2B.

LEADING CAUSES OF DEATH

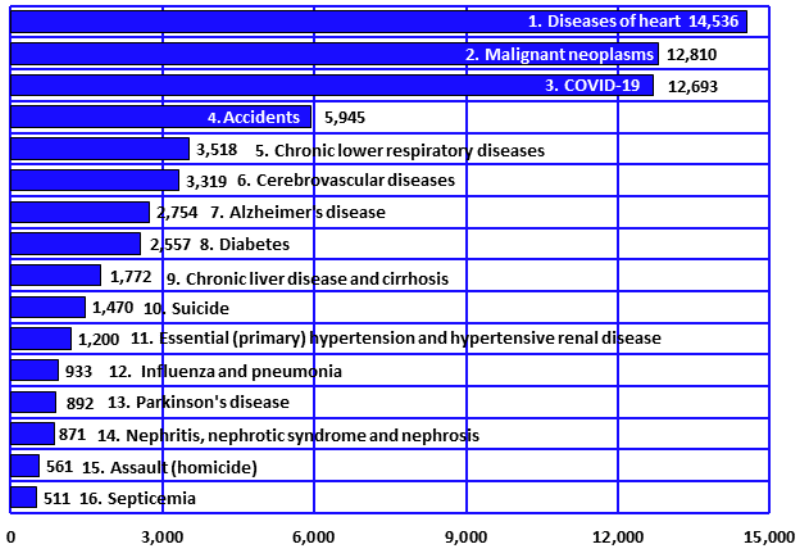
In 2010, the Office of Vital Records (OVR) of the Arizona Department of Health Services implemented the new (version 2003) Standard U.S. death certificate. The new certificate added several new questions: 1) whether tobacco use contributed to the death, and 2) whether, if the decedent was a female, the 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.

Figure 2B-1A
Leading Causes of Death among Arizona Residents in 2021

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

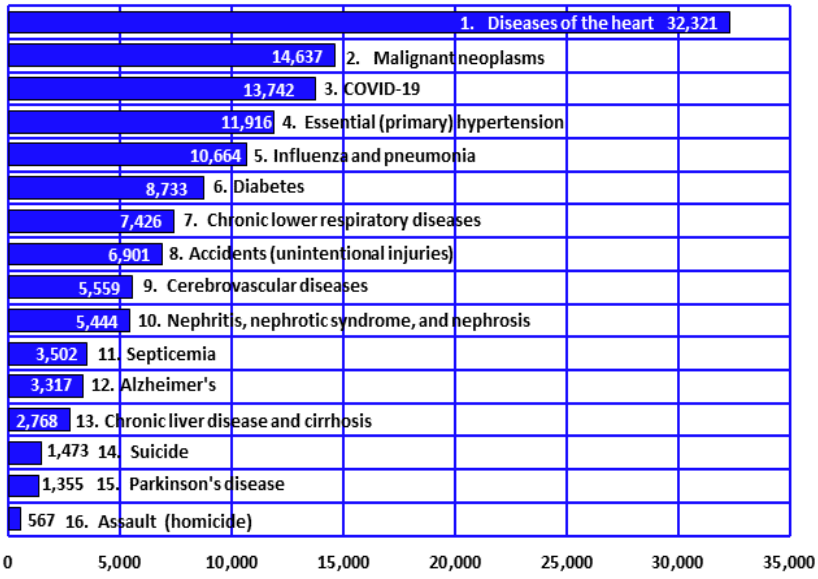


Based on the number of deaths (but not age-adjusted mortality rate), the leading underlying cause of death to Arizona residents in 2021 was *heart disease* (14,536 or 17.8 percent of all deaths), closely followed by *cancer*, which accounted for 12,810 or 15.7 percent of deaths (**Figure 2B-1A**, **Table 2B-1**, **Table 5E-14**).

The third leading cause of death, *COVID-19* accounted for 12,693 or 15.6 percent of total deaths. Deaths due to *accidents (unintentional injuries)* ranked fourth in 2021, with 5,945 (7.3 percent) resident deaths reported. Deaths due to *chronic lower respiratory diseases* ranked fifth in 2021, with 3,518 (4.3 percent) resident deaths reported. Together, these five causes accounted for 60.8 percent of total deaths in 2021. The fifteen leading causes accounted for 80.8 percent of all deaths among Arizona residents.

Figure 2B-1B
Leading Causes of Death among Arizona Residents in 2021

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 14,536 deaths that had diseases of the heart assigned as the underlying cause, another 17,785 deaths had diseases of the heart assigned as a secondary cause of death. The sum of these two counts (32,321, **Figure 2B-1B**) is the total number of deaths that had any mention of diseases of the heart on the 2021 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 (primary) hypertension* ranked 11th as the underlying cause but ranked 4th when any mention of it was counted.

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 2021, diseases of the heart were the leading cause of death for White non-Hispanics and Blacks, placed 2nd for Hispanics and Asians, and 3rd for American Indians. Cancer ranked 2nd leading cause of death for White non-Hispanics, 3rd for Hispanics, Black or African Americans, and Asians but ranked 5th for American Indians. In 2021, COVID-19 was the leading cause of death for Hispanics, American Indians, and Asians, 2nd for Black or African Americans, and 3rd for White non-Hispanics. Unintentional injury ranked 2nd for American Indians, 4th for White non-Hispanics, Hispanics, and Blacks, and 5th for Asians. (**Figure 2B-2, Table 2B-4**).

In 2021, chronic liver disease and cirrhosis was unique to American Indians in making the five top ranking, while cerebrovascular diseases were the 4th leading cause of death specific to Asians and 5th to Black or African Americans. Diabetes ranked 5th among the leading causes of death for Hispanics. Chronic lower respiratory disease was the fifth leading cause of death specific to White non-Hispanics. (**Table 2B-4**).

Figure 2B-2
Age-adjusted Mortality Rates[a] for the Five Leading Causes of Death for Both Genders by Race/Ethnicity, Arizona, 2021

Rank	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
1	Diseases of heart 154.7	COVID-19 220.5	Diseases of heart 193.3	COVID-19 394.4	COVID-19 120.1
2	Cancer 136.0	Diseases of heart 123.5	COVID-19 168.5	Unintentional injury 206.9	Diseases of heart 97.6
3	COVID-19 103.5	Cancer 110.9	Cancer 154.4	Diseases of heart 145.9	Cancer 94.4
4	Unintentional injury 74.8	Unintentional injury 66.6	Unintentional injury 101.3	Chronic liver disease and cirrhosis 145.7	Cerebro-vascular diseases 32.3
5	Chronic lower respiratory diseases 39.8	Diabetes 42.5	Cerebro-vascular diseases 61.9	Cancer 128.9	Unintentional injury 30.5

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 was the leading cause of death for White non-Hispanic females but ranked 3rd for Hispanic, Black or African American, and Asian females. While cancer was the leading cause of death for Black or African American females, it was 2nd to White non-Hispanic, Hispanic, and Asian females, and 4th to American Indians. COVID-19 was the leading cause for Hispanic, American Indian, and Asian females, came in 2nd for Black or African Americans and 3rd for White non-Hispanic females. (**Figure 2B-3**, **Table 2B-4**).

Chronic liver disease and cirrhosis ranked second among the leading cause of death unique to American Indian women. Chronic lower respiratory diseases were the fifth leading cause of death specific to White non-Hispanic females.

Cerebrovascular diseases ranked fourth among Hispanic and Asian females, and fifth among Black or African American females. Diabetes ranked fifth among the leading causes of death for Hispanic and Asian women.

