

Perinatal Mortality in the United States, 2022 and 2023

Claudia P. Valenzuela, M.P.H., Elizabeth C.W. Gregory, M.P.H., and Joyce A. Martin, M.P.H.

Key findings

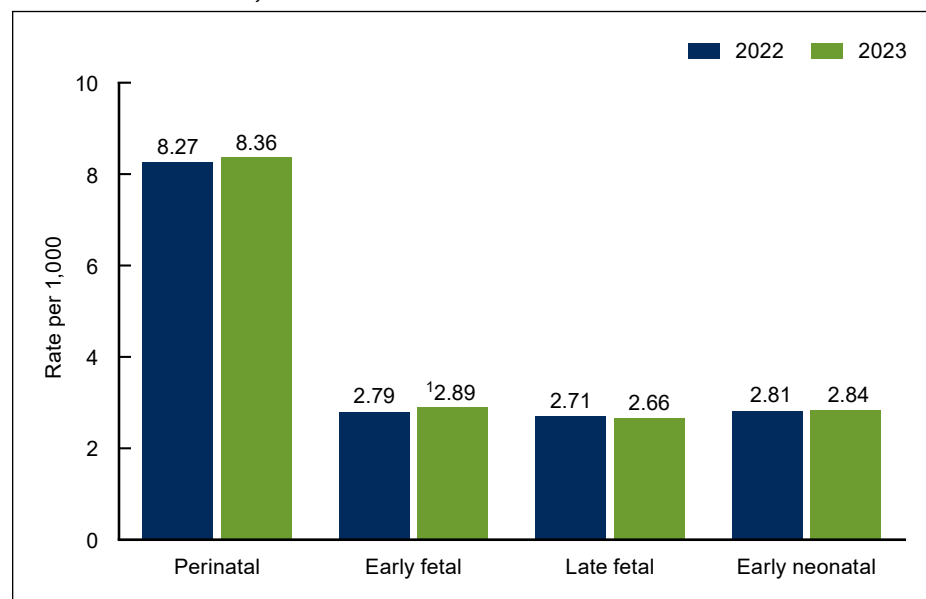
Data from the National Vital Statistics System

- The U.S. perinatal mortality rate was 8.36 perinatal deaths per 1,000 live births and fetal deaths in 2023, a nonsignificant change from the rate of 8.27 in 2022.
- The early fetal mortality rate, one of the components of perinatal mortality, increased by 4% from 2.79 in 2022 to 2.89 in 2023; changes in late fetal and early neonatal mortality were not significant.
- The perinatal mortality rate increased 7% for females younger than 20.
- The perinatal mortality rate increased for Hispanic women from 2022 to 2023, but changes among the other race and Hispanic-origin groups were not significant.
- Compared with 2022, perinatal mortality rates in 2023 were similar for 46 states and the District of Columbia.

Perinatal mortality can be an indicator of the quality of health care before, during, and after delivery, and of the health status of the nation (1,2). The National Center for Health Statistics (NCHS) recently transitioned to an expanded measure of perinatal mortality, which includes all fetal deaths at 20 completed weeks or more and infant deaths younger than 7 days (3). This report describes changes from 2022 to 2023 in the perinatal mortality rate (expanded measure), overall, by its components, and by mother's age, race and Hispanic origin, and state.

From 2022 to 2023, the early fetal mortality rate increased, while changes in the perinatal, late fetal, and early neonatal mortality rates were not significant.

Figure 1. Perinatal, early fetal, late fetal, and early neonatal mortality rates: United States, 2022 and 2023



¹Significantly different from 2022 ($p < 0.05$).

NOTES: Perinatal mortality rate is the number of infant deaths younger than age 7 days and fetal deaths at 20 completed weeks of gestation or more per 1,000 live births and fetal deaths at 20 completed weeks of gestation or more. Early fetal mortality rate is the number of fetal deaths at 20–27 completed weeks of gestation per 1,000 live births and fetal deaths at 20–27 completed weeks of gestation. Late fetal mortality rate is the number of fetal deaths at 28 completed weeks of gestation or more per 1,000 live births and fetal deaths at 28 completed weeks of gestation or more. Early neonatal mortality rate is the number of infant deaths younger than age 7 days per 1,000 live births.

SOURCE: National Center for Health Statistics, National Vital Statistics System.



