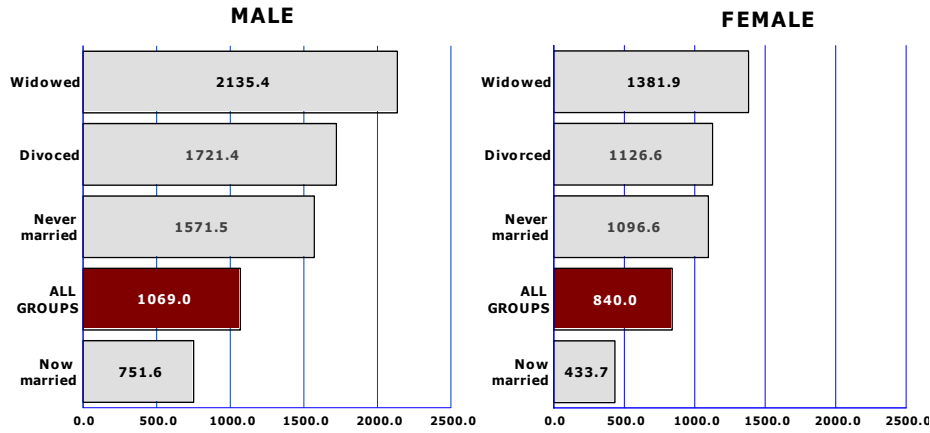


MORTALITY

Figure 8-1
Age-adjusted Mortality Rates for All Causes by Category of Marital Status, Arizona Residents 18 years or Older in 2006

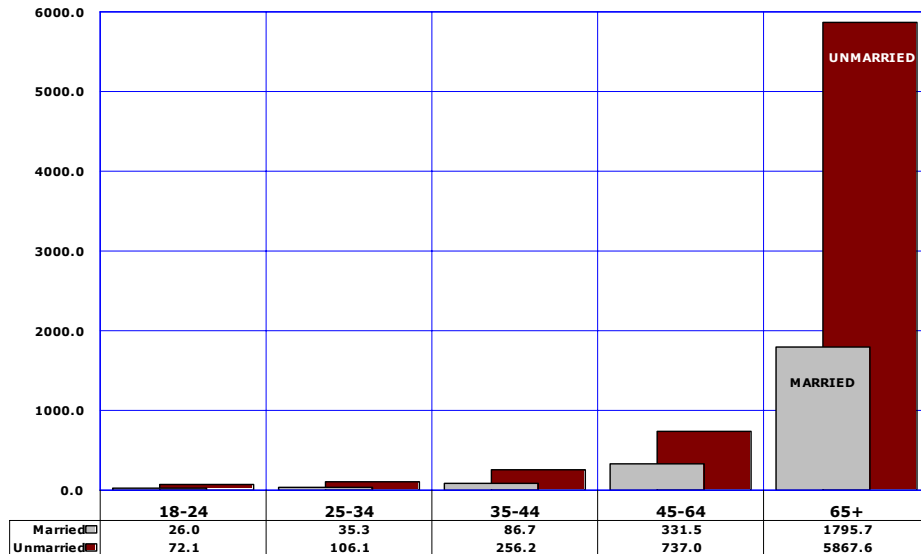


Numerous studies have shown association between marital status and mortality, with the majority of them finding a higher mortality risk in unmarried compared to married men and women.

In 2006, relative to married males or females, the mortality rates were substantially greater for the never-married, the divorced, and the widowed (**Figure 8-1, Table 8-1**).

Compared to married females aged 18 years or older in 2006, the age-adjusted mortality rate was 3.2 times greater among the widowed. The mortality risk of widowed relative to married males was 2.8 times greater.

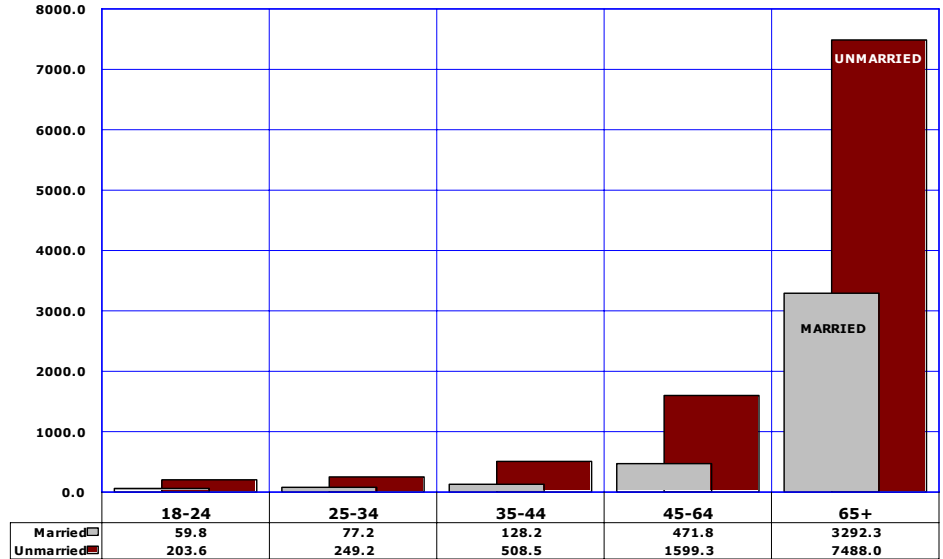
Figure 8-2
Age-specific Total Mortality Rates* by Marital Status among Arizona Females 18 Years or Older in 2006



The mortality disadvantage associated with being unmarried was seen in every age group among Arizona females (**Figure 8-2, Table 8-3**). In particular, the mortality rate was 3.3 times greater for the unmarried than the married females aged 65 years or older 5867.6/100,000 vs. 1795.7/100,000.

*The number of deaths from all causes per 100,000 females in specified group.

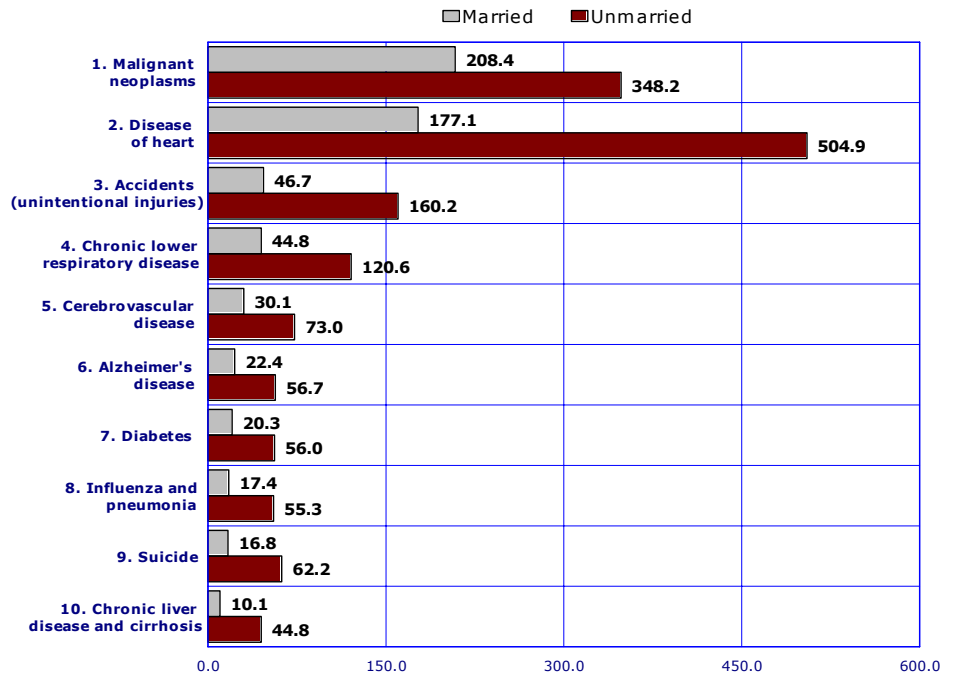
Figure 8-3
Age-specific Total Mortality Rates* by Marital Status among
Arizona Males 18 Years or Older in 2006



The same age-specific pattern of mortality applied to Arizona males 18 years or older in 2006 (Figure 8-3, Table 8-3). In particular, the mortality rate was 4 times greater for the unmarried than the married males aged 35-44 years (508.5/100,000 vs. 128.2/100,000).

*The number of deaths from all causes per 100,000 males in specified group.