Figure 2B-3
Age-adjusted Mortality Rates[a] for the Five Leading Causes of Death by Race/Ethnicity among Females, Arizona, 2021

Rank	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
1	Diseases of heart 120.1	COVID-19 164.0	Cancer 158.3	COVID-19 339.8	COVID-19 92.7
2	Cancer 119.6	Cancer 98.5	COVID-19 153.8	Chronic liver disease and cirrhosis 123.9	Cancer 91.0
3	COVID-19 76.7	Diseases of heart 93.8	Diseases of heart 136.0	Unintentional injury 123.8	Diseases of heart 81.9
4	Unintentional injury 47.3	Cerebro-vascular diseases 36.1	Unintentional injury 63.3	Cancer 123.2	Cerebro-vascular diseases 33.3
5	Chronic lower respiratory diseases 39.5	Diabetes 35.1	Cerebro-vascular diseases 60.5	Diseases of heart 97.8	Diabetes 24.5

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

Figure 2B-4
Age-adjusted Mortality Rates[a] for the Five Leading Causes of Death by Race/Ethnicity among Males, Arizona, 2021

Rank	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
1	Diseases of heart 193.0	COVID-19 287.5	Diseases of heart 258.1	COVID-19 464.6	COVID-19 159.0
2	Cancer 155.4	Diseases of heart 159.8	COVID-19 186.3	Unintentional injury 296.9	Diseases of heart 119.7
3	COVID-19 133.4	Cancer 128.0	Cancer 151.7	Diseases of heart 208.5	Cancer 100.1
4	Unintentional injury 102.0	Unintentional injury 99.0	Unintentional injury 138.0	Chronic liver disease and cirrhosis 170.0	Unintentional injury 42.0
5	Chronic lower respiratory diseases 40.0	Diabetes 51.6	Cerebro-vascular diseases 63.0	Cancer 139.9	Diabetes 38.6

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

Based on age-adjusted mortality rates for Arizona males, diseases of the heart ranked first or second as a leading cause of death for all racial/ethnic groups except for American Indians who ranked third. Cancer was the second leading cause for White non-Hispanic males, third for Hispanic, Black or African American, and Asian, and fifth for American Indian males. (**Figure 2B-4**; **Table 2B-4**).

Unintentional injury ranked the second leading cause of death for American Indian males, and fourth among White non-Hispanic, Hispanic, Black, and Asian males.

In 2021, based on the age-adjusted mortality rates, COVID-19 was the first leading cause of death for Hispanic, American Indian, and Asian males, second for Black males, and third for White non-Hispanic males. Chronic liver disease and cirrhosis ranked fourth for American Indian males. Chronic lower respiratory diseases specific to White non-Hispanic males and cerebrovascular diseases unique to Black males was ranked the fifth leading cause of death, and also ranked fifth was diabetes among Hispanic and Asian 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, 2021

Rank	Urban male	Urban female	Rural male	Rural female
1	Diseases of heart 184.0	Cancer 114.6	Diseases of heart 222.1	COVID-19 132.7
2	COVID-19 163.9	Diseases of heart 113.2	COVID-19 217.6	Cancer 126.0
3	Cancer 146.4	COVID-19 97.8	Cancer 162.8	Diseases of heart 126.0
4	Unintentional injury 101.3	Unintentional injury 45.1	Unintentional injury 141.1	Unintentional injury 59.0
5	Cerebro-vascular diseases 33.7	Alzheimer's disease 33.9	Chronic liver disease and cirrhosis 56.2	Chronic lower respiratory diseases 46.5

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.

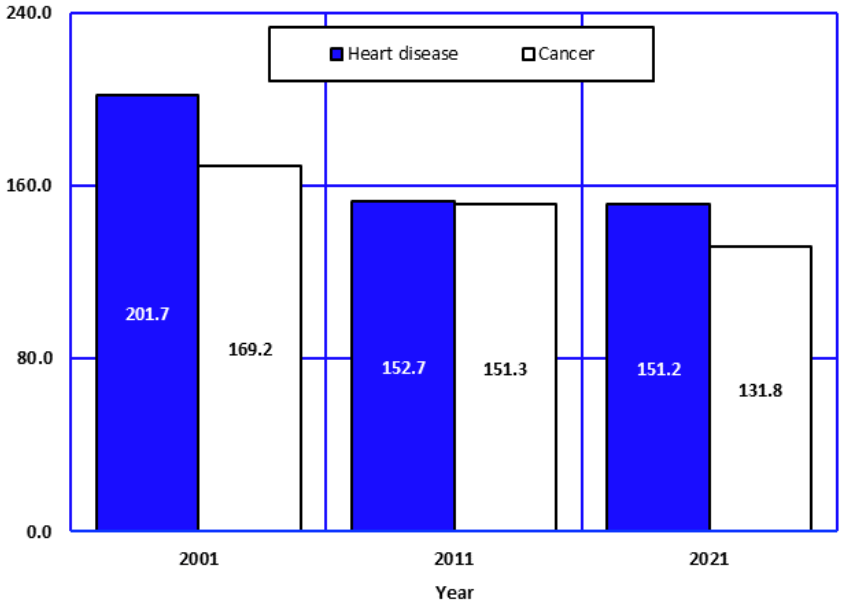
In 2021, the ranking of the leading causes of death were mostly similar by gender for residents of the urban (Maricopa, Pima, Pinal, and Yuma counties) and rural (all the remaining counties) areas of the state (**Figure 2B-5**, **Table 2B-5**). Diseases of the heart exceeded cancer as the leading causes of death among both urban and rural males, but came in 2nd and 3rd among urban and rural females. COVID-19 was ranked the first among rural females, 2nd among urban and rural males, and third leading cause of death for urban females. Unintentional injury placed fourth among the leading cause for males and females regardless of area of residence.

The leading causes of death which ranked fifth were cerebrovascular disease specific to urban males, Alzheimer's disease unique to urban females, chronic liver disease and cirrhosis was specific to rural males and chronic lower respiratory diseases to rural females.

The age-adjusted mortality rate for diseases of the heart decreased by 25.0 percent from 201.7 deaths per 100,000 population in 2001 to 151.2/100,000 in 2021 (**Figure 2B-6**). The age-adjusted mortality rate for cancer declined less, by 22.1 percent, from 2001-2021. In Arizona, the relative risk of death from heart disease versus cancer declined from 19.2 percent greater in 2001 to 14.7 percent in 2021.

In 2011, 119 less Arizonans died from diseases of the heart than cancer (**Table 2B-1**). In 2021, the number of deaths due to diseases of the heart exceeded cancer by 1,726 cases (**Table 2B-4**).