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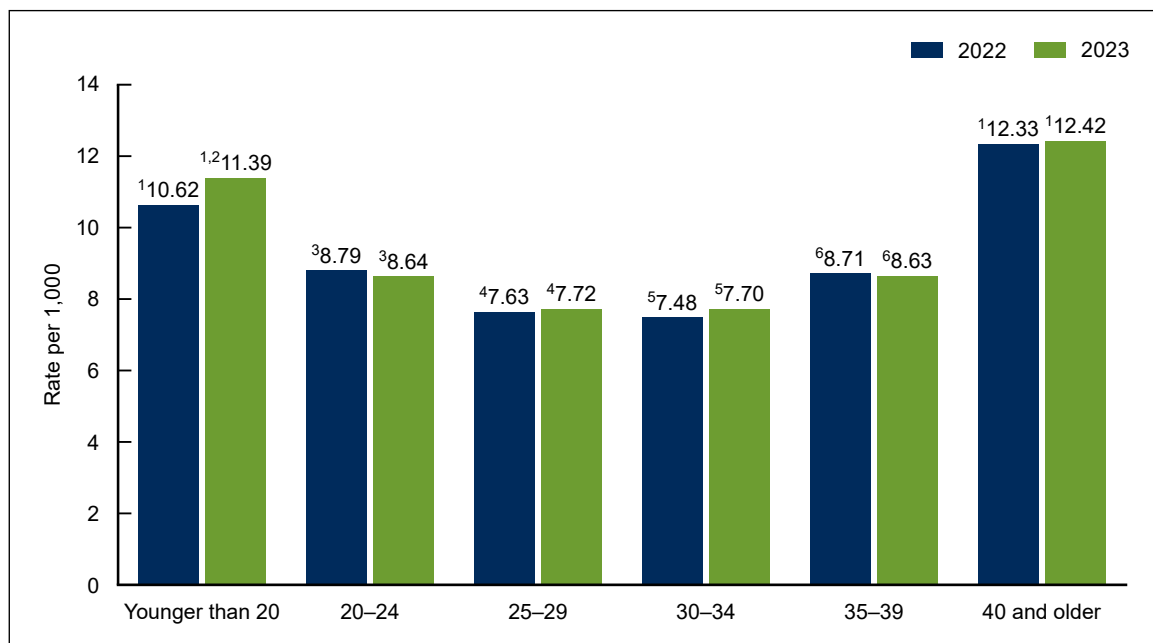
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- The perinatal mortality rate was 8.36 per 1,000 live births and fetal deaths in 2023, a nonsignificant change from the 2022 rate of 8.27 (Figure 1, Table 1).
- The early fetal mortality rate increased by 4%, from 2.79 in 2022 to 2.89 in 2023, while changes in the late fetal (2.71 to 2.66) and early neonatal (2.81 to 2.84) mortality rates were not significant.

Changes in perinatal mortality rates were not significant for women age 20 and older from 2022 to 2023.

- The perinatal mortality rate increased 7% for females younger than 20, from 10.62 per 1,000 live births and fetal deaths in 2022 to 11.39 in 2023. Changes for other maternal age groups were not significant (Figure 2, Table 2).
- For both years, age-specific perinatal mortality rates decreased with age for females younger than 20 (11.39 in 2023) through 25–29 (7.72) and 30–34 (7.70) and then increased. The rate was highest among women age 40 and older in both years (12.42 in 2023).

Figure 2. Perinatal mortality rate, by age of mother: United States, 2022 and 2023



¹Significantly different from other age groups ($p < 0.05$).

²Significantly different from 2022 ($p < 0.05$).

³Significantly different from other age groups except 35–39 ($p < 0.05$).

⁴Significantly different from other age groups except 30–34 ($p < 0.05$).

⁵Significantly different from other age groups except 25–29 ($p < 0.05$).

⁶Significantly different from other age groups except 20–24 ($p < 0.05$).

