drowning and submersion	90†	0	24	*	30	17	18	0
Accidental exposure to smoke, fire and flames	20†	0	*	*	*	10	10	0
Accidental poisoning	1,550†	0	*	53	823	579	87	0
Other and unspecified nontransport accidents	350†	10	10	*	50	96	176	0
Intentional self-harm (suicide)	1,432	0	17	81	547	452	335	0
By discharge of firearms	800†	0	*	31	262	259	244	0
By other means	632	0	13	50	285	193	91	0
Assault (homicide)	420†	*	11	29	255	82	35	0
By discharge of firearms	290†	0	*	24	192	55	16	0
By other means	130†	*	7	*	63	27	19	0
Legal intervention	20†	0	0	0	15	7	*	0
Events of undetermined intent	150†	8	8	*	49	54	26	0
Discharge of firearms	20†	0	*	*	6	*	*	0
Other and unspecified events of undetermined intent	140†	8	6	*	43	51	24	0
Operations of war	0	0	0	0	0	0	0	0
Complications of medical and surgical care	110†	0	*	*	*	32	73	0
Injury by firearms	1,140	0	11	59	479	325	266	0
Drug-induced deaths	1,770†	0	*	60	895	656	154	0
Opioid-induced deaths	1,100†	0	*	50	642	338	73	0
Alcohol-induced deaths	1,190†	0	0	*	238	655	290	0

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; † causes of death in this table are classified by the Tenth Revision of the International Classification of Diseases (ICD-10).

**TABLE 2C-28
COMPARISON OF CAUSE-SPECIFIC MORTALITY RATES^a BY AGE GROUP, ARIZONA, 2018**

	All ages	Infants <1	Children 1-14	Adolescents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+
Total, all causes	836.7	555.0	19.1	62.6	160.9	639.4	3588.4
Salmonella infections	0.0	0.0	0.0	0.0	0.0	0.0	**
Shigellosis and amebiasis	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Certain other intestinal infections	2.6	**	**	0.0	**	1.7	12.0
Enterocolitis due to Clostridium difficile	1.7	0.0	0.0	0.0	**	0.9	8.2
Tuberculosis	0.1	0.0	0.0	0.0	0.0	0.0	0.8
Respiratory tuberculosis	0.1	0.0	0.0	0.0	0.0	0.0	**
Other tuberculosis	0.1	0.0	0.0	0.0	0.0	0.0	0.5
Whooping cough	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scarlet fever and erysipelas	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meningococcal infection	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Septicemia	5.4	**	**	0.0	0.6	5.7	21.8
Syphilis	0.0	0.0	0.0	0.0	0.0	**	**
Acute poliomyelitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Arthropod-borne encephalitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Measles	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Viral hepatitis	2.0	0.0	0.0	0.0	0.3	5.0	4.1
Human immunodeficiency virus (HIV) disease	1.1	0.0	0.0	0.0	0.6	2.9	1.2
Malaria	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other and unspecified infectious and parasitic diseases	3.7	7.5	0.9	**	0.6	3.6	13.7
Malignant neoplasms	171.0	**	2.4	1.7	13.5	161.6	739.9
Malignant neoplasm of lip, oral cavity and pharynx	2.3	0.0	0.0	0.0	0.3	2.5	9.6
Malignant neoplasm of esophagus	4.7	0.0	0.0	0.0	**	5.6	19.1
Malignant neoplasm of stomach	3.3	0.0	0.0	0.0	0.8	3.3	13.3
Malignant neoplasm of colon, rectum, and anus	15.9	0.0	0.0	0.0	1.6	18.5	63.7
Malignant neoplasm of liver and intrahepatic bile ducts	7.9	0.0	**	0.0	0.3	11.1	29.6
Malignant neoplasm of pancreas	13.5	0.0	**	0.0	0.3	11.8	61.2
Malignant neoplasm of larynx	0.9	0.0	0.0	0.0	0.0	1.2	3.5
Malignant neoplasm of trachea, bronchus and lung	37.3	0.0	0.0	0.0	0.6	31.4	172.0
Malignant melanoma of skin	3.0	0.0	0.0	0.0	0.5	3.3	11.7
Malignant neoplasm of breast	11.5	0.0	0.0	0.0	1.9	14.9	42.7
Malignant neoplasm of cervix uteri	2.2	0.0	0.0	0.0	1.3	4.3	3.8
Malignant neoplasm of corpus uteri and uterus, part unspecified	5.1	0.0	0.0	0.0	0.6	5.4	19.3
Malignant neoplasm of ovary	8.2	0.0	0.0	0.0	1.0	9.9	29.5
Malignant neoplasm of prostate	19.8	0.0	0.0	0.0	0.0	5.8	115.5
Malignant neoplasm of kidney and renal pelvis	5.0	0.0	**	0.0	0.3	6.1	19.6
Malignant neoplasm of bladder	5.1	0.0	0.0	0.0	**	2.3	25.9