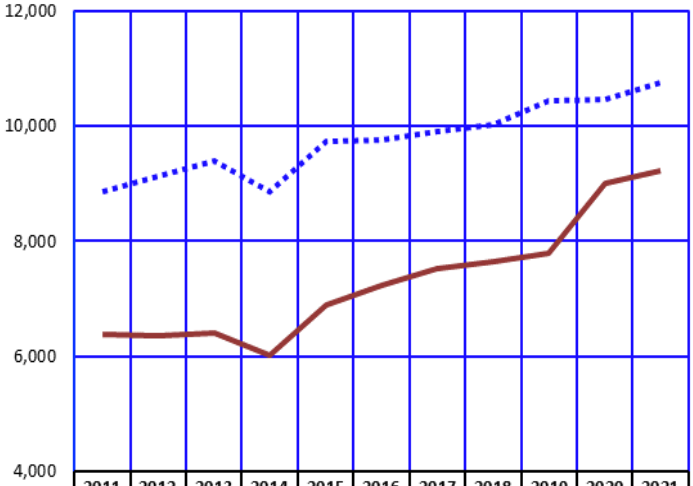
Figure 2B-6
Comparison of Age-adjusted Mortality Rates[a] for Heart Disease and Cancer (Malignant Neoplasm), Arizona, 2001, 2011, and 2021



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

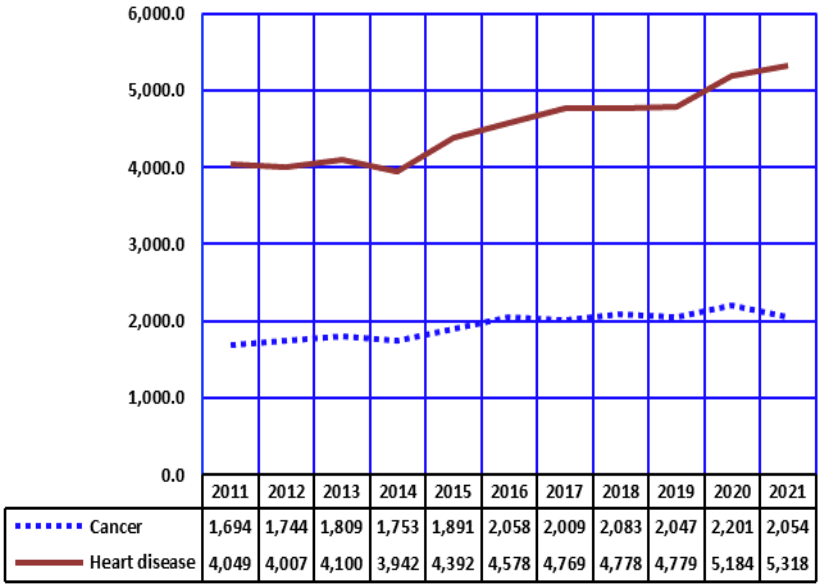
For the past several years, cancer has been the number one cause of death among Arizonans aged 0-84 years (**Figure 2B-7**). Beginning in 1996, the annual number of cancer deaths exceeded the number of deaths from heart disease in this age group. In 2021, 1,538 more Arizonans 0-84 years old died from cancer (10,756) than heart disease (9,218).

Figure 2B-7
Number of Deaths from Heart Disease and Cancer among Arizonans 0-84 Years, 2011-2021



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Cancer	8,849	9,127	9,384	8,847	9,733	9,743	9,908	10,014	10,438	10,470	10,756
Heart disease	6,373	6,359	6,396	6,011	6,882	7,241	7,516	7,632	7,781	9,001	9,218

Figure 2B-8
Deaths from Heart Disease and Cancer among Arizonans 85+, 2011-2021

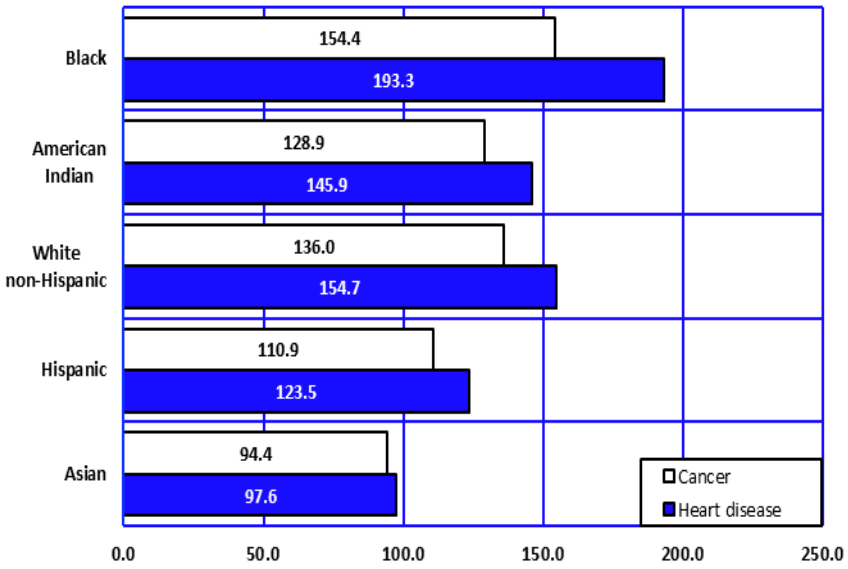


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Cancer	1,694	1,744	1,809	1,753	1,891	2,058	2,009	2,083	2,047	2,201	2,054
Heart disease	4,049	4,007	4,100	3,942	4,392	4,578	4,769	4,778	4,779	5,184	5,318

Among Arizonans age 85 and over, heart disease is the number one leading cause of death by a wide margin. In 2021, adults aged 85 and over accounted for 16.0 percent of all deaths from cancer but 36.6 percent of all deaths from heart disease. In 2021, the median age at death for heart disease was 80 years (**Table 2D-3**); and a minority of deaths (38.8 percent, **Table 2D-4**) were premature, i.e., before reaching the expected years of life at birth for all U.S. residents (76.1 years).

However, from 2011 to 2021, the number of deaths from cancer increased by 21.3 percent among Arizonans 85 years or older, less than the increase observed in diseases of the heart (31.3 percent increase).

Figure 2B-9
Age-adjusted Mortality Rates[a] for Heart Disease and Cancer by Race/Ethnicity, Arizona, 2021



In Arizona, Black or African Americans were 2.0 times more likely to die from diseases of the heart and 1.6 times more likely to die from malignant neoplasms in 2021 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 1.6 times more likely to die of heart disease and 1.4 times more likely to die of cancer.

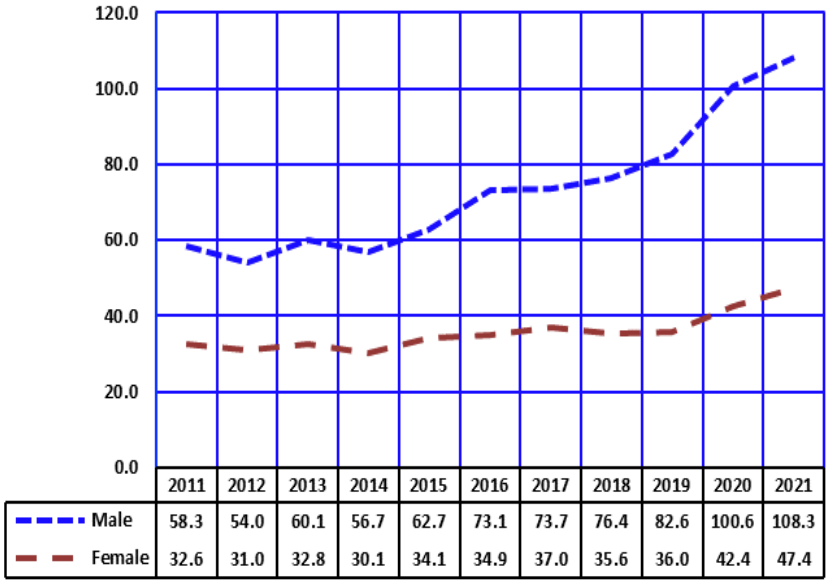
In 2021, the age-adjusted relative risk of death from heart disease exceeded cancer mortality risk (**Table 2B-3**) for all the racial/ethnic groups.

