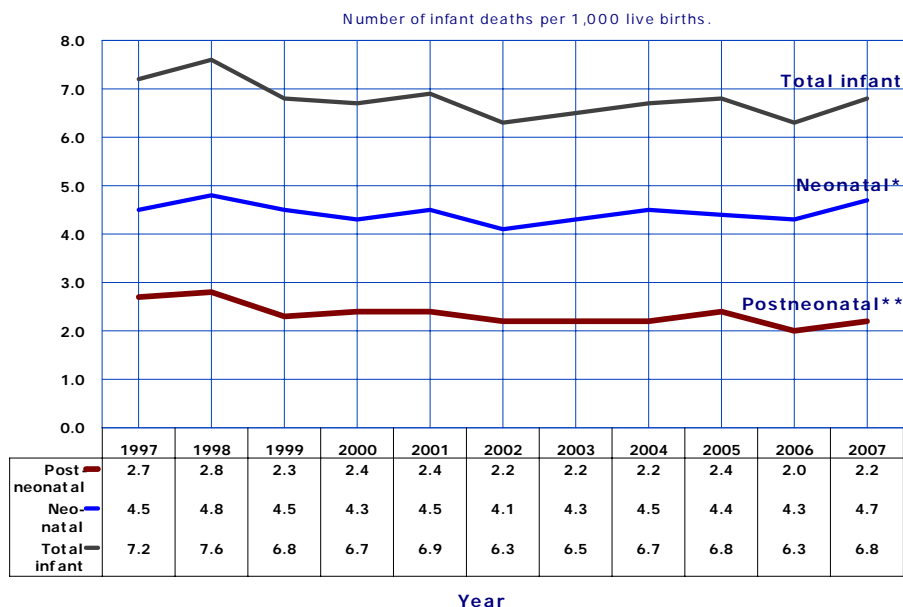


## 2C. AGE-SPECIFIC MORTALITY

### Infant mortality

**Figure 2C-1**  
**Infant Mortality Rates by Neonatal/Postneonatal Age and Year, Arizona, 1997-2007**



Deaths to infants age 0-27 days.  
 \*\*Deaths to infants age 28 days-1 year.

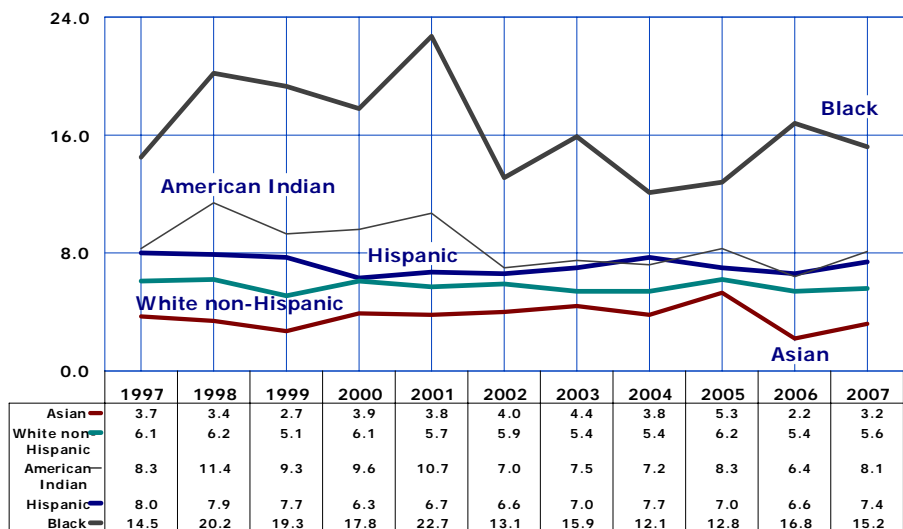
Infant mortality is defined as the number of deaths within the first year of life. The infant mortality rate (IMR) is computed as the number of infant deaths in a calendar year per 1,000 live births recorded for the same period.

