

## Death in the United States, 2010

Arialdi M. Miniño, M.P.H., and Sherry L. Murphy, B.S.

### Key findings

#### Data from the National Vital Statistics System (Mortality)

- Life expectancy at birth is 78.7 years. Hispanic females have the longest life expectancy (83.8 years) followed by non-Hispanic white females (81.1 years).
- The largest decrease in mortality between the years 2000 and 2010 occurred in the age group under age 25 years (15.8 percent), followed by those aged 65 years and over (13.3 percent).
- States in the southeast region generally have higher death rates than those in other regions of the country.
- In 2010, the five leading causes of death were: heart disease, cancer, chronic lower respiratory diseases, stroke, and accidents. The ranking of conditions varies according to demographics such as age, sex, and race.
- The infant mortality rate reached a record-low level of 6.14 infant deaths per 1,000 live births in 2010.

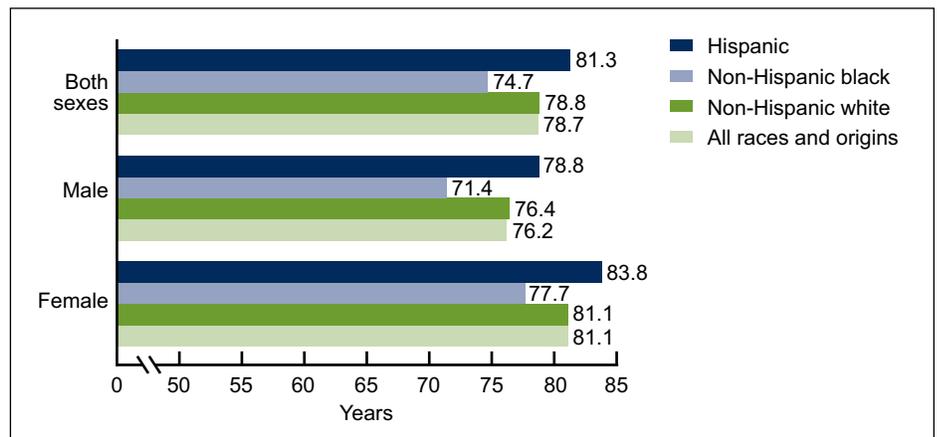
Mortality in the United States is best summarized by the age-adjusted death rate—a measure that accounts for changes in the age distribution of the population. In 2010, the age-adjusted death rate for the United States was 746.2 per 100,000 population (1). This represents a 0.5 percent drop from the rate in 2009 (749.6). The highest mortality was observed for the non-Hispanic black population (918.1) followed by the non-Hispanic white population (754.1). Still, death rates for all race and ethnic groups have generally been decreasing since 1950 (2). Much of the recent improvements in death rates and life expectancy for all population groups can be attributed to ongoing reductions in death rates from major causes of death such as heart disease, cancer, stroke, and chronic lower respiratory diseases (3). The figures presented in this report are based on preliminary mortality data for 2010 and final data for 2000–2009.

*Keywords: mortality • National Vital Statistics System • life expectancy*

### How long can we expect to live?

U.S. life expectancy in 2010 was 78.7 years (or about 78 years and 8 months). From 2009 to 2010, life expectancy increased 0.1 year (or slightly more than

Figure 1. Life expectancy at birth, by Hispanic origin, race for non-Hispanic, and sex: United States, preliminary 2010



NOTE: Life expectancies for Hispanic origin are adjusted for underreporting of Hispanic ethnicity, but are not adjusted to account for the potential effects of reverse migration.

SOURCE: National Vital Statistics System, Mortality.



1 month) for the general population (78.6 to 78.7 years), 0.2 year for males, and 0.2 year for females (1).