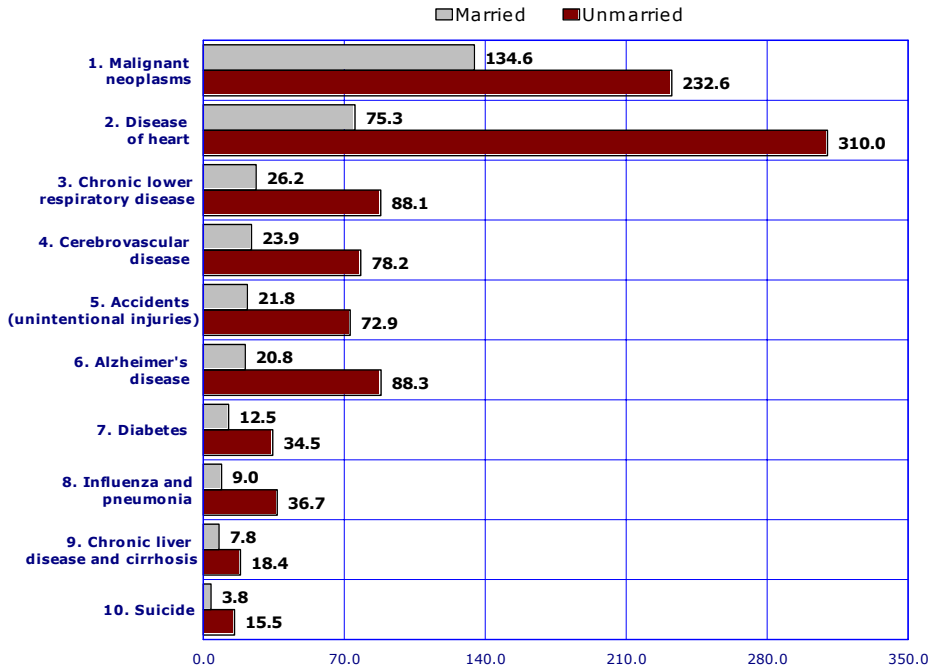
Figure 8-4
Age-adjusted Mortality Rates* for the Leading Causes of Death by
Marital Status among Arizona Males 18 Years or Older in 2006



Leading causes of death are the most frequent causes of mortality. (Figure 8-4, Table 8-4) shows the age-adjusted mortality rates among married and unmarried males for the top 10 causes of death of Arizona residents in 2006. Mortality rates were higher for unmarried than married males for each of the 10 leading causes of death.

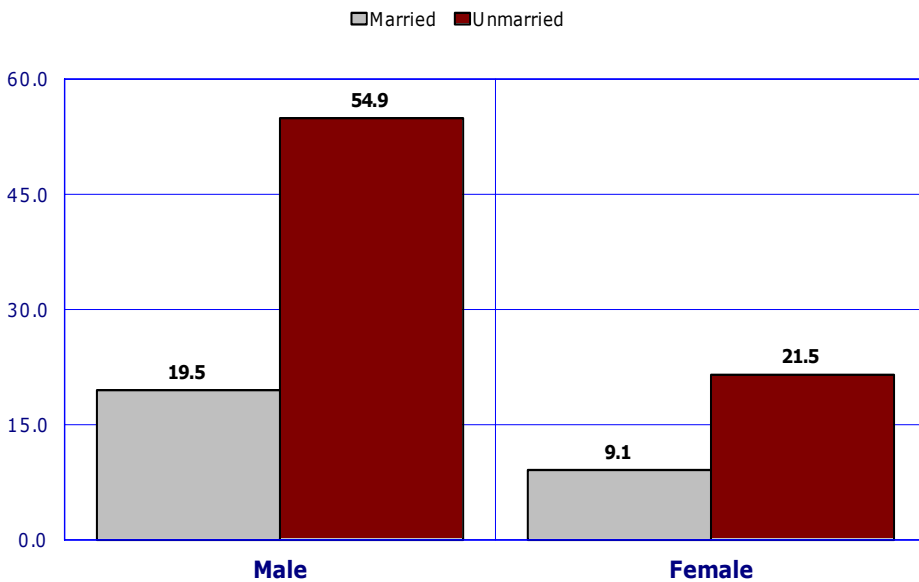
The magnitude of marital status differences for males varied by the underlying cause of death. Unmarried compared to married males had a 4.4 times greater mortality rates for chronic liver disease and cirrhosis, 3.7 times greater for suicide, and 3.4 times for accidents.

Figure 8-5
Age-adjusted Mortality Rates* for the Leading Causes of Deaths by Marital Status among Arizona Females 18 Years or Older in 2006



(Figure 8-5, Table 8-4) compares the age-adjusted mortality rates by marital status among Arizona females. All cause-specific mortality rates were higher for unmarried than married females. The mortality differences by marital status were particularly pronounced for Alzheimer's disease, unmarried compared to married females had a 4.2 times greater mortality risk; influenza and pneumonia, diseases of heart and suicide 4.1 times greater; accidents and cerebrovascular disease 3.3 times greater.

Figure 8-6
Age-adjusted Mortality Rates for Motor Vehicle-Related Injuries by Marital Status and Gender among Arizonans 18 Years or Older in 2006



The premiums charged by insurance companies are higher for unmarried male or female drivers, particularly those under the age of 25. Evidently, the insurance companies use certain assumptions about the presence of a spouse and the effects of discouraging certain risky behaviors like drinking and driving or speeding.

Compared with married men, unmarried men had a 2.8 times greater risk of mortality from motor vehicle-related injuries (54.9/100,000 vs. 19.5/100,000; **Figure 8-6, Table 8-4**). The risk of unmarried females relative to married females was 2.4 times greater.

Figure 8-7
Age-adjusted Mortality Rates for Injury by Firearms by Marital Status and Gender among Arizonans 18 Years or Older in 2006

Deaths from injury by firearms include accidental discharge of firearms, suicide by firearms, and homicide by discharge of firearms; discharge of firearms, undetermined intent, and legal intervention involving firearm discharge. The age-adjusted mortality rates for injury by firearms were higher for unmarried than they were for married males and females (**Figure 8-7, Table 8-4**).

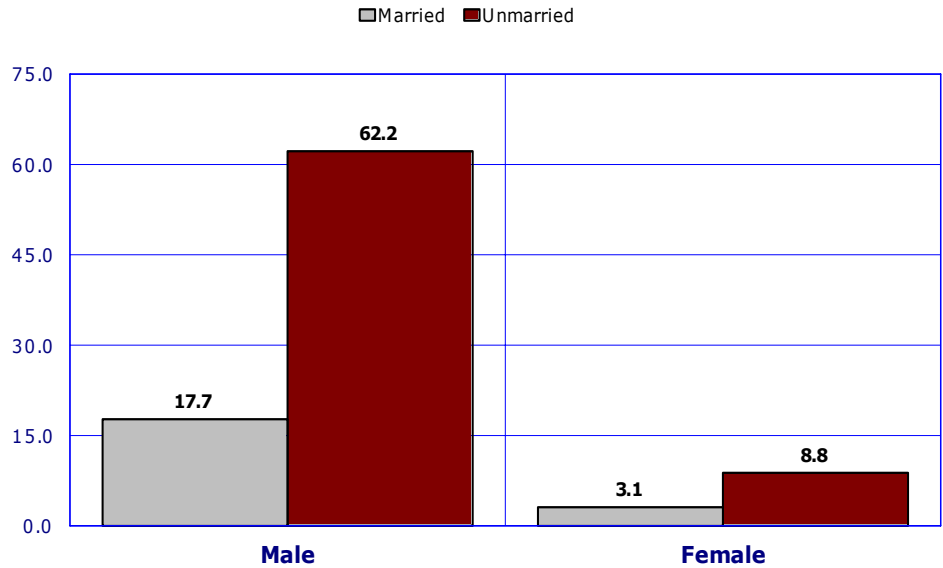
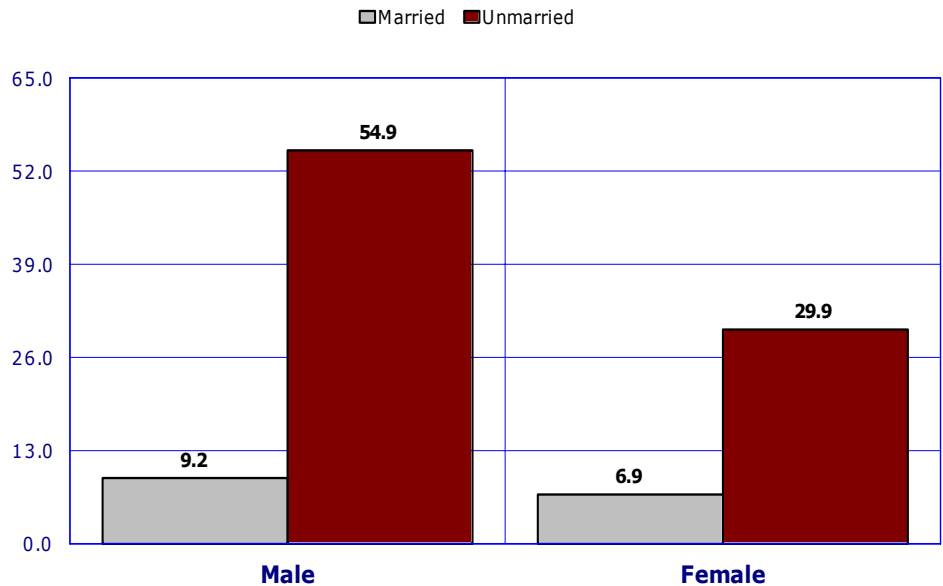


