

## Mortality Among Adults Aged 25 and Over by Marital Status: United States, 2010–2017

by Sally C. Curtin, M.A., and Betzaida Tejada-Vera, M.S., Division of Vital Statistics

Previous studies have found that married persons have lower mortality rates than unmarried persons, attributable to either selectivity in entering marriage (i.e., healthier people are more likely to marry) or health-protective effects of marriage, or a combination of the two (1,2). This report presents trends for 2010–2017 in age-adjusted death rates by marital status (married, never married, divorced, or widowed) at the time of death for adults aged 25 and over. Rates for 2010–2017 are presented by marital status for men and women.

The age-adjusted death rate for married persons aged 25 and over during 2010–2017 was lower than for those who were never married, divorced, or widowed (Table and Figure). The age-adjusted death rate for married persons aged 25 and over declined 7% between 2010 (839.8 per 100,000 U.S. standard population) and 2017 (779.6), while the rate for never-married persons also declined, by 2% (from 1,466.1 to 1,443.6). The age-adjusted death rate for widowed persons was the highest of all marital status groups and increased 6% during the period, from 1,567.2 in 2010 to 1,656.9 in 2017. The age-adjusted death rate for divorced persons aged 25 and over was stable during the period and was 1,368.8 in 2017.

For men aged 25 and over, age-adjusted death rates for married men were the lowest of all marital status groups and declined 7% from 2010 (1,012.1) to 2017 (942.9) (Table). The age-adjusted death rate for widowed men was the highest of all marital status groups and remained essentially the same between 2010 (2,155.1) and 2017 (2,238.7). The death rate for divorced men remained essentially the same between 2010 (1,764.6) and 2017 (1,772.7) as did the death rate for never-married men (1,754.0 in 2010 and 1,735.1 in 2017).

For women, age-adjusted death rates for married women aged 25 and over were the lowest of all marital status groups and declined 7% between 2010 (612.1) and 2017 (569.3) (Table). Widowed women had the highest age-adjusted death rates for women aged 25 and over, and the death rate increased 5% from 2010 (1,405.1) to 2017 (1,482.2). The rate for never-married women dropped 3% between 2010 (1,205.9) and 2017 (1,165.6), whereas the death rate for divorced women remained essentially the same between 2010 (1,103.2) and 2017 (1,095.6).

## Data source and methods

Mortality data are from the National Center for Health Statistics' 2010–2017 underlying cause-of-death mortality files (3). Rates in the [Figure](#) and [Table](#) were age adjusted to a standard 2000 population; this procedure is detailed elsewhere (4). Marital status at the time of death is collected on the death certificate from an informant, usually the next of kin, and is considered to be of high quality (4). Trends in the [Figure](#) and [Table](#) were evaluated using the Joinpoint Regression Program. The default setting of a maximum of one joinpoint was used to assess trends during the 2010–2017 period (5). Death rates are per 100,000 population based on the 2010–2017 annual American Community Survey for 2010–2017 (6).

## References

1. Robards J, Evandrou M, Falkingham J, Vlachantoni A. Marital status, health and mortality. *Maturitas* 73(4):295–9. 2012.
2. Rendall MS, Weden MM, Favreault MM, Waldron H. The protective effect of marriage for survival: A review and update. *Demography* 48(2):481–506. 2011.
3. National Center for Health Statistics. Underlying cause of death, 2010–2017. 2019. Available from: [https://www.cdc.gov/nchs/data\\_access/vitalstatsonline.htm](https://www.cdc.gov/nchs/data_access/vitalstatsonline.htm).
4. Kochanek KD, Murphy SL, Xu JQ, Arias E. Deaths: Final data for 2017. *National Vital Statistics Reports*; vol 68 no 9. Hyattsville, MD: National Center for Health Statistics. 2019. Available from: [https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68\\_09-508.pdf](https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_09-508.pdf).
5. National Cancer Institute. Joinpoint Regression Program (Version 4.7.0.0) [computer software]. 2019.
6. U.S. Census Bureau. American Community Survey, 2010–2017, 1-year. Population estimates for 2010–2017 based on unpublished tabulations.