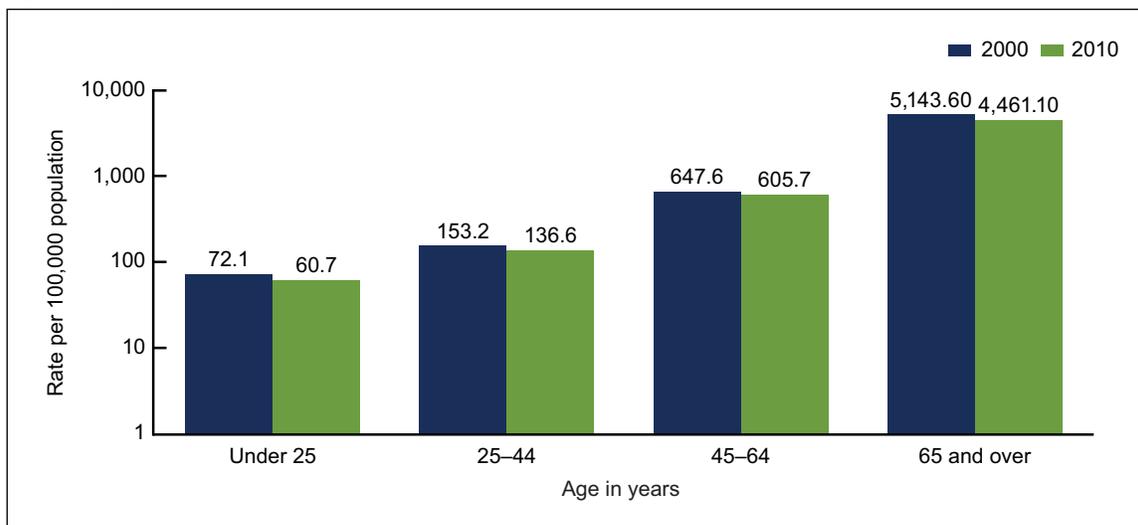
Hispanic females have the longest life expectancy (83.8 years), followed by non-Hispanic white females (81.1 years), Hispanic males (78.8 years), non-Hispanic black females (77.7 years), non-Hispanic white males (76.4 years), and non-Hispanic black males (71.4 years) (Figure 1). The life expectancy gap between the non-Hispanic white population and the non-Hispanic black population declined 6.8 percent from 2009 to 2010 to 4.1 years. The difference in life expectancy between the Hispanic population and the non-Hispanic white population was 2.5 years in 2010. The difference between the Hispanic population and the non-Hispanic black population is 6.6 years (1).

Life expectancies for the Hispanic population shown in this report are adjusted for underreporting of Hispanic ethnicity (4).

### Which age groups experienced the greatest reductions in mortality over the last decade?

Death rates for 2010 show decreases in mortality across virtually every age group when compared with death rates for the year 2000. The largest reduction in mortality between 2000 and 2010 occurred in the age group under age 25 years (15.8 percent). The second largest decrease in mortality occurred for those aged 65 years and over (13.3 percent) followed by the age group 25–44 years (10.8 percent). The smallest decrease in the death rate occurred for the age group 45–64 years (6.5 percent) (Figure 2).

Figure 2. Age-specific death rates: United States, 2000 final and 2010 preliminary



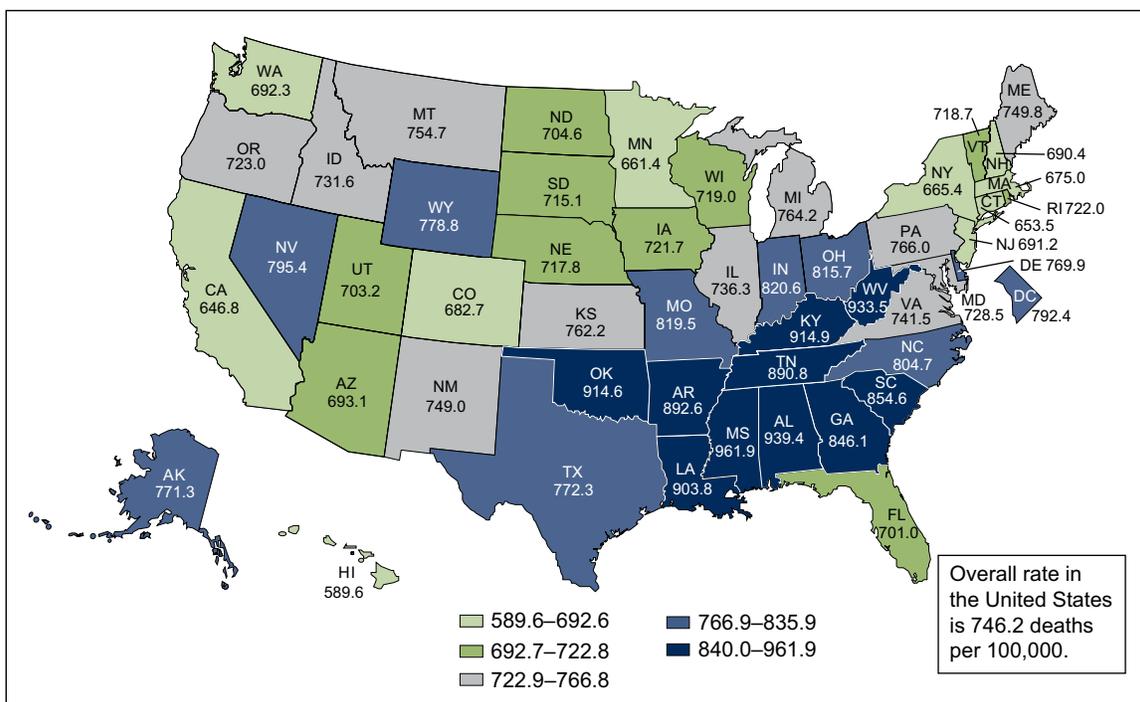
SOURCE: National Vital Statistics System, Mortality.