In 2007, 701 Arizona infants died before reaching their first birthday, the second highest number of annual infant deaths since 1971 (Table 8C-1, Table 2C-2). The infant mortality rate increased by 7.9 percent from 6.3 infant deaths per 1,000 live births in 2006 to 6.8/1,000 in 2007 (Figure 2C-1)

The infants' survival chances worsened in both the neonatal (within the first 27 days) and the postneonatal (28 days to first birthday) periods in 2007 (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 resident infant less than 1 year of age who died in Arizona in 2007.

**Figure 2C-2**  
**Infant Mortality Rates<sup>\*</sup> by Race/Ethnicity and Year, Arizona, 1997-2007**



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

In 2007, 96.4 percent of all infant death records were successfully matched\* to their corresponding birth records. Among the 701 infants who died in 2007, 81 were born in 2006.

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 2007 (Figure 2C-2, Table 2C-2).

In 2007, Black infants continued to have the worst survival chances among the ethnic groups (Figure 2C-2). However, the Black IMR decreased by 9.5 percent from 16.8/1,000 in 2006 to 15.2/1,000 in 2007. In contrast, the IMR of American Indian infants increased by 26.6 percent from 6.4 in 2006 to 8.1 in 2007.

\* Infant death records that were not linked to their corresponding birth certificates include unrecorded home births (i.e., no birth certificate was issued) and out-of-State births (i.e., the State issuing the certificate of birth did not send a copy to Arizona).

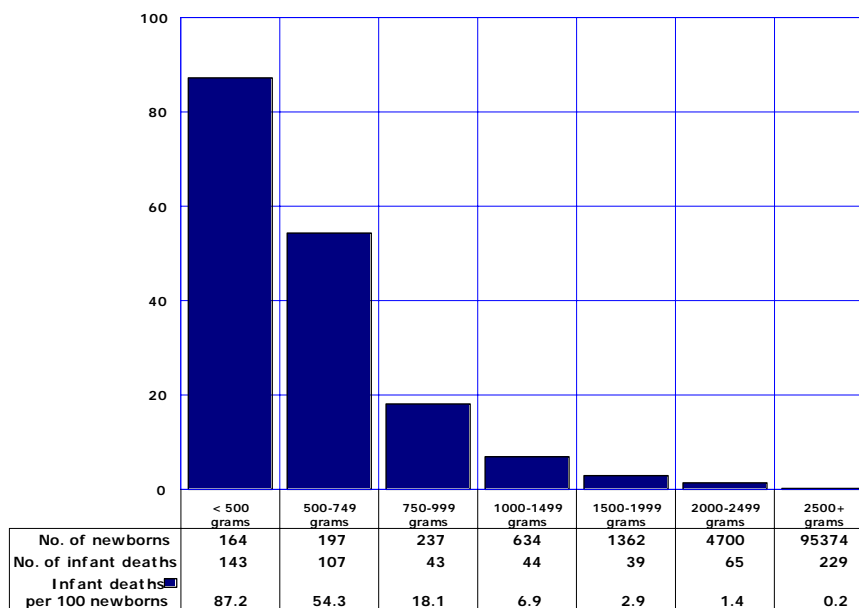
2C. AGE-SPECIFIC MORTALITY  
**Infant mortality**

**Figure 2C-3**  
**Proportion of Infant Deaths by Birthweight, Arizona, 2007**

Newborn weight at birth is one of the most important predictors of an infant's survival chances. In 2007, the infant mortality rate for low birthweight infants (LBW: less than 2,500 grams) was 60.5 deaths per 1,000 live births. Similarly, the infant mortality rate for very low birthweight infants (VLBW: less than 1,500 grams) was 273.5 deaths per 1,000 live births.

