

Table 24 (page 1 of 3). Neonatal mortality rates, by race and Hispanic origin of mother, geographic division, and state: United States, average annual 1989–1991, 1999–2001, and 2002–2004

[Data are based on linked birth and death certificates for infants]

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| Geographic division and state | Not Hispanic or Latino | | | | | | | | |
|---|--|------------------------|------------------------|------------------------|------------------------|------------------------|---------------------------|------------------------|------------------------|
| | All races | | | White | | | Black or African American | | |
| | 1989–1991 ¹ | 1999–2001 ² | 2002–2004 ² | 1989–1991 ¹ | 1999–2001 ² | 2002–2004 ² | 1989–1991 ¹ | 1999–2001 ² | 2002–2004 ² |
| | Neonatal ³ deaths per 1,000 live births | | | | | | | | |
| United States | 5.7 | 4.6 | 4.6 | 4.6 | 3.8 | 3.8 | 11.1 | 9.2 | 9.2 |
| New England ⁴ | 5.1 | 4.1 | 3.9 | 4.2 | 3.4 | 3.2 | 11.0 | 9.2 | 8.0 |
| Connecticut | 5.7 | 4.7 | 4.2 | 4.2 | 3.6 | 3.3 | 12.5 | 9.8 | 8.1 |
| Maine | 4.5 | 4.0 | 3.8 | 4.2 | 3.9 | 3.8 | * | * | * |
| Massachusetts | 4.9 | 3.8 | 3.7 | 4.1 | 3.2 | 2.9 | 10.4 | 8.6 | 7.8 |
| New Hampshire ⁴ | 4.3 | 3.6 | 3.6 | 4.4 | 3.1 | 3.4 | * | * | * |
| Rhode Island | 6.4 | 4.9 | 4.7 | 5.3 | 3.6 | 3.7 | *9.8 | *9.5 | *8.6 |
| Vermont | 4.1 | 3.6 | 3.5 | 3.9 | 3.7 | 3.5 | * | * | * |
| Middle Atlantic | 6.3 | 4.6 | 4.5 | 4.6 | 3.6 | 3.6 | 12.3 | 8.8 | 8.6 |
| New Jersey | 5.8 | 4.5 | 4.1 | 4.5 | 3.2 | 2.7 | 11.4 | 9.5 | 8.7 |
| New York | 6.5 | 4.4 | 4.3 | 4.3 | 3.4 | 3.4 | 12.6 | 8.0 | 8.1 |
| Pennsylvania | 6.2 | 5.1 | 5.3 | 4.9 | 4.1 | 4.2 | 12.5 | 10.0 | 9.8 |
| East North Central | 6.3 | 5.3 | 5.2 | 4.9 | 4.3 | 4.2 | 12.1 | 10.6 | 10.6 |
| Illinois | 7.0 | 5.6 | 5.1 | 5.1 | 4.3 | 4.2 | 12.7 | 10.8 | 9.9 |
| Indiana | 6.0 | 5.1 | 5.2 | 5.2 | 4.6 | 4.6 | 11.5 | 9.0 | 10.1 |
| Michigan | 6.9 | 5.6 | 5.6 | 4.9 | 4.0 | 4.3 | 14.0 | 11.5 | 11.4 |
| Ohio | 5.5 | 5.3 | 5.2 | 4.8 | 4.4 | 4.2 | 9.8 | 10.2 | 10.6 |
| Wisconsin | 5.1 | 4.5 | 4.4 | 4.6 | 3.8 | 3.5 | 9.1 | 10.2 | 11.4 |
| West North Central | 5.0 | 4.3 | 4.3 | 4.5 | 3.7 | 3.8 | 10.2 | 9.8 | 8.7 |
| Iowa | 4.8 | 3.7 | 3.4 | 4.5 | 3.4 | 3.3 | *10.5 | *10.4 | *6.3 |
| Kansas | 4.9 | 4.7 | 4.6 | 4.6 | 4.3 | 4.3 | 8.3 | 9.7 | 9.7 |
| Minnesota | 4.3 | 3.7 | 3.3 | 3.9 | 3.2 | 3.2 | 10.7 | 7.3 | 4.8 |
| Missouri | 6.0 | 4.9 | 5.4 | 5.0 | 3.8 | 4.5 | 10.6 | 11.0 | 10.1 |
| Nebraska | 4.5 | 4.7 | 4.2 | 4.2 | 4.2 | 3.8 | *9.8 | *8.3 | 11.9 |
