

## METHODS

The 65 indicators presented in this report are individual measures of various dimensions or facets of health status. By calculating overall scores and rankings it is possible to provide a summary measure representing the relative standing of each racial/ethnic group across a broad range of health status issues.

Scores indicate the percentage points a racial/ethnic group falls above or below the statewide average. Each score is calculated as follows:

$$\text{SCORE} = \left[ \frac{\text{THE VALUE OF A RATE OR RATIO IN A SPECIFIED GROUP}}{\text{THE AVERAGE VALUE OF A RATE OR RATIO FOR THE STATE}} - 1.0 \right] \times 100$$

Scores may have positive (+) or negative (-) values. The above formula produces a score of 0.0 for a group with the same value as the statewide average. A negative score indicates better than average standing on an indicator. A positive score indicates worse than average standing on an indicator.\*

It is important to note that the unit of analysis in this report is the racial/ethnic group. The aggregate measures of health status (such as teen pregnancy rate, infant mortality rate, mortality rate for drug-induced deaths, the incidence of low-birthweight, etc.) apply to groups and not individuals. In addition, this is a study of the relative, not absolute, healthiness of racial/ethnic groups. The highest ranking group is not problem-free, it is comparatively better.

The rates and ratios presented in sections 1-4 and 7-9 of **Comparative Measures of Health Status by Race/Ethnicity** and **Rates and Ratios for 2005-2015** are directly comparable to the previously published rates and ratios for 1995, 1997, and 1999. However, the cause-specific mortality rates in section 5 and section 6 CANNOT BE compared to cause-specific mortality rates published in editions of this report prior to 2001. This is because beginning with the 2000 data year in Arizona (1999 nationally) two major changes have occurred that affect the computation of mortality rates and analysis of mortality data over time. First, a new revision of the International Classification of Diseases (ICD) used to classify causes of death was implemented. The Tenth Revision (ICD-10) has replaced the Ninth Revision (ICD-9), which was in effect since 1979. Second, a new population standard for the age adjustment of mortality rates has replaced the standard based on the 1940 population and used since 1943. The new set of age-adjustment weights uses the projected year 2000 U.S. population as a standard. Both changes have profound effects on the comparability of mortality data and continuity in statistical trends. Age-adjusted rates can only be compared to other age-adjusted rates that use the same population standard. In this report, ALL age-adjusted mortality rates are based on the (new) 2000 standard, and they CANNOT BE compared to rates using the 1940 standard population.

Moreover, some natality trend analyses are compromised due to the adoption on January 1, 2014 of the 2003 U.S. Certificate of live birth, a revised version of the 1989 Standard Certificate of birth.

The revision of the birth certificate has introduced some major changes on several items including but not limited to *month prenatal began, weight gain during pregnancy, tobacco use during pregnancy, and congenital anomalies*. Several checkboxes included in these categories were revised or are completely new to the 2003 form. Hence, rates on the selected items published in this report are not comparable to rates prior to 2014.

Beginning with the 2005 edition of the report, the median age at death replaced the arithmetic mean age at death as one of the measures of premature mortality (indicators 8-1, 8-2, and 8-3). The median age is higher than the arithmetic mean age in negatively skewed distributions.\*\*

Prior editions of this report were published biennially from 1995 to 2013. This report uses the same methodology as the 1997 through 2013 editions, so that average scores and average ranks (but not mortality rates published before 2000) are directly comparable.

\* For consistency, the signs + and - for scores indicating the median age at death as higher or lower than the statewide average were reversed (indicators 8-1, 8-2, 8-3). Otherwise, a higher-than-average median age at death would indicate worse than average standing on this indicator.

\*\* A comparison of the median with the mean age at death in Arizona by race/ethnicity, gender, and year for 2005-2015 is available in Table 2D-1 of "Arizona Health Status and Vital Statistics 2015" report at <http://www.azdhs.gov/plan/report/ahs/ahs2015/2d1.pdf>