### Do death rates vary by state?

States experience different risks of mortality. Hawaii has the lowest age-adjusted death rate (589.6 deaths per 100,000 population) of all the states, 21.0 percent lower than the rate for the United States (746.2). Mississippi had the highest age-adjusted death rate in 2010 (961.9), 28.9 percent higher than the U.S. rate.

In general, states in the southeast region have higher rates than those in other regions of the country. Louisiana, for example, is typical of the region and has an age-adjusted death rate of 903.8 deaths per 100,000 population (1). States in other regions of the country, such as Illinois in the Midwest (736.3 deaths per 100,000 population) and Oregon in the West (723.0 deaths per 100,000 population), have rates that are more comparable with the U.S. rate (Figure 3).

Figure 3. Age-adjusted death rates per state and the District of Columbia: United States, preliminary 2010



SOURCE: National Vital Statistics System, Mortality.

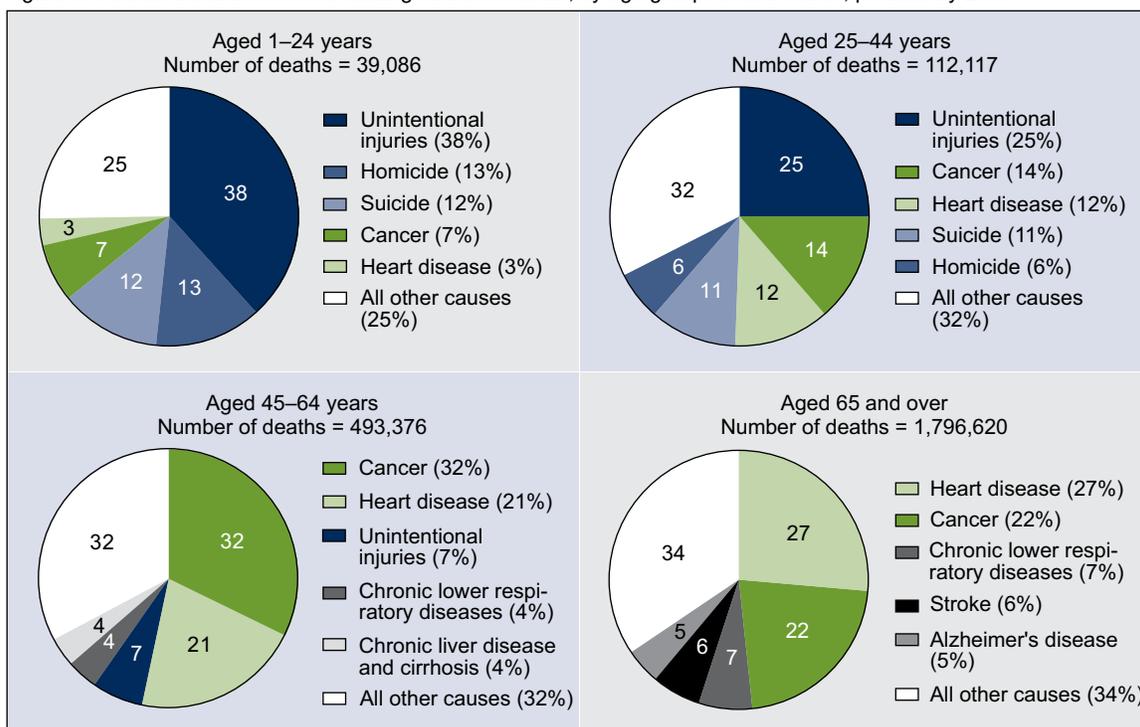
## What are the leading causes of death?

In 2010, five major causes of death (heart disease, cancer, chronic lower respiratory diseases, stroke, and accidents) accounted for 63 percent of all deaths in the United States (1). However, this general profile of leading causes changes substantially based on a decedent's age.

The five leading causes of death for those aged 1–24 years include external causes (i.e., accidents, homicide, and suicide) followed by cancer and heart disease. This pattern (of external causes accounting for more deaths than chronic conditions) shifts noticeably as age increases. In older age groups, chronic conditions account for more deaths than do external causes of injury.