TABLE 2C-28 (continued)
COMPARISON OF CAUSE-SPECIFIC MORTALITY RATES^a BY AGE GROUP, ARIZONA, 2018

	All ages	Infants <1	Children 1-14	Adolescents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+
Malignant neoplasm of meninges, brain and other parts of central nervous system	5.2	**	0.7	**	1.1	6.1	18.4
Malignant neoplasm of lymphoid, hematopoietic and related tissue	16.9	**	0.7	**	1.4	11.6	78.6
Hodgkin's disease	0.3	0.0	0.0	0.0	**	**	1.3
Non-Hodgkin's lymphoma	5.6	**	0.0	0.0	0.5	3.7	26.6
Leukemia	6.7	0.0	0.7	**	0.8	4.7	30.1
Multiple myeloma and immunoproliferative neoplasms	4.2	0.0	0.0	0.0	**	2.9	20.3
Other and unspecified malignant neoplasms of lymphoid tissue	0.1	0.0	0.0	0.0	0.0	**	**
All other and unspecified malignant neoplasm	20.9	0.0	0.7	**	2.7	18.9	89.4
In situ neoplasms	5.7	0.0	**	0.0	0.4	2.8	28.2
Anemias	1.0	**	**	**	0.3	0.5	4.1
Diabetes	28.8	0.0	0.0	**	2.9	33.0	116.0
Nutritional deficiencies	5.0	0.0	0.0	0.0	0.3	1.0	26.8
Malnutrition	4.7	0.0	0.0	0.0	0.3	0.9	25.3
Other nutritional deficiencies	0.3	0.0	0.0	0.0	0.0	**	1.6
Obesity	2.9	0.0	0.0	0.0	1.4	6.0	5.8
Meningitis	0.1	**	0.0	0.0	**	**	**
Parkinson's disease	11.2	0.0	0.0	0.0	**	0.9	63.7
Alzheimer's disease	42.6	0.0	0.0	0.0	**	1.8	245.3
Major cardiovascular diseases	235.2	9.9	0.8	1.5	12.5	142.7	1144.2
Diseases of heart	175.4	**	**	1.3	9.9	111.2	845.4
Acute rheumatic fever and chronic rheumatic heart disease	1.4	0.0	0.0	0.0	**	0.8	6.8
Hypertensive heart disease	19.8	0.0	0.0	**	1.9	13.4	92.6
Hypertensive heart and renal disease	2.2	0.0	0.0	0.0	**	0.7	11.4
Ischemic heart disease	106.6	0.0	**	0.0	3.8	68.9	516.7
Acute myocardial infarction	22.1	0.0	0.0	0.0	1.0	14.6	106.1
Other acute ischemic heart disease	0.5	0.0	0.0	0.0	**	0.4	2.6
Other forms of chronic ischemic heart disease	83.9	0.0	**	0.0	2.7	53.9	408.1
Atherosclerotic cardiovascular disease	24.3	0.0	0.0	0.0	1.6	30.2	95.9
All other forms of chronic ischemic heart disease	59.7	0.0	**	0.0	1.2	23.7	312.2
Other heart diseases	45.5	**	**	**	4.0	27.3	217.9
Acute and subacute endocarditis	0.4	0.0	0.0	0.0	0.3	0.5	1.2
Diseases of pericardium and acute myocarditis	0.3	0.0	**	0.0	**	0.4	0.7
Heart failure	11.0	0.0	0.0	0.0	**	3.5	58.6
All other forms of heart disease	33.8	**	**	**	3.4	23.0	157.4
Essential (primary) hypertension and hypertensive renal disease	13.1	0.0	0.0	0.0	0.4	7.3	65.3
Cerebrovascular diseases	40.0	**	**	0.0	1.9	18.9	202.3
Atherosclerosis	1.6	0.0	0.0	0.0	0.0	0.8	7.9

TABLE 2C-28 (continued)
COMPARISON OF CAUSE-SPECIFIC MORTALITY RATES^a BY AGE GROUP, ARIZONA, 2018

	All ages	Infants <1	Children 1-14	Adolescents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+
Other diseases of circulatory system	5.2	**	**	**	0.3	4.5	23.3
Aortic aneurysm and dissection	2.7	0.0	0.0	**	**	2.6	11.9
Other disease of arteries, arterioles and capillaries	2.5	**	**	0.0	**	1.8	11.4
Other disorders of circulatory system	1.6	**	0.0	0.0	0.3	2.0	5.8
Influenza and pneumonia	15.7	**	0.5	**	1.6	11.4	71.7
Influenza	3.0	0.0	**	0.0	0.3	1.9	14.1
Pneumonia	12.7	**	**	**	1.3	9.5	57.6
Other acute lower respiratory infections	0.2	0.0	**	0.0	0.0	**	0.6
Acute bronchiolitis	0.1	0.0	**	0.0	0.0	**	**
Unspecified acute lower respiratory infection	0.0	0.0	0.0	0.0	0.0	0.0	**
Chronic lower respiratory diseases	54.0	0.0	**	**	0.9	28.4	272.6
Bronchitis, chronic and unspecified	0.1	0.0	0.0	0.0	**	**	**
Emphysema	2.6	0.0	0.0	0.0	**	1.6	13.0
Asthma	1.3	0.0	**	**	0.6	1.6	3.6
Other chronic lower respiratory diseases	49.9	0.0	0.0	0.0	**	25.0	255.5
Pneumoconioses and chemical effects	0.2	0.0	0.0	0.0	0.0	**	0.8
Pneumonitis due to solids and liquids	3.3	0.0	0.0	**	0.4	1.9	15.8
Other disease of respiratory system	12.9	**	**	**	0.6	7.8	62.2
Peptic ulcer	1.0	0.0	0.0	0.0	**	0.8	4.4
Diseases of appendix	0.1	0.0	0.0	0.0	**	**	0.6
Hernia	0.5	**	**	0.0	**	**	2.5
Chronic liver disease and cirrhosis	16.4	**	**	0.0	6.7	34.0	34.8
Alcoholic liver disease	10.2	0.0	0.0	0.0	5.4	24.0	15.6
Other chronic liver disease and cirrhosis	6.1	**	**	0.0	1.3	10.0	19.2
Cholelithiasis and other disorders of gallbladder	1.0	0.0	0.0	0.0	0.0	0.6	5.2
Nephritis, nephrotic syndrome and nephrosis	9.6	0.0	**	0.0	0.9	7.4	43.9
Acute and rapidly progressive nephritic and nephrotic syndrome	0.1	0.0	0.0	0.0	0.0	**	**
Chronic glomerulonephritis	0.1	0.0	0.0	0.0	0.0	**	**
Renal failure	9.5	0.0	**	0.0	0.9	7.1	43.5
Others disorders of kidney	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infections of kidney	0.3	0.0	0.0	0.0	**	0.4	1.1
Hyperplasia of prostate	0.3	0.0	0.0	0.0	0.0	**	1.4
Inflammatory diseases of female pelvic organs	0.1	0.0	0.0	0.0	0.0	**	**
Pregnancy, childbirth and the puerperium	0.9	0.0	0.0	0.0	2.1	1.0	0.0
Pregnancy with abortive outcome	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other complications of pregnancy, childbirth and the puerperium	0.9	0.0	0.0	0.0	2.1	1.0	0.0