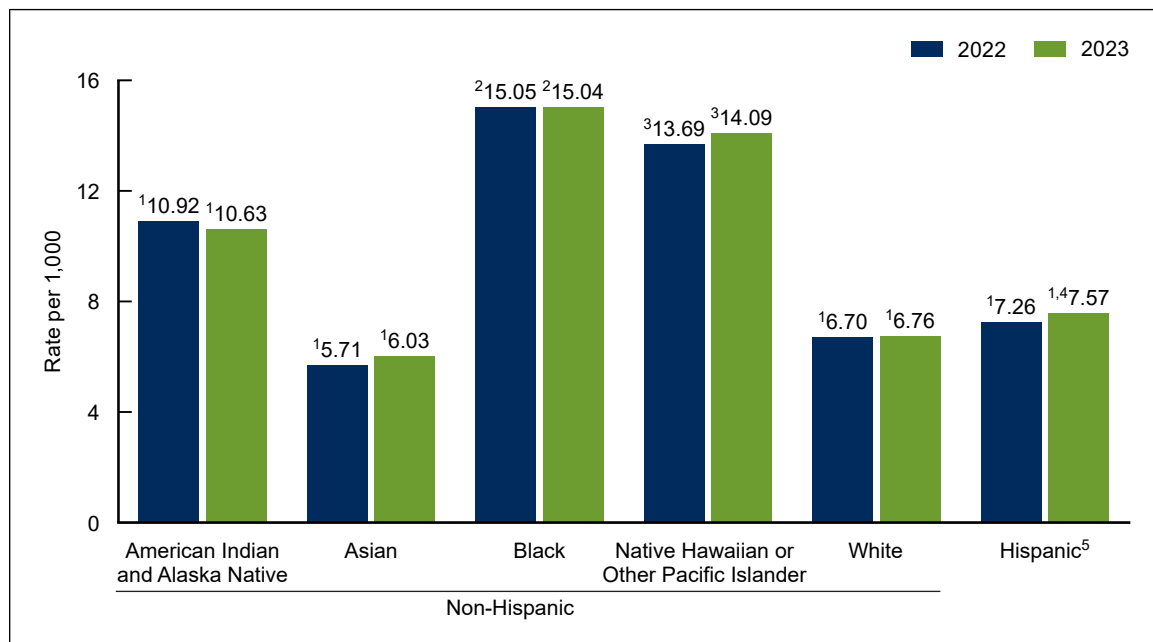
NOTE: Perinatal mortality rate is the number of infant deaths younger than age 7 days and fetal deaths at 20 completed weeks of gestation or more per 1,000 live births and fetal deaths at 20 completed weeks of gestation or more in a specified age group.

SOURCE: National Center for Health Statistics, National Vital Statistics System.

The perinatal mortality rate increased for Hispanic women from 2022 to 2023.

- The perinatal mortality rate increased 4% for Hispanic women, from 7.26 in 2022 to 7.57 in 2023 (Figure 3, Table 3).
- No significant changes in perinatal mortality rates were observed for women of the remaining race and Hispanic-origin groups from 2022 to 2023: American Indian and Alaska Native non-Hispanic (subsequently, American Indian and Alaska Native) (10.92 to 10.63), Asian non-Hispanic (subsequently, Asian) (5.71 to 6.03), Black non-Hispanic (subsequently, Black) (15.05 to 15.04), Native Hawaiian or Other Pacific Islander non-Hispanic (subsequently Native Hawaiian or Other Pacific Islander) (13.69 to 14.09), and White non-Hispanic (subsequently, White) (6.70 to 6.76).
- For both years, the perinatal mortality rate was highest for Black and Native Hawaiian or Other Pacific Islander women, followed by American Indian and Alaska Native, Hispanic, White, and Asian women.

Figure 3. Perinatal mortality rate, by race and Hispanic origin of mother: United States, 2022 and 2023



¹Significantly different from other race and Hispanic-origin groups ($p < 0.05$).

²Significantly different from other race and Hispanic-origin groups except Native Hawaiian or Other Pacific Islander ($p < 0.05$).

³Significantly different from other race and Hispanic-origin groups except Black ($p < 0.05$).

⁴Significantly different from 2022 ($p < 0.05$).

⁵People of Hispanic origin may be of any race.