Accidents, for example, accounted for 38 percent of all deaths among persons aged 1–24 years. Heart disease, on the other hand, accounted for only 3 percent of all deaths in this same age group. For persons aged 65 years and over, heart disease is the leading cause of death, accounting for 27 percent of all deaths in this age group, whereas accidents are not among the five leading causes of death for those aged 65 years and over (Figure 4).

Figure 4. Percent distribution of five leading causes of death, by age group: United States, preliminary 2010



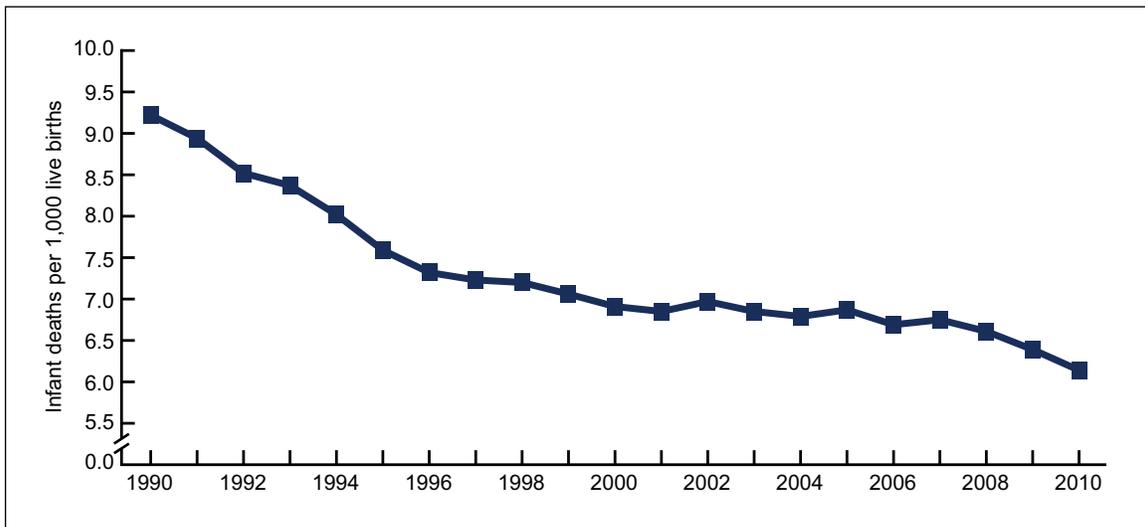
SOURCE: National Vital Statistics System, Mortality.

### What are the most recent trends in infant mortality?

The infant mortality rate (IMR) is the ratio of infant deaths to live births in a given year. The IMR is generally regarded as a good indicator of the overall health of a population. The preliminary IMR for 2010 is 6.14 infant deaths per 1,000 live births (1). This is a historically low figure for the United States. The IMR decreased 33.4 percent from 1990 to 2010 (Figure 5).

The decrease in infant mortality from 2009 to 2010 (1,3)—both in terms of the actual number of infant deaths (1,864 fewer deaths) and in the rate (3.9 percent lower)—represents the largest single-year drop since 1995 (Figure 5).

Figure 5. Infant mortality rates: United States, 1990–2009 final and preliminary 2010



SOURCE: National Vital Statistics System, Mortality.

## Summary

Mortality in 2010 continued to decline among most groups defined by sex, age, and race and Hispanic ethnicity (1,3,5). In 2010, the trend is one of increases in life expectancy at birth for the population as a whole from 2009. The larger increases in life expectancy were observed for non-Hispanic black males and females and for Hispanic females (1,3,5). Much of these increases in life expectancy are attributed to reductions in the rates of death from the major causes of death, namely heart disease, cancer, stroke, and chronic lower respiratory diseases (1). Although continuing declines in mortality have slowly reduced longstanding gaps in life expectancy, differences in mortality across ethnic and racial groups persist (1,3,5). The 2010 infant mortality rate of 6.14 infant deaths per 1,000 live births is a historically low figure for the United States, and represents the largest single-year decrease in infant mortality in more than a decade.

## Definitions

**Cause-of-death classification:** Medical information—including injury diagnoses and external causes of injury—entered on death certificates filed in the United States is classified and coded in accordance with the *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision* (ICD-10) (6).

**Death rates:** Death rates are based on population estimates consistent with the April 1, 2010, census. Death rates for 2009—whenever shown or discussed in this report—are also based on populations revised to be consistent with the 2010 census. These population estimates are available on the National Center for Health Statistics (NCHS) website (7). Age-adjusted death rates are useful when comparing different populations because they remove the potential bias that can occur when the populations being compared have different age structures. NCHS uses the “direct” method of standardization. See the “Technical Notes” section of “Deaths: Preliminary Data for 2010” (1) for more discussion.

