

## 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 2018
BASED ON THE NUMBER OF DEATHS DUE TO THE UNDERLYING CAUSE:

	1	1. Diseas	es of the heart	12,410
		2. Maligr	ant neoplasms	12,097
	4,211 3. 4	Accidents		
	3,820 4. Chro	onic lower respirator	y diseases	
	3,011 5. Alzheime	's disease		
	2,829 6. Cerebrovas	cular diseases		
2,041	7. Diabetes			
1,432 8.	Suicide			
1,159 9. Ch	ronic liver disease ar	nd cirrhosis		
1,113 10. lr	nfluenza and pneumo	onia		
928 11. Ess	ential (primary) hype	ertension and hypert	ensive renal disease	
790 12. Parki	nson's disease			
680 13. Nephrit	tis, nephrotic syndro	ne and nephrosis		
416 14. Assault (	homicide)			
382 15. Septicer	nia			
3,0	000 6,0	9,0	00 12,	,000 15,0

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, (unintentional accidents 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 <u>ANY MENTION</u> OF A CAUSE:

			1. Diseases of th	e heart	24,273
	2. Malignant neopla	asms 13,201			
	8,284	4 3. Essential (prim	ary) hypertension		
	6,575 4. (	Chronic lower respira	tory diseases		
	5,461 5. Diabe	etes			
	4,907 6. Accider	nts (unintentional inj	uries)		
	4,391 7. Cerebrova	scular diseases			
3,50	6 8. Alzheimer's d	lisease			
3,30	4 9. Influenzaand p	neumonia			
3,227	10. Nephritis, nep	hrotic syndrome, and	l nephrosis		
2,577	11. Septicemia				
1,915 12.	Chronic liver diseas	e and cirrhosis			
1,433 13. S	uicide				
1,102 14. Par	kinson's disease				
419 15. Assault	(homicide)				
5,0	000 10,	000 15,	000 20,	000	25,00

For the purpose of mortality statistics, every death is attributed to one underlying condition or <u>underlying cause</u> 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 <u>multiple cause of death</u>.

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 ranked 11<sup>th</sup> as the hypertension underlying cause but ranked 3rd 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 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 American diseases) and Indians (diabetes). (Table 2B-4).

Figure 2B-2 Age-adjusted Mortality Rates<sup>a</sup> for the Five Leading Causes of Death for Both Genders by Race/Ethnicity, 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 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: <sup>a</sup> Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

#### Figure 2B-3 Age-adjusted Mortality Rates<sup>a</sup> 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 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

#### Figure 2B-4 Age-adjusted Mortality Rates<sup>a</sup> 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

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 while chronic males, 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).

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

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

Rank	Urban male	Urban female	Rural male	Rural female
1	Diseases of heart	Cancer	Diseases of heart	Diseases of heart
	168.2	113.1	208.0	119.4
2	Cancer	Diseases of heart	Cancer	Cancer
	157.5	106.4	176.9	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	Unintentional	Intentional	Unintentional
	diseases	injury	Self-harm (suicide)	injury
	31.8	35.3	51.4	36.0

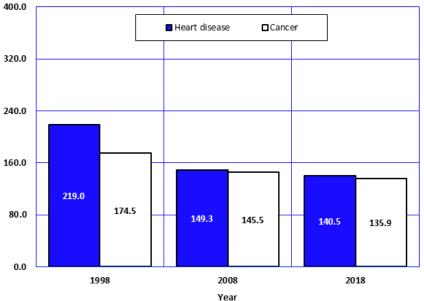
Notes: <sup>a</sup> Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard; <sup>b</sup> Urban = Maricopa, Pima, Pinal, and Yuma counties. The remaining counties comprise Arizona's rural areas. In 2018, the profile of the leading causes of death differed by gender residents of the for 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.

#### Figure 2B-6 Comparison of Age-adjusted Mortality Rates<sup>a</sup> 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.

