2D.

PATTERNS OF PREMATURE MORTALITY

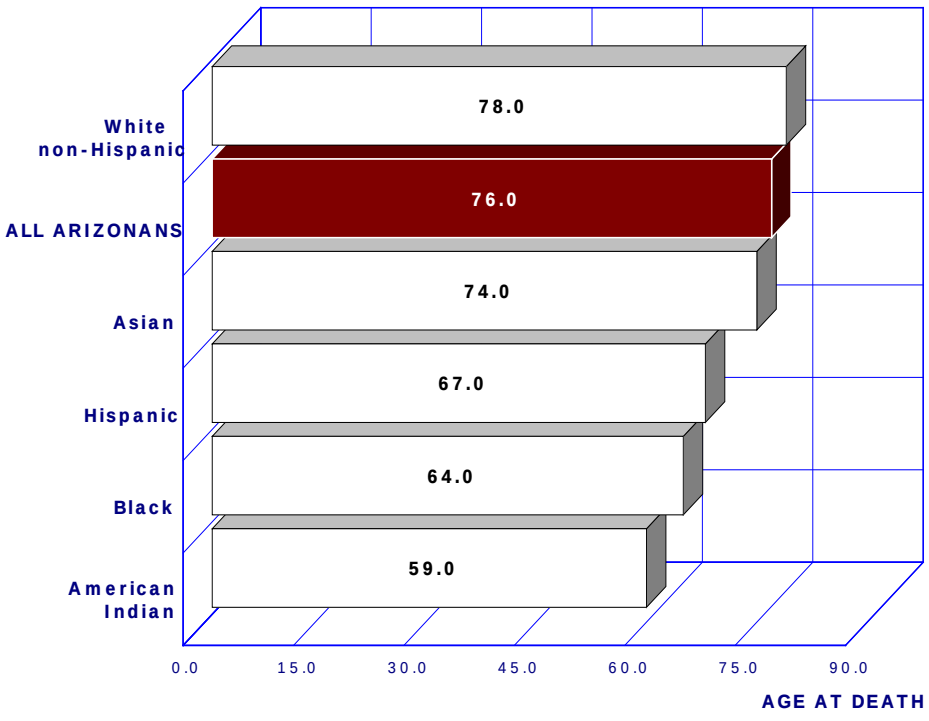
Compared with the White non-Hispanics, the race/ethnic minority groups in Arizona have had greater percentages of people younger than 25 years (46.7 vs. 28.3 percent). In contrast, people aged 65 years and older accounted for 17.9 percent of White non-Hispanics, but only 5.6 percent of all ethnic minority groups combined (percentages based on race-and-age-specific population denominators in **Table 10C-1**).

Similar to the differences in the age composition is the contrasting pattern of proportional mortality by age group. In 2009, the elderly (65 years and older) comprised 76.3 percent of the total mortality among White non-Hispanics, compared to 42.5 percent among American Indians, 49.1 percent among Blacks, 54.4 percent among Hispanics, and 63.8 percent among Asians. One out of sixty-three White non-Hispanics who died in 2009 was less than 25 years old (1.5 percent). In contrast, persons younger than 25 years of age accounted for one out of every ten (9.8 percent) deaths among Arizona ethnic minorities.

The smaller the proportion of elderly as well as the proportion of deaths at older age, the lower is the average age at death. In 2009 the average age at death among the residents of Sun City (a retirement community where the median age of residents is 75 years) was 81.9 years. In contrast, the average age in Gilbert (median age 30.1 years) was 66.8 years. Compared to residents of Sun City, on average residents of Gilbert were 15.1 years younger at time of death. It is not so much that the risk of premature death is higher in Gilbert than it is in Sun City. Rather, it is the lower proportional contribution of elderly deaths to total mortality in Gilbert that depresses the average age at death for this community.

Beginning with the 2005 edition of the report, information about the arithmetic mean age at death is supplemented with the information about the median age, the age in the middle and conceptually similar to life expectancy at birth (see **Table 2D-1**). The median age is higher than the arithmetic mean age in negatively skewed distributions.