TABLE 2C-28 (continued)
COMPARISON OF CAUSE-SPECIFIC MORTALITY RATES^a BY AGE GROUP, ARIZONA, 2018

	All ages	Infants <1	Children 1-14	Adolescents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+
Perinatal conditions	3.1	270.7	**	**	0.0	0.0	0.0
Congenital anomalies, deformations and chromosomal abnormalities	3.3	151.5	1.3	**	0.9	2.0	2.9
Symptoms, signs, abnormal findings	16.8	58.4	0.6	0.0	3.6	7.5	75.8
Total accidents	59.5	16.1	5.9	26.7	59.0	65.6	124.2
Transport accidents	15.6	**	2.8	13.4	19.0	18.9	19.7
Motor vehicle accidents	14.6	**	2.8	13.2	18.1	17.1	18.0
Other land transport accidents	0.4	0.0	0.0	**	0.4	0.6	**
Water, air, space	0.7	0.0	0.0	0.0	0.5	1.2	1.3
Nontransport accidents	43.9	12.4	3.1	13.4	40.0	46.7	104.5
Falls	15.4	0.0	**	0.0	0.8	5.5	80.4
Accidental discharge of firearms	0.1	0.0	**	**	**	**	**
Accidental drowning and submersion	1.3	0.0	1.9	**	1.3	1.0	1.5
Accidental exposure to smoke, fire and flames	0.3	0.0	**	**	**	0.6	0.8
Accidental poisoning	21.8	0.0	**	11.2	35.5	33.9	7.2
Other and unspecified nontransport accidents	4.9	12.4	0.8	**	2.2	5.6	14.5
Intentional self-harm (suicide)	20.2	0.0	1.3	17.2	23.6	26.5	27.6
By discharge of firearms	11.3	0.0	**	6.6	11.3	15.2	20.1
By other means	8.9	0.0	1.0	10.6	12.3	11.3	7.5
Assault (homicide)	5.9	**	0.9	6.2	11.0	4.8	2.9
By discharge of firearms	4.1	0.0	**	5.1	8.3	3.2	1.3
By other means	1.8	**	0.5	**	2.7	1.6	1.6
Legal intervention	0.3	0.0	0.0	0.0	0.6	0.4	**
Events of undetermined intent	2.1	9.9	0.6	**	2.1	3.2	2.1
Discharge of firearms	0.2	0.0	**	**	0.3	**	**
Other and unspecified events of undetermined intent	1.9	9.9	0.5	**	1.9	3.0	2.0
Operations of war	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Complications of medical and surgical care	1.6	0.0	**	**	**	1.9	6.0
Injury by firearms ^b	16.1	0.0	0.9	12.5	20.7	19.0	21.9
Drug-induced deaths ^b	25.0	0.0	**	12.7	38.6	38.4	12.7
Opioid-induced deaths	15.6	0.0	**	10.6	27.7	19.8	6.0
Alcohol-induced deaths ^b	16.7	0.0	0.0	**	10.3	38.4	23.9

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; ^a The rates for infants <1 year of age are per 100,000 births; all other rates are per 100,000 population in specified group; the rates for malignant neoplasm of cervix uteri, corpus uteri, ovary, inflammatory disease of female pelvic organs and complications of pregnancy are per 100,000 females; the rates for prostate cancer and hyperplasia of prostate are per 100,000 males; ^b Included in selected categories above.



2D.

PATTERNS OF PREMATURE MORTALITY

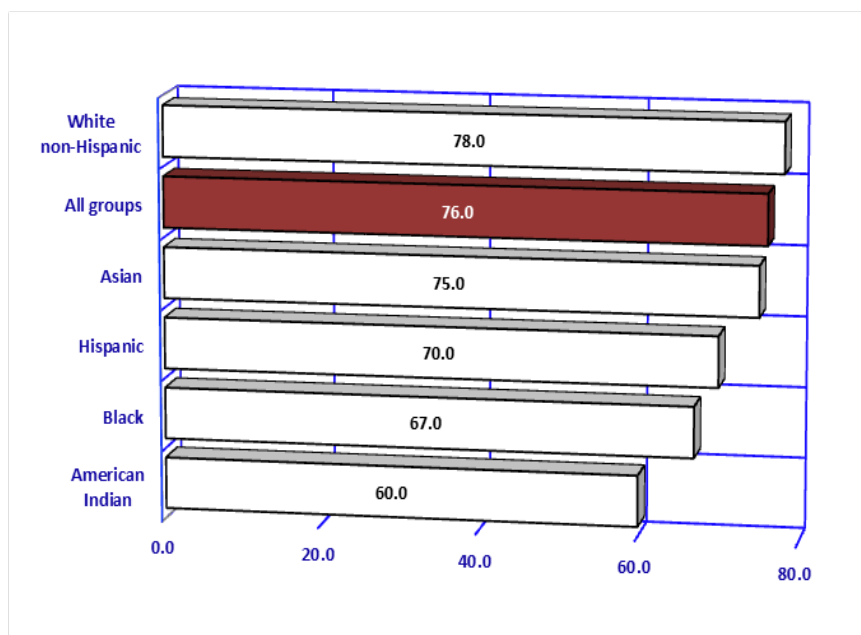
In 2018, the race /ethnic minority groups represented greater percentage of people younger than 25 years (43.3%) than White non-Hispanics (24.6%). In contrast, people aged 65 years and older accounted for 24.7 percent of White non-Hispanics, but only 7.6 percent of all ethnic minority groups combined (percentages based on race-and-age-specific population denominators in **Table 10C-1**).