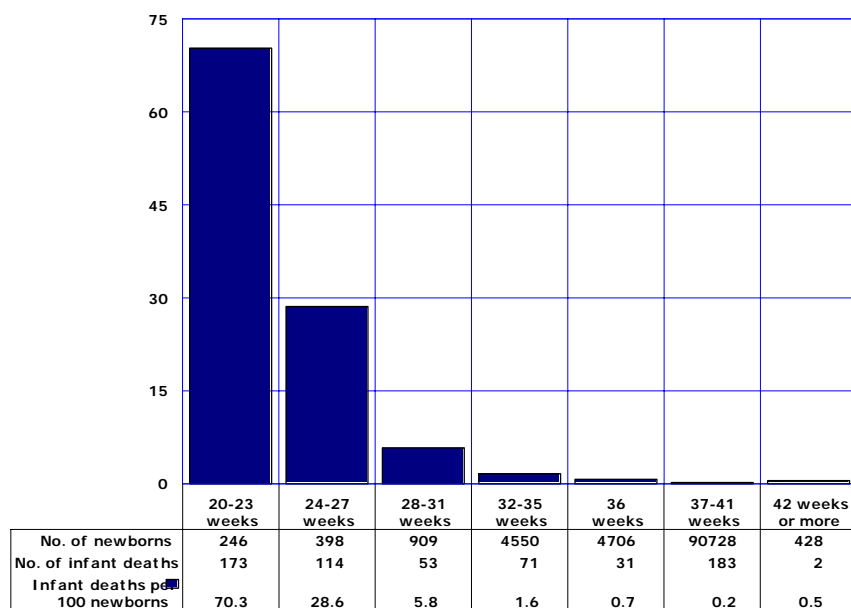
The absolute number of low birthweight births increased very little from 7,266 in 2006 to 7,285 in 2007; the latter being the highest number of LBW births ever. However, the proportion of babies whose weight at birth was less than 1,000 grams increased from 7.7 percent of all low birthweight births in 2006 to 8.1 percent in 2007 (**Table 1B-3**).

Together, births of infants weighing less than 1,000 grams accounted for 0.6 percent of births, and 41.8 percent of all infant deaths. Infants weighing less than 500 grams have a very high mortality rate of 87.2 percent (**Figure 2C-3**).



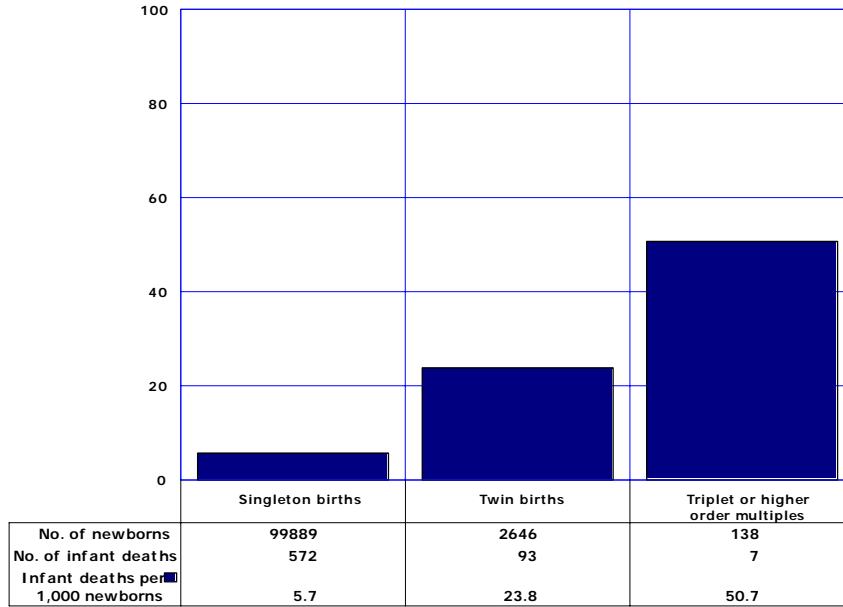
**Figure 2C-4**  
**Proportion of Infant Deaths by Gestational Age, Arizona, 2007**

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 27 weeks of gestation accounted for only 0.6 percent of all births but 40.8 percent of infant deaths in Arizona in 2007. 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 10.3 of births (**Table 1B-2**) and 64.6 percent of all infant deaths.