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

The number of deaths from unintentional injuries increased by 10.6 percent from 5,377 in 2020 to 5,945 in 2021 (**Table 2B-1**). In 2021, based on age-adjusted mortality rates, accidents ranked fourth as a leading cause of death for both males and females (**Table 2B-4**). From 2020 to 2021, the age-adjusted mortality rate for accidents increased both for males (7.7 percent) and females (11.8 percent; **Figure 2B-10**).

In 2021, 1,359 deaths were caused by motor vehicle accidents, an increase of 31.3 percent from 2020. Heat induced mortality has seen a decrease of 7.6 percent between 2020 and 2021. Deaths due to accidental drowning and submersion increased by 16.2 percent from 2020 (n=99) to 2021 (n=115). Additionally, Arizonans experienced an 8.6 percent increase in the number of accidental poisonings due to drugs and/or medicaments from 2,309 fatalities in 2020 to 2,508 in 2021 (**Table 2B-9**).

Figure 2B-10
Age-adjusted Mortality Rates[a] for Accidents (Unintentional Injuries) by Gender and Year, Arizona, 2011-2021



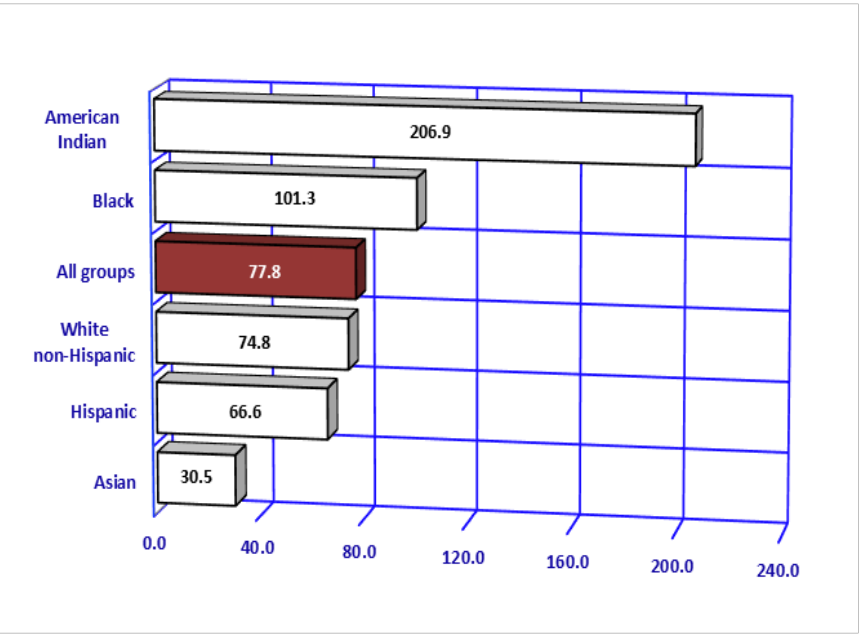
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Male	58.3	54.0	60.1	56.7	62.7	73.1	73.7	76.4	82.6	100.6	108.3
Female	32.6	31.0	32.8	30.1	34.1	34.9	37.0	35.6	36.0	42.4	47.4

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

The American Indian death rate for unintentional injuries (206.9/100,000) was 6.8 times greater than the rate for Asians 30.5/100,000), the group with the lowest risk of unintentional injury death among racial/ethnic groups in the state (**Figure 2B-11**, **Table 2B-4**).

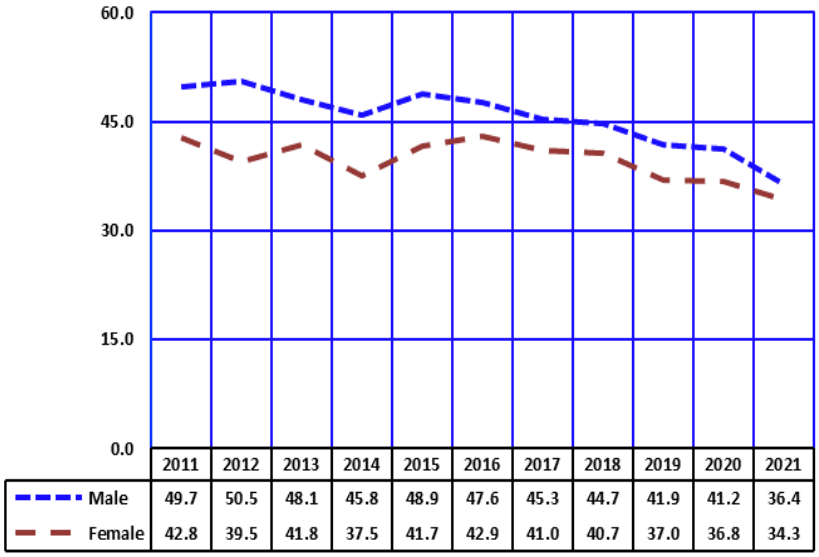
In 2021, Apache (226.3/100,000) and Navajo (168.8/100,000) counties had the two highest age-adjusted mortality rates for unintentional injuries (**Table 5E-11**).

Figure 2B-11
Age-adjusted Mortality Rates[a] for Accidents (Unintentional Injuries) by Race/Ethnicity, Arizona, 2021



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

Figure 2B-12
Age-adjusted Mortality Rates[a] for Chronic Lower Respiratory Diseases[b] by Gender and Year, Arizona, 2011-2021



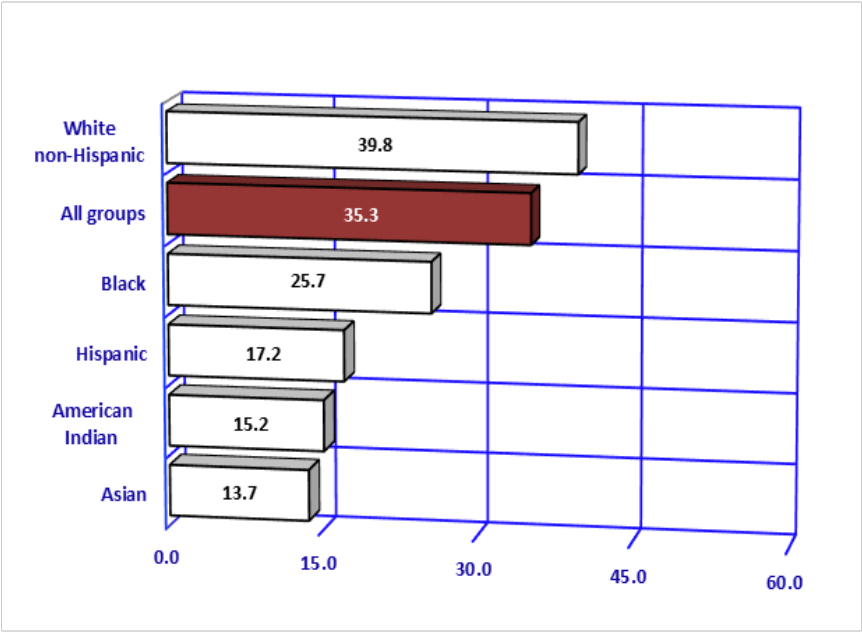
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Male	49.7	50.5	48.1	45.8	48.9	47.6	45.3	44.7	41.9	41.2	36.4
Female	42.8	39.5	41.8	37.5	41.7	42.9	41.0	40.7	37.0	36.8	34.3

In 2021, chronic lower respiratory diseases (bronchitis, emphysema, asthma) was the 5th leading cause of death among Arizona residents (**Table 2B-1**). The mortality rate for chronic lower respiratory diseases decreased for both genders between 2020 and 2021, but more so among males (11.7 percent) than females (6.8 percent) **Figure 2B-12**, **Table 2B-2**).