Arizona's population distribution by age and race/ethnicity is related to patterns of mortality among these subgroups. In 2018, of all deaths among the elderly (65 years and older), 82.0 percent were White non-Hispanics, 10.9 percent were Hispanic or Latino, with the three remaining racial/ethnic groups comprising only 6.4 percent of all deaths in this age group (**Table 2C-26**). Looking at younger ages, Native American children comprised only 5.4 percent of Arizona's population age 1–14, but accounted for 11.5 percent of all childhood deaths. Native American adolescents represented only 5.0 percent of all adolescents, but accounted for 11.2 percent of all adolescent deaths. Finally, Native American young adults (ages 20–44) represented 4.7 percent of all young adults but comprised 15.5 percent of all young adult deaths. In summary, Arizona's racial/ethnic minority groups tend to experience mortality earlier in life than Arizona's White non-Hispanics.

Beginning with the 2005 edition of the report, information about the arithmetic mean age at death was supplemented with information about the median age, or the age in the center of the distribution when sorted by age (see **Table 2D-1**). The median age is higher than the arithmetic mean age in negatively skewed distributions.

2D. PATTERNS OF PREMATURE MORTALITY

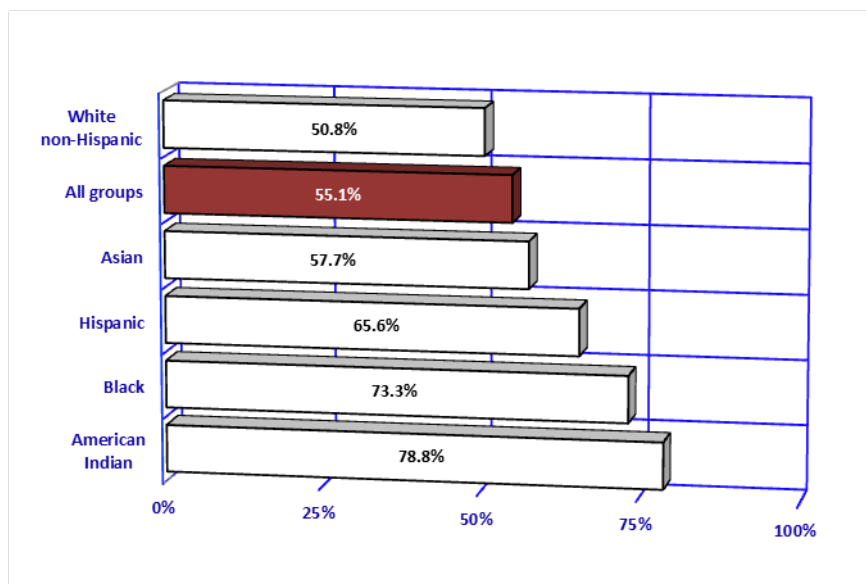
Figure 2D-1
Median Age at Death by Race/Ethnicity, Arizona, 2018



The median age at death remained at 76 years from 2014 to 2018 (**Table 2D-1**). In other words, one of every two Arizonans who died in 2018 was older than 76 years of age. Among Arizona females, 50 percent were 80 years old when they died in 2018. Among males, the median age at death was 73 years in 2018. **Table 2D-1** shows both the median age at death by race/ethnicity and gender from 2008-2018.

In 2018, compared to White non-Hispanics, on average Asians were 3 years younger at time of death, Hispanics were 8 years younger, Blacks were 11 years younger, and American Indian residents of Arizona were 18 years younger (based on the median age at death).

Figure 2D-2
Percent of Deaths before Expected^a Years of Life Reached by Race/Ethnicity, Arizona, 2018



In 2018, the percent of deaths before expected years of life reached (a premature death ratio) was 55.1 percent, -a level that remained unchanged from the prior year (**Figure 2D-2**).

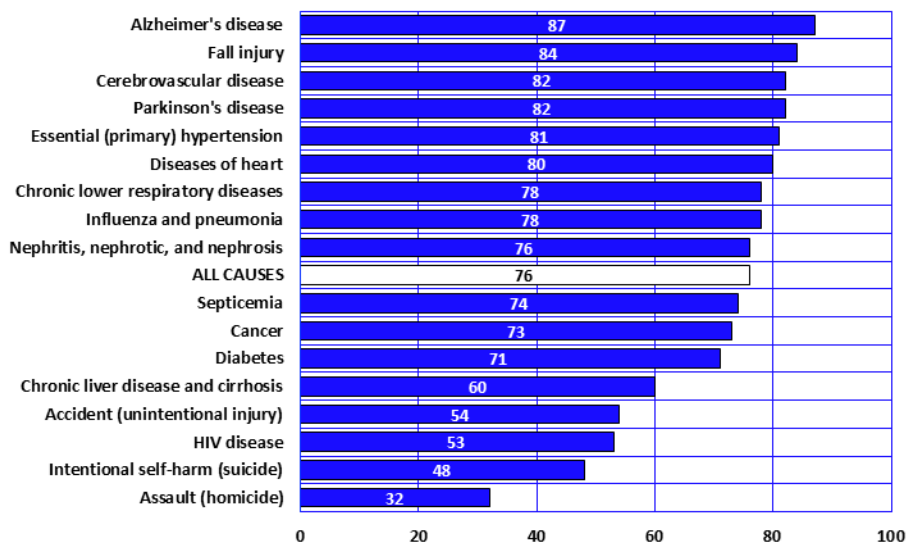
As expected, based on the findings for average and median age at death, White non-Hispanics were the only group with about 50 percent of all deaths (50.8 percent) occurring before the expected years of life were reached (**Figure 2D-2**). On average, 68.7 percent of the deaths among racial/ethnic minority groups occurred prematurely.

Among American Indians, nearly eight out of ten deaths (78.8 percent) were premature (**Table 2D-2**).

Note: ^a Expected years of life at birth for all U.S. residents (78.8 years).

