METHODS

The 70 indicators presented in this report are individual measures of the various dimensions or facets of health status. By calculating overall scores and rankings it is possible to provide a summary measure representing a relative standing of each race/ethnic group on a broad range of health status issues.

Scores indicate the percentage a race/ethnic group is 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 race/ethnic group. The aggregate measures of health status (such as teen pregnancy rate, infant mortality rate, mortality rate for drug-induced deaths or 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 race/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 ***Comparative Rates and Ratios for 2000-2007*** 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 prior editions of this report. 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 analyses 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.

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.**

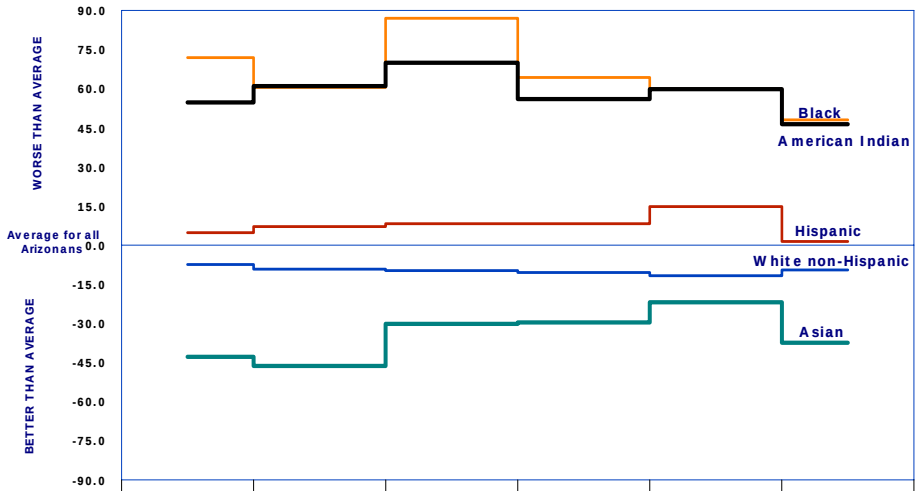
Prior editions of this report were published for the 1995, 1997, 1999, 2001, 2003, and 2005 data years. This report uses the same methodology as the 1997, 1999, 2001, 2003, and 2005 editions, so that average scores and average ranks (but not mortality rates published before 2000) are directly comparable.

*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 1997-2007 is available in Table 2D-1 of "Arizona Health Status and Vital Statistics 2007" report at http://www.azdhs.gov/plan/report/ahs/ahs2007/pdf/2d1.pdf

KEY FINDINGS

The inequity between the groups, as measured by the range of score values from the lowest (the most favorable standing among the groups) to the highest (the least favorable standing), narrowed from 117.2 points in 2001 (from -30.2 for Asians to 87.0 for Blacks) to 81.7 in 2005, and slightly increased to 85.4 in 2007 (**Figure A**). The average score for Blacks improved from 87.0 in 2001 to 48.0 in 2007. Compared to a score of -11.7 in 2005, the average score for White non-Hispanics slightly worsened to -9.5 in 2007. In contrast, the average score for American Indians improved from 59.8 in 2005 to 46.4 in 2007. Hispanics had their best average score in 2007, compared to their average scores in 1997, 1999, 2001, 2003, and 2005. In fact, their overall standing in 2007 was no different from the average for all groups (**Figure A**).