Among genders and regional groups, rural males and females experienced the highest mortality due to chronic lower respiratory diseases with rates of 49.5/100,000 and 46.5/100,000, respectively) (**Table 2B-5**).

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, 2021



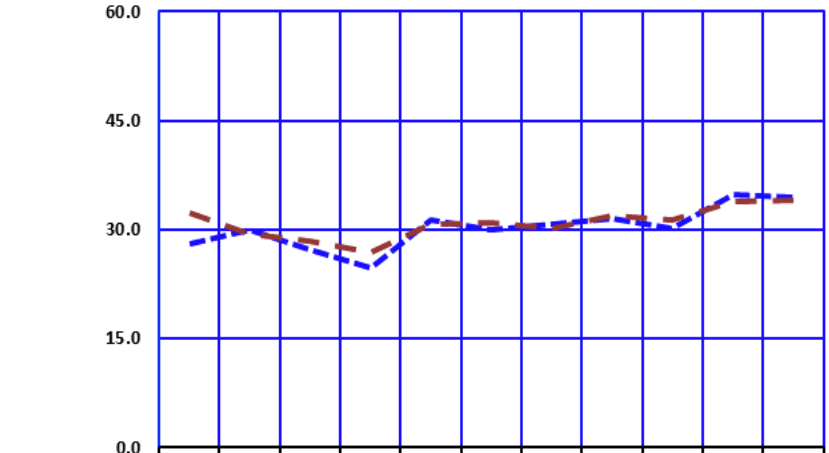
Mortality rates for emphysema, chronic bronchitis, asthma, and other lower respiratory disorders were highest among White non-Hispanics (39.8 deaths per 100,000) when compared to any other racial/ethnic groups in 2021. Asians recorded the lowest rate at 13.7 deaths per 100,000 population **(Figure 2B-13**, **Table 2B-4**).

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

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 decreased by 0.6 percent from 34.6/100,000 in 2020 to 34.4 deaths per 100,000 population in 2021 (**Table 2B-2**).

With some exceptions, the risk of dying from cerebrovascular diseases was slightly higher among females than males for the period 2011-2021 (6 of the last 11 years), but the rates were very similar. (**Figure 2B-14**, **Table 2B-2**).

Figure 2B-14
Age-adjusted Mortality Rates[a] for Cerebrovascular Disease by Gender and Year, Arizona, 2011-2021

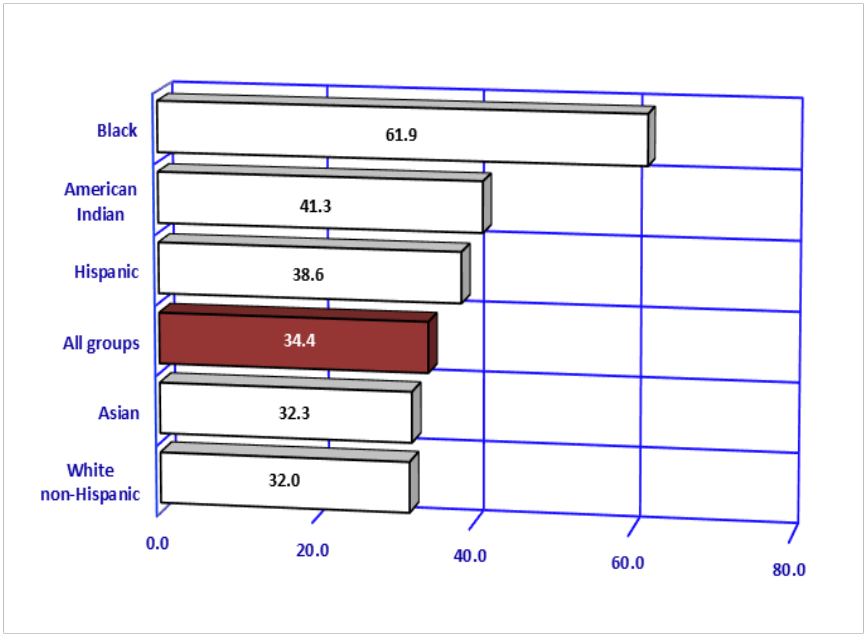


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Male	28.0	30.0	27.2	24.8	31.3	29.9	30.7	31.6	30.2	34.8	34.4
Female	32.3	29.4	28.5	26.8	30.7	30.9	30.2	32.0	31.4	33.8	34.0

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

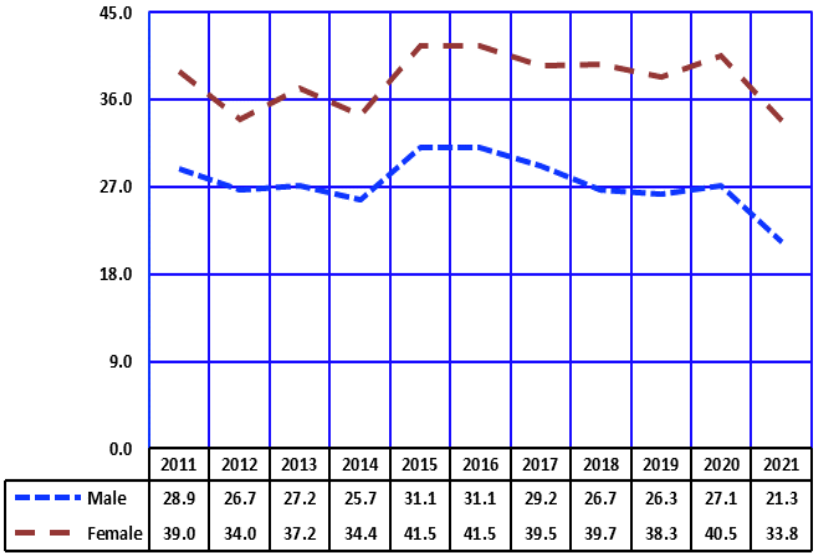
Compared to Arizona's overall rate, Black or African Americans were 1.8 times more likely to die from cerebrovascular disease in 2021 (**Figure 2B-15**, **Table 2B-4**). The 2021 mortality rate for cerebrovascular disease among White non-Hispanics (32.0/100,000) was the lowest among racial/ethnic groups.