| North Dakota | 5.0 | 5.1 | 4.8 | 4.7 | 4.6 | 4.5 | * | * | * |
| South Dakota | 5.1 | 4.0 | 3.9 | 4.5 | 3.7 | 3.5 | * | * | * |
| South Atlantic | 6.9 | 5.5 | 5.5 | 4.9 | 4.0 | 3.9 | 11.7 | 9.7 | 9.7 |
| Delaware | 7.5 | 6.5 | 6.5 | 5.8 | 4.6 | 5.3 | 12.4 | 12.4 | 10.9 |
| District of Columbia | 14.1 | 9.7 | 8.0 | *5.2 | * | * | 16.7 | 12.8 | 10.5 |
| Florida | 6.2 | 4.7 | 4.8 | 4.7 | 3.6 | 3.6 | 10.5 | 8.5 | 8.7 |
| Georgia | 7.9 | 5.7 | 5.8 | 5.5 | 4.0 | 4.0 | 12.0 | 9.3 | 9.3 |
| Maryland | 5.9 | 5.8 | 5.8 | 3.9 | 3.6 | 3.9 | 10.2 | 10.0 | 9.8 |
| North Carolina | 7.3 | 6.3 | 5.8 | 5.3 | 4.7 | 4.0 | 11.9 | 11.0 | 11.1 |
| South Carolina | 7.7 | 6.4 | 6.3 | 5.4 | 4.1 | 4.2 | 11.3 | 10.8 | 10.4 |
| Virginia | 6.8 | 4.9 | 5.2 | 4.8 | 3.7 | 3.8 | 13.0 | 9.2 | 9.9 |
| West Virginia | 5.8 | 4.9 | 4.9 | 5.6 | 4.8 | 4.6 | *9.7 | * | * |
| East South Central | 6.6 | 5.5 | 5.4 | 5.0 | 4.1 | 3.9 | 10.6 | 9.6 | 9.6 |
| Alabama | 7.5 | 5.9 | 5.4 | 5.7 | 4.1 | 4.0 | 11.1 | 9.8 | 8.6 |
| Kentucky | 5.0 | 4.4 | 4.1 | 4.6 | 4.2 | 3.8 | 8.9 | 6.6 | 6.8 |
| Mississippi | 7.1 | 6.4 | 6.2 | 4.9 | 4.0 | 3.9 | 9.5 | 9.2 | 9.1 |
| Tennessee | 6.5 | 5.5 | 5.7 | 4.9 | 4.1 | 4.1 | 11.8 | 10.6 | 12.2 |
| West South Central ⁴ | 5.0 | 4.1 | 4.5 | 4.2 | 3.7 | 3.9 | 8.4 | 7.5 | 8.3 |
| Arkansas | 5.4 | 4.7 | 5.2 | 4.5 | 4.1 | 4.6 | 8.5 | 7.4 | 8.2 |
| Louisiana ⁴ | 6.3 | 6.1 | 6.2 | 4.8 | 4.1 | 4.2 | 8.5 | 8.8 | 9.0 |
| Oklahoma ⁴ | 4.4 | 4.8 | 4.7 | 4.1 | 4.8 | 4.3 | 6.3 | 7.8 | 9.4 |
| Texas | 4.7 | 3.6 | 4.1 | 4.1 | 3.2 | 3.7 | 8.5 | 6.7 | 7.8 |
| Mountain | 4.8 | 4.1 | 4.1 | 4.4 | 3.7 | 3.7 | 10.1 | 8.9 | 8.7 |
| Arizona | 5.3 | 4.4 | 4.3 | 4.9 | 4.1 | 4.0 | 11.0 | 11.2 | 7.0 |
| Colorado | 5.0 | 4.3 | 4.3 | 4.7 | 3.8 | 3.5 | 10.9 | 10.0 | 11.6 |
| Idaho | 5.3 | 4.6 | 3.9 | 5.2 | 4.3 | 3.9 | * | * | * |
| Montana | 4.6 | 3.8 | 3.7 | 4.2 | 3.5 | 3.6 | * | * | * |
| Nevada | 4.3 | 3.6 | 3.8 | 3.8 | 2.8 | 3.7 | *8.3 | *6.1 | 7.9 |
| New Mexico | 5.0 | 3.8 | 3.9 | 4.8 | 4.0 | 4.1 | * | * | * |
| Utah | 3.7 | 3.3 | 3.6 | 3.6 | 3.2 | 3.3 | * | * | * |
| Wyoming | 3.9 | 4.2 | 4.6 | 3.8 | 4.1 | 4.6 | * | * | * |
| Pacific | 4.6 | 3.6 | 3.6 | 4.0 | 3.2 | 3.1 | 9.2 | 7.3 | 7.1 |
| Alaska | 4.1 | 3.4 | 2.9 | 3.7 | 3.3 | *2.4 | * | * | * |
| California | 4.6 | 3.6 | 3.5 | 4.1 | 3.1 | 3.0 | 9.2 | 7.5 | 7.2 |
| Hawaii | 4.3 | 5.0 | 4.9 | 3.5 | *4.9 | *3.8 | * | * | * |
| Oregon | 4.4 | 3.7 | 3.8 | 4.0 | 3.6 | 3.8 | *11.6 | * | * |
| Washington | 4.3 | 3.3 | 3.6 | 3.8 | 3.1 | 3.2 | 9.7 | 6.4 | 5.9 |

See footnotes at end of table.