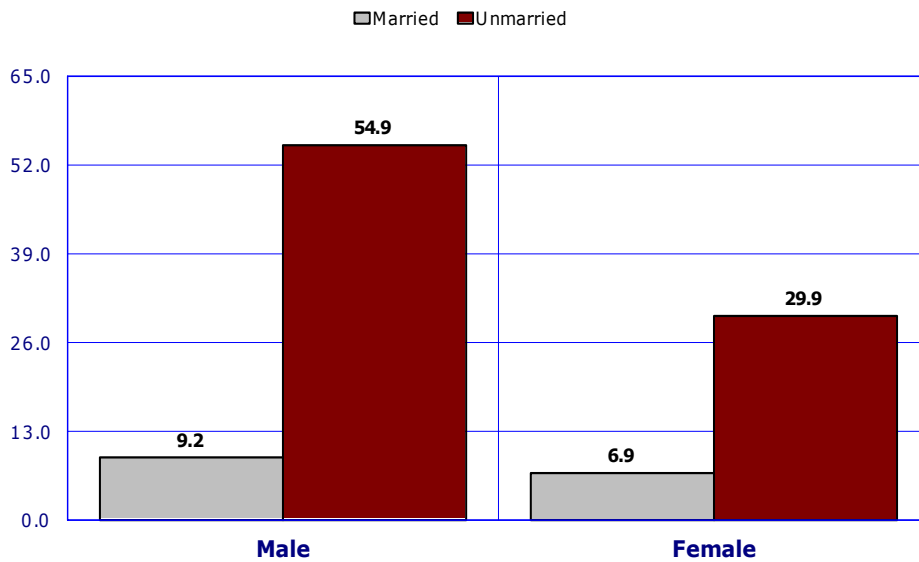
Figure 8-8
Age-adjusted Mortality Rates for Drug-Induced Deaths by Marital Status and Gender among Arizonans 18 Years or Older in 2006

The category of drug-induced deaths includes drug overdose and other accidents, suicides, homicides and other causes directly related to drug use. In 2006, relative to married males the age-adjusted mortality rate for drug-induced deaths was 6 times greater for unmarried males (54.9/100,000 vs. 9.2/100,000). Unmarried compared to married females had a 4.3 times greater mortality rate for drug-induced deaths (29.9/100,000 vs. 6.9/100,000; **Figure 8-8, Table 8-4**).



*The number of suicides per 100,000 population in specified group.

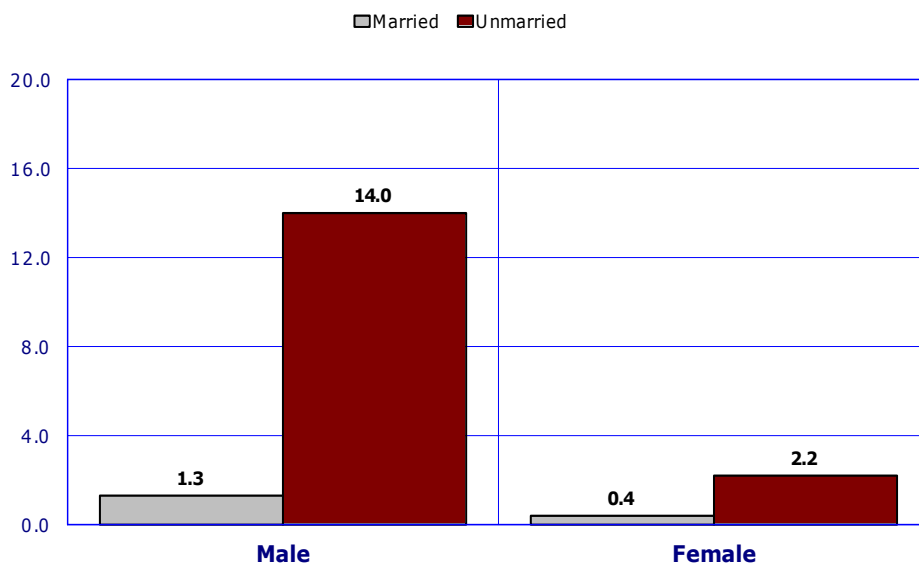
Figure 8-9
Age-adjusted Mortality Rates for Alcohol-Induced Deaths by
Marital Status and Gender among Arizonans 18 Years or Older in 2006



The category of alcohol-induced deaths includes accidents, suicides, homicides, and other causes directly related to alcohol use.

In 2006, relative to married males the age-adjusted mortality rate for alcohol-induced deaths was 6 times greater for unmarried males (52.0/100,000 vs. 8.7/100,000). Unmarried compared to married females had a 3.3 times greater mortality rate for alcohol-induced deaths (14.0/100,000 vs. 4.3/100,000; **Figure 8-9, Table 8-4**).

Figure 8-10
Age-adjusted Mortality Rates for HIV Disease by Marital Status
and Gender among Arizonans 18 Years or Older in 2006



The Human Immunodeficiency Virus (HIV) disease is not among the leading causes of death in Arizona. In 2006, among the 45,415 resident deaths, 133 or 0.3 percent had HIV disease as the underlying cause of death. Males accounted for 82.7 percent of deaths from this cause.

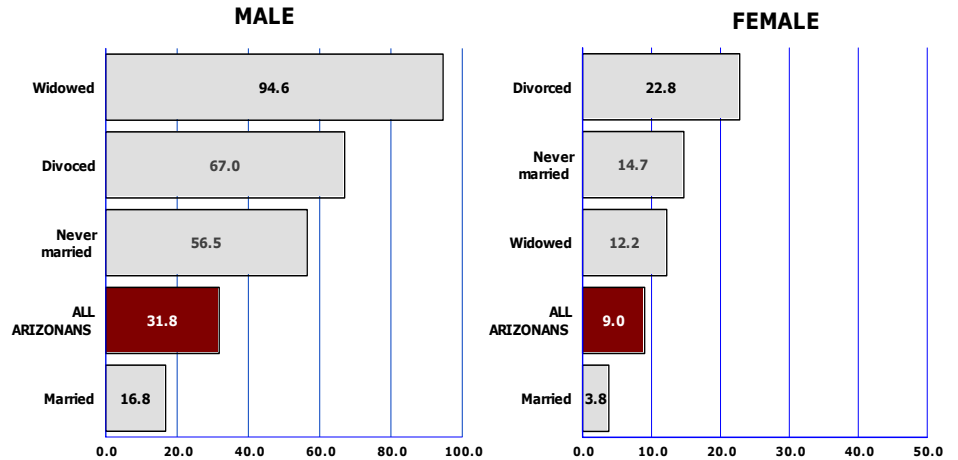
Since the incidence of HIV continues to be concentrated among MSM (men who have sex with men), the number of deaths among married persons is low (17 married males and 5 married females died from HIV disease in 2006).

Relative to married males the age-adjusted mortality rate for HIV disease was 10.8 times greater for unmarried males (14.0/100,000 vs. 1.3/100,000). Unmarried compared to married females had a 5.5 times greater mortality rate for HIV disease (2.2/100,000 vs. 0.4/100,000; **Figure 8-10, Table 8-4**).

In his classic 1897 work "Suicide: A Study in Sociology"¹, Emile Durkheim proposed that we need to look beyond individual characteristics in explaining the act of suicide. Durkheim found out that suicide rates are higher for those who are widowed, never married and divorced compared to married. He proposed that suicide is directly linked to a person's feeling of social integration. Marital disruption in the form of divorce or death of a spouse is a factor that increases the risk of committing suicide.

As in the past, married Arizonans clearly were the least likely to end their own lives in 2006 compared to Arizonans in other marital statuses (Figure 8-11, Table 8-6). A divorced female was 6 times, never married female 3.9 times, and a widowed female 3.2 times more likely to end her own life than a married female. Unlike for females, the suicide rate for widowed males 94.6/100,000 was the highest among the four marital status categories. In each of the marital status categories, the suicide rates were substantially higher for men than women.