Figure 2B-15
Age-adjusted Mortality Rates[a] for Cerebrovascular Disease by Race/Ethnicity, Arizona, 2021



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

Figure 2B-16
Age-adjusted Mortality Rates[a] for Alzheimer's Disease by Gender and Year, Arizona, 2011-2021



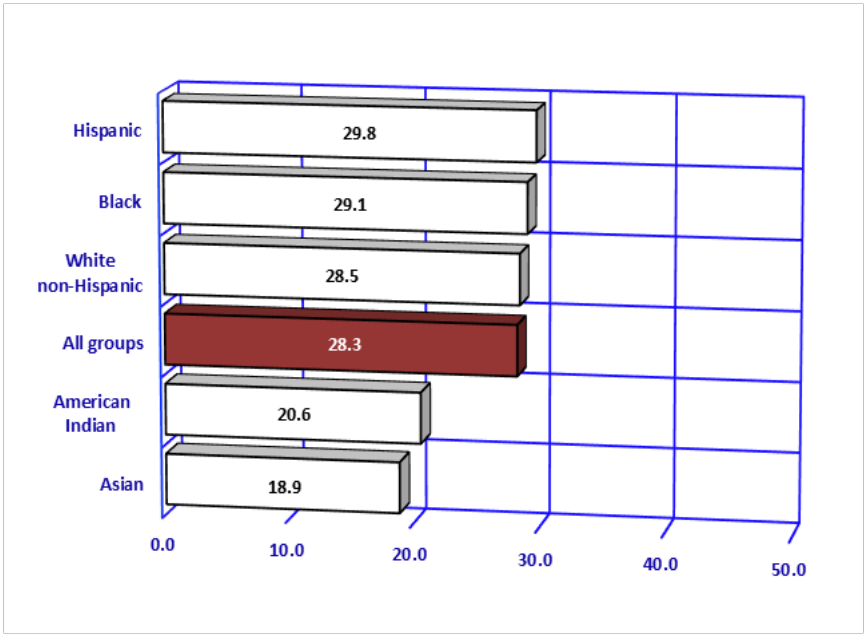
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Male	28.9	26.7	27.2	25.7	31.1	31.1	29.2	26.7	26.3	27.1	21.3
Female	39.0	34.0	37.2	34.4	41.5	41.5	39.5	39.7	38.3	40.5	33.8

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

Based on the age-adjusted rate of deaths in 2021, Alzheimer's disease was the 7th leading cause of death for females and 10th leading cause for males (**Table 2B-4**).

From 2020 to 2021, the age-adjusted mortality rate for Alzheimer's disease decreased for both males (21.4 percent) and females (16.5 percent) (**Figure 2B-16**).

Figure 2B-17
Age-adjusted Mortality Rates[a] for Alzheimer's Disease by Race/Ethnicity, Arizona, 2021



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

The age-adjusted mortality rates for Alzheimer's disease in 2021 were higher among Hispanic or Latinos (29.8/100,000), Black or African Americans (29.1/100,000), and White non-Hispanics (28.5/100,000) than the other racial/ethnic groups. Rates lower than the state average (28.3/100,000) were recorded among Asians (18.9/100,000) and American Indians (20.6/100,000) **Figure 2B-17**, **Table 2B-4**).

White non-Hispanic residents of Arizona disproportionately contributed to mortality from Alzheimer's disease. In 2021, White non-Hispanics accounted for 55.0 percent (**Table 10C-1**) of the state's population, but 82.4 percent of all deaths from Alzheimer's disease (2,268 out of 2,754; **Table 2B-4**).

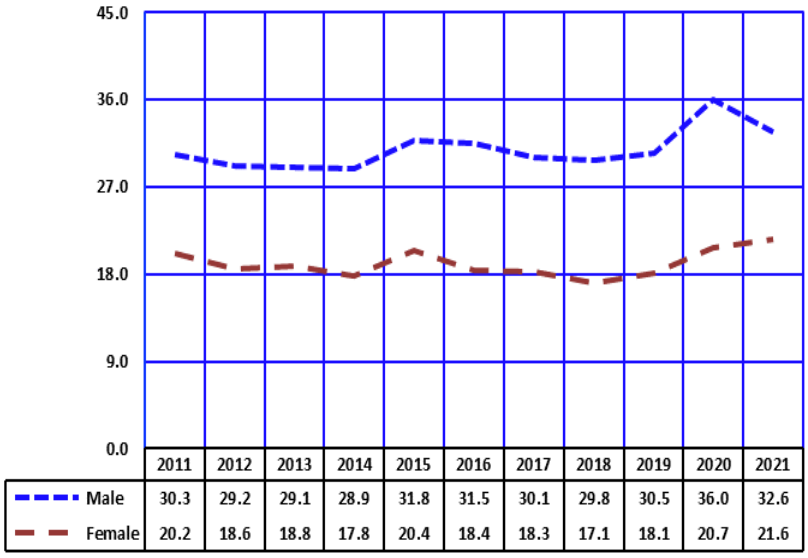
In 2021, the overall median age at death from Alzheimer's disease was 86, specifically 85 years for males and 87 years for females (**Table 2D-3**).

From 2011-2021, mortality rates for diabetes increased for both males (7.6 percent) and females (6.9 percent; **Figure 2B-18**).

In addition to 2,557 deaths that had diabetes assigned as the underlying cause in 2021, another 6,176 deaths had diabetes assigned as a contributing factor. The diabetes-related death rate of 91.3/100,000 (**Table 6A-6**) was 3.4 times greater than the rate for diabetes as an underlying cause (26.8/100,000; **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.

Figure 2B-18
Age-adjusted Mortality Rates[a] for Diabetes by Gender and Year, Arizona, 2011-2021



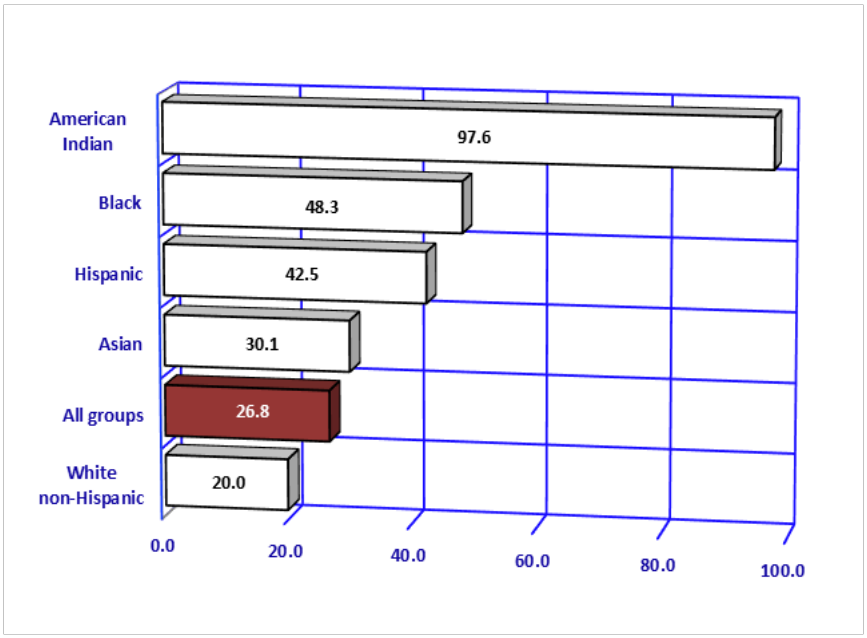
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Male	30.3	29.2	29.1	28.9	31.8	31.5	30.1	29.8	30.5	36.0	32.6
Female	20.2	18.6	18.8	17.8	20.4	18.4	18.3	17.1	18.1	20.7	21.6

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

In 2021, compared to Arizona's rate, American Indians were 3.6 times more likely to die from diabetes (97.6 deaths per 100,000; **Figure 2B-19**, **Table 2B-4**). The rate of 20.0 deaths per 100,000 among White non -Hispanics was the lowest rate among all racial/ethnic groups in the state.