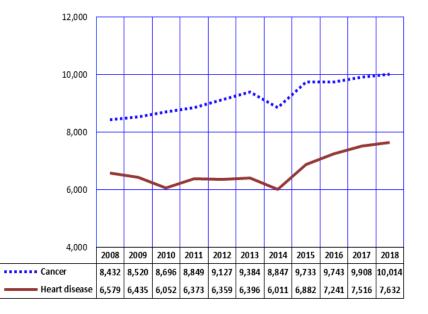
In 2008, 350 more Arizonans died from diseases of the heart than cancer (**Table 2B-1**). In 2018, the number of deaths due to diseases of the heart exceeded by 313 cases (**Table 2B-4**).



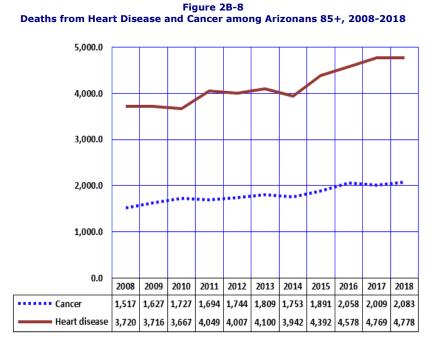
Note: <sup>a</sup> Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

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).

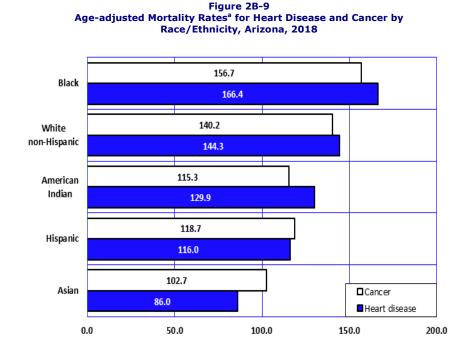


Note: 2008 counts for cancer and heart disease were updated due to misclassification of 2008 death records.



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).



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.

#### Figure 2B-10 Age-adjusted Mortality Rates<sup>a</sup> 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 medicaments from 1,269 deaths in 2017 to 1,425 fatalities in 2018; Table 2B-9).

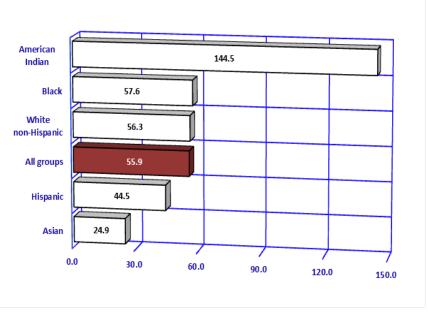


Note: <sup>a</sup> Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

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

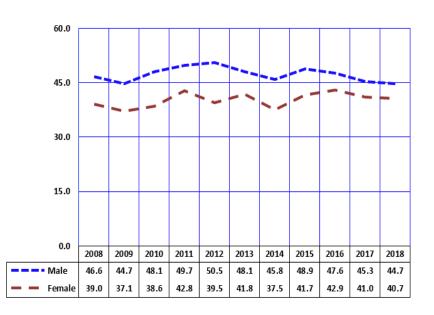
The American Indian death rate for unintentional injuries (144.5/100,000) was 5.8 times greater than the rate for Asians 24.9/100,000), the group with the lowest risk of unintentional injury death among racial/ethnic groups in the state (**Figure 2B-11**, **Table 2B-4**).

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**).