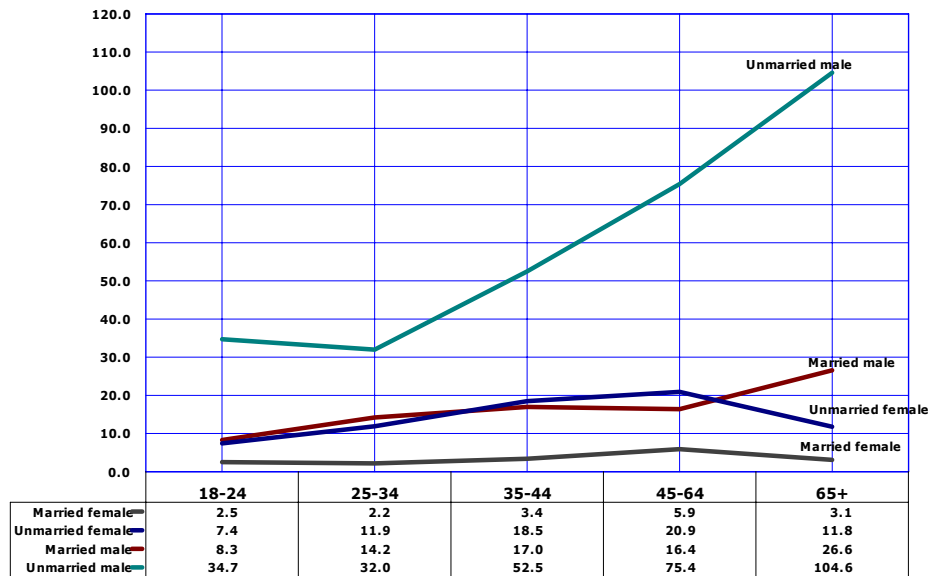
Figure 8-11
Age-adjusted Mortality Rates for Suicide by Category of Marital Status and Gender among Arizonans 18 Years or Older in 2006



In 2006, the age-specific suicide rates for married females were consistently lower than the rates for unmarried females (Figure 8-8, Table 8-5). Females have the highest suicide rates in midlife (ages 45-64), but even in this age group the risk of suicide for those who were unmarried was 3.5 times greater than for those who were married 20.9 suicides per 100,000 vs. 5.9 per 100,000.

In 2006, the age-specific suicide rates for married males were also consistently lower than the rates for unmarried males. Among married males, the 2006 suicide mortality curve by age was bimodal, reaching the first peak at ages 18-24, tapering off at ages 25-34, and rising to a second peak among the elderly 65 or older. Among those aged 18-24 years, the risk of suicide for those who were unmarried was 4.2 times greater than for those who were married 34.7 suicides per 100,000 vs. 8.3/100,000. The rate ratio of 3.9 times greater for those unmarried was only slightly lower among Arizona males 65 or older in 2006 104.6 : 26.6 = 3.9.

Figure 8-12
Comparison of Age-specific Suicide Rates by Marital Status and Gender among Arizonans 18 Years or Older in 2006



Note: Figure 8-11, Figure 8-12 and Table 8-6 were originally published in the report on "Intentional Self-Harm (Suicide), Arizona Residents, 1996-2006. This publication is available online at <http://www.azdhs.gov/plan/report/im/im/im06/3/index.htm>

**TABLE 8-1
TOTAL AGE-ADJUSTED MORTALITY RATES, STANDARD ERRORS AND 95 PERCENT CONFIDENCE LIMITS
BY MARITAL STATUS AND GENDER, ARIZONA RESIDENTS 18 YEARS OR OLDER IN 2006**

| Category of marital status | Gender | Age-adjusted mortality rate* | Standard error | 95 percent confidence limits | |
|----------------------------|---------------|------------------------------|----------------|------------------------------|--------|
| | | | | Lower | Upper |
| Never married | Male | 1571.5 | 65.8 | 1442.4 | 1700.5 |
| | Female | 1096.6 | 54.3 | 990.2 | 1203.0 |
| Married | Male | 751.6 | 12.5 | 727.1 | 776.1 |
| | Female | 433.7 | 9.9 | 414.3 | 453.1 |
| Widowed | Male | 2135.4 | 145.7 | 1849.9 | 2420.9 |
| | Female | 1381.9 | 68.9 | 1246.8 | 1516.9 |
| Divorced | Male | 1721.4 | 56.0 | 1611.5 | 1831.2 |
| | Female | 1126.6 | 39.1 | 1049.9 | 1203.3 |
| All groups | Male | 1069.0 | 12.8 | 1043.9 | 1094.0 |
| | Female | 840.0 | 9.9 | 820.5 | 859.5 |

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

**TABLE 8-2
NUMBER OF DEATHS FROM ALL CAUSES, TOTAL MORTALITY RATES AND STANDARD ERRORS BY MARITAL STATUS,
GENDER AND AGE GROUP, ARIZONA RESIDENTS 18 YEARS OR OLDER IN 2006**

| Category of marital status | Gender | Age group | Number of death | Mortality rate per 100,000 population | Standard error | 95 percent confidence limits | |
|----------------------------|--------|-----------|-----------------|---------------------------------------|----------------|------------------------------|--------|
| | | | | | | Lower | Upper |
| Never married | Male | 18-24 | 522 | 204.2 | 8.9 | 186.7 | 221.7 |
| | | 25-34 | 467 | 261.4 | 12.1 | 237.7 | 285.1 |
| | | 35-44 | 476 | 583.3 | 26.7 | 530.9 | 635.7 |
| | | 45-64 | 866 | 1531.5 | 52.0 | 1429.5 | 1633.5 |
| | | 65+ | 493 | 5352.9 | 241.1 | 4880.4 | 5825.4 |
| | Female | 18-24 | 148 | 70.4 | 5.8 | 59.0 | 81.7 |
| | | 25-34 | 129 | 110.8 | 9.8 | 91.7 | 129.9 |
| | | 35-44 | 140 | 269.1 | 22.7 | 224.5 | 313.7 |
| | | 45-64 | 331 | 797.7 | 43.8 | 711.7 | 883.6 |
| | | 65+ | 523 | 4520.3 | 197.7 | 4132.9 | 4907.7 |
| Married | Male | 18-24 | 36 | 59.8 | 10.0 | 41.9 | 82.8 |
| | | 25-34 | 201 | 77.2 | 5.4 | 66.5 | 87.9 |
| | | 35-44 | 377 | 128.2 | 6.6 | 115.2 | 141.1 |
| | | 45-64 | 2,411 | 471.8 | 9.6 | 453.0 | 490.6 |
| | | 65+ | 9,036 | 3292.3 | 34.6 | 3224.4 | 3360.2 |
| | Female | 18-24 | 21 | 26.0 | 5.7 | 16.1 | 39.7 |
| | | 25-34 | 95 | 35.3 | 3.6 | 28.2 | 42.4 |
| | | 35-44 | 256 | 86.7 | 5.4 | 76.1 | 97.3 |
| | | 45-64 | 1,623 | 331.5 | 8.2 | 315.3 | 347.6 |
| | | 65+ | 3,991 | 1795.7 | 28.4 | 1740.0 | 1851.4 |
| Widowed | Male | 18-24 | 2 | 420.2 | 297.1 | 50.9 | 1517.8 |
| | | 25-34 | 2 | 156.5 | 110.7 | 19.0 | 565.3 |
| | | 35-44 | 12 | 430.1 | 124.2 | 222.2 | 751.3 |
| | | 45-64 | 187 | 1677.1 | 122.6 | 1436.7 | 1917.5 |
| | | 65+ | 3,912 | 8555.3 | 136.8 | 8287.2 | 8823.4 |
| | Female | 18-24 | 1 | 191.9 | 191.9 | 4.9 | 1069.4 |
| | | 25-34 | 1 | 46.2 | 46.2 | 1.2 | 257.2 |
| | | 35-44 | 15 | 213.9 | 55.2 | 119.7 | 352.9 |
| | | 45-64 | 348 | 832.6 | 44.6 | 745.1 | 920.0 |
| | | 65+ | 10,498 | 6182.7 | 60.3 | 6064.4 | 6300.9 |
| Divorced | Male | 18-24 | 4 | 126.7 | 63.3 | 34.5 | 324.3 |
| | | 25-34 | 60 | 185.5 | 23.9 | 141.5 | 238.7 |
| | | 35-44 | 267 | 416.7 | 25.5 | 366.7 | 466.7 |
| | | 45-64 | 1,705 | 1627.6 | 39.4 | 1550.4 | 1704.9 |
| | | 65+ | 1,749 | 6418.6 | 153.5 | 6117.8 | 6719.4 |
| | Female | 18-24 | 7 | 129.0 | 48.8 | 35.1 | 330.3 |
| | | 25-34 | 39 | 95.9 | 15.4 | 68.2 | 131.1 |
| | | 35-44 | 163 | 250.4 | 19.6 | 212.0 | 288.9 |
| | | 45-64 | 1,010 | 692.4 | 21.8 | 649.7 | 735.1 |
| | | 65+ | 1,867 | 4877.3 | 112.9 | 4656.1 | 5098.6 |
| All groups | Male | 18-24 | 566 | 177.2 | 7.4 | 162.6 | 191.8 |
| | | 25-34 | 737 | 155.9 | 5.7 | 144.7 | 167.2 |
| | | 35-44 | 1,156 | 261.2 | 7.7 | 246.1 | 276.3 |
| | | 45-64 | 5,283 | 772.9 | 10.6 | 752.1 | 793.8 |
| | | 65+ | 15,272 | 4282.1 | 34.7 | 4214.5 | 4350.3 |
| | Female | 18-24 | 180 | 60.6 | 4.5 | 51.7 | 69.4 |
| | | 25-34 | 265 | 61.9 | 3.8 | 54.4 | 69.4 |
| | | 35-44 | 577 | 137.6 | 5.7 | 126.3 | 148.8 |
| | | 45-64 | 3,335 | 464.0 | 8.0 | 448.2 | 479.7 |
| | | 65+ | 16,921 | 3829.1 | 29.4 | 3771.0 | 3886.4 |

