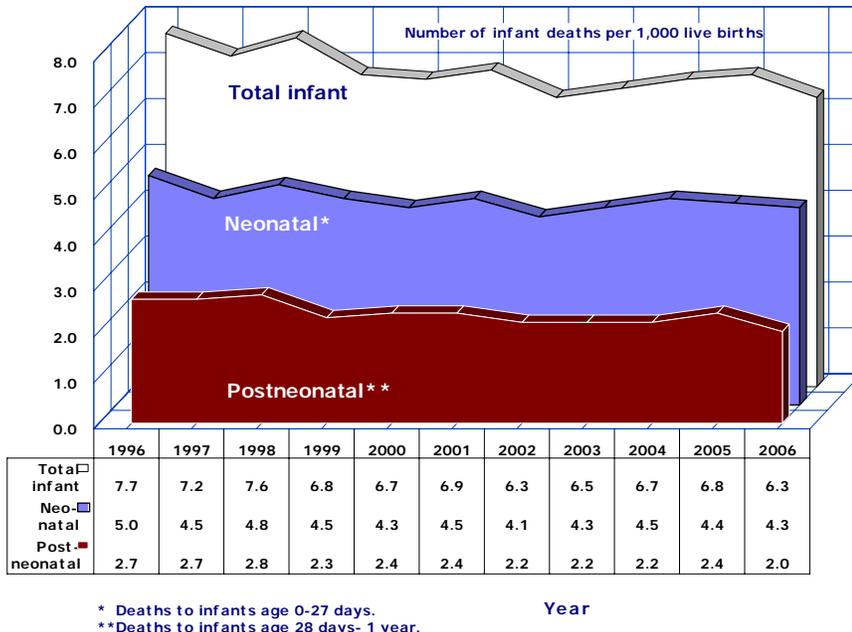


2C. AGE-SPECIFIC MORTALITY
Infant mortality

Figure 2C-1
Infant Mortality Rates By Neonatal/Postneonatal Age
and Year, Arizona, 1996-2006



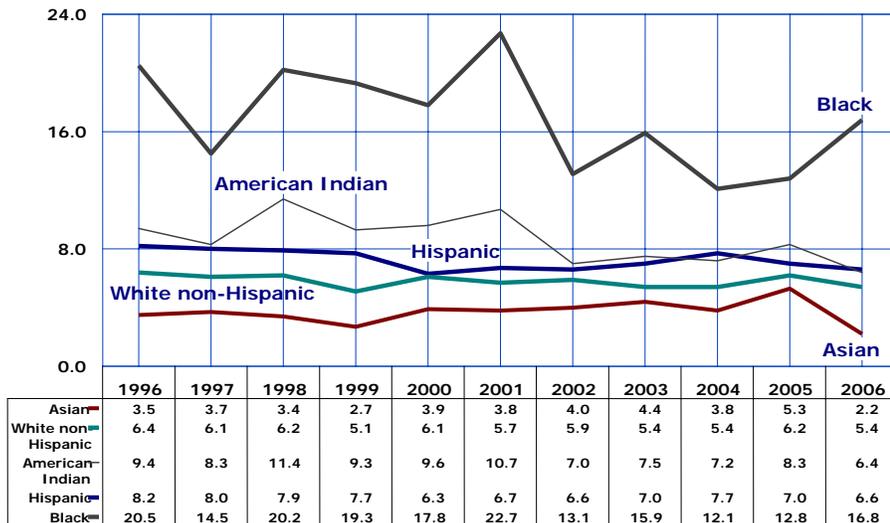
Infant mortality is defined as the number of deaths within the first year of life. The infant mortality rate (IMR) is computed as the number of infant deaths in a calendar year per 1,000 live births recorded for the same period.