2C. AGE-SPECIFIC MORTALITY  
**Infant mortality**

**Figure 2C-4.2**  
**Infant Mortality Rates for Single and Multiple Births, Arizona, 2007**

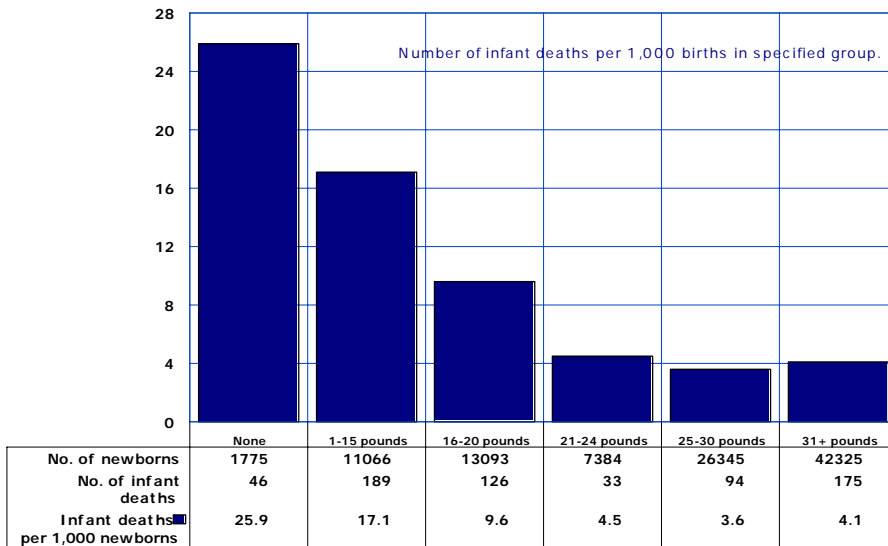


As already noted in Section 1B, infants born in multiple deliveries tend to be born at shorter gestations and smaller than those in singleton deliveries. In 2007, infants born in multiple deliveries were 13.7 times more likely (52.1 vs. 3.8 percent) to be born earlier than expected (at less than 37 completed 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 5.7 in 2007 (**Figure 2C-4.2**). The infant mortality rate for twin births was 23.8, and for triplets or higher order multiples it was 50.7.

Multiple births accounted for 2.7 percent of births (**Table 1B-2**), but 14.9 percent of all infant deaths in Arizona in 2007.

**Figure 2C-4.3**  
**Infant Mortality Rates by Maternal Weight Gain during Pregnancy, Arizona, 2007**



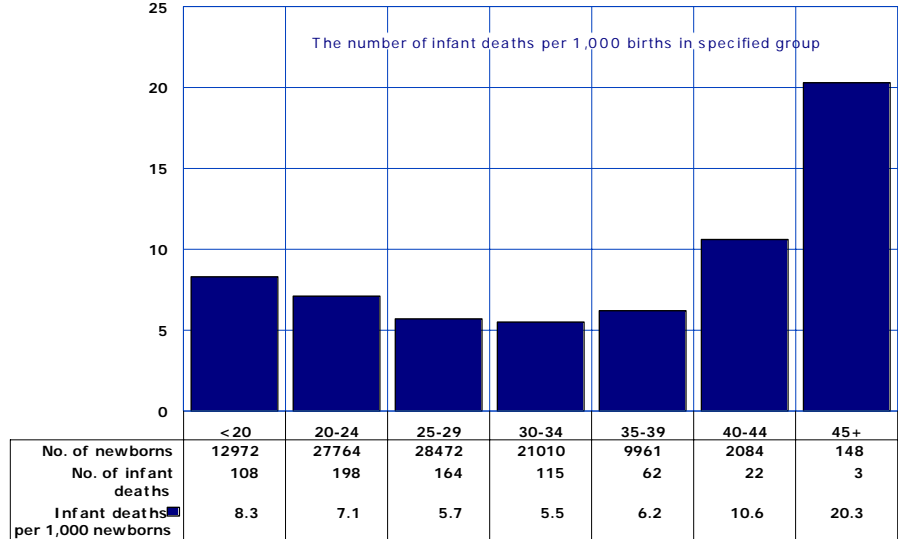
Infant mortality rates vary with maternal weight gain during pregnancy. Insufficient or excessive weight gain during pregnancy can negatively impact both maternal and pregnancy outcome. In 2007, as in previous years, the risk of infant death decreased with increasing maternal weight gain, the exception being maternal weight gain of 31 or more pounds (**Figure 2C-4.3**). Among the 42,325 women giving birth in 2007 who gained 31 or more pounds, 61.7 had weight gains of more than 40 pounds, considered excessive for all women regardless of their body mass index.