**TABLE 8-3
NUMBER OF DEATHS FROM ALL CAUSES, TOTAL MORTALITY RATES AND STANDARD ERRORS BY MARITAL STATUS,
GENDER AND AGE GROUP, ARIZONA RESIDENTS 18 YEARS OR OLDER IN 2006**

| Marital status | Gender | Age group | Total deaths from all causes | Total mortality rate from all causes | Standard error | 95 percent confidence limits | |
|----------------|--------|-----------|---------------------------------|--|----------------|------------------------------|-------------|
| | | | | | | Lower limit | Upper limit |
| Married | Male | 18-24 | 36 | 59.8 | 10.0 | 40.3 | 79.4 |
| | | 25-34 | 201 | 77.2 | 5.4 | 66.5 | 87.9 |
| | | 35-44 | 377 | 128.2 | 6.6 | 115.2 | 141.1 |
| | | 45-64 | 2,411 | 471.8 | 9.6 | 453.0 | 490.6 |
| | | 65+ | 9,036 | 3292.3 | 34.6 | 3224.4 | 3360.2 |
| | Female | 18-24 | 21 | 26.0 | 5.7 | 14.9 | 37.1 |
| | | 25-34 | 95 | 35.3 | 3.6 | 28.2 | 42.4 |
| | | 35-44 | 256 | 86.7 | 5.4 | 76.1 | 97.3 |
| | | 45-64 | 1,623 | 331.5 | 8.2 | 315.3 | 347.6 |
| | | 65+ | 3,991 | 1795.7 | 28.4 | 1740.0 | 1851.4 |
| Unmarried | Male | 18-24 | 528 | 203.6 | 8.9 | 186.3 | 221.0 |
| | | 25-34 | 529 | 249.2 | 10.8 | 227.9 | 270.4 |
| | | 35-44 | 755 | 508.5 | 18.5 | 472.3 | 544.8 |
| | | 45-64 | 2,758 | 1599.3 | 30.5 | 1539.6 | 1659.0 |
| | | 65+ | 6,154 | 7488.0 | 95.5 | 7300.9 | 7675.1 |
| | Female | 18-24 | 156 | 72.1 | 5.8 | 60.8 | 83.4 |
| | | 25-34 | 169 | 106.1 | 8.2 | 90.1 | 122.1 |
| | | 35-44 | 318 | 256.2 | 14.4 | 228.0 | 284.4 |
| | | 45-64 | 1,689 | 737.0 | 17.9 | 701.9 | 772.2 |
| | | 65+ | 12,888 | 5867.6 | 51.7 | 5766.3 | 5968.9 |
| Total | Male | 18-24 | 566 | 177.2 | 7.4 | 162.6 | 191.8 |
| | | 25-34 | 737 | 155.9 | 5.7 | 144.7 | 167.2 |
| | | 35-44 | 1,156 | 261.2 | 7.7 | 246.1 | 276.3 |
| | | 45-64 | 5,283 | 772.9 | 10.6 | 752.1 | 793.8 |
| | | 65+ | 15,272 | 4282.1 | 34.7 | 4214.2 | 4350.1 |
| | Female | 18-24 | 180 | 60.6 | 4.5 | 51.7 | 69.4 |
| | | 25-34 | 265 | 61.9 | 3.8 | 54.4 | 69.4 |
| | | 35-44 | 577 | 137.6 | 5.7 | 126.3 | 148.8 |
| | | 45-64 | 3,335 | 464.0 | 8.0 | 448.2 | 479.7 |
| | | 65+ | 16,921 | 3829.1 | 29.4 | 3771.4 | 3886.8 |

Note: All rates are per 100,000 population in specified group.

TABLE 8-4
AGE-ADJUSTED MORTALITY RATES* BY MARITAL STATUS AND GENDER FOR THE 10 LEADING AND SELECTED
OTHER CAUSES OF DEATH, ARIZONA RESIDENTS 18 YEARS OR OLDER IN 2006

| | Male | | | Female | | |
|--|---------|-----------|--------|---------|-----------|-------|
| | Married | Unmarried | Total | Married | Unmarried | Total |
| | | | | | | |
| Total mortality from all causes | 751.6 | 1936.6 | 1068.9 | 433.7 | 1304.4 | 840.0 |
| Disease of heart | 177.1 | 504.9 | 258.4 | 75.3 | 310.0 | 187.6 |
| Malignant neoplasms (cancer) | 208.4 | 348.2 | 243.7 | 134.6 | 232.6 | 179.9 |
| Unintentional injury | 46.7 | 160.2 | 84.8 | 21.8 | 72.9 | 43.4 |
| Motor-vehicle-related | 19.5 | 54.9 | 33.1 | 9.1 | 21.5 | 14.2 |
| Cerebrovascular disease | 30.1 | 73.0 | 40.9 | 23.9 | 78.2 | 50.1 |
| Chronic lower respiratory disease | 44.8 | 120.6 | 63.2 | 26.2 | 88.1 | 55.5 |
| Alzheimers disease | 22.4 | 56.7 | 30.6 | 20.8 | 88.3 | 54.6 |
| Diabetes | 20.3 | 56.0 | 29.4 | 12.5 | 34.5 | 22.1 |
| Influenza and pneumonia | 17.4 | 55.3 | 26.7 | 9.0 | 36.7 | 21.9 |
| Suicide | 16.8 | 62.2 | 31.8 | 3.8 | 15.5 | 8.0 |
| Chronic liver disease and cirrhosis | 10.1 | 44.8 | 19.4 | 7.8 | 18.4 | 11.5 |
| HIV disease | 1.3 | 14.0 | 5.0 | 0.4 | 2.2 | 1.0 |
| Injury by firearms | 17.7 | 62.2 | 33.8 | 3.1 | 8.8 | 5.4 |
| Drug-induced deaths | 9.2 | 54.9 | 25.1 | 6.9 | 29.9 | 14.7 |
| Alcohol-induced deaths | 8.7 | 52.0 | 20.8 | 4.3 | 14.0 | 7.5 |

*The number of deaths per 100,000 population in specified group age-adjusted to 2000 U.S. standard for ages 18 years and over.

**TABLE 8-5
AGE-SPECIFIC MORTALITY RATES* BY MARITAL STATUS AND GENDER FOR SELECTED LEADING CAUSES OF DEATH,
ARIZONA RESIDENTS 18 YEARS OR OLDER IN 2006**