In 2006, 642 infants died before reaching their first birthday, the second highest number of annual infant deaths since 1971 (Table 8C-1, Table 2C-2). However, the infant mortality rate (IMR) decreased by 7.4 percent from 6.8 infant deaths per 1,000 live births in 2005 to 6.3/1,000 in 2006 (Figure 2C-1)

The 2003-2005 infant mortality increase was concentrated among neonatal deaths. In contrast, the recent decrease from 2005 to 2006 was primarily due to decreased postneonatal mortality (Figure 2C-1, Table 2C-3).

More-detailed infant mortality data from the linked birth/infant death data set are used below to analyze some of the factors contributing to the increase. In the linked file, the information from the death certificate is linked to information from the birth certificate for each infant less than 1 year of age who died in Arizona in 2006.

Figure 2C-2
Infant Mortality Rates* by Race/Ethnicity and Year,
Arizona, 1996-2006



In 2006, 98 percent of all infant death records were successfully matched to their corresponding birth records. Among the 642 infants who died in 2006, 76 were born in 2005.

The mortality risk for infants varies by race/ethnicity. Infants of Asian mothers, followed by babies of White non-Hispanic mothers had the lowest infant mortality rates among the race/ethnic groups in 2006 (Figure 2C-2, Table 2C-2).

In 2006, Black infants continued to have the worst survival chances among the ethnic groups (Figure 2C-2). The Black IMR increased by 31.3 percent from 12.8/1,000 in 2005 to 16.8/1,000 in 2006. In contrast, the IMR of American Indian infants declined by 22.9 percent from 8.3 in 2005 to 6.4 in 2006.

*Number of infant deaths per 1,000 live births in specified group.

2C. AGE-SPECIFIC MORTALITY
Infant mortality

Newborn weight at birth is one of the most important predictors of an infant's survival chances. In 2006, the infant mortality rate for low birthweight infants (LBW: less than 2,500 grams) was 57 deaths per 1,000 live births. Similarly, the infant mortality rate for very low birthweight infants (VLBW: less than 1,500 grams) was 494 deaths per 1,000 live births.

The absolute number of low birthweight births increased from 6,640 in 2005 to 7,266 in 2006; the latter being the highest number of LBW births ever. However, the proportion of babies whose weight at birth was less than 1,000 grams decreased from 8.7 percent of all births in 2005 to 7.7 percent in 2006 (**Figure 1B-3**).

The 423 births at 500-999 grams accounted for 0.4 percent of births, but 24.6 percent of infant deaths in Arizona in 2006. Together, births of infants weighing less than 1,000 grams accounted for 0.6 percent of births, and 43 percent of all infant deaths. Infants weighing less than 500 grams have a very high mortality rate of 86.8 percent (**Figure 2C-3**).