Figure 2D-1
Median Age at Death by Race/Ethnicity, Arizona, 2009

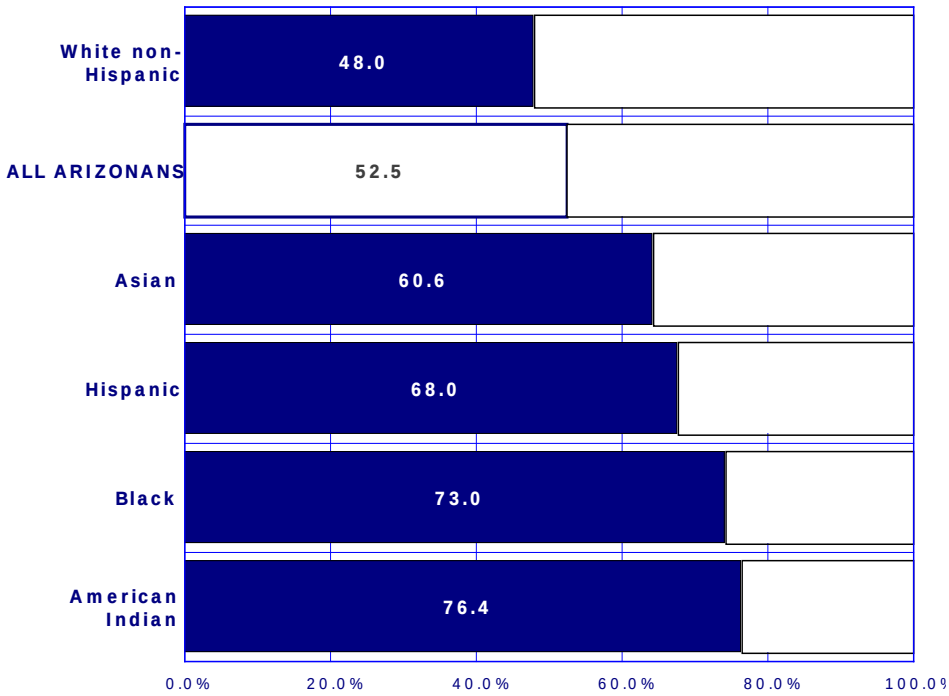


The median age at death decreased from 77 years in 2008 to 76 years in 2009 (**Table 2D-1**). Compared to 2008, there were more deaths in 2009 from causes such as accidental drug overdoses or suicide, i.e., the causes with the lowest median age at death (45 and 48 years, respectively; **Table 2B-1**, **Table 2D-3, Figure 2D-3**).

One out of two Arizonans who died in 2009 was older than 76 years of age. Among Arizona females, fifty percent were older than 80 years when they died in 2009 (no change since 2003) Among males, the median age at death was 73 years in 2009. **Table 2D-1** shows both the average and the median age at death by race/ethnicity and gender in 1999-2009.

In 2009, compared to White non-Hispanics, on average Asians were 2 years younger at time of death, Hispanics were 4 years younger, Blacks were 12 years younger, and American Indian residents of Arizona were 17 years younger.

Figure 2D-2
Percent of Deaths before Expected Years of Life Reached* by Race/Ethnicity, Arizona, 2009



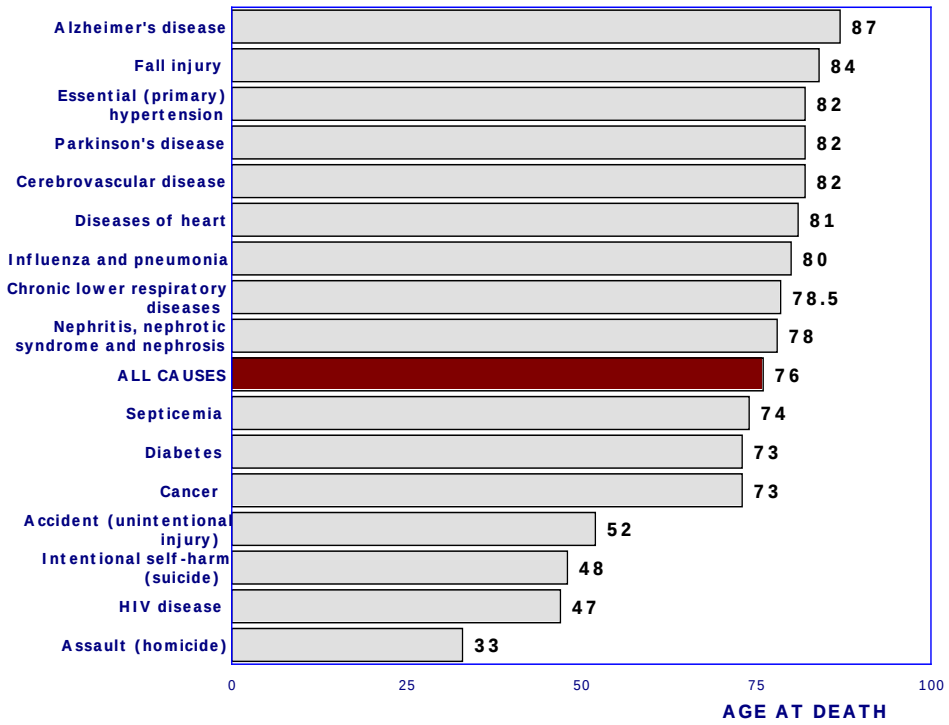
Expected years of life at birth for all U.S. residents (77.7 years in 2006).

