

## Fetal Mortality: United States, 2023

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### Abstract

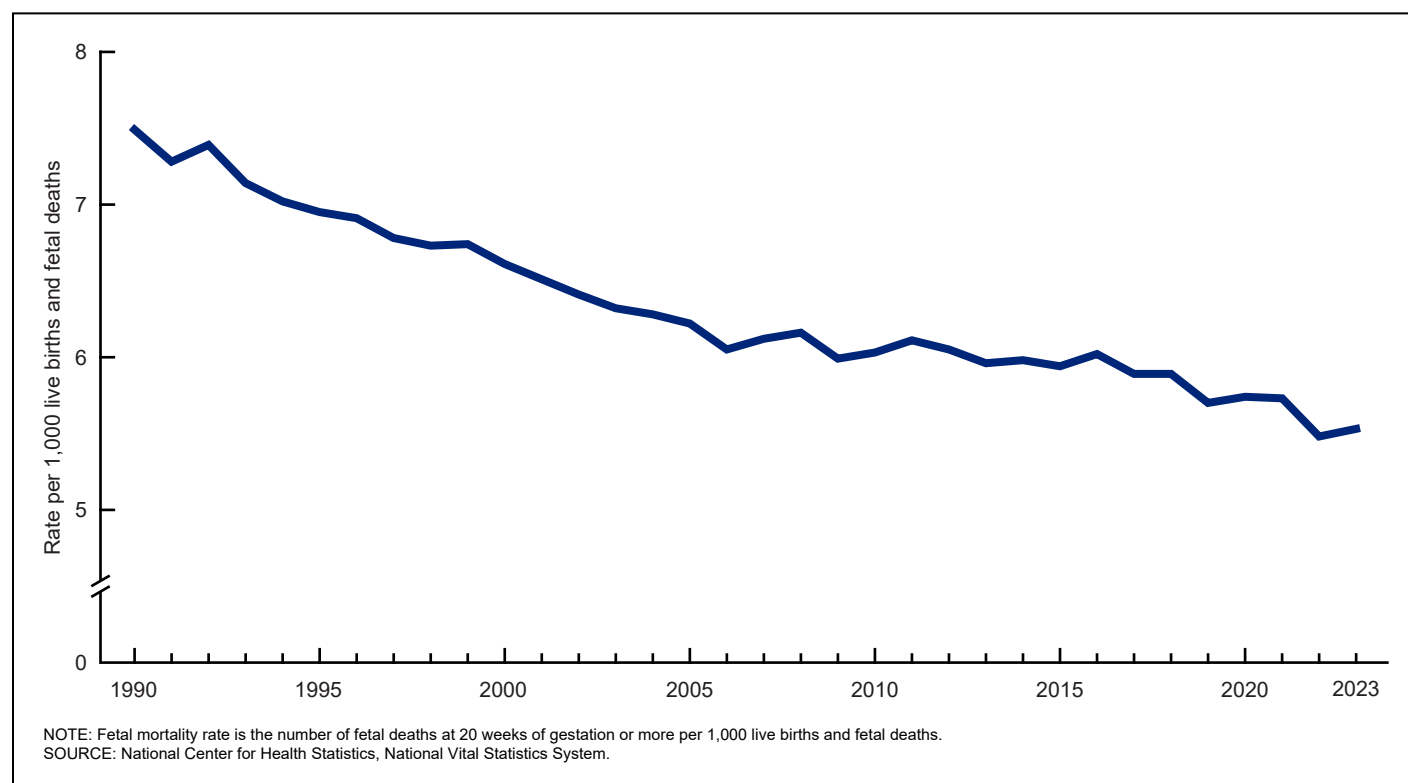
**Objectives**—This report presents 2023 fetal mortality data by maternal race and Hispanic origin, age, tobacco use during pregnancy, and state of residence, as well as by plurality, sex, gestational age, birthweight, and selected causes of death. Trends in fetal mortality are also examined.

**Methods**—Descriptive tabulations of data are presented and interpreted for all fetal deaths reported for the United States for 2023 with a stated or presumed period of gestation of 20 weeks or more. Cause-of-fetal-death data only are restricted to

residents of the 38 states and District of Columbia where cause of death was based on the 2003 fetal death report revision for the full year and less than 50% of deaths were attributed to Fetal death of unspecified cause (P95).