Table 24 (page 2 of 3). Neonatal mortality rates, by race and Hispanic origin of mother, geographic division, and state: United States, average annual 1989–1991, 1999–2001, and 2002–2004

[Data are based on linked birth and death certificates for infants]

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| Geographic division and state | Hispanic or Latino ⁵ | | | American Indian or Alaska Native ⁶ | | | Asian or Pacific Islander ⁶ | | |
|---|--|------------------------|------------------------|---|------------------------|------------------------|--|------------------------|------------------------|
| | 1989–1991 ¹ | 1999–2001 ² | 2002–2004 ² | 1989–1991 ¹ | 1999–2001 ² | 2002–2004 ² | 1989–1991 ¹ | 1999–2001 ² | 2002–2004 ² |
| | Neonatal ³ deaths per 1,000 live births | | | | | | | | |
| United States | 4.8 | 3.8 | 3.9 | 5.9 | 4.5 | 4.5 | 3.9 | 3.2 | 3.3 |
| New England ⁷ | 5.5 | 5.0 | 5.2 | * | * | * | 4.4 | 2.9 | 2.8 |
| Connecticut | 5.3 | 5.8 | 5.6 | * | * | * | * | * | * |
| Maine | * | * | * | * | * | * | * | * | * |
| Massachusetts | 5.8 | 4.2 | 5.0 | * | * | * | *3.9 | *2.5 | *2.8 |
| New Hampshire ⁷ | --- | * | * | * | * | * | * | * | * |
| Rhode Island | *4.9 | *5.7 | *5.0 | * | * | * | * | * | * |
| Vermont | * | * | * | * | * | * | * | * | * |
| Middle Atlantic | 6.2 | 4.3 | 4.1 | * | * | *6.2 | 4.1 | 2.4 | 2.9 |
| New Jersey | 5.1 | 4.3 | 4.1 | * | * | * | *3.4 | 2.3 | 3.1 |
| New York | 6.4 | 4.1 | 3.8 | * | * | * | 4.1 | 2.5 | 2.6 |
| Pennsylvania | 7.3 | 5.7 | 5.3 | * | * | * | *5.2 | *2.4 | 3.6 |
| East North Central | 5.9 | 4.8 | 4.5 | *6.2 | *5.2 | *4.2 | 3.6 | 4.2 | 3.8 |
| Illinois | 6.4 | 4.8 | 4.2 | * | * | * | 3.9 | 4.9 | 3.3 |
| Indiana | *4.7 | 5.2 | 4.9 | * | * | * | * | * | *5.1 |
| Michigan | 5.2 | 4.3 | 5.0 | * | * | * | * | *4.2 | 3.7 |
| Ohio | *5.4 | 5.7 | 5.5 | * | * | * | * | * | *4.0 |
| Wisconsin | *3.9 | 4.2 | 4.5 | * | * | * | * | *3.9 | *5.0 |
| West North Central | 5.3 | 4.8 | 4.1 | 6.1 | 5.3 | 5.2 | 4.6 | 4.3 | 3.1 |
| Iowa | * | *4.7 | *4.0 | * | * | * | * | * | * |
| Kansas | *5.4 | 4.2 | 4.0 | * | * | * | * | * | * |
| Minnesota | * | 4.8 | *3.3 | *4.9 | *5.4 | * | *3.2 | 5.2 | *1.9 |
| Missouri | * | *4.3 | 6.0 | * | * | * | * | * | *5.2 |
| Nebraska | * | *5.8 | *3.6 | * | * | * | * | * | * |
| North Dakota | * | * | * | * | * | * | * | * | * |
| South Dakota | * | * | * | *8.2 | *4.5 | *6.3 | * | * | * |
| South Atlantic | 5.2 | 3.7 | 3.9 | 7.4 | 6.2 | 6.4 | 4.6 | 3.8 | 3.9 |
| Delaware | * | * | * | * | * | * | * | * | * |
| District of Columbia | * | * | * | * | * | * | * | * | * |
| Florida | 5.1 | 3.5 | 3.6 | * | * | * | *4.4 | 3.6 | 4.2 |
| Georgia | *5.7 | 3.4 | 4.3 | * | * | * | *5.3 | *4.7 | 4.3 |
| Maryland | *4.7 | 4.7 | 3.8 | * | * | * | *4.5 | *3.5 | *3.4 |
| North Carolina | *5.5 | 4.4 | 4.4 | *7.7 | *9.0 | *8.4 | * | *5.0 | *3.8 |
| South Carolina | * | *3.4 | *4.4 | * | * | * | * | * | * |
| Virginia | *4.8 | 3.4 | 4.1 | * | * | * | *4.1 | *3.2 | 3.8 |
| West Virginia | * | * | * | * | * | * | * | * | * |
| East South Central | * | 3.8 | 4.2 | * | * | * | * | *4.3 | *4.1 |
| Alabama | * | *3.8 | *5.0 | * | * | * | * | * | * |
| Kentucky | * | * | *3.7 | * | * | * | * | * | * |
| Mississippi | * | * | * | * | * | * | * | * | * |
| Tennessee | * | *4.2 | 4.2 | * | * | * | * | * | * |
| West South Central ⁷ | 4.2 | 3.2 | 3.7 | 4.3 | 3.8 | 3.7 | 4.1 | 2.8 | 3.0 |
| Arkansas | * | * | *4.1 | * | * | * | * | * | * |
| Louisiana ⁷ | --- | * | * | * | * | * | * | * | * |
| Oklahoma ⁷ | --- | *2.8 | 3.9 | *3.7 | 3.9 | 3.8 | * | * | * |
| Texas | 4.2 | 3.2 | 3.7 | * | * | * | 4.0 | 2.5 | 2.7 |
| Mountain | 4.7 | 4.2 | 4.2 | 5.8 | 4.5 | 4.1 | 4.6 | 3.4 | 4.3 |
| Arizona | 5.0 | 4.2 | 4.5 | 5.4 | 5.0 | 4.1 | * | * | *4.0 |
| Colorado | 4.4 | 4.5 | 4.9 | * | * | * | * | *4.1 | *4.6 |
| Idaho | * | *5.9 | *4.2 | * | * | * | * | * | * |
| Montana | * | * | * | *7.6 | *6.6 | * | * | * | * |
| Nevada | *4.1 | 3.7 | 2.8 | * | * | * | * | * | *3.7 |
| New Mexico | 4.9 | 3.8 | 3.6 | 4.9 | *2.8 | *4.1 | * | * | * |
| Utah | *3.6 | 3.8 | 4.6 | * | * | * | * | * | *5.4 |
| Wyoming | * | * | * | * | * | * | * | * | * |
| Pacific | 4.5 | 3.5 | 3.5 | 6.5 | 4.0 | 4.2 | 3.7 | 3.2 | 3.2 |
| Alaska | * | * | * | *5.7 | *4.2 | *4.2 | * | * | * |
| California | 4.4 | 3.5 | 3.5 | 6.3 | *4.0 | *3.5 | 3.6 | 2.9 | 2.9 |
| Hawaii | *6.6 | *4.5 | *4.8 | * | * | * | 4.2 | 4.9 | 4.9 |
| Oregon | 6.5 | 4.5 | 3.4 | * | * | * | *5.3 | *2.9 | *3.5 |
| Washington | 4.9 | 3.3 | 3.9 | *8.5 | *3.5 | *4.8 | *2.7 | 3.1 | 3.2 |