Figure 2C-3
Proportion of Infant Deaths by Birthweight, Arizona, 2006

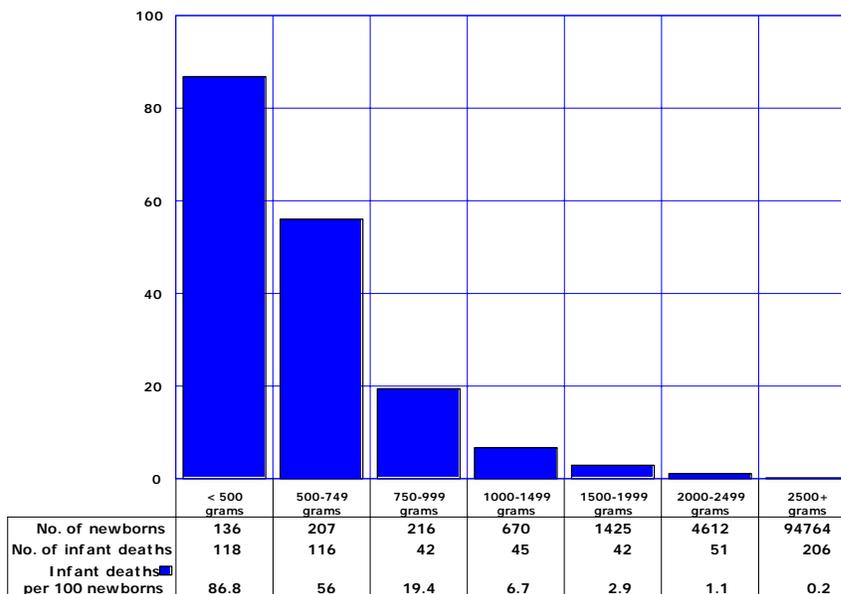
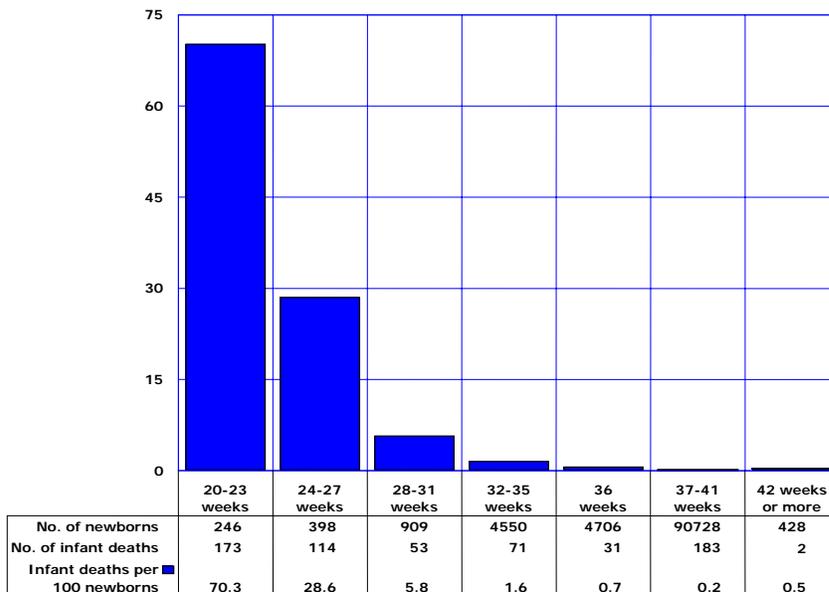


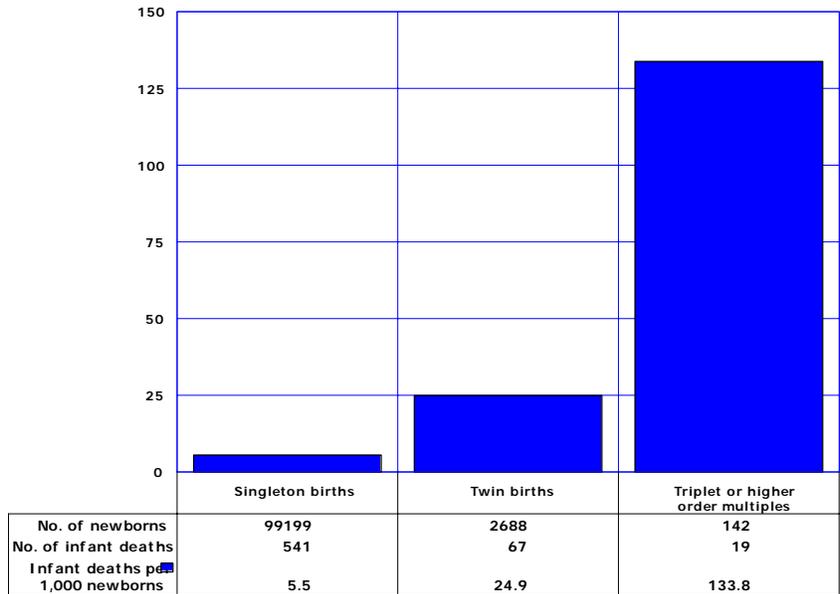
Figure 2C-4
Proportion of Infant Deaths by Gestational Age, Arizona, 2006

As with low birthweight, preterm and very preterm infants have a large impact on the total infant mortality rate because of their much higher risk of infant mortality. For example, births at less than 24 weeks of gestation accounted for only 0.2 percent of all births but 27 percent of infant deaths in Arizona in 2006. Births at less than 24 weeks of gestation have a very high infant mortality rate of 70.3 percent (**Figure 2C-4**). Overall, preterm infants (those born at less than 37 weeks of gestation) accounted for 10.6 percent of births (**Table 1B-2**) and 68.9 percent of all infant deaths.