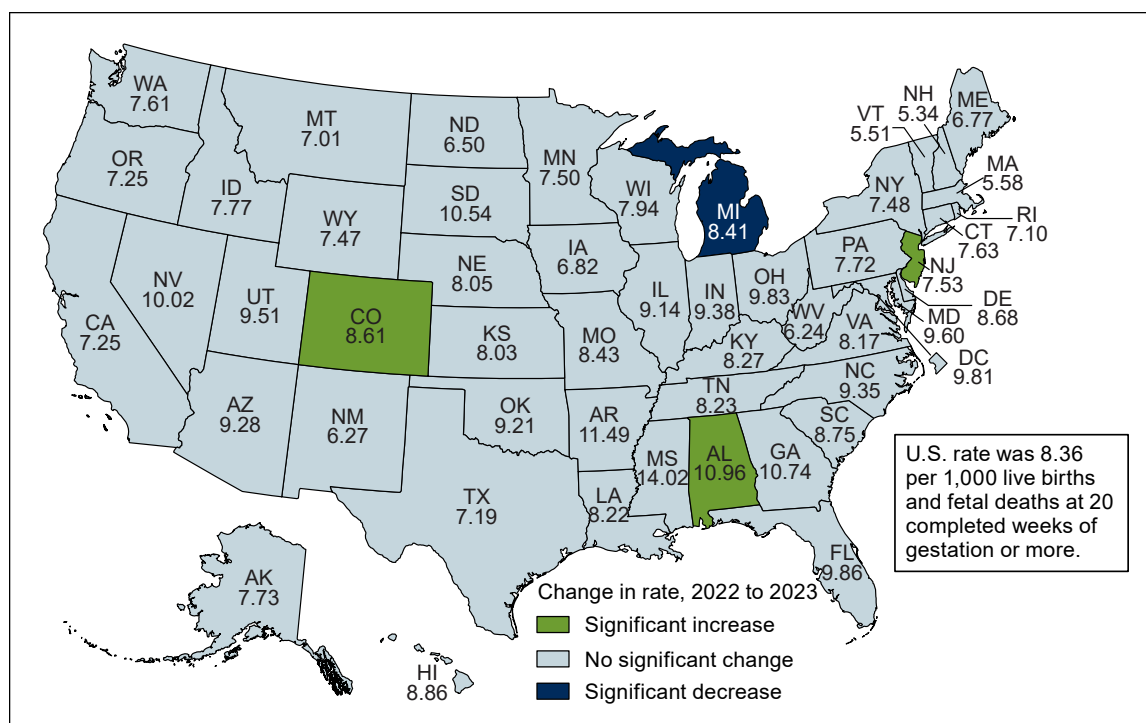
NOTES: Perinatal mortality rate is the number of infant deaths younger than age 7 days and fetal deaths at 20 completed weeks of gestation or more per 1,000 live births and fetal deaths at 20 completed weeks of gestation or more in a specified race and Hispanic-origin group.

SOURCE: National Center for Health Statistics, National Vital Statistics System.

Perinatal mortality rates were similar for most U.S. jurisdictions in 2023 compared with 2022.

- Perinatal mortality rates increased by 14% in New Jersey (6.59 to 7.53), 16% in Alabama (9.44 to 10.96), and 18% in Colorado (7.32 to 8.61), decreased 10% in Michigan (9.31 to 8.41), and were essentially unchanged in 46 states and the District of Columbia in 2023 compared with 2022 (Figure 4, Table 4).
- Perinatal mortality rates for 2023 ranged from a low of 5.34 in New Hampshire to a high of 14.02 in Mississippi.

Figure 4. Perinatal mortality rate, by state for 2023, and change in rate from 2022 to 2023: Each state and the District of Columbia



NOTE: Perinatal mortality rate is the number of fetal deaths at 20 completed weeks of gestation or more and infant deaths younger than 7 days per 1,000 live births and fetal deaths at 20 completed weeks of gestation or more.

SOURCE: National Center for Health Statistics, National Vital Statistics System.

Summary

The perinatal mortality rate was stable from 2022 to 2023 at 8.36 per 1,000 live births and fetal deaths at 20 completed weeks of gestation or more. The early fetal mortality rate increased 4%, from 2.79 in 2022 to 2.89 in 2023, while the late fetal and early neonatal mortality rates did not change significantly. The perinatal mortality rate increased 7% in 2023 for females younger than 20; however, changes for the other maternal age groups were not significant. Rates for Hispanic women increased by 4% from 2022 to 2023, while changes among the other race and Hispanic-origin groups were not significant. Perinatal rates increased by 14% to 18% in three states and declined by 10% in one state from 2022 to 2023; rates in the remaining jurisdictions were essentially unchanged. For both years, perinatal mortality rates were highest for Black and Native Hawaiian or Other Pacific Islander women and those age 40 and older.

Definitions

Perinatal death: Infant deaths younger than 7 days and fetal deaths at 20 completed weeks of gestation or more.