**Life expectancy:** Data showing life expectancy for years 2008–2010 are based on a newly revised methodology and may differ from figures previously published. Life expectancies for Hispanic groups shown in this report are adjusted for underreporting of Hispanic ethnicity. See the “Technical Notes” section of “Deaths: Preliminary Data for 2010” (1) for more discussion.

**Infant mortality rate (IMR):** This rate is computed by dividing the number of infant deaths in a calendar year by the number of live births registered for that same period of time. The IMR is the most widely used index for measuring the risk of dying during the first year of life.

## Data source and methods

The figures shown in this report reflect information that is collected on death certificates filed in each of the independent registration areas throughout the United States. Data in this report (preliminary mortality data for 2010) are based on a large portion (almost 100 percent of the demographic file and 98.7 percent of the medical file) of the statistical records that are continuously received by NCHS from states’ vital registration systems. This portion of records is inflated to better estimate final numbers using independent record tallies as control factors. Tallies are provided by the states and registration areas.

Death rates are based on population estimates consistent with the April 1, 2010, census. Death rates for 2009—whenever shown in this report—are also based on populations revised to be consistent with the 2010 census and, thus, they may differ from rates previously published.

### About the authors

Arialdi M. Miniño and Sherry L. Murphy are statisticians with the Centers for Disease Control and Prevention's National Center for Health Statistics, Division of Vital Statistics.

### References

1. Murphy SL, Xu JQ, Kochanek KD. Deaths: Preliminary data for 2010. National vital statistics reports; vol 60 no 4. Hyattsville, MD: National Center for Health Statistics. 2012. Available from: [http://www.cdc.gov/nchs/data/nvsr/nvsr60/nvsr60\\_04.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr60/nvsr60_04.pdf).
2. National Center for Health Statistics. Health, United States, 2010. Table 24. Hyattsville, MD. 2011. Available from: <http://www.cdc.gov/nchs/hus/contents2010.htm>.
3. Kochanek KD, Xu JQ, Murphy SL, Miniño AM. Deaths: Final data for 2009. National vital statistics reports; vol 60 no 3. Hyattsville, MD: National Center for Health Statistics. 2012. Available from: [http://www.cdc.gov/nchs/data/nvsr/nvsr60/nvsr60\\_03.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr60/nvsr60_03.pdf).
4. Arias E. United States life tables by Hispanic origin. National Center for Health Statistics. Vital Health Stat 2(152). 2010. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_02/sr02\\_152.pdf](http://www.cdc.gov/nchs/data/series/sr_02/sr02_152.pdf).
5. National Center for Health Statistics. Health, United States, 2010. Table 22. Hyattsville, MD. 2011. Available from: <http://www.cdc.gov/nchs/hus/contents2010.htm>.
6. World Health Organization. International Statistical Classification of Diseases and Related Health Problems, Tenth Revision. Geneva: World Health Organization. 1992.
7. National Center for Health Statistics. National Vital Statistics System. U.S. census populations with bridged race categories. Available from: [http://www.cdc.gov/nchs/nvss/bridged\\_race.htm](http://www.cdc.gov/nchs/nvss/bridged_race.htm).

**U.S. DEPARTMENT OF  
HEALTH & HUMAN SERVICES**

Centers for Disease Control and Prevention  
National Center for Health Statistics  
3311 Toledo Road  
Hyattsville, MD 20782

FIRST CLASS MAIL  
POSTAGE & FEES PAID  
CDC/NCHS  
PERMIT NO. G-284

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300

**NCHS Data Brief ■ No. 99 ■ June 2012**

**Suggested citation**

Miniño AM, Murphy SL. Death in the United States, 2010. NCHS data brief, no 99. Hyattsville, MD: National Center for Health Statistics. 2012.

**Copyright information**

All material appearing in this report is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

**National Center for Health  
Statistics**

Edward J. Sondik, Ph.D., *Director*  
Jennifer H. Madans, Ph.D., *Associate  
Director for Science*

**Division of Vital Statistics**

Charles J. Rothwell, M.S., *Director*

---

For e-mail updates on NCHS publication releases, subscribe online at:  
<http://www.cdc.gov/nchs/govdelivery.htm>.

For questions or general information about NCHS:  
Tel: 1-800-232-4636  
E-mail: [cdcinfo@cdc.gov](mailto:cdcinfo@cdc.gov)  
Internet: <http://www.cdc.gov/nchs>

**ISSN 1941-4927 (Print ed.)**  
**ISSN 1941-4935 (Online ed.)**

CS232927  
DHHS Publication No. (PHS) 2012-1209