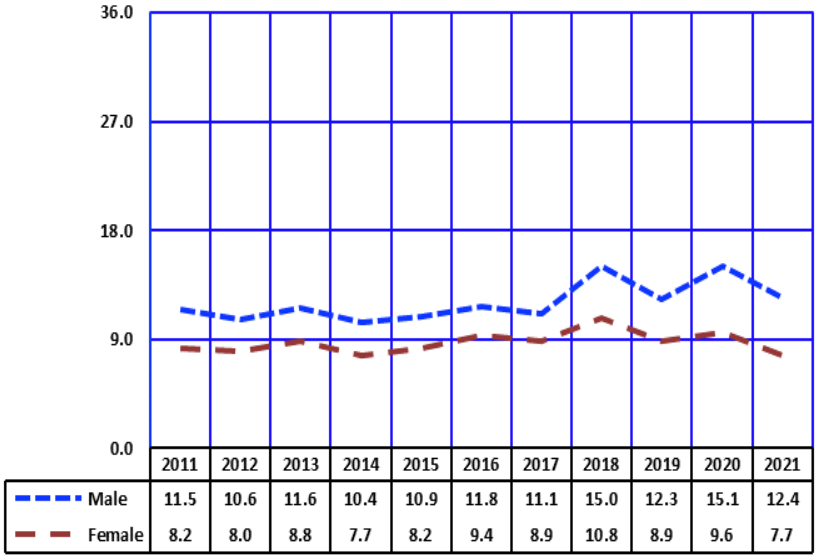
Among the 15 Arizona counties, Gila (54.1/100,000) and Graham (53.4/100,000) counties had the highest mortality rates for diabetes recorded in 2021 (**Table 5E-11**).

Figure 2B-19
Age-adjusted Mortality Rates[a] for Diabetes by Race/Ethnicity, Arizona, 2021



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

Figure 2B-20
Age-adjusted Mortality Rates[a] for Influenza and Pneumonia by Gender and Year, Arizona, 2011-2021



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Male	11.5	10.6	11.6	10.4	10.9	11.8	11.1	15.0	12.3	15.1	12.4
Female	8.2	8.0	8.8	7.7	8.2	9.4	8.9	10.8	8.9	9.6	7.7

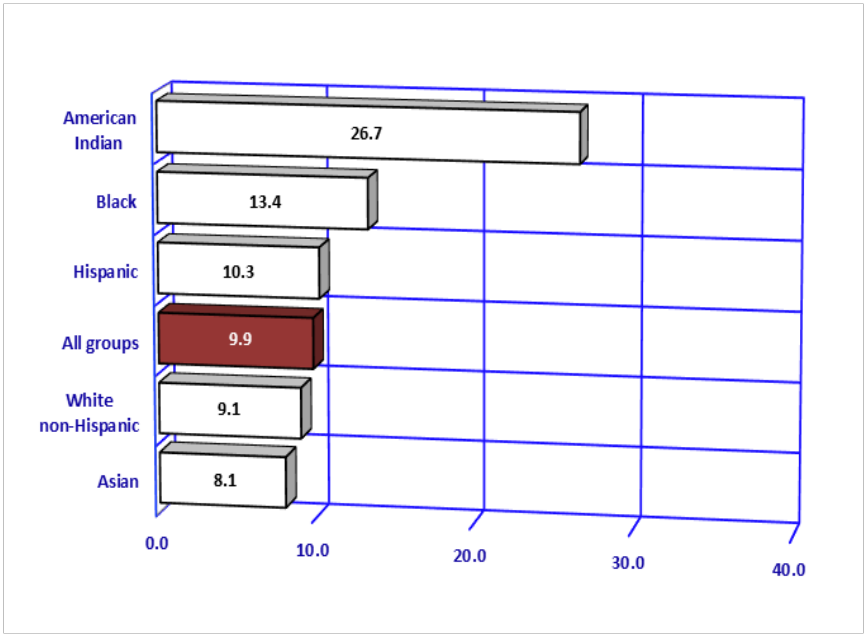
Note: [a] Number of deaths per 100,000 population age-adjusted 2000 U.S. standard.

The number of deaths from influenza and pneumonia increased by 43.8 percent from 649 in 2011 to 933 in 2021. (**Table 2B-1**). Among the 933 deaths, influenza was identified as the underlying cause for 9 of them, while pneumonia was listed as the underlying cause on 924 death certificates (**Table 2B-6**).

The mortality rate for influenza and pneumonia decreased for females from 9.6 deaths per 100,000 in 2020 to 7.7 deaths in 2021 (**Figure 2B-20, Table 2B-2**). The mortality rate for influenza and pneumonia also decreased for males from 15.1 per 100,000 in 2020 to 12.4 deaths per 100,000 in 2021.

In 2021, the age-adjusted mortality rate for Arizona males was 61.0 percent greater than that of Arizona females.

Figure 2B-21
Age-adjusted Mortality Rates[a] for Influenza and Pneumonia by Race/Ethnicity, Arizona, 2021



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

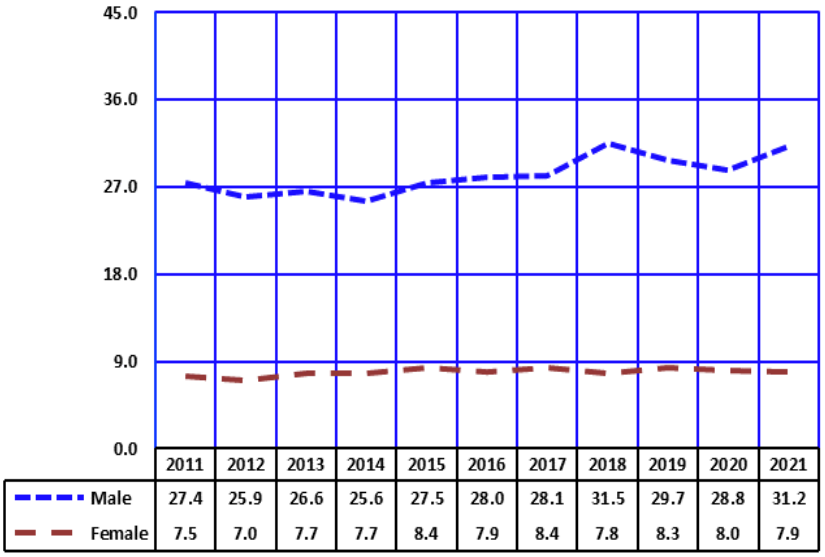
In 2021, American Indian residents of Arizona had the highest mortality rate for influenza and pneumonia (26.7 deaths per 100,000) among the racial/ethnic groups. Mortality due to influenza and pneumonia for White non-Hispanics (9.1/100,000) and Asians (8.1/100,000) were lower than the state rate. (**Figure 2B-21**, **Table 2B-4**).

County comparisons show that in 2021 influenza and pneumonia mortality rates were highest in Apache (28.5/100,000), Navajo (18.4/100,000), and La Paz (18.0/100,000) counties compared to the remaining counties (**Table 5E-11**).

In 2021, based on age-adjusted mortality rates, suicide was the 8th leading cause of death among males. It ranked as the 11th cause of mortality for females. The overall age-adjusted suicide rate decreased from 18.2 suicides per 100,000 in 2020 to 19.4 in 2021 (**Table 2B-4**).

From 2020 to 2021, suicide mortality increased by 8.3 percent among males and decreased 1.3 percent among females (**Figure 2B-22**, **Table 2B-4**). In 2021, suicide posed a 3.9 times greater mortality risk for males (31.2/100,000) than for females (7.9/100,000).