Perinatal mortality rate: Number of infant deaths younger than 7 days and fetal deaths at 20 completed weeks of gestation or more per 1,000 live births and fetal deaths at 20 completed weeks of gestation or more.

Early fetal death: A fetal death at 20–27 completed weeks of gestation.

Early fetal mortality rate: Number of fetal deaths at 20–27 completed weeks of gestation per 1,000 live births and fetal deaths at 20–27 completed weeks of gestation.

Late fetal death: A fetal death at 28 completed weeks of gestation or more.

Late fetal mortality rate: Number of fetal deaths at 28 completed weeks of gestation or more per 1,000 live births and fetal deaths at 28 completed weeks of gestation or more.

Early neonatal death: Death of a live-born infant younger than 7 days.

Early neonatal mortality rate: Number of infant deaths younger than 7 days per 1,000 live births.

Data sources and methods

This report uses data from the Fetal Death Data File and the Linked Birth/Infant Death Data File from the National Vital Statistics System (NVSS). The national vital statistics Fetal Death Data File includes information from all reports of fetal death filed in the 50 states, the District of Columbia, and the U.S. territories. This report includes data from the 50 states and the District of Columbia. Although reporting requirements for fetal deaths vary somewhat by state, fetal mortality rates from NVSS generally represent fetal deaths of 20 completed weeks of gestation or more (1). Fetal death data from NVSS are available by a wide range of maternal and infant characteristics (4). The Linked Birth/Infant Death Data File provides information on infant deaths and live births in the United States (5). Fetal Death and Linked Birth/Infant Death data sets are available from: https://www.cdc.gov/nchs/data_access/vitalstatsonline.htm.

Previous NCHS reports used perinatal mortality Definition I, which includes fetal deaths at 28 completed weeks of gestation or more and infant deaths younger than 7 days (6,7). This report uses an expanded measure of perinatal mortality, known as Definition III, which includes all fetal deaths at 20 completed weeks or more and infant deaths younger than 7 days (3). Due to the change in measure, the results in this report should not be compared with previously published reports that use Definition I.

Race and Hispanic origin are reported separately on the report of fetal death. The race and Hispanic-origin groups shown in this report follow the 1997 Office of Management and Budget standards and differ from the bridged-race categories in reports before 2018 (1,8). These groups are: American Indian and Alaska Native, Asian, Black, Native Hawaiian or Other Pacific Islander, White, and Hispanic.

The differences between rates noted in the text are statistically significant at the 0.05 level unless otherwise noted. Some state-specific rates are based on small numbers, which may limit the ability to detect statistically significant differences by year.

About the authors

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Figure tables

Data table for Figure 1. Perinatal, early fetal, late fetal, and early neonatal mortality rates: United States, 2022 and 2023

Specified group	2022	2023
	Rate per 1,000	
Perinatal	8.27	8.36
Early fetal	2.79	¹ 2.89
Late fetal	2.71	2.66
Early neonatal	2.81	2.84

¹Significantly different from 2022 ($p < 0.05$).

NOTES: Perinatal mortality rate is the number of infant deaths younger than age 7 days and fetal deaths at 20 completed weeks of gestation or more per 1,000 live births and fetal deaths at 20 completed weeks of gestation or more. Early fetal mortality rate is the number of fetal deaths at 20–27 completed weeks of gestation per 1,000 live births and fetal deaths at 20–27 completed weeks of gestation. Late fetal mortality rate is the number of fetal deaths at 28 completed weeks of gestation or more per 1,000 live births and fetal deaths at 28 completed weeks of gestation or more. Early neonatal mortality rate is the number of infant deaths younger than age 7 days per 1,000 live births.

SOURCE: National Center for Health Statistics, National Vital Statistics System.

Data table for Figure 2. Perinatal mortality rate, by age of mother: United States, 2022 and 2023

Age	2022	2023
	Rate per 1,000	
Younger than 20	¹ 10.62	^{1,2} 11.39
20–24	³ 8.79	³ 8.64
25–29	⁴ 7.63	⁴ 7.72
30–34	⁵ 7.48	⁵ 7.70
35–39	⁶ 8.71	⁶ 8.63
40 and older	¹ 12.33	¹ 12.42

¹Significantly different from other age groups ($p < 0.05$).

²Significantly different from 2022 ($p < 0.05$).

³Significantly different from other age groups except 35–39 ($p < 0.05$).

⁴Significantly different from other age groups except 30–34 ($p < 0.05$).