**Results**—A total of 20,005 fetal deaths at 20 weeks of gestation or more were reported in the United States in 2023. The 2023 U.S. fetal mortality rate was 5.53 fetal deaths at 20 weeks of gestation or more per 1,000 live births and fetal deaths, not significantly different from the rate of 5.48 in 2022. The fetal mortality rate in 2023 for deaths occurring at 20–27 weeks of gestation was 2.89, a 4% increase from 2022 (2.79). For deaths

**Figure 1. Fetal mortality rate: United States, 1990–2023**



occurring at 28 weeks of gestation or more, the rate in 2023 (2.66) was not significantly different from 2022 (2.71). In 2023, the fetal mortality rate was highest for Native Hawaiian or Other Pacific Islander non-Hispanic (10.18) and Black non-Hispanic (9.95) women and lowest for Asian non-Hispanic women (4.14). Fetal mortality rates were highest for females younger than 15 and age 40 and older, for women who smoked during pregnancy, and for women with multiple gestation pregnancies. Five selected causes accounted for 89.9% of fetal deaths in the 38-state and District of Columbia reporting area.

**Keywords:** fetal death • stillbirth • pregnancy loss • National Vital Statistics System

## Introduction

Fetal mortality—the intrauterine death of a fetus at any gestational age—is a major but often overlooked public health issue. Much of the public concern surrounding pregnancy and infant loss has focused on infant mortality, due in part to lesser knowledge of the incidence, causes (etiology), and prevention strategies for fetal mortality. This report presents detailed data on numbers and rates of fetal deaths for the United States for 2023. Data are presented by maternal race and Hispanic origin, age, tobacco use during pregnancy, and state of residence, as well as by plurality, sex, gestational age at delivery, birthweight, and selected causes of death. Trends in fetal mortality are also examined.

In addition to the tabulations included in this report, more detailed analysis of fetal mortality is possible by using the annual fetal death public-use file (available from: [https://www.cdc.gov/nchs/data\\_access/Vitalstatsonline.htm](https://www.cdc.gov/nchs/data_access/Vitalstatsonline.htm)). The public-use file does not include geographic detail; a file with this information may be available upon special request (see the Division of Vital Statistics data release policy at: [https://www.cdc.gov/nchs/nvss/dvs\\_data\\_release.htm](https://www.cdc.gov/nchs/nvss/dvs_data_release.htm)). National and state-level fetal death data may also be accessed via the Centers for Disease Control and Prevention's WONDER, a web-based data query system that makes CDC data available to public health professionals and the public (1).

## Methods

### Data sources

Data in this report are drawn from two National Center for Health Statistics vital statistics data files: the 2023 fetal death data set (for fetal deaths) and the 2023 birth data set (for births). The 2023 fetal death data set contains information from all reports of fetal death filed in the 50 states, District of Columbia (D.C.), Guam, and Puerto Rico (American Samoa did not report data for 2023, and data for the Commonwealth of the Northern Mariana Islands [subsequently, Northern Marianas] and U.S. Virgin Islands were excluded to protect confidentiality due to the small number of events reported) (2). The 2023 birth data set contains information from all U.S. Standard Certificates of Live Birth filed in the 50 states, D.C., Guam, Northern Marianas, Puerto Rico, and U.S. Virgin Islands (American Samoa did not report data for

2023). Tables showing data by jurisdiction also provide separate information for Guam and Puerto Rico; however, these data are not included in U.S. totals.

### Fetal mortality

Fetal death refers to the intrauterine death of a fetus prior to delivery (Technical Notes). Fetal mortality is generally divided into three periods based on gestational age: less than 20 completed weeks of gestation (commonly referred to as miscarriages), 20–27 weeks of gestation (early fetal deaths), and 28 weeks of gestation or more (late fetal deaths). Although the vast majority of fetal deaths occur early in pregnancy, most U.S. states require the reporting of fetal deaths only at 20 weeks of gestation or more (2), and fetal mortality data from the National Vital Statistics System are usually presented for fetal deaths at 20 weeks of gestation or more. Consequently, only fetal deaths reported at 20 weeks of gestation or more are included in this report. Numbers and rates for early and late fetal deaths are shown separately for selected variables. Statistics on fetal death exclude data for induced terminations of pregnancy. Fetal mortality rates in this report are computed as the number of fetal deaths at 20 weeks of gestation or more per 1,000 live births and fetal deaths at 20 weeks or more (Technical Notes). See Technical Notes for new count, rate, and proportion presentation standards.