2C. AGE-SPECIFIC MORTALITY
Infant mortality

Figure 2C-4.2
Infant Mortality Rates for Singleton and Multiple Births,
Arizona, 2006

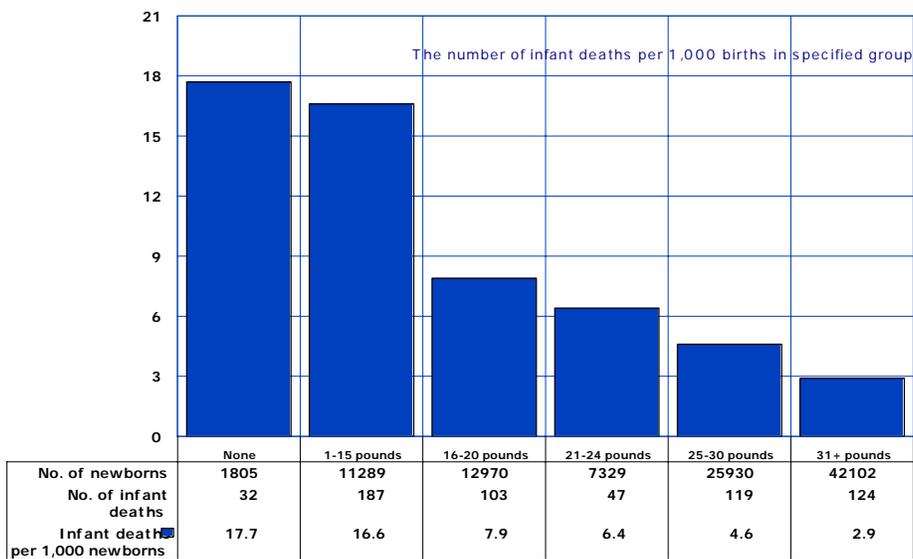


As already noted in Section 1B, infants born in multiple deliveries tend to be born at shorter gestations and smaller than those in singleton deliveries. In 2006, infants born in multiple deliveries were 13 times more likely (50.5 vs. 3.9 percent) to be born earlier than expected (at less than 37 completed weeks of gestation) and smaller (at less than 2,500 grams) than singleton births (**Figure 1B-10**).

The infant mortality rate for single births was 5.5 in 2006 (**Figure 2C-4.2**). The infant mortality rate for twin births was 24.9, and for triplets or higher order multiples it was 133.8.

Multiple births accounted for 2.8 percent of births (**Table 1B-2**), but 13.4 percent of all infant deaths in Arizona in 2006.

Figure 2C-4.3
Infant Mortality Rates by Maternal Weight Gain
During Pregnancy, Arizona, 2006



Infant mortality rates vary with maternal weight gain during pregnancy. In 2006, as in previous years, the risk of infant death decreased with increasing maternal weight gain (**Figure 2C-4.3**). There is no coincidence that mother's weight gain has been shown to have a positive correlation with infant birthweight (**Figure 1B-22**).

2C. AGE-SPECIFIC MORTALITY
Infant mortality

Figure 2C-4.4
Infant Mortality Rates by Mother's Educational Attainment,
Arizona, 2006

Infant mortality rates vary by mother's educational attainment. There is an inverse correlation between mother's education and infant mortality rates. The higher the mother's education, the lower the infant mortality rate (**Figure 2C-4.4**). If all babies born in Arizona in 2006 experienced the infant mortality risk of newborns born to mothers who had 17+ years of education, 346 fewer infants would have died in 2006.