| | | Total mortality from all causes | | | | | | | | | | | | | Alcohol-induced deaths |
|------------------|---------------|---------------------------------|------------------------------|-------------------------|-----------------------------------|----------------------|-----------------------|--------------------|---------|----------|--------------------|---------------------|------|-------|------------------------|
| | | Disease of heart | Malignant neoplasms (cancer) | Cerebrovascular disease | Chronic lower respiratory disease | Unintentional injury | Motor vehicle-related | Alzheimers disease | Suicide | Homicide | Injury by firearms | Drug-induced deaths | | | |
| Married | Male | 18-24 | 59.8 | 1.7 | 0.0 | 0.0 | 26.6 | 18.3 | 0.0 | 8.3 | 13.3 | 23.3 | 1.7 | 1.7 | |
| | | 25-34 | 77.2 | 3.8 | 0.0 | 0.4 | 28.4 | 18.8 | 0.0 | 14.2 | 13.4 | 19.6 | 7.3 | 1.2 | |
| | | 35-44 | 128.2 | 15.3 | 13.3 | 2.0 | 43.2 | 19.7 | 0.0 | 17.0 | 7.8 | 16.0 | 17.3 | 5.1 | |
| | | 45-64 | 471.8 | 112.9 | 156.7 | 11.3 | 42.7 | 21.3 | 0.6 | 16.4 | 3.5 | 12.9 | 10.6 | 14.3 | |
| | | 65+ | 3292.3 | 816.9 | 925.1 | 154.5 | 235.7 | 93.3 | 17.9 | 130.8 | 1.1 | 21.9 | 4.0 | 17.1 | |
| Unmarried | Female | 18-24 | 26.0 | 1.2 | 3.7 | 1.2 | 11.1 | 8.7 | 0.0 | 2.5 | 3.7 | 2.5 | 3.7 | 1.2 | |
| | | 25-34 | 35.3 | 1.1 | 8.6 | 1.9 | 10.4 | 7.8 | 0.0 | 2.2 | 1.5 | 2.2 | 3.7 | 0.7 | |
| | | 35-44 | 86.7 | 5.4 | 26.8 | 2.4 | 14.2 | 6.4 | 0.0 | 3.4 | 2.4 | 3.0 | 9.1 | 3.4 | |
| | | 45-64 | 331.5 | 41.3 | 146.4 | 11.0 | 23.5 | 10.8 | 1.2 | 5.9 | 1.2 | 3.9 | 10.8 | 7.4 | |
| | | 65+ | 1795.7 | 360.4 | 486.8 | 114.7 | 133.6 | 49.0 | 11.2 | 120.1 | 3.1 | 3.1 | 3.1 | 2.7 | 6.3 |
| Total | Male | 18-24 | 203.6 | 4.6 | 5.0 | 0.8 | 88.3 | 55.9 | 0.0 | 34.7 | 44.7 | 64.0 | 19.7 | 0.8 | |
| | | 25-34 | 249.2 | 13.2 | 6.1 | 2.4 | 104.1 | 54.6 | 0.0 | 32.0 | 39.6 | 52.8 | 40.0 | 8.0 | |
| | | 35-44 | 508.5 | 56.6 | 33.0 | 17.5 | 135.4 | 49.2 | 0.7 | 52.5 | 31.7 | 51.2 | 76.1 | 33.0 | |
| | | 45-64 | 1599.3 | 393.7 | 287.6 | 42.3 | 184.4 | 60.3 | 3.5 | 75.4 | 28.4 | 61.5 | 88.7 | 105.5 | |
| | | 65+ | 7488.0 | 2182.9 | 1486.9 | 328.5 | 621.8 | 264.0 | 52.3 | 326.1 | 1.2 | 86.4 | 11.0 | 68.1 | |
| Total | Female | 18-24 | 72.1 | 1.8 | 3.2 | 0.9 | 31.4 | 25.4 | 0.0 | 7.4 | 9.2 | 9.7 | 6.9 | 0.5 | |
| | | 25-34 | 106.1 | 3.1 | 11.3 | 1.9 | 37.0 | 20.7 | 0.0 | 11.9 | 6.3 | 6.3 | 17.0 | 3.8 | |
| | | 35-44 | 256.2 | 20.9 | 37.1 | 5.6 | 66.1 | 23.4 | 0.0 | 18.5 | 8.1 | 10.5 | 50.8 | 16.1 | |
| | | 45-64 | 737.0 | 117.8 | 206.8 | 27.1 | 42.8 | 20.9 | 2.2 | 20.9 | 3.9 | 10.9 | 41.9 | 26.2 | |
| | | 65+ | 5867.6 | 1581.6 | 940.6 | 402.0 | 438.4 | 174.4 | 18.2 | 514.9 | 1.4 | 5.0 | 13.2 | 10.9 | |
| Total | Male | 18-24 | 177.2 | 4.1 | 4.1 | 0.9 | 77.0 | 48.8 | 0.0 | 29.7 | 38.8 | 56.3 | 16.3 | 0.9 | |
| | | 25-34 | 155.9 | 8.3 | 5.9 | 1.1 | 62.6 | 34.9 | 0.0 | 22.4 | 25.6 | 34.9 | 22.2 | 4.2 | |
| | | 35-44 | 261.2 | 30.3 | 20.1 | 7.2 | 74.8 | 29.6 | 0.2 | 29.8 | 16.0 | 28.0 | 37.5 | 15.1 | |
| | | 45-64 | 772.9 | 186.7 | 192.2 | 19.5 | 81.2 | 31.9 | 1.3 | 31.9 | 10.1 | 25.8 | 32.0 | 38.9 | |
| | | 65+ | 4282.1 | 1138.7 | 1057.9 | 195.2 | 326.7 | 133.7 | 25.8 | 176.9 | 1.1 | 37.0 | 6.4 | 29.2 | |
| Total | Female | 18-24 | 60.6 | 1.7 | 3.4 | 1.0 | 26.6 | 20.9 | 0.0 | 6.1 | 7.7 | 7.7 | 6.1 | 0.7 | |
| | | 25-34 | 61.9 | 1.9 | 9.6 | 2.1 | 20.3 | 12.6 | 0.0 | 5.8 | 3.3 | 3.7 | 8.6 | 1.9 | |
| | | 35-44 | 137.6 | 10.3 | 30.0 | 3.3 | 29.8 | 11.4 | 0.0 | 7.9 | 4.1 | 5.2 | 21.7 | 7.2 | |
| | | 45-64 | 464.0 | 66.4 | 166.1 | 16.1 | 35.8 | 14.2 | 1.5 | 10.7 | 2.1 | 6.1 | 21.0 | 13.4 | |
| | | 65+ | 3829.1 | 969.0 | 713.3 | 258.7 | 286.3 | 111.8 | 14.7 | 317.9 | 2.3 | 4.1 | 7.9 | 8.8 | |

*Number of deaths per 100,000 population in specified group.

**TABLE 8-6
AGE-SPECIFIC AND AGE-ADJUSTED SUICIDE RATES BY CATEGORY OF MARITAL STATUS AND GENDER,
ARIZONA RESIDENTS AGED 18 YEARS OR OLDER IN 2006**

| | | Number of suicides | Suicide rate | Standard error | 95% confidence interval | |
|----------------------|--|--------------------|--------------|----------------|-------------------------|-------------|
| | | | | | Lower limit | Upper limit |
| Never married | Male | | | | | |
| | 18-24 | 88 | 34.4 | 3.7 | 27.6 | 42.4 |
| | 25-34 | 55 | 30.8 | 4.2 | 23.2 | 40.1 |
| | 35-44 | 37 | 45.3 | 7.5 | 31.9 | 62.5 |
| | 45-64 | 41 | 72.5 | 11.3 | 52.0 | 98.4 |
| 65+ | 8 | 86.9 | 30.7 | 37.5 | 171.2 | |
| | Age-adjusted rate for never married males 18 or older | | 56.5 | 6.3 | 44.1 | 68.8 |
| Married | Female | | | | | |
| | 18-24 | 13 | 6.2 | 1.7 | 3.3 | 10.6 |
| | 25-34 | 14 | 12.0 | 3.2 | 6.6 | 20.2 |
| | 35-44 | 7 | 13.5 | 5.1 | 5.4 | 27.7 |
| | 45-64 | 8 | 19.3 | 6.8 | 8.3 | 38.0 |
| 65+ | 2 | 17.3 | 12.2 | 2.1 | 62.4 | |
| | Age-adjusted rate for never married females 18 or older | | 14.7 | 2.8 | 9.1 | 20.2 |
| Married | Male | | | | | |
| | 18-24 | 5 | 8.3 | 3.7 | 2.7 | 19.4 |
| | 25-34 | 37 | 14.2 | 2.3 | 10.0 | 19.6 |
| | 35-44 | 50 | 17.0 | 2.4 | 12.6 | 22.4 |
| | 45-64 | 84 | 16.4 | 1.8 | 13.1 | 20.4 |
| 65+ | 73 | 26.6 | 3.1 | 20.8 | 33.4 | |
| | Age-adjusted rate for married males 18 or older | | 16.8 | 7.1 | 2.8 | 30.8 |
| Married | Female | | | | | |
| | 18-24 | 2 | 2.5 | 1.7 | 0.3 | 8.9 |
| | 25-34 | 6 | 2.2 | 0.9 | 0.8 | 4.9 |
| | 35-44 | 10 | 3.4 | 1.1 | 1.6 | 6.2 |
| | 45-64 | 29 | 5.9 | 1.1 | 4.0 | 8.5 |
| 65+ | 7 | 3.1 | 1.2 | 1.3 | 6.5 | |
| | Age-adjusted rate for married females 18 or older | | 3.8 | 3.4 | 0.0 | 10.4 |
| Widowed | Male | | | | | |
| | 18-24 | 1 | 210.1 | 210.1 | 5.3 | 1,170.5 |
| | 25-34 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 35-44 | 3 | 107.5 | 62.1 | 22.2 | 314.2 |
| | 45-64 | 10 | 89.7 | 28.4 | 43.0 | 164.9 |
| 65+ | 46 | 100.6 | 14.8 | 73.7 | 134.2 | |
| | Age-adjusted rate for widowed males 18 or older | | 94.6 | 2.6 | 89.5 | 99.7 |
| Widowed | Female | | | | | |
| | 18-24 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 25-34 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 35-44 | 1 | 14.3 | 14.3 | 0.4 | 79.5 |
| | 45-64 | 10 | 23.9 | 7.6 | 11.5 | 44.0 |
| 65+ | 19 | 11.2 | 2.6 | 6.7 | 17.5 | |
| | Age-adjusted rate for widowed females 18 or older | | 12.2 | 1.9 | 8.4 | 15.9 |