### Data limitations

Variation exists among states in reporting requirements and possibly in completeness of reporting of fetal death data, and these variations can have implications for data quality and completeness (Technical Notes). Correct interpretation of fetal death data should include an evaluation of the completeness of reporting of fetal deaths, as well as an evaluation of the completeness of reporting for the specific variables of interest (3–5). The percentage of not-stated responses for fetal death data varies markedly among variables and states; see “User Guide to the 2023 Fetal Death Public Use File” (2).

Tobacco use data for Hawaii for 2023 are excluded from tabulations shown in this report due to a high percentage of unknown responses (60.0%).

### 2003 revision of U.S. Standard Report of Fetal Death

Starting in 2018, all 50 states, D.C., Guam, Northern Marianas, Puerto Rico, and U.S. Virgin Islands reported data based on the 2003 U.S. Standard Report of Fetal Death.

Data on items such as mother's date of birth, race, Hispanic origin, level of education, tobacco use during pregnancy, and place of residence are recommended to come from the mother (see the Patient's Worksheet [6]). Data on items such as prenatal care, medical risk factors, maternal morbidity, plurality, sex of fetus, gestational age, birthweight, and cause of death are recommended to come from the medical records (see the Facility Worksheet [7]). Detailed definitions for data items that are collected from the Facility Worksheet are in the “Guide to the Facility Worksheet” (8). Further information on fetal death

reporting is available in the eLearning training, “Applying Best Practices for Reporting Medical and Health Information on Birth Certificates,” available from: <https://www.cdc.gov/nchs/training/BirthCertificateElearning>.

This report uses final fetal death data to present information on fetal deaths and fetal death rates by race and Hispanic origin, maternal age, tobacco use during pregnancy, plurality, sex of fetus, gestational age, birthweight, state of residence, and selected causes of death.

## Race and Hispanic origin

The 2003 revision of the U.S. Standard Report of Fetal Death allows the reporting of more than one race (multiple races) for the mother (9), according to the revised standards issued by the Office of Management and Budget in 1997 (10). Starting in 2018, all 50 states and D.C., Guam, Northern Marianas, Puerto Rico, and U.S. Virgin Islands reported race data according to these 1997 standards, which require the reporting of a minimum of five race categories and allow for reporting of race by either single race (reported alone) or in combination (more than one race or multiple races) (10). The race and Hispanic-origin groups shown in this report follow the 1997 standards and differ from the bridged-race categories shown in reports before 2018 (11). The current categories are American Indian and Alaska Native non-Hispanic single race, Asian non-Hispanic single race, Black or African American non-Hispanic single race, Native Hawaiian or Other Pacific Islander non-Hispanic single race, White non-Hispanic single race, and Hispanic (for brevity in text, references to the race groups omit “non-Hispanic single race”).

Race and Hispanic origin are reported independently on the report of fetal death. Most tables in this report show data for the categories of Asian, Black, White, and Hispanic. Selected tables also include data for the categories American Indian and Alaska Native and Native Hawaiian or Other Pacific Islander. Data are also presented in some tables for Hispanic subgroups: Central and South American, Cuban, Dominican, Mexican, other and unknown Hispanic, and Puerto Rican. Data were presented separately for Dominican women for the first time beginning with the 2018 data year. Data for this subgroup had previously been included in the category other and unknown Hispanic.

## Fetal deaths by state

Comparisons of fetal mortality rates by state can be affected by differences in reporting requirements for fetal deaths among registration areas, particularly for fetal deaths occurring at gestational ages early in the reporting period (Technical Notes). Additionally, the small numbers of fetal deaths in some states by year can result in lack of reliability for state-specific fetal mortality rates. To try to address these issues, in addition to showing fetal mortality rates at 20 weeks or more by state for 2023, this report also presents fetal deaths and fetal mortality rates by state for fetal deaths at 24 weeks of gestation or more for the latest combined 3-year period (2021–2023).

## Cause of death

The National Center for Health Statistics codes the cause of fetal death reported by the certifier using the *International Classification of Diseases, 10th Revision* (12). In this report, the five most frequently reported causes of death shown, including unspecified cause, are drawn from 45 causes in the List of 124 Selected Causes of Fetal Death, as defined in Instruction manual, part 9 (13) and ranked according to the number of fetal deaths.

Data on the five causes of death are included for the 38 states and D.C. that reported cause of death based on the 2003 revision of the U.S. Standard Report of Fetal Death for the full year and met the reporting requirement of having less than 50% of records assigned to unspecified cause (P95). This reporting area includes 13,623 fetal deaths, representing 68.1% of all fetal deaths in 2023. These statistics based on a subnational area are not generalizable to the entire United States. In tables and figures, the five selected causes are shown in descending order according to the number of deaths assigned to each cause.