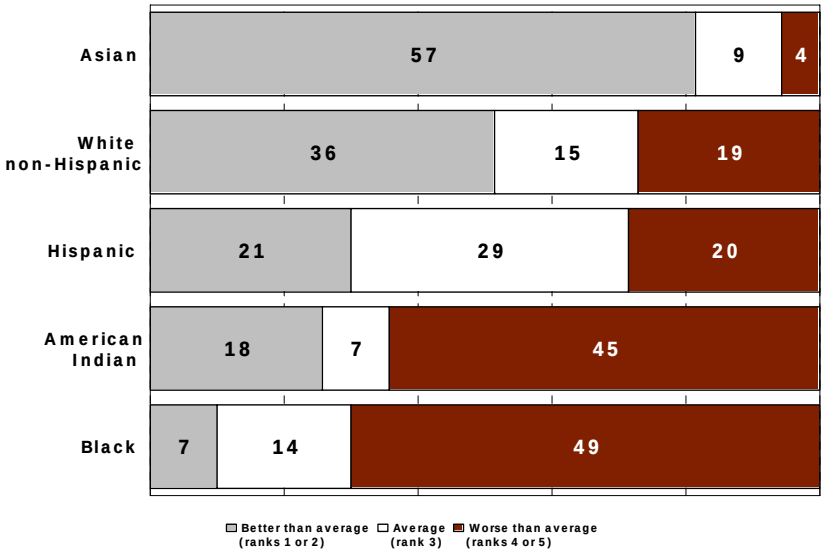
Figure A
Comparison of Average Scores by Race/Ethnicity in 1997, 1999, 2001, 2003, 2005, and 2007



	1997	1999	2001	2003	2005	2007
American Indian	54.7	61.0	69.9	56.0	59.8	46.4
Asian	-42.8	-46.3	-30.2	-29.6	-21.9	-37.4
Black	71.9	60.5	87.0	64.3	59.8	48.0
Hispanic	4.8	7.1	8.2	8.2	14.8	1.4
White non-Hispanic	-7.4	-9.2	-9.8	-10.5	-11.7	-9.5

In 2007 as in 2005, 2003, 2001, 1999 and 1997, Arizona's Asian residents ranked best among race/ethnic groups in the overall health status, followed by White non-Hispanics, Hispanics, American Indians, and Blacks (**Figure B**).

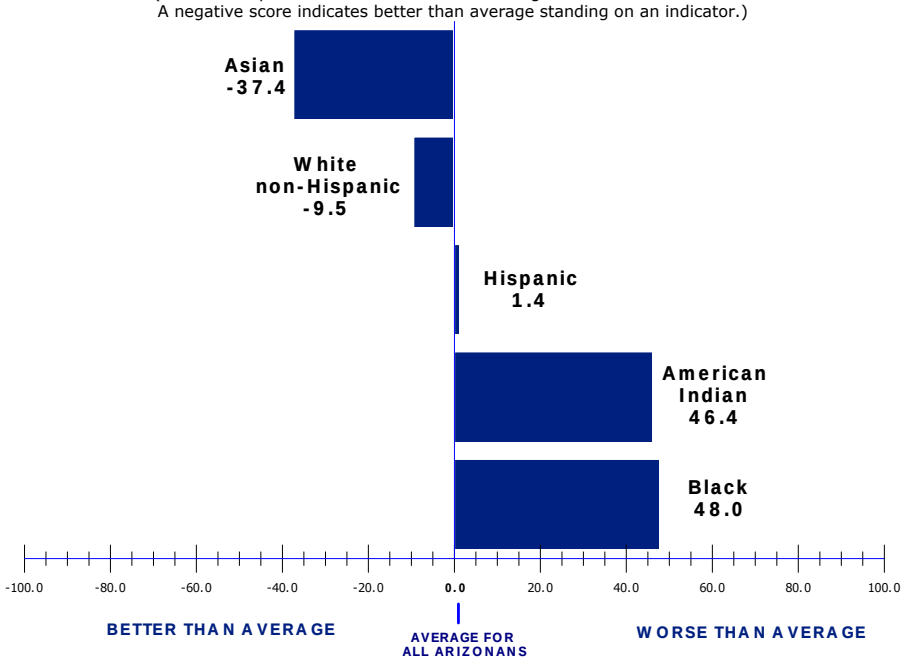
Figure B
Number of Times Each Group Ranked Better Than Average, Average, and Worse Than Average on 70 Indicators, Arizona, 2007



The average scores based on all 70 measurements ranged from –37.4 for Asians to 48.0 for Blacks (**Figure C**). The difference in the average scores for White non-Hispanics and Hispanics narrowed from 26.5 points in 2005 (-11.7 and 14.8; **Figure A**) to 10.9 in 2007. The average scores for American Indians (46.4) and Blacks (48.0) differed by a mere 1.6 percentage points.