⁵Significantly different from other age groups except 25–29 ($p < 0.05$).

⁶Significantly different from other age groups except 20–24 ($p < 0.05$).

NOTE: Perinatal mortality rate is the number of infant deaths younger than age 7 days and fetal deaths at 20 completed weeks of gestation or more per 1,000 live births and fetal deaths at 20 completed weeks of gestation or more in a specified age group.

SOURCE: National Center for Health Statistics, National Vital Statistics System.

Data table for Figure 3. Perinatal mortality rate, by race and Hispanic origin of mother: United States, 2022 and 2023

Race and Hispanic origin	2022	2023
	Rate per 1,000	
American Indian and Alaska Native, non-Hispanic	¹ 10.92	¹ 10.63
Asian, non-Hispanic.	¹ 5.71	¹ 6.03
Black, non-Hispanic.	² 15.05	² 15.04
Native Hawaiian or Other Pacific Islander, non-Hispanic	³ 13.69	³ 14.09
White, non-Hispanic	¹ 6.70	¹ 6.76
Hispanic ⁵	¹ 7.26	^{1,4} 7.57

¹Significantly different from other race and Hispanic-origin groups ($p < 0.05$).

²Significantly different from other race and Hispanic-origin groups except Native Hawaiian or Other Pacific Islander ($p < 0.05$).

³Significantly different from other race and Hispanic-origin groups except Black ($p < 0.05$).

⁴Significantly different from 2022 ($p < 0.05$).

⁵People of Hispanic origin may be of any race.

NOTE: Perinatal mortality rate is the number of infant deaths younger than age 7 days and fetal deaths at 20 completed weeks of gestation or more per 1,000 live births and fetal deaths at 20 completed weeks of gestation or more in a specified race and Hispanic-origin group.

SOURCE: National Center for Health Statistics, National Vital Statistics System.

Data table for Figure 4. Perinatal mortality rate, by state for 2022 and 2023, and change in rate from 2022 to 2023: Each state and the District of Columbia

Area	2022	2023	Change from 2022 to 2023
	Rate per 1,000		Percent
Alabama	9.44	10.96	16
Alaska	8.39	7.73	†
Arizona	9.56	9.28	†
Arkansas	10.86	11.49	†
California	7.30	7.25	†
Colorado	7.32	8.61	18
Connecticut	6.93	7.63	†
Delaware	9.66	8.68	†
District of Columbia	10.69	9.81	†
Florida	9.80	9.86	†
Georgia	10.93	10.74	†
Hawaii	9.53	8.86	†
Idaho	7.07	7.77	†
Illinois	8.83	9.14	†
Indiana	9.03	9.38	†
Iowa	6.85	6.82	†
Kansas	8.96	8.03	†
Kentucky	8.21	8.27	†
Louisiana	8.19	8.22	†
Maine	8.88	6.77	†
Maryland	8.71	9.60	†
Massachusetts	5.90	5.58	†
Michigan	9.31	8.41	-10
Minnesota	7.89	7.50	†
Mississippi	13.26	14.02	†
Missouri	8.29	8.43	†
Montana	7.12	7.01	†
Nebraska	7.44	8.05	†
Nevada	8.88	10.02	†
New Hampshire	6.10	5.34	†
New Jersey	6.59	7.53	14
New Mexico	6.18	6.27	†
New York	7.82	7.48	†
North Carolina	9.11	9.35	†
North Dakota	6.86	6.50	†
Ohio	9.36	9.83	†
Oklahoma	9.58	9.21	†
Oregon	7.41	7.25	†
Pennsylvania	8.18	7.72	†
Rhode Island	7.36	7.10	†
South Carolina	8.23	8.75	†
South Dakota	8.35	10.54	†
Tennessee	8.95	8.23	†
Texas	6.96	7.19	†
Utah	8.41	9.51	†
Vermont	5.62	5.51	†
Virginia	8.22	8.17	†
Washington	7.09	7.61	†
West Virginia	7.94	6.24	†
Wisconsin	8.23	7.94	†
Wyoming	9.37	7.47	†

† Change not significant ($p = 0.05$).

NOTE: Perinatal mortality rate is the number of fetal deaths at 20 completed weeks of gestation or more and infant deaths younger than 7 days per 1,000 live births and fetal deaths at 20 completed weeks of gestation or more.

SOURCE: National Center for Health Statistics, National Vital Statistics System.

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