## Statistical significance

Statements in this report have been tested for statistical significance. A statement that a given mortality rate is higher or lower than another rate indicates that the rates are significantly different unless otherwise noted. For information on the methods used to test for statistical significance, as well as more detailed information on the collection, interpretation, and availability of fetal death data, see the 2023 User Guide (2).

## Results

### Trends in fetal mortality

- In 2023, 20,005 fetal deaths occurring at 20 weeks of gestation or more were reported in the United States, a decline of 1% from 2022 (20,202) (Table 1, Figure 1).
- The fetal mortality rate was 5.53 fetal deaths at 20 weeks of gestation or more per 1,000 live births and fetal deaths in 2023, not significantly different from the 2022 rate of 5.48. With minor fluctuations, the total U.S. fetal mortality rate has declined 26% since 1990 (7.49).
- The early fetal mortality rate (20–27 weeks of gestation) increased 4% from 2022 (2.79) to 2023 (2.89), marking the first statistically significant annual increase in the rate since 2014. The rate had generally declined from 2014 (3.16) to 2022.
- The late fetal mortality rate (28 weeks of gestation or more) was 2.66 in 2023, not significantly different from the 2022 rate of 2.71. The rate fluctuated from 2014 (2.83) to 2023 for a total decline of 6%.

Race and Hispanic origin

- From 2022 to 2023, the fetal mortality rate increased 12% for Asian women (3.70 to 4.14). No significant changes in fetal mortality rates were observed for women of the remaining race and Hispanic-origin groups: American Indian and Alaska Native (7.22 to 6.87), Black (10.05 to 9.95), Native Hawaiian or Other Pacific Islander (10.36 to 10.18), White (4.48 to 4.55), and Hispanic (4.63 to 4.76) (Table 2, Figure 2).
- Among Hispanic-origin subgroups, no significant changes in fetal mortality rates were seen from 2022 to 2023: Central and South American (4.02 to 4.31), Cuban (3.85 to 4.81), Dominican (4.22 to 4.24), Mexican (4.68 to 4.63), Puerto Rican (4.64 to 4.89), and other and unknown Hispanic (5.81 to 6.44) women (Table 3).
- In 2023, fetal mortality rates continued to vary by race and Hispanic origin; rates were highest for Native Hawaiian or Other Pacific Islander (10.18) and Black (9.95) women,

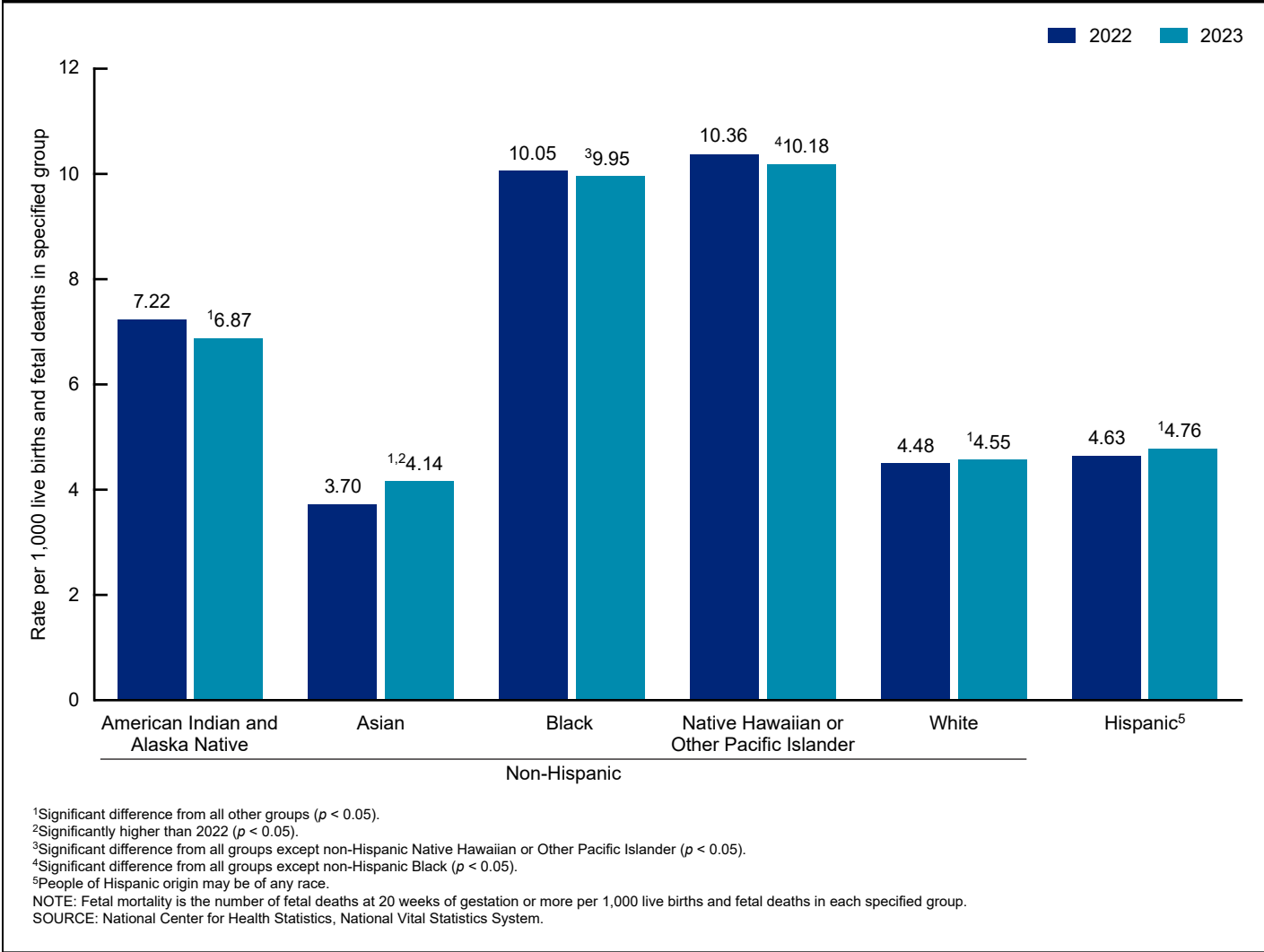
followed by American Indian and Alaska Native (6.87) women.