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 Age Group, Arizona, 2007**

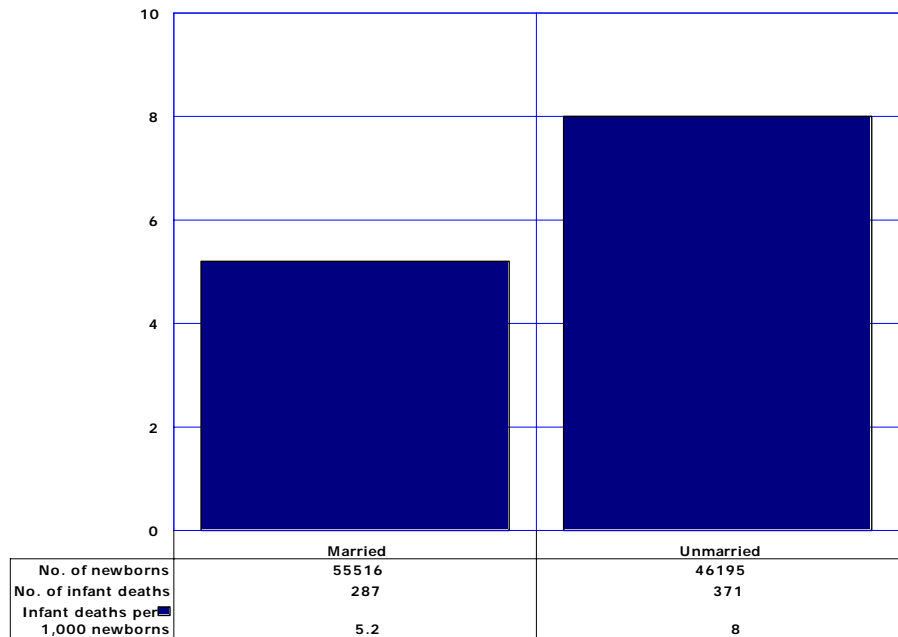
Infant mortality rates vary with maternal age. In 2007, infant mortality decreased with increasing maternal age through 30-34 years of age but increased for infants born to women 35 years of age or older. Optimal maternal age was 30-34 years (**Figure 2C-4.4**). The number of births to women 45 years or older increased by 23.3 percent from 120 in 2006 to 148 in 2007.



**Figure 2C-4.5**  
**Infant Mortality Rates by Mother's Marital Status, Arizona, 2007**

Infants born to unmarried mothers accounted for the absolute majority of infant deaths in 2007 (371 vs. 287); while the number of births to married mothers exceeded by 20 percent the number of births to unmarried mothers (55,516 vs. 46,195; **Table 1B-26**). In 2007, infants of married mothers had an infant mortality rate of 5.2 deaths per 1,000 live births, 35 percent lower than the rate for infants of unmarried mothers (8 infant deaths per 1,000 live births; **Figure 2C-4.5**). The effect of marital status on infant mortality suggests that marital status is a proxy measure of factors traditionally related to infant mortality such as poverty conditions, access to health care or social support. Mother's marital status may signify the presence or absence of emotional, social, and financial resources.

Additional information is available in our recent report on "Marital Status and Health, Arizona Residents, 2006" at [www.azdhs.gov/plan/report/ms/ms06/index.htm](http://www.azdhs.gov/plan/report/ms/ms06/index.htm)



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