Figure C
Average Scores in 2007

(A score is a percent above or below the average for all Arizona residents.
A negative score indicates better than average standing on an indicator.)



ASIANS or PACIFIC ISLANDERS

Average rank: 1.7* Total score: -2,616.8 Average score: -37.4**

In 2007, Asian residents of Arizona ranked best or second best among race/ethnic groups on 57 of 70 indicators, including measures of utilization of prenatal care services, cause-and-age-specific mortality and in low incidence of teen pregnancies or reportable diseases. Asians median age at death was the second highest among the race/ethnic groups in Arizona in 2007. Asians also had the lowest risk of injury mortality in accidents, as well as drug-and/or–alcohol induced deaths and firearm-related mortality. Their overall score improved from -21.9 in 2005 to -37.4 in 2007. The total mortality rate of 356.3 deaths per 100,000 Asian or Pacific Islander residents of the State was the lowest rate among the race/ethnic groups, and it was the lowest rate for Asians since 2000. So were the mortality rates for diabetes, chronic lower respiratory diseases, cardiovascular diseases, and influenza and pneumonia. In 2000-2007, infants of Asian mothers had the lowest infant mortality rates (IMR) among the race/ethnic groups. In 2007, the Asian IMR of 3.2 infant deaths per 1,000 live births was 52.9 percent lower than the IMR of 6.8/1,000 for all groups (See ***Comparative Rates and Ratios for 2000-2007***).

*The average rank based on all 70 measurements (the sum of the ranks divided by 70 measurements. Ranks range between 1 = the highest rank of health indicators and 5 = the lowest rank of health indicators). See section RANKING ORDER IN 2007.
**The average score based on all 70 measurements (the sum of all scores divided by 70 measurements). See section SCORES IN 2007.

WHITE NON-HISPANICS

Average rank: 2.7 Total score: -666.5 Average score: -9.5

White non-Hispanics ranked second best in the relative healthiness among race/ethnic groups in Arizona. They ranked No.1 or No.2 on 36 of 70 measures of health, including low teen pregnancy rates, high utilization of prenatal care and low premature mortality. However, in the use of tobacco among women giving birth, as well as in the incidence of genital herpes during pregnancy and in mortality rates for suicide, lung cancer, chronic lower respiratory diseases, and Alzheimer's disease, White non-Hispanics ranked worst among race/ethnic groups. The White non-Hispanic overall score of -9.5 in 2007 was their 3rd worst score since 1997. It reflects deterioration in teen pregnancy rates among females 14 and younger and females 18-19 years old, as well as mortality rates for drug-and-alcohol induced deaths, suicide, and prostate cancer. The incidence of both early syphilis and HIV/AIDS increased in 2007. However, the 2007 total mortality rate of 665.1 deaths/100,000 was the lowest mortality rate of White non-Hispanics in 2000-2007.

HISPANICS or LATINOS

Average rank: 2.9 Total score: 100.8 Average score: +1.4

In 2007, as in 2005, 2003, 2001, 1999 and 1997, Hispanics achieved a 3rd place health ranking. The inequity between Hispanics and White non-Hispanics as measured by the range of score values narrowed from 26.5 in 2005 (14.8 and -11.7) to 10.9 in 2007 (1.4 and 9.5). Hispanics ranked in the middle of five groups on 29 of 70 measures of health. They ranked best or second best on 21 indicators in 2007, an increase from 18 indicators in 2005. They ranked worse than average with high teen pregnancy rates and low utilization of prenatal care services. They ranked better than average with low alcohol and tobacco use among women giving birth, low incidence of preterm births and low-birthweight. In 2005, the mortality rate for diabetes among Hispanics was 128.9 percent greater than the average rate for all groups; in 2007 it was 81.2 percent greater. The overall score of 1.4 reflects a lack of substantial gap between the statewide averages in 2007 and the rates or ratios specific to Hispanics. ***Comparative Rates and Ratios for 2000-2007*** provide detailed picture of changes over time for all of the 70 measures.