2D. PATTERNS OF PREMATURE MORTALITY

Figure 2D-3
Median Age at Death for Selected Leading Causes of Death,
Arizona, 2018

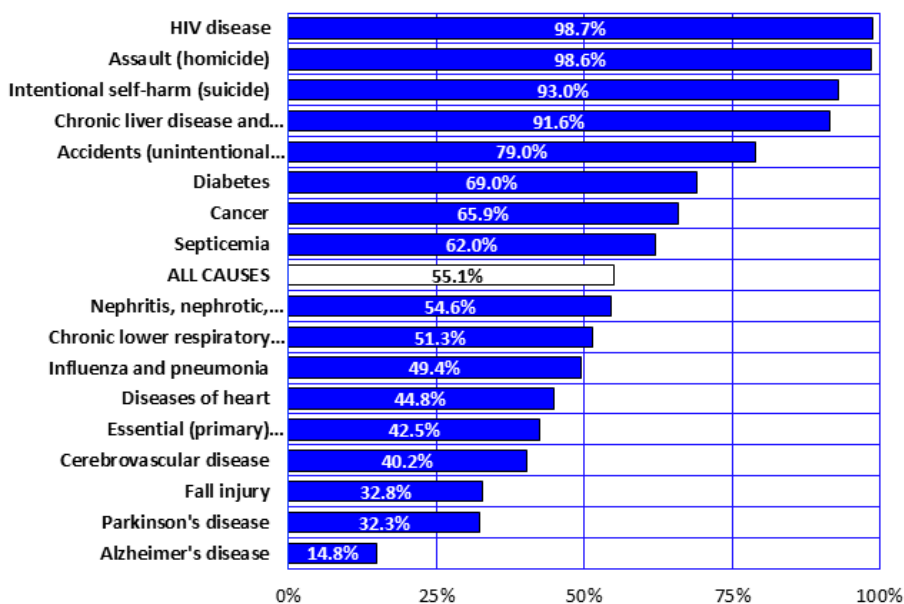


In 2018, *Alzheimer's disease* had the highest median age of death at 87 years (**Figure 2D-3**), exceeding by 11 years the median age at death for all causes (**Figure 2D-3, Table 2D-3**).

Among the leading causes of death, *homicide* had the lowest median age at death of 32 years.

From 2010-2015, *cancer* replaced *diseases of the heart* as the leading cause of death (based on the number of deaths). This epidemiologic transition in mortality risks is likely to have long lasting implications for the life expectancy of Arizonans, because the median age at death from *cancer* (73 years) is substantially lower than the median age at death from *diseases of the heart* (80 years).

Figure 2D-4
Percent of Deaths before Expected Years of Life^a Reached for
Selected Leading Causes of Death, Arizona, 2018



Only 14.8 percent of deaths from *Alzheimer's disease* occurred before the age of 78.8 years, i.e., before the expected years of life were reached. In contrast, almost all deaths from *HIV disease* were premature (98.7 percent; **Figure 2D-4, Table 2D-4**). The median age at death from *HIV disease* was 53 years in 2018, showing a decrease from 54 years recorded in 2017 (**Figure 2D-3, Table 2D-3**).

A minority of deaths from *diseases of heart* were premature (44.8 percent). In contrast 65.9 percent of deaths from *cancer* occurred before the expected years of life were reached.

Note: ^a Expected years of life at birth for all U.S. residents (78.8 years).

**TABLE 2D-1
AVERAGE AND MEDIAN AGE AT DEATH FROM ALL CAUSES BY GENDER AND RACE/ETHNICITY, ARIZONA, 2008-2018**

Year	Gender	All ethnic groups		Race/ethnicity											
		Mean	Median	White non-Hispanic		Hispanic or Latino		Black or African American		American Indian or Alaska Native		Asian or Pacific Islander			
				Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
2008	Total	71.5	77.0	74.3	78.0	61.2	68.0	58.5	62.0	57.3	59.0	63.5	70.0		
	Male	68.4	73.0	71.6	76.0	57.1	62.0	55.3	59.0	53.7	54.0	61.5	67.5		
	Female	75.0	80.0	77.2	81.0	66.4	74.0	62.5	67.0	62.0	67.0	65.6	73.0		
2009	Total	71.9	76.0	74.3	78.0	61.8	67.0	60.0	64.0	57.6	59.0	66.7	74.0		
	Male	69.3	73.0	71.6	75.0	58.6	63.0	56.9	60.0	54.2	54.0	63.6	69.0		
	Female	74.8	80.0	77.2	81.0	65.7	72.0	63.4	68.0	61.8	66.0	70.1	77.0		
2010	Total	72.1	77.0	74.8	79.0	62.4	68.0	62.6	65.0	57.0	58.0	65.7	71.0		
	Male	69.1	73.0	72.1	75.0	58.3	63.0	60.5	63.0	52.7	53.0	64.2	70.0		
	Female	75.4	80.0	77.7	82.0	67.4	74.0	65.3	69.0	62.6	65.0	67.4	74.0		
2011	Total	72.8	77.0	75.3	79.0	63.6	68.0	63.6	66.0	58.4	60.0	68.2	72.0		
	Male	69.7	73.0	72.5	76.0	59.8	63.0	61.0	64.0	54.4	54.0	65.6	69.0		
	Female	76.2	81.0	78.3	82.0	68.5	75.0	66.6	69.0	63.2	67.0	70.8	75.0		
2012	Total	72.7	77.0	75.2	78.8	63.8	68.8	62.6	65.9	57.8	59.8	68.6	73.1		
	Male	69.9	73.7	72.6	75.9	60.7	64.3	59.6	63.2	54.3	55.5	64.2	68.7		
	Female	75.9	80.6	78.1	82.1	67.8	74.7	66.0	69.6	62.0	65.0	72.3	78.5		
2013	Total	72.5	77.0	75.2	79.0	64.3	69.0	63.1	66.0	58.3	60.0	70.9	76.0		
	Male	69.6	74.0	72.6	76.0	60.6	64.0	59.5	63.0	54.7	55.0	68.4	73.0		
	Female	75.8	81.0	78.0	82.0	68.6	75.0	67.7	73.0	63.1	67.0	73.3	78.0		
2014	Total	72.7	76.0	75.1	78.0	64.7	69.0	62.7	65.0	59.3	61.0	70.3	74.0		
	Male	70.0	73.0	72.6	75.0	61.7	65.0	60.5	63.0	55.7	57.0	66.2	71.0		
	Female	75.8	80.0	77.9	81.0	68.4	74.0	65.3	67.0	63.8	66.0	74.1	79.0		
2015	Total	72.5	76.0	74.9	78.0	64.8	69.0	62.8	66.0	58.5	60.0	70.0	75.0		
	Male	69.9	73.0	72.5	75.0	61.7	66.0	60.4	64.0	55.0	56.0	67.3	71.0		
	Female	75.5	79.0	77.5	81.0	68.7	74.0	65.9	69.0	62.9	66.0	72.6	77.0		
2016	Total	72.9	76.0	75.4	78.0	65.0	69.0	63.4	66.0	58.9	60.0	69.2	74.0		
	Male	70.3	73.0	73.2	75.0	61.9	65.0	60.3	63.0	55.8	56.0	65.1	69.5		
	Female	75.9	79.0	78.0	81.0	69.1	75.0	67.6	71.0	63.3	66.0	72.9	78.0		
2017	Total	72.6	76.0	75.2	78.0	64.9	69.0	62.7	65.0	58.9	61.0	70.3	75.0		
	Male	69.9	73.0	72.8	76.0	61.5	65.0	58.7	62.0	55.7	57.0	67.6	72.0		
	Female	75.8	79.0	77.9	81.0	69.3	75.0	67.8	69.0	63.1	67.0	72.7	77.0		
2018	Total	72.5	76.0	75.2	78.0	65.2	70.0	63.5	67.0	58.2	60.0	71.2	75.0		
	Male	69.7	73.0	72.8	76.0	61.4	65.0	60.2	63.0	54.7	56.0	68.3	72.0		
	Female	75.9	80.0	77.9	81.0	70.2	76.0	67.3	70.0	62.9	66.0	73.8	78.0		