**TABLE 8-6
AGE-SPECIFIC AND AGE-ADJUSTED SUICIDE RATES BY CATEGORY OF MARITAL STATUS AND GENDER,
ARIZONA RESIDENTS AGED 18 YEARS OR OLDER IN 2006**

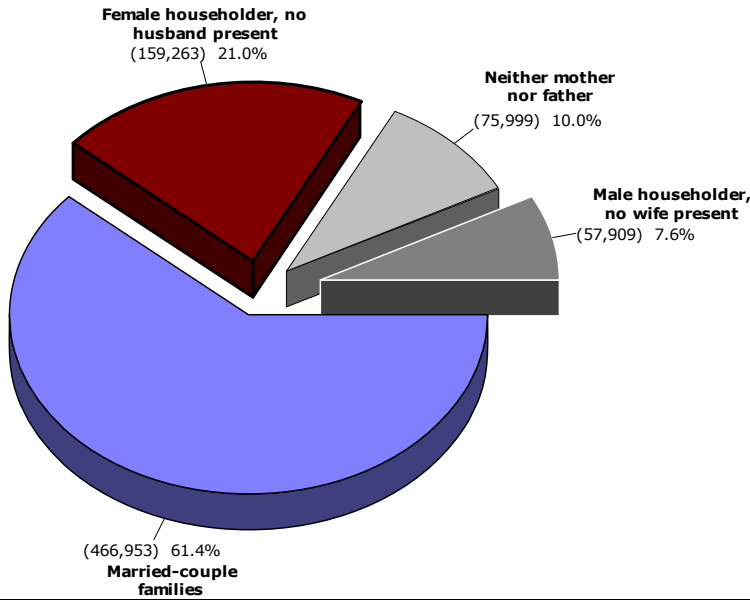
| | | Number of suicides | Suicide rate | Standard error | 95% confidence interval | |
|-------------------|---|--------------------|--------------|----------------|-------------------------|-------------|
| | | | | | Lower limit | Upper limit |
| Divorced | Male | | | | | |
| | 18-24 | 1 | 31.7 | 31.7 | 0.7 | 176.4 |
| | 25-34 | 13 | 40.2 | 11.1 | 21.4 | 68.7 |
| | 35-44 | 38 | 59.3 | 9.6 | 42.0 | 81.4 |
| | 45-64 | 79 | 75.4 | 8.5 | 59.7 | 94.0 |
| 65+ | 32 | 117.4 | 20.8 | 80.3 | 165.8 | |
| | Age-adjusted rate for divorced males 18 or older | | 67.0 | 5.8 | 55.7 | 78.3 |
| Female | 18-24 | 3 | 55.3 | 31.9 | 11.4 | 161.5 |
| | 25-34 | 5 | 12.3 | 5.5 | 4.0 | 28.7 |
| | 35-44 | 15 | 23.0 | 6.0 | 12.9 | 38.0 |
| | 45-64 | 30 | 20.6 | 3.8 | 13.9 | 29.4 |
| | 65+ | 5 | 13.1 | 5.8 | 4.2 | 30.5 |
| | Age-adjusted rate for divorced females 18 or older | | 22.8 | 3.5 | 15.9 | 29.7 |
| All groups | Male | | | | | |
| | 18-24 | 95 | 29.7 | 3.1 | 24.1 | 36.4 |
| | 25-34 | 106 | 22.4 | 2.2 | 18.2 | 26.7 |
| | 35-44 | 132 | 29.8 | 2.6 | 24.7 | 34.9 |
| | 45-64 | 218 | 31.9 | 2.2 | 27.7 | 36.1 |
| 65+ | 163 | 45.7 | 3.6 | 38.7 | 52.7 | |
| | Age-adjusted rate for males 18 or older | | 31.8 | 12.2 | 7.8 | 55.8 |
| Female | 18-24 | 18 | 6.1 | 1.4 | 3.6 | 9.6 |
| | 25-34 | 25 | 5.8 | 1.2 | 3.8 | 8.6 |
| | 35-44 | 33 | 7.9 | 1.4 | 5.4 | 11.0 |
| | 45-64 | 77 | 10.7 | 1.2 | 8.5 | 13.4 |
| | 65+ | 33 | 7.5 | 1.3 | 5.1 | 10.5 |
| | Age-adjusted rate for females 18 or older | | 8.0 | 6.3 | 0.0 | 20.4 |

Note: Originally published as Table 3-6 in "Intentional Self-Harm (Suicide), Arizona Residents, 1996-2006". This report is available online at <http://www.azdhs.gov/plan/report/im/im06/3/index.htm>

**FAMILY STRUCTURE AND
CHILD HEALTH**

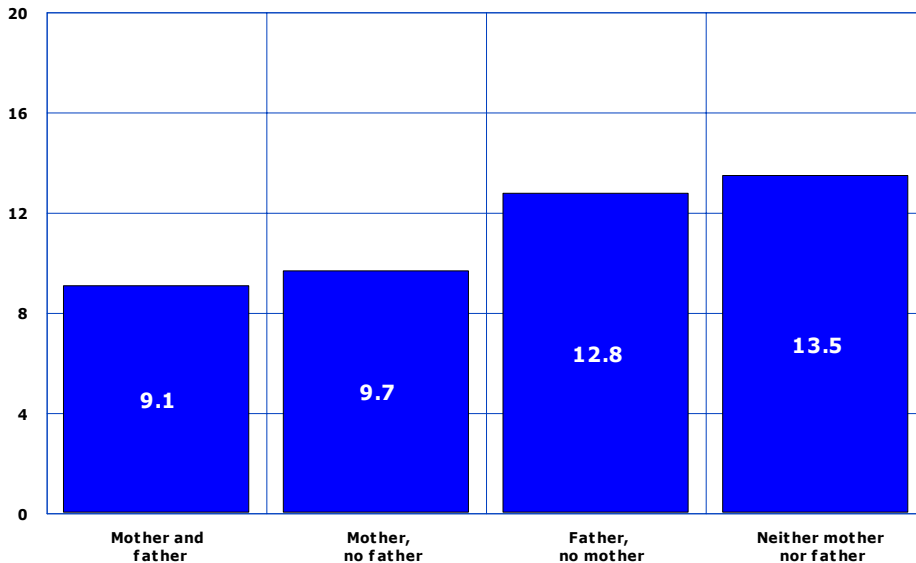
Figure 9-1
Arizona Households with Children Under 18 Years of Age,
by Type of Household, in 2006

N = 760,124 households with one or more children under 18 years of age in 2006



The 2006 American Community Survey (<http://factfinder.census.gov>) estimated that there were 760,124 Arizona households with one or more children less than 18 years. The absolute majority of these households (61.4 percent) were married-couple families (Figure 9-1). Households where there was a mother but no father accounted for 21 percent of all households with children in Arizona in 2006. In addition, there were 57,909 households 7.6 percent where there was a male householder and no wife was present. Approximately 10 percent of all households with children, 75,999 were non-family households with neither mother nor father present.