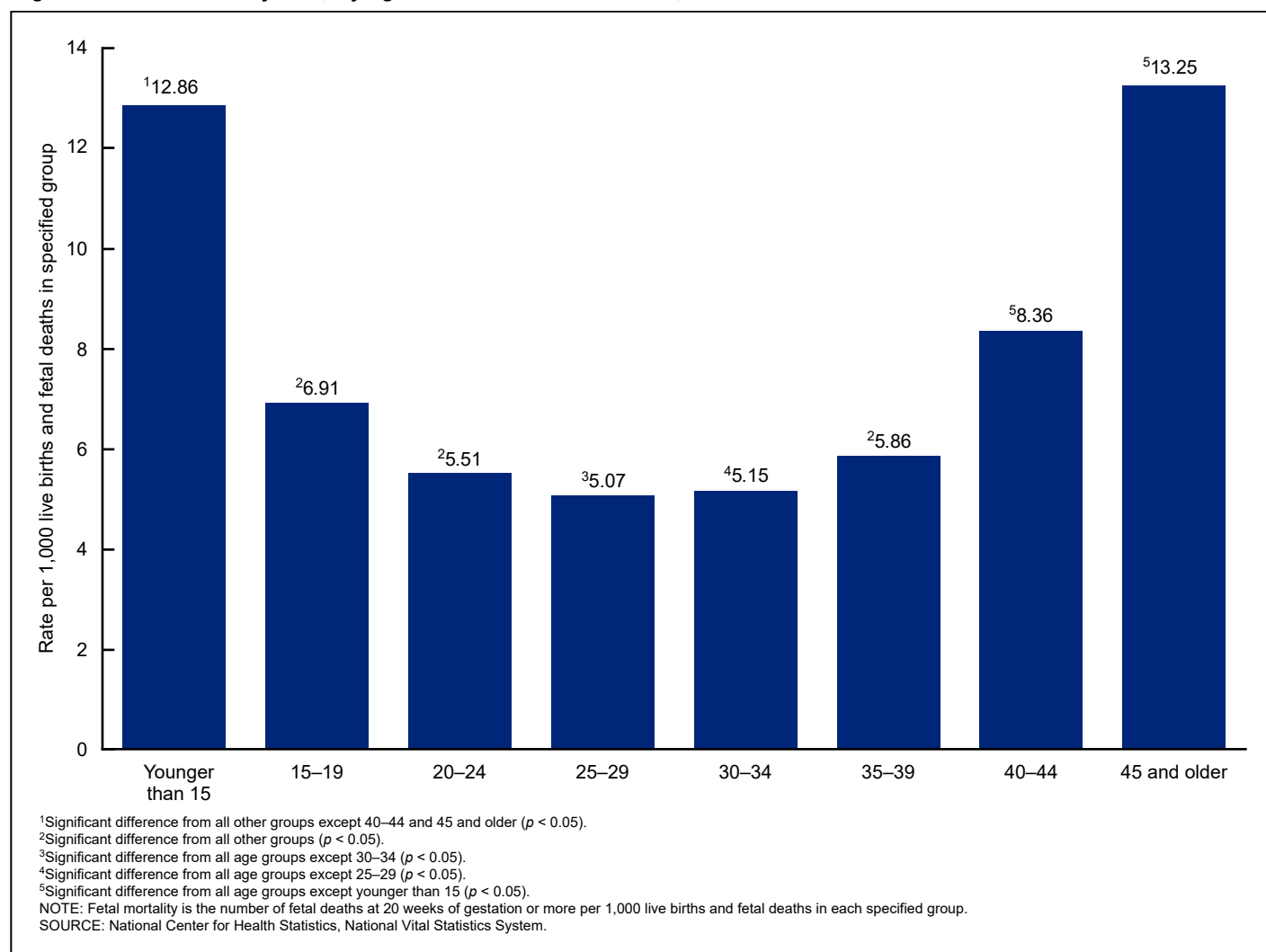
- The rate was lowest for Asian women (4.14), followed by White (4.55), and Hispanic (4.76) women.
- Among Hispanic-origin subgroups, in 2023, the rate was highest for other and unknown Hispanic (6.44) women. Rates for the other subgroups ranged from 4.24 for Dominican women to 4.89 for Puerto Rican women.