Notes: Average age at death = the arithmetic mean of the ages of Arizonans who died in a given year; Median age at death = the middle of the age distribution; half died at age greater than the median and half at age below the median; The mean is lower than the median in negatively skewed distributions.

**TABLE 2D-2
PERCENT OF DEATHS BEFORE EXPECTED YEARS OF LIFE REACHED
BY GENDER AND RACE/ETHNICITY, ARIZONA, 2008-2018**

Year/gender	All racial/ethnic groups	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
2008 Total	52.4	48.0	67.6	74.7	76.5	66.4
Male	60.0	55.4	75.4	81.6	82.6	68.7
Female	43.9	40.0	57.6	66.4	68.6	63.9
2009 Total	52.5	48.0	68.0	73.0	76.4	60.6
Male	59.9	55.4	74.4	79.3	81.1	66.8
Female	44.5	40.1	60.1	66.1	70.6	53.9
2010 Total	54.5	49.9	68.7	73.4	79.6	65.1
Male	62.4	57.8	76.2	78.4	85.3	69.0
Female	45.8	41.5	59.5	67.4	71.9	60.7
2011 Total	53.8	49.6	67.4	74.4	77.7	66.3
Male	61.8	57.5	75.4	80.7	84.3	71.3
Female	45.1	41.2	57.3	67.1	70.0	61.5
2012 Total	55.0	50.9	68.4	74.4	78.7	62.3
Male	62.3	58.1	75.7	81.6	83.9	74.2
Female	46.7	43.0	59.1	66.1	72.2	51.9
2013 Total	54.6	50.1	67.1	72.8	76.7	58.9
Male	62.0	57.5	75.0	80.8	82.7	65.0
Female	46.2	42.1	57.7	62.4	68.9	53.2
2014^a Total	54.8	50.9	66.7	75.2	77.8	58.9
Male	62.0	58.0	74.1	79.7	84.1	68.9
Female	46.7	43.1	57.7	69.8	69.8	49.7
2015^a Total	54.9	50.9	67.4	74.1	77.4	59.9
Male	61.6	57.6	73.9	78.5	83.2	66.8
Female	47.2	43.4	59.1	68.6	70.2	53.1
2016 Total	55.3	51.4	66.7	73.5	77.1	58.5
Male	62.1	57.9	73.4	79.9	82.4	67.3
Female	47.5	44.1	57.9	64.9	69.7	50.6
2017 Total	55.1	50.6	67.0	75.1	77.9	58.7
Male	61.8	57.0	74.1	82.0	84.0	63.1
Female	47.3	43.3	58.0	66.1	69.9	54.7
2018 Total	55.1	50.8	65.6	73.3	78.8	57.7
Male	62.1	57.4	73.4	80.3	83.9	64.9
Female	46.9	43.2	55.1	65.2	71.9	51.2

Note: ^a Based on updated expected years of life at birth for all U.S. residents (78.8 years in 2018).

**TABLE 2D-3
MEDIAN AGE AT DEATH FOR LEADING CAUSES OF MORTALITY BY GENDER, RACE/ETHNICITY, AND
URBAN/RURAL AREAS³, ARIZONA, 2018**

	ARIZONA				Area/gender				Race/ethnicity					
	Total	Male	Female	Total Urban	Urban Male	Urban Female	Total Rural	Rural Male	Rural Female	White Non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
Total, all causes	76.0	73.0	80.0	76.0	74.0	80.0	75.0	73.0	78.0	78.0	70.0	67.0	60.0	75.0
Major cardiovascular diseases	81.0	77.0	84.0	81.0	78.0	84.0	79.0	76.0	83.0	82.0	77.0	71.0	71.0	77.0
Diseases of heart	80.0	77.0	84.0	81.0	78.0	85.0	78.0	76.0	83.0	82.0	76.0	70.0	70.0	77.5
Coronary heart disease	80.0	77.0	84.0	80.0	77.0	85.0	78.0	76.0	82.0	81.0	76.0	70.0	72.0	77.0
Malignant neoplasms	73.0	73.0	73.0	73.0	73.0	73.0	74.0	74.0	74.0	74.0	69.0	67.0	68.0	71.0
Lung cancer	74.0	73.0	74.0	73.0	73.0	74.0	74.0	74.0	74.0	74.0	74.0	68.0	73.0	69.5
Prostate cancer	80.0	80.0	0.0	80.5	80.5	0.0	79.0	79.0	0.0	81.0	79.0	76.5	77.5	82.0
Breast cancer	70.0	66.0	70.0	69.0	66.0	69.0	73.0	0.0	73.0	72.0	65.0	59.0	60.0	65.0
Colorectal cancer	72.0	71.0	73.0	72.0	71.0	73.0	74.0	74.5	74.0	73.0	70.0	61.0	67.0	65.0
Malignant melanoma of skin	71.0	71.0	71.0	71.0	71.0	72.0	72.0	72.0	71.0	71.0	60.5	56.0	0.0	68.5
Cerebrovascular diseases	82.0	79.0	84.0	82.0	79.0	84.0	81.0	78.0	83.0	83.0	78.0	75.0	76.0	76.0
Chronic lower respiratory diseases	78.0	77.0	79.0	78.0	77.0	79.0	78.0	76.0	79.0	78.0	77.0	74.5	77.0	82.0
Accidents (unintentional injuries)	54.0	51.0	62.0	54.0	50.0	64.0	55.0	53.0	60.0	61.0	38.0	41.0	42.0	64.0
Motor vehicle accidents	44.0	44.0	44.0	44.0	43.0	44.0	46.5	48.0	34.0	54.0	33.0	32.0	36.5	55.0
Falls	84.0	81.0	87.0	85.0	81.5	87.0	80.0	79.0	83.0	85.0	81.0	89.0	68.5	84.5
Accidental poisoning	40.0	39.5	43.0	40.0	39.0	42.0	43.0	42.0	47.0	43.0	35.0	42.0	39.0	30.5
Accidental drowning	36.0	34.0	49.0	37.0	35.0	51.0	35.0	33.0	40.5	46.0	22.0	33.0	38.0	87.0
Influenza and pneumonia	78.0	77.0	80.0	79.0	78.0	80.0	76.0	76.0	76.0	80.0	75.0	66.0	70.0	82.0
Alzheimer's disease	87.0	85.0	88.0	87.0	85.0	89.0	87.0	85.0	88.0	88.0	87.0	84.0	86.0	86.5
Diabetes	71.0	70.0	73.0	71.0	70.0	73.0	72.0	70.0	75.0	73.0	70.0	67.0	65.0	70.0
Intentional self-harm (suicide)	48.0	48.0	48.5	48.0	48.0	48.0	49.0	47.0	50.0	54.0	35.0	33.0	27.0	44.0
Chronic liver disease and cirrhosis	60.0	60.0	60.0	61.0	60.0	62.0	59.0	60.0	56.0	62.0	61.0	57.0	49.5	64.0
Nephritis, nephrotic syndrome and nephrosis	76.0	75.0	78.0	76.0	75.0	77.0	78.0	75.0	81.0	79.0	73.0	75.0	68.0	72.5
Septicemia	74.0	71.0	76.0	74.5	71.0	76.0	72.5	71.0	74.0	76.5	70.0	70.0	60.5	50.0
Assault (homicide)	32.0	33.0	31.0	32.0	32.0	31.0	37.5	44.0	28.5	39.0	29.0	29.5	33.0	47.0
Parkinson's disease	82.0	82.0	82.0	82.0	82.0	82.0	82.0	83.0	80.0	83.0	80.5	81.0	83.0	79.5
Essential (primary) hypertension and hypertensive renal disease	81.0	77.0	83.0	81.0	77.0	83.0	80.5	79.0	83.0	82.0	80.0	72.5	71.0	82.0
Human immunodeficiency virus (HIV) disease	53.0	53.0	58.0	53.0	53.0	58.0	51.0	51.0	58.0	56.0	49.0	49.5	49.5	43.0
Injury by firearms	46.0	46.0	44.0	42.0	42.0	42.0	56.0	58.0	49.0	55.0	28.0	30.0	32.0	44.0
Drug-induced deaths	42.0	40.0	46.0	41.0	40.0	45.0	45.0	39.0	51.0	46.0	35.0	44.0	35.0	35.0
Opioid-induced deaths	37.0	36.0	43.0	37.0	36.0	41.0	37.0	35.0	47.5	41.0	31.5	33.0	33.0	21.0
Alcohol-induced deaths	56.0	57.0	54.0	57.0	58.0	55.0	55.0	56.0	51.0	59.0	58.0	51.0	48.0	62.0

Notes: ³ Urban = Maricopa, Pima, Pinal, and Yuma counties; median age at death = the middle of the age distribution; half died at age greater than the median and half at age below the median.

**TABLE 2D-4
PERCENT DEATHS BEFORE EXPECTED^a YEARS OF LIFE REACHED FOR THE LEADING CAUSES OF MORTALITY BY
GENDER, RACE/ETHNICITY, AND URBAN/RURAL AREAS^b, ARIZONA, 2018**