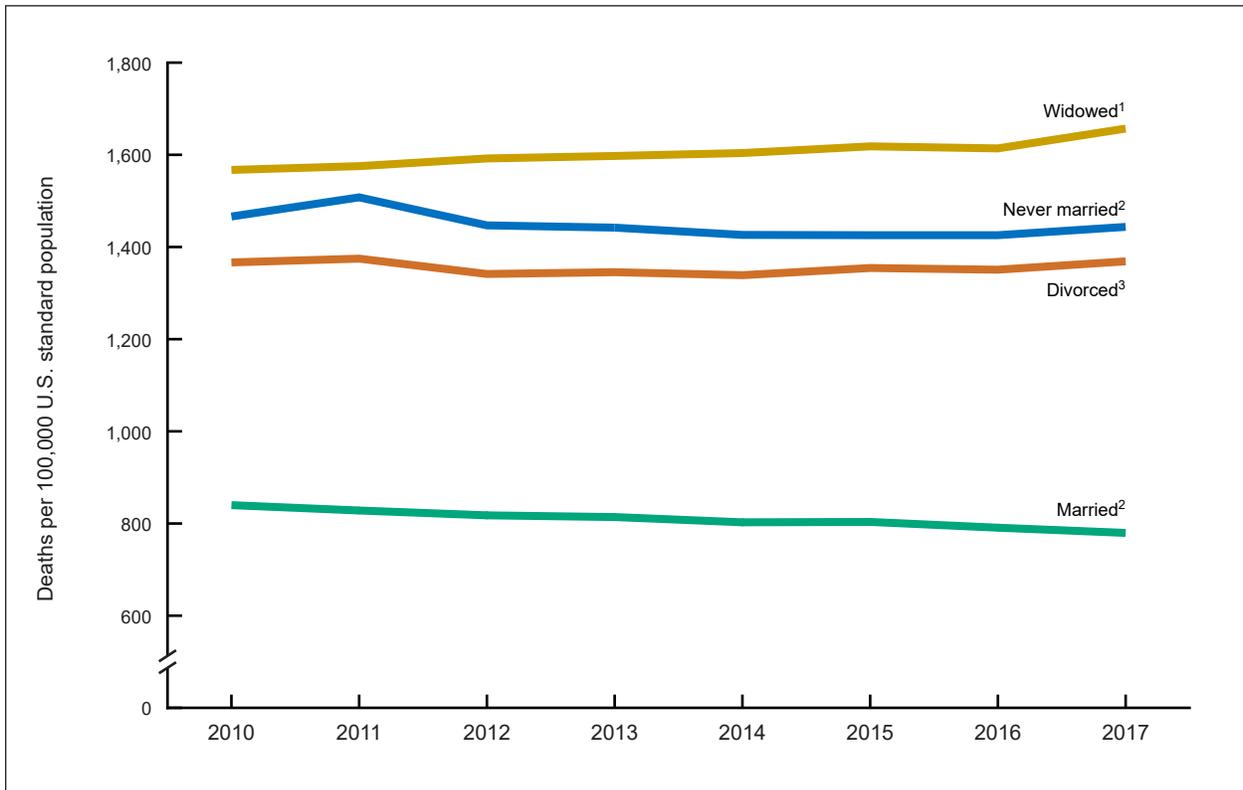
## Acknowledgments

The authors would like to acknowledge the late Dr. Philippe V. Cardon, Jr., M.D., Capt. USPHS (Ret.), whose dedication and passion for research on mortality by marital status provided motivation and ideas.

## Suggested citation

Curtin SC, Tejada-Vera B. Mortality among adults aged 25 and over by marital status: United States, 2010–2017. NCHS Health E-Stat. 2019.

Figure. Age-adjusted death rates for persons aged 25 and over, by marital status: United States, 2010–2017



<sup>1</sup>Significant increasing trend for 2010–2017,  $p < 0.05$ .

<sup>2</sup>Significant decreasing trend for 2010–2017,  $p < 0.05$ .

<sup>3</sup>Stable trend for 2010–2017,  $p < 0.05$ .

SOURCE: NCHS, National Vital Statistics System, Mortality.

**Table. Age-adjusted death rates for persons aged 25 and over, by marital status and sex: United States, 2010–2017**

[Rates are per 100,000 U.S. standard population; population estimates used for computing death rates are based on the American Community Survey adjusted to U.S. resident population control totals as of April 1 for 2010 and as of July 1 for all other years]

Year	Never married	Married	Widowed	Divorced
<b>Total</b>				
2017	1,443.6	779.6	1,656.9	1,368.8
2016	1,425.6	790.9	1,613.9	1,350.7
2015	1,425.6	803.4	1,618.3	1,354.4
2014	1,426.2	802.6	1,603.8	1,338.8
2013	1,442.0	814.0	1,597.5	1,345.3
2012	1,446.9	817.7	1,592.1	1,341.4
2011	1,507.7	828.2	1,575.4	1,374.7
2010	1,466.1	839.8	1,567.2	1,366.5
<b>Men</b>				
2017	1,735.1	942.9	2,238.7	1,772.7
2016	1,714.9	953.1	2,160.7	1,754.8
2015	1,699.2	965.9	2,206.0	1,732.8
2014	1,692.8	963.1	2,181.1	1,751.2
2013	1,715.6	978.7	2,161.9	1,738.1
2012	1,739.5	982.1	2,179.2	1,712.6
2011	1,811.5	996.9	2,169.5	1,758.9
2010	1,754.0	1,012.1	2,155.1	1,764.6
<b>Women</b>				
2017	1,165.6	569.3	1,482.2	1,095.6
2016	1,156.4	580.1	1,450.9	1,080.0
2015	1,168.9	589.7	1,448.1	1,098.4
2014	1,175.0	590.9	1,436.9	1,070.0
2013	1,186.8	597.1	1,434.3	1,083.7
2012	1,184.0	600.9	1,428.6	1,090.4
2011	1,241.3	605.7	1,410.9	1,116.3
2010	1,205.9	612.1	1,405.1	1,103.2

NOTE: Rates are per 100,000 U.S. standard population; see "Data source and methods" in this report.

SOURCE: NCHS, National Vital Statistics System, Mortality.