### 2B. LEADING CAUSES OF DEATH Chronic lower respiratory diseases



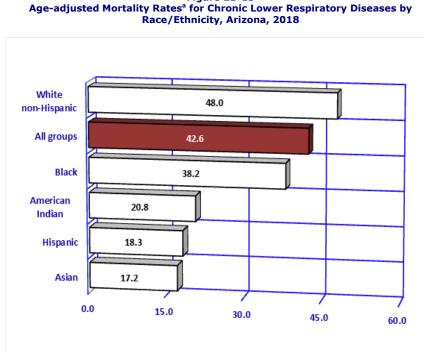


In 2018, chronic lower respiratory (bronchitis, emphysema, diseases asthma) were the 4th leading cause of death among Arizona residents (Table 2B-1). From 2017 to 2018, the mortality rate for chronic lower respiratory diseases decreased for both genders, but more so among males (1.3 percent) than females (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: <sup>a</sup> Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard: <sup>b</sup> This ICD-10 title corresponds to Chronic Obstructive Pulmonary Disease (ICD-9 title)

Figure 2B-13



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 race/ethnic groups. Asians other recorded the lowest rate at 17.2 deaths per 100,000 population (Figure 2B-13, Table 2B-4).

# 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 agemortality adjusted 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**).

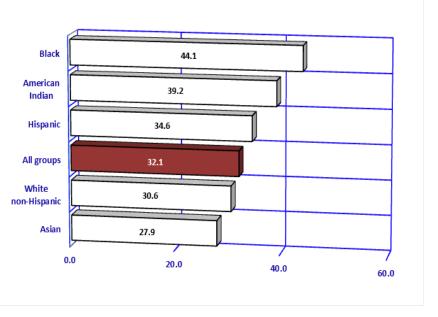


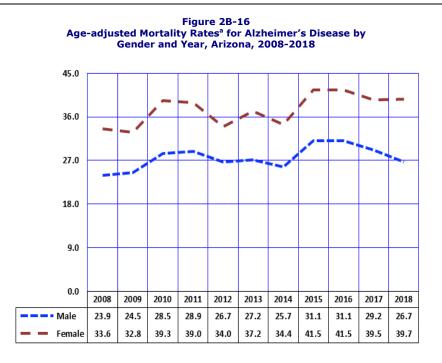
#### Figure 2B-14 Age-adjusted Mortality Rates<sup>a</sup> for Cerebrovascular Disease by Gender and Year, Arizona, 2008-2018

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

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

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.





Based on the number of deaths in 2018, Alzheimer's disease was the  $3^{rd}$  leading cause of death for females and  $8^{th}$  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: <sup>a</sup> Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

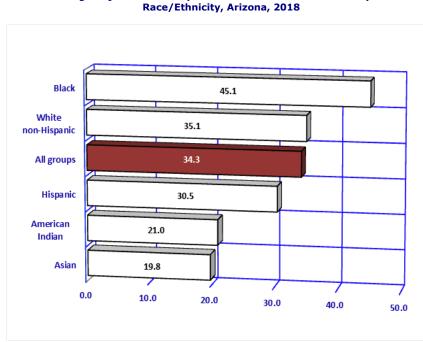


Figure 2B-17 Age-adjusted Mortality Rates<sup>a</sup> for Alzheimer's Disease by

Note: <sup>a</sup> 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 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**).

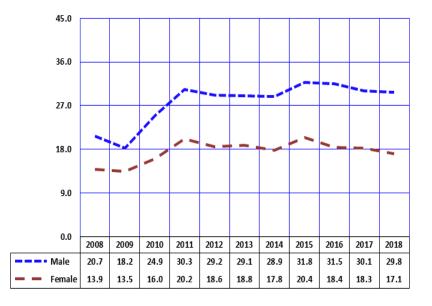
# 2B. LEADING CAUSES OF DEATH Diabetes

#### Figure 2B-18 Age-adjusted Mortality Rates<sup>a</sup> 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 а contributing factor. The diabetesrelated 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.