Figure 2B-22
Age-adjusted Mortality Rates[a] for Suicide by Gender and Year, Arizona, 2011-2021



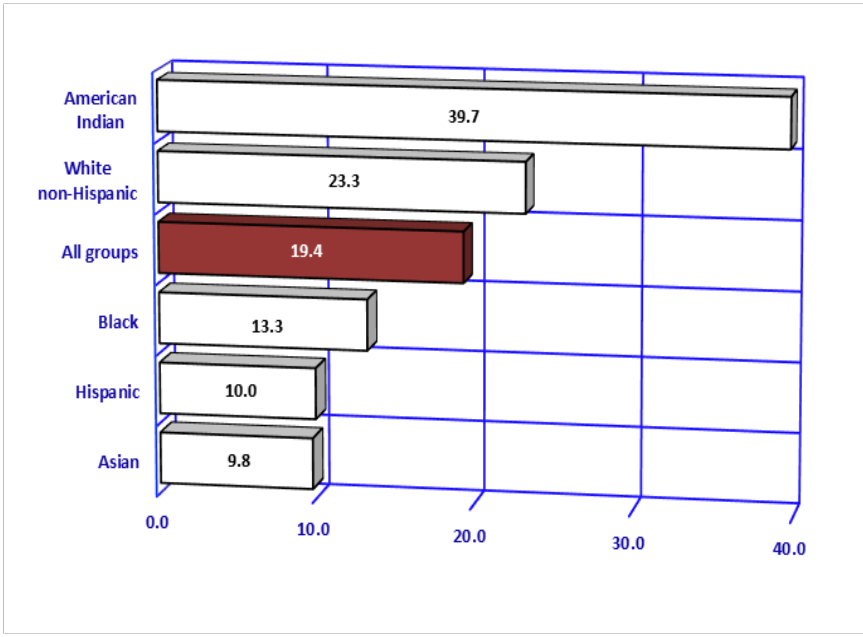
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Male	27.4	25.9	26.6	25.6	27.5	28.0	28.1	31.5	29.7	28.8	31.2
Female	7.5	7.0	7.7	7.7	8.4	7.9	8.4	7.8	8.3	8.0	7.9

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

In 2021, American Indians had the highest age-adjusted suicide rate (39.7 suicides per 100,000) among racial/ethnic groups, followed by White non-Hispanics (23.3/100,000), while Asians recorded the lowest age-adjusted suicide rate (9.8/100,000; **Figure 2B-23**, **Table 2B-4**).

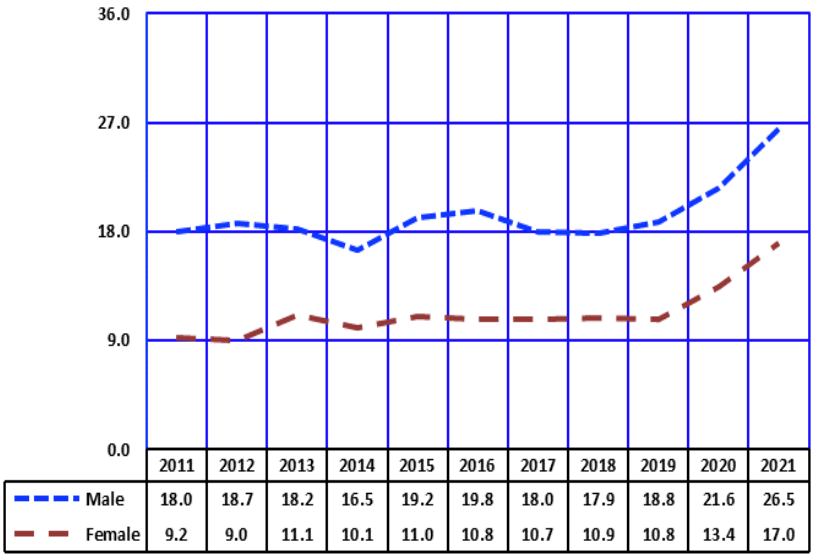
The 2021 age-adjusted mortality rates for suicide varied across the state, from a low rate of 7.9 suicides per 100,000 residents in Santa Cruz County to a high of 65.1 suicides per 100,000 residents in Apache County (**Table 5E-11**).

Figure 2B-23
Age-adjusted Mortality Rates[a] for Suicide by Race/Ethnicity, Arizona, 2021



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

Figure 2B-24
Age-adjusted Mortality Rates[a] for Chronic Liver Disease and Cirrhosis by Gender and Year, Arizona, 2011-2021



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Male	18.0	18.7	18.2	16.5	19.2	19.8	18.0	17.9	18.8	21.6	26.5
Female	9.2	9.0	11.1	10.1	11.0	10.8	10.7	10.9	10.8	13.4	17.0

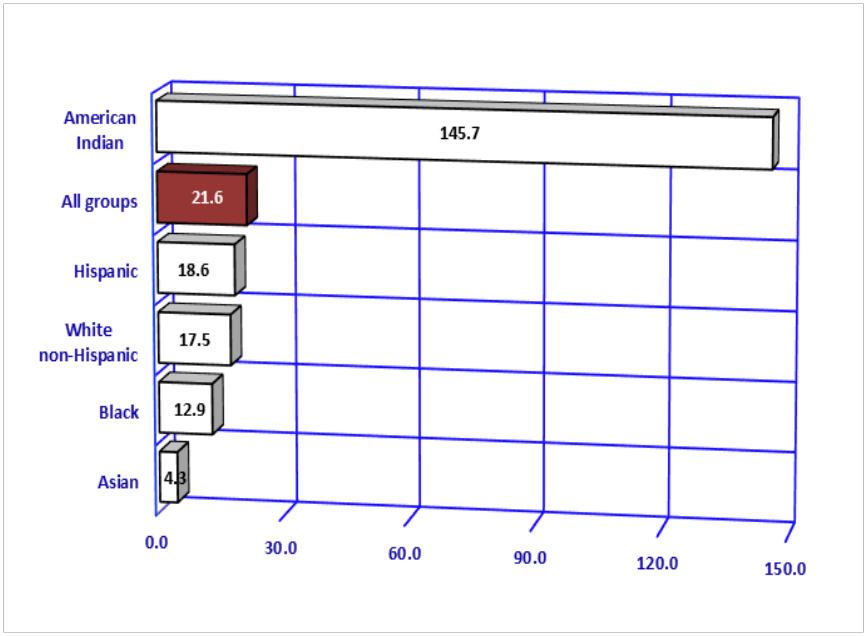
Chronic liver disease and cirrhosis was the 9th leading cause of death in Arizona in 2021 (**Figure 2B-1, Table 2B-1**). Among the 1,772 deaths due to chronic liver disease and cirrhosis, 1,061 (59.9 percent) were males (**Table 2B-4**).

Among females, the age-adjusted mortality rate for chronic liver disease and cirrhosis increased 26.9 percent from 2020 to 2021. Among males, the mortality rate increased 22.7 percent from 21.6/100,000 in 2020 to 26.5/100,000 in 2021 (**Figure 2B-24**, **Table 2B-3**).

In 2021, Apache, Gila, Navajo, and La Paz 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, 2021



In 2021, chronic liver disease and cirrhosis mortality rate was exceedingly high among American Indians (145.7 deaths per 100,000 population) compared to other racial/ethnic groups in the state (**Figure 2B-25, Table 2B-4**). The death rate for chronic liver disease and cirrhosis among Asians, Blacks, White non-Hispanics, and Hispanics were all below the state average (21.6 deaths per 100,000 population).

Compared to the median age at death from all causes (74 years), those who died from chronic liver disease and cirrhosis were on average 16 years younger (58 years, **Table 2D-3**). In 2021, the median age at death of American Indians who died from chronic liver disease and cirrhosis was 47 years, which was at least 11 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.