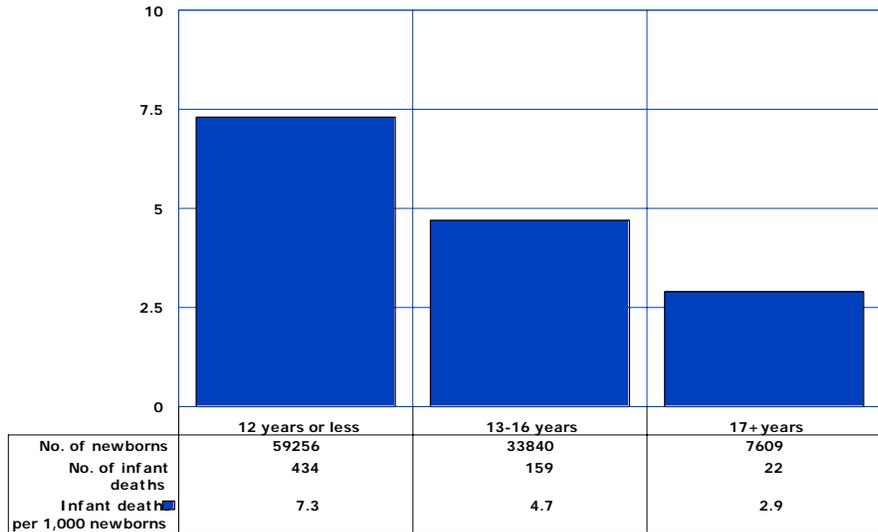
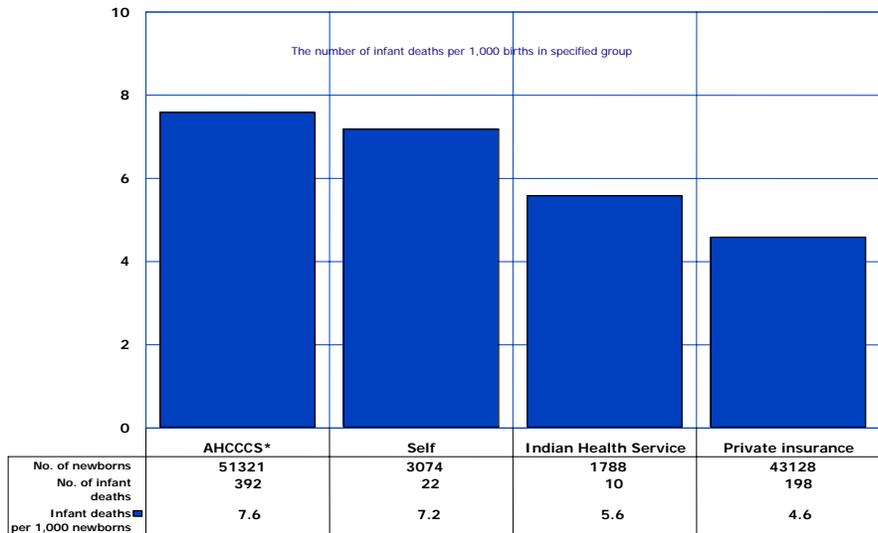


Figure 2C-4.5
Infant Mortality Rates by Payee for Delivery,
Arizona, 2006

In addition to mother's educational attainment, paying party for the delivery is another indicator of the socioeconomic status (SES) on the birth certificate. In Arizona, infant mortality rates differed by the payee for delivery. The infant mortality rates were highest for babies born to AHCCCS (7.6/1,000) and self-pay (7.2/1,000) mothers (**Figure 2C-4.5**). The infant mortality rates were lowest for babies whose mothers who had private health insurance (4.6 deaths per 1,000 live births), followed by IHS (Indian Health Service) mothers (5.6/1,000).



* The Arizona Health Care Cost Containment System (AHCCCS) is the State's Medicaid program.