AMERICAN INDIANS or ALASKA NATIVES

Average rank: 3.7 Total score: 3,247.2 Average score: +46.4

In 2007, American Indians in Arizona had the second highest average score among all groups and second lowest rank of overall health status. They ranked 5th or 4th 45 times on 70 indicators (**Figure B**), and they exceeded the statewide averages by a wider margin than any other group except Blacks (**Figure C**). American Indians ranked poorly on measures of maternal lifestyle and health as well as in utilization of prenatal care. High incidence of birth defects and high infant mortality, high mortality from alcohol-induced causes, diabetes, influenza and pneumonia, septicemia, motor vehicle accidents and mortality from other unintentional injuries contributed to the premature death rate. In 2007, compared to White non-Hispanics, on average American Indian residents of Arizona were 19 years younger at time of death. This resulted in the second lowest ranking of American Indians in the relative healthiness among racial and ethnic groups in Arizona.

BLACKS or AFRICAN AMERICANS

Average rank: 4.0 Total score: 3,361.7 Average score: +48.0

The average score of Arizona Black or African American residents has improved from 87.0 in 2001 to 64.3 in 2003 and 59.8 in 2005. Despite this improvement, Blacks or African Americans had the lowest rank of overall health status because they ranked 5th or 4th among the five race/ethnic groups on 49 of 70 measures (see **Figure B**). No other race/ethnic group exceeded the statewide averages by a wider margin than Blacks. High infant mortality rate, high ratios of low birthweight and very low birthweight births, high incidence of many reportable diseases, high mortality rates for almost all of the leading causes of death and high rate of premature death all lowered the ranking for this population group. However, Blacks or African Americans ranked better than average with low incidence of birth defects, low mortality rates for alcohol-induced causes, suicide, and fall-related injuries. The total mortality rate of 719.2 deaths per 100,000 Black or African American residents of the State was the second highest rate among the race/ethnic groups, but it was the lowest rate for Blacks since 2000.

COMPARATIVE CAUSE-SPECIFIC MORTALITY IN 2007

In 2007, diseases of the heart were the leading cause of death for three of the five race/ethnic groups in Arizona: American Indians, Blacks or African Americans, and Hispanics or Latinos (**Figure D**). Cancer was the number one cause among Asians or Pacific Islanders and White non-Hispanics. Unintentional injury was the third leading cause for each group except Asians. For Asians, stroke was the 3rd leading cause of death in 2007. Diabetes was among the top five causes of death among American Indians, Blacks, and Hispanics, but not among Asians and White non-Hispanics. Alzheimer's disease was the fifth leading cause of death only among White non-Hispanics and Asians. Chronic liver disease and cirrhosis was the fifth leading cause of death specific to American Indians. Stroke was the fourth leading cause of death among both Hispanics or Latinos and Blacks or African Americans. Chronic lower respiratory diseases were the fourth leading cause of death specific to White non-Hispanics.

Figure D
Comparative Age-Adjusted Mortality Rates for the Five Leading Causes of Death by Race/Ethnicity in 2007

Rank	Asian or Pacific Islander	American Indian or Alaska Native	Black or African American	Hispanic or Latino	White non-Hispanic
1	Cancer 84.2	Diseases of heart 115.2	Diseases of heart 171.3	Diseases of heart 131.5	Cancer 154.6
2	Diseases of heart 58.6	Cancer 113.9	Cancer 153.4	Cancer 118.6	Diseases of heart 153.2
3	Stroke 37.7	Unintentional injury 95.0	Unintentional injury 48.1	Unintentional injury 40.6	Unintentional injury 44.9
4	Unintentional injury 20.3	Diabetes 51.1	Stroke 34.1	Stroke 34.9	Chronic lower respiratory diseases 43.7
5	Alzheimer's disease 12.9	Chronic liver disease and cirrhosis 36.8	Diabetes 30.3	Diabetes 30.8	Alzheimer's disease 30.9

RISK PROFILES

Risk profiles presented on the following pages summarize how each race/ethnic group compares to the State average for the entire set of measures of health status. These profiles use scores, which were developed to describe the level of each of the 70 measures for each race/ethnic group in comparison to the average level for all groups. The profiles visually describe the better-than-average and worse-than-average clusters of health status characteristics for each race/ethnic group.