The percent of deaths before expected years of life reached (a premature death ratio) remained virtually unchanged for all Arizonans at 52.4 in 2008 and 52.5 in 2009 (**Figure 2D-2**).

As expected, based on the findings for average and median age at death, White non-Hispanics were the only group with less than 50 percent of all deaths (48.0 percent) occurring before the expected years of life were reached (**Figure 2D-2**). In contrast, at least 60.6 percent among race/ethnic minority groups occurred prematurely.

Among American Indians, eight out of ten deaths (76.4 percent) were premature (**Table 2D**-2).

Figure 2D-3
Median Age at Death for Selected Leading Causes of Death, Arizona, 2009

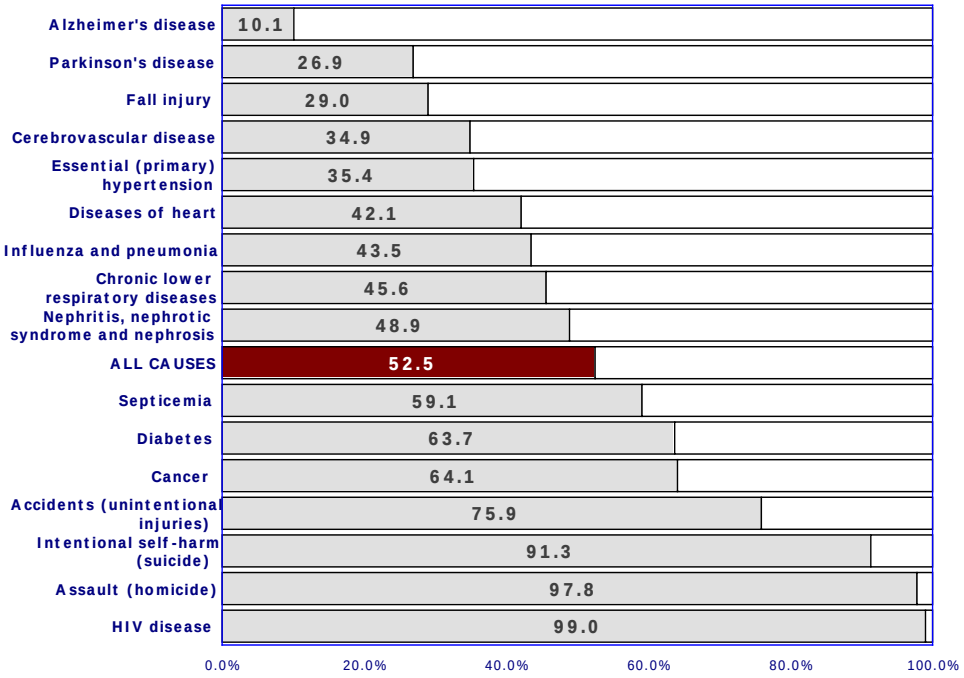


In 2009, *Alzheimer's disease* again ranked highest with median age at death of 87 years (**Figure 2D-3**), exceeding by 11 years the median age at death for all causes (**Figure 2D-3**, **Table 2D-3**).

Among the leading causes of death, *homicide* had the lowest median age at death of 33 years.

In 2009, *cancer* replaced *diseases of the heart* as the leading cause of death (based on the age-adjusted mortality rates). This epidemiologic transition in mortality risks is likely to have long lasting implications for the life expectancy of Arizonans, because the median age at death from *cancer* (73 years) is substantially lower the median age at death from *diseases of the heart* (81 years).

Figure 2D-4
Percent of Deaths before Expected Years of Life Reached* for Selected Leading Causes of Death, Arizona, 2009



Only 10.1 percent of deaths from *Alzheimer's disease* occurred before the age of 77.7 years, i.e., before the expected years of life were reached. In contrast, almost all deaths from *HIV disease* were premature at 99.0 percent (**Figure 2D-4**, **Table 2D-4**) and the median age at death from *HIV disease* has changed little from previous year at 47 years (**Figure 2D-3**, **Table 2D-3**).

A minority of deaths from *diseases of heart* were premature (42.1 percent). In contrast 64.1 percent of deaths from *cancer* occurred before the expected years of life were reached.

* Expected years of life at birth for all U.S. residents (77.7 years in 2006).