Figure 9-2
Estimated Prevalence of Children Uninsured for Health Care
by Family Structure in 2006*



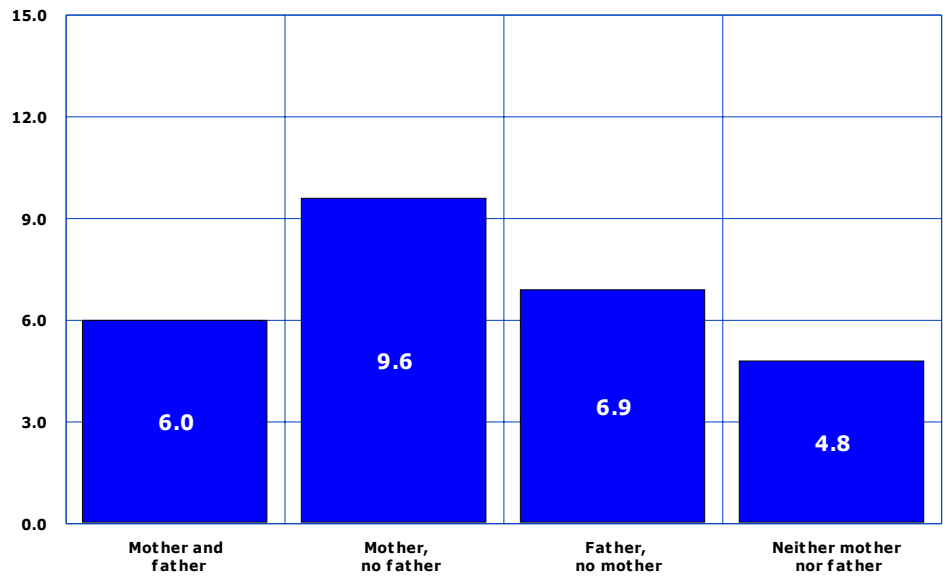
The latest "Summary Health Statistics for U.S. Children: National Health Interview Survey (NHIS) 2006" provides the prevalence of selected health measures as well as measures of health care access and utilization for children under 18 years of age by a variety of sociodemographic characteristics, including family structure.

The data in Figure 9-2, Figure 9-3, and Figure 9-4 are not Arizona-specific. However, there is no reason to believe Arizona-specific data would contradict the national pattern.

Children in single-parent families were more likely to be uninsured than children in married-couple families (9.1 percent; Figure 9-2). Children in non-family households, without mother and father, were the most likely to be uninsured (13.5 percent).

*Source: "Summary Health Statistics for U.S. Children: National Health Interview Survey, 2006".

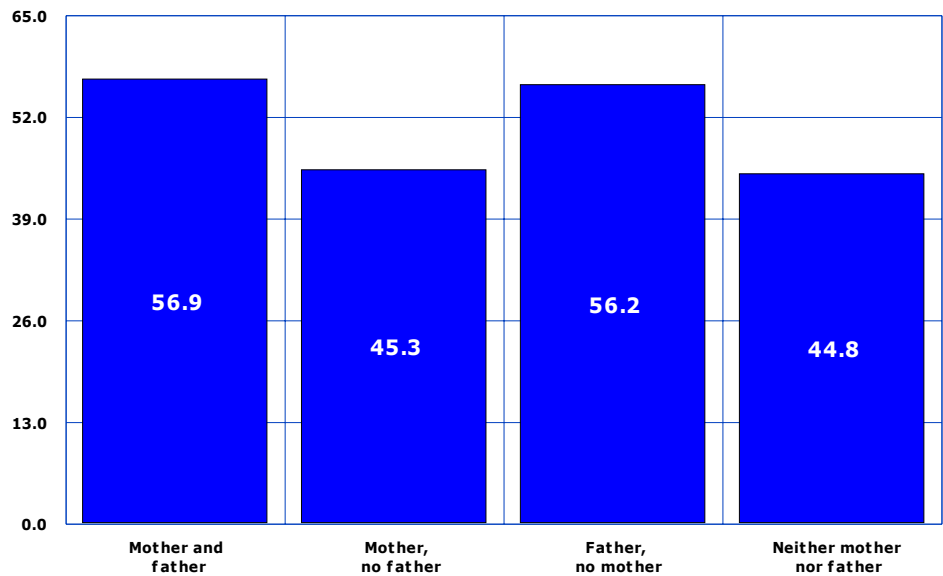
Figure 9-3
Estimated Prevalence of Children who had Unmet Dental Needs,
by Family Structure in 2006*



Children in single-mother families were the most likely to have unmet dental needs (9.6 percent) followed by children in single-father families (6.9 percent; **Figure 9-3**). Overall, 4.5 million children aged 2-17 years nationally (7 percent) had unmet dental needs in 2006.

*Source: "Summary Health Statistics for U.S. Children: National Health Interview Survey, 2006".

Figure 9-4
Estimated Prevalence of Children whose Self-assessed Health Status
was Excellent, by Family Structure in 2006*



Children in two parent families (56.9 percent) were the most likely to enjoy excellent health, followed by children in single-father families (56.2 percent; **Figure 9-4**). Overall, 53.8 percent of U.S. children less than 18 years of age had excellent health.

A few exemplifications from NHIS were not intended to be an exhaustive overview of the relationship between family structure and child's health. There is more data about the prevalence of *asthma, allergies, learning disability and attention deficit hyperactivity disorder, prescription medication use, usual place of health care* and other measures available at <http://www.cdc.gov/nchs/nhis.htm>

*Source: "Summary Health Statistics for U.S. Children: National Health Interview Survey, 2006".

Technical Notes

Age-adjustment weights used to compute age-adjusted rates by category of marital status

Age-adjusted prevalence estimates, inpatient hospitalization and mortality rates by marital status were computed based on the age-specific rates and the standard population for ages 18 years or older. Ages 17 years or younger were excluded because of their high variability, particularly for the widowed population. The age-adjustment weights shown below follow the Distribution #9 (See: Klein RJ, Schoenborn CA. Age-adjustment using the 2000 projected U.S. population. Healthy People Statistical Note, no. 20. Hyattsville, Maryland: National Center for Health Statistics. January 2007).

| | Population in thousands | Adjustment weight |
|--------------|-------------------------|-------------------|
| Total | 203,851 | 1.000000 |
| 18-24 | 26,258 | 0.128810 |
| 25-34 | 37,233 | 0.182648 |
| 35-44 | 44,659 | 0.219077 |
| 45-64 | 60,991 | 0.299194 |
| 65+ | 34,710 | 0.170271 |

Computation of standard errors and confidence intervals

Both mortality and inpatient hospitalization data may be affected by random variation. Standard errors and 95 percent confidence limits are shown in **Table 7-1, Table 7-8, Table 8-1, Table 8-2, Table 8-3,** and **Table 8-6.**

Our computations are based on the following formulas published in Minino AM, Heron MP, Murphy SL, Kochanek, KD "Deaths: Final Data for 2004". National vital statistics reports: vol. 55 no 19. Hyattsville, MD. National Center for Health Statistics. 2007:

- Formula 2, p. 113 for standard errors associated with age-specific hospitalization and mortality rates;
- Formula 4, p. 114 for standard errors associated with the age-adjusted hospitalization and mortality rates;
- When the number of deaths is 100 or greater;

$L(R) = R - 1.96 (SE(R))$ and $U(R) = R + 1.96 (SE(R))$
where $L(R)$ and $U(R)$ are the lower and upper limits of the confidence interval, respectively. The resulting 95 percent confidence interval can be interpreted to mean that the chances are 95 out of 100 that the "true" death rate falls between $L(R)$ and $U(R)$;

- For the number of deaths and death rates when the number of deaths is less than 100, 95 percent confidence limits were estimated using the lower and upper confidence limit factors shown in [Table XIV](#) on p. 118.

Diagnostic categories

The inpatient hospitalization data **Section 7** use diagnostic groupings and codes based on the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM). Detailed information about the diagnostic categories we analyze in this report is provided on our website at <http://www.azdhs.gov/plan/index.htm>.

The death certificate database **Section 8** uses diagnostic groupings and codes based on the Tenth Revision of the International Classification of Diseases (ICD-10). Detailed information about the ICD-10 codes for all of the cause-of-death categories analyzed in this report also is available online at <http://www.azdhs.gov/plan/report/ahs/ahs2006/pdf/compratios.pdf>.

Our Web site at <http://www.azdhs.gov/plan> provides instantaneous access to a wide range of statistical information about health status of Arizonans. The *Arizona Health Status and Vital Statistics* annual report examines trends in natality, mortality and morbidity towards established health objectives. Additional reports and studies include *Differences in the Health Status Among Race/Ethnic Groups*, *Advance Vital Statistics by County of Residence*, *Mortality from Alzheimer's Disease*, *Injury Mortality among Arizona Residents* (accidents, suicides, homicides, legal intervention, firearm-related fatalities, drug-related deaths, drowning deaths, falls among Arizonans 65 years or older), hospital inpatient and emergency department statistics for *mental disorders*, *asthma*, *diabetes*, *influenza and pneumonia* and *substance abuse*, *Community Vital Statistics*, *Teenage Pregnancy*, *Selected Characteristics of Newborns and Mothers Giving Birth by Census Tract* in Maricopa County, Pima County and South Phoenix Area, *Health Status Profile of American Indians in Arizona* and *Deaths from Exposure to Excessive Natural Heat Occurring in Arizona*.



**Health Status and Vital Statistics Section
Bureau of Public Health Statistics
ARIZONA DEPARTMENT OF HEALTH SERVICES**