See footnotes at end of table.

Table 24 (page 3 of 3). Neonatal mortality rates, by race and Hispanic origin of mother, geographic division, and state: United States, average annual 1989–1991, 1999–2001, and 2002–2004

[Data are based on linked birth and death certificates for infants]

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* Estimates are considered unreliable. Rates preceded by an asterisk are based on fewer than 50 deaths in the numerator. Rates not shown are based on fewer than 20 deaths in the numerator.

- - - Data not available.

¹Rates based on unweighted birth cohort data.

²Rates based on period file using weighted data. See [Appendix I, National Vital Statistics System \(NVSS\), Linked Birth/Infant Death Data Set](#).

³Infants under 28 days of age.

⁴Rates for white and black are substituted for non-Hispanic white and non-Hispanic black for Louisiana for 1989, Oklahoma for 1989–1990, and New Hampshire for 1989–1991.

⁵Persons of Hispanic origin may be of any race. See [Appendix II, Hispanic origin](#).

⁶Includes persons of Hispanic origin.

⁷Rates for Hispanic origin exclude data from states not reporting Hispanic origin on the birth certificate for 1 or more years in a 3-year period.

NOTES: Starting with 2003 data, some states reported multiple-race data. The multiple-race data for these states were bridged to the single-race categories of the 1977 Office of Management and Budget standards for comparability with other states. See [Appendix II, Race](#). National linked files do not exist for 1992–1994.

SOURCE: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System, Linked Birth/Infant Death Data Set.