	ARIZONA				Area/gender				Race/ethnicity						
	Total	Male	Female		Total Urban	Urban Male	Urban Female	Total Rural	Rural Male	Rural Female	White Non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
Total, all causes	55.1%	62.1%	46.9%		54.3%	61.5%	46.1%	57.7%	63.6%	50.0%	50.8%	65.6%	73.3%	78.8%	57.7%
Major cardiovascular diseases	44.1%	52.4%	34.5%		43.0%	51.5%	33.3%	47.8%	54.6%	38.7%	40.5%	53.3%	66.4%	66.6%	51.4%
Diseases of heart	44.8%	52.6%	34.6%		43.4%	51.5%	33.2%	49.4%	55.6%	40.1%	41.3%	54.2%	67.8%	69.0%	50.6%
Coronary heart disease	46.5%	53.7%	35.5%		44.9%	52.6%	33.9%	51.0%	56.3%	41.2%	43.2%	54.5%	68.9%	65.9%	53.3%
Malignant neoplasms	65.9%	66.2%	65.6%		65.8%	66.1%	65.4%	66.3%	66.6%	66.0%	63.9%	71.4%	76.7%	76.4%	74.6%
Lung cancer	68.0%	70.6%	64.9%		67.5%	70.2%	64.4%	69.8%	72.1%	66.9%	67.6%	66.2%	75.3%	60.0%	75.0%
Colorectal cancer	65.1%	68.5%	60.6%		64.8%	69.3%	59.3%	66.1%	65.8%	66.7%	63.1%	72.4%	75.0%	60.0%	63.0%
Breast cancer	70.3%	90.0%	70.1%		71.0%	90.0%	70.7%	67.1%	0.0%	67.1%	67.5%	78.0%	83.3%	83.3%	79.2%
Prostate cancer	43.5%	43.5%	0.0%		42.9%	42.9%	0.0%	45.0%	45.0%	0.0%	41.8%	45.9%	57.7%	55.0%	44.4%
Malignant melanoma of skin	69.9%	71.3%	66.1%		69.8%	71.1%	66.7%	68.4%	71.4%	60.0%	68.5%	100.0%	100.0%	0.0%	100.0%
Accidents (unintentional injuries)	79.0%	85.7%	66.1%		77.7%	85.2%	64.3%	83.4%	87.0%	74.2%	72.3%	89.5%	94.1%	95.2%	63.6%
Accidental poisoning	99.5%	99.6%	99.5%		99.6%	99.7%	99.5%	99.1%	98.8%	100.0%	99.5%	99.7%	100.0%	99.2%	100.0%
Falls	32.8%	41.8%	24.5%		30.4%	40.0%	22.2%	44.1%	49.0%	38.0%	30.7%	35.7%	40.0%	72.5%	11.1%
Motor vehicle accidents	94.5%	95.1%	93.1%		94.3%	95.2%	92.3%	94.7%	94.6%	95.1%	90.9%	98.4%	98.0%	98.8%	94.1%
Accidental drowning	90.2%	92.5%	84.0%		88.9%	92.5%	78.9%	95.0%	92.9%	100.0%	87.5%	100.0%	100.0%	100.0%	33.3%
Chronic lower respiratory diseases	51.3%	55.8%	47.2%		50.8%	55.4%	46.7%	52.5%	56.1%	48.9%	50.7%	52.3%	67.1%	53.5%	34.4%
Alzheimer's disease	14.8%	18.7%	12.8%		15.0%	19.1%	12.8%	13.8%	16.1%	12.7%	14.6%	14.1%	19.5%	21.1%	17.6%
Cerebrovascular diseases	40.2%	48.8%	33.2%		39.5%	48.1%	32.5%	42.4%	51.2%	35.5%	35.8%	50.4%	64.6%	56.6%	57.1%
Diabetes	69.0%	72.7%	63.5%		68.9%	72.3%	63.7%	69.0%	73.8%	62.1%	65.1%	71.0%	77.7%	83.6%	59.5%
Intentional self-harm (suicide)	93.0%	92.8%	93.7%		93.3%	93.2%	94.0%	92.2%	92.2%	92.5%	91.0%	97.8%	100.0%	100.0%	100.0%
Chronic liver disease and cirrhosis	91.6%	93.0%	89.5%		91.2%	93.0%	88.2%	92.7%	92.8%	92.6%	89.1%	92.4%	95.0%	97.0%	100.0%
Essential (primary) hypertension and hypertensive renal disease	42.5%	52.3%	34.1%		42.0%	53.5%	32.9%	43.9%	46.2%	41.4%	38.1%	47.6%	63.5%	67.7%	40.9%
Influenza and pneumonia	49.4%	52.6%	45.8%		47.6%	51.0%	43.6%	55.1%	57.4%	52.5%	46.1%	56.7%	73.3%	65.2%	33.3%
Parkinson's disease	32.3%	31.6%	33.6%		33.0%	32.8%	33.3%	28.9%	26.3%	35.0%	31.7%	36.3%	36.4%	23.5%	43.8%
Nephritis, nephrotic syndrome and nephrosis	54.6%	58.1%	50.5%		56.1%	57.7%	54.2%	49.4%	59.5%	39.0%	48.0%	64.9%	63.0%	73.6%	57.1%
Septicemia	62.0%	63.3%	60.7%		62.9%	62.2%	63.8%	59.3%	67.4%	51.2%	53.5%	78.7%	85.7%	79.4%	66.7%
Assault (homicide)	98.6%	99.1%	96.3%		98.9%	99.3%	96.7%	96.8%	97.7%	94.4%	97.0%	99.3%	100.0%	98.1%	100.0%
Human immunodeficiency virus (HIV) disease	98.7%	98.5%	100.0%		98.6%	98.4%	100.0%	100.0%	100.0%	100.0%	97.7%	100.0%	100.0%	100.0%	100.0%
Injury by firearms	93.1%	92.8%	94.6%		94.4%	94.0%	97.1%	88.6%	88.6%	88.6%	90.3%	98.7%	100.0%	100.0%	100.0%
Drug-induced deaths	98.4%	99.0%	97.2%		98.2%	98.8%	96.9%	99.6%	100.0%	98.8%	97.6%	100.0%	100.0%	98.9%	100.0%
Opioid induced deaths	99.1%	99.1%	99.1%		99.0%	99.0%	99.0%	100.0%	100.0%	100.0%	98.6%	100.0%	100.0%	100.0%	100.0%
Alcohol induced deaths	96.8%	96.2%	98.1%		96.6%	96.2%	97.6%	97.2%	96.3%	99.2%	96.4%	95.1%	95.7%	98.6%	100.0%

Notes: ^a Expected years of life at birth for all U.S. residents (78.8 years in 2018); ^b Urban = Maricopa, Pima, Pinal, and Yuma counties.