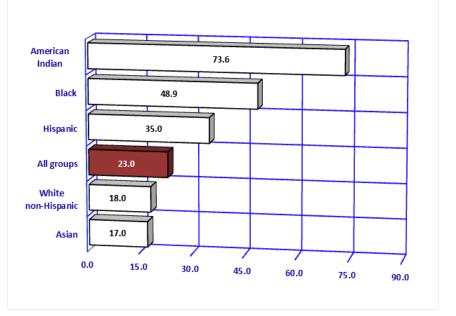


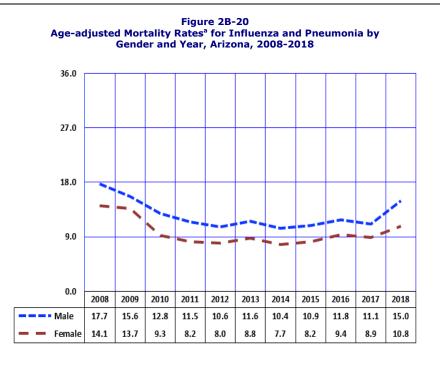
Note: <sup>a</sup> Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.



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**).





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: <sup>a</sup> Number of deaths per 100,000 population age-adjusted 2000 U.S. standard.

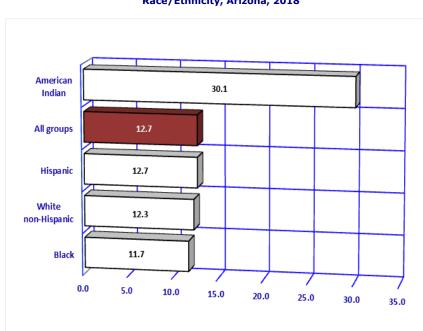


Figure 2B-21 Age-adjusted Mortality Rates<sup>a</sup> for Influenza and Pneumonia by Race/Ethnicity, Arizona, 2018

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**).

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

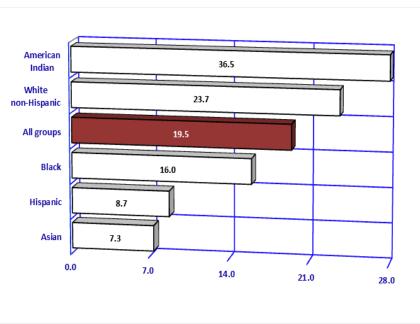
In 2018, based on age-adjusted mortality rates, suicide was the 6<sup>th</sup> leading cause of death among males. It ranked as the 11<sup>th</sup> cause of mortality for females. The overall age-adjusted suicide rate increased from 18.0 suicides per 100,000 in 2017 to 19.5 in 2018 (**Table 2B-4**).

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: <sup>a</sup> Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.





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

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 ageadjusted 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**).

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

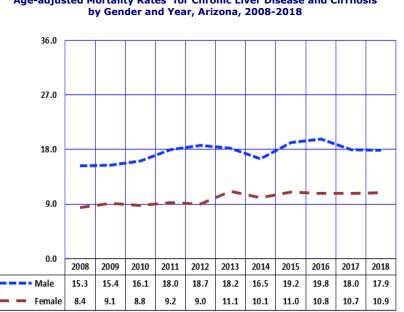


Figure 2B-24 Age-adjusted Mortality Rates<sup>a</sup> for Chronic Liver Disease and Cirrhosis by Gender and Year, Arizona, 2008-2018

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

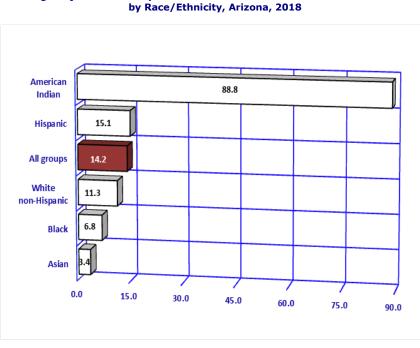


Figure 2B-25 Age-adjusted Mortality Rates<sup>a</sup> for Chronic Liver Disease and Cirrhosis by Race/Ethnicity, Arizona, 2018

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

Chronic liver disease and cirrhosis was the 9<sup>th</sup> 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 ageadjusted 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**).

In 2018, chronic liver disease and cirrhosis morality rate was exceedingly among hiah 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 White nonand Hispanics were all below the state average (14.2 deaths 100,000 per population).

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