Maternal age

- Fetal mortality rates varied by maternal age (Table 4, Figure 3). In 2023, rates were highest for females younger than 15 (12.86) and ages 40–44 (8.36) and 45 and older (13.25) and lowest for women ages 25–29 (5.07) and 30–34 (5.15).
- The fetal mortality rate for teenagers ages 15–17 (7.89) was more than 50% higher, and the rate for teenagers ages 18–19 (6.58) was 28%–30% higher, than the rates for women ages 25–29 (5.07) and 30–34 (5.15).

Figure 2. Fetal mortality rate, by race and Hispanic origin of mother: United States, 2022 and 2023



**Figure 3. Fetal mortality rate, by age of mother: United States, 2023**

- Age-specific rates for Black females were higher than those for White and Hispanic females ages 15-44, and higher than those for Asian women ages 20-44.

### Tobacco use during pregnancy

- The fetal mortality rate for women who smoked cigarettes during pregnancy (9.92) was two times higher than that for women who did not smoke during pregnancy (4.91) (Table 5).
- The pattern was similar for the three largest race and Hispanic-origin groups. The fetal mortality rate for women who smoked during pregnancy compared with those who did not was two or more times higher for Black (18.59 and 8.99, respectively), White (8.19 and 4.03), and Hispanic (9.95 and 4.38) women. See Table 5 for fetal mortality rates by tobacco use during pregnancy by age.

### Plurality

- The fetal mortality rate for twins (12.64) was more than twice that for singletons (5.29) (Table A). The rate for triplet or higher-order deliveries (22.84) was more than four times that for singletons.
- The pattern was similar for the five largest race and Hispanic-origin groups. For example, the fetal mortality rate for twins compared with singletons was more than twice as high for American Indian and Alaska Native (20.53 and 6.49, respectively), Asian (9.53 and 3.99), White (10.81 and 4.33), and Hispanic (12.35 and 4.56) women, and nearly twice as high for Black women (16.86 and 9.62).

### Sex of fetus

- In 2023, the fetal mortality rate for male fetuses was 5.61, 3% higher than the rate for female fetuses (5.45) (Table A).
- The fetal mortality rate for male fetuses compared with female fetuses was 12% higher for Black women (10.49 and 9.40, respectively). No significant difference was seen for

American Indian and Alaska Native (7.78 and 5.93), Asian (3.99 and 4.30), Native Hawaiian or Other Pacific Islander

(10.89 and 9.46), White (4.54 and 4.57), and Hispanic (4.79 and 4.73) women.

**Table A. Fetal mortality rate, by selected characteristics and race and Hispanic origin of mother: United States, 2023**

Characteristic	Total <sup>1</sup>	Non-Hispanic, single race <sup>2</sup>					Hispanic <sup>3</sup>
		American Indian and Alaska Native	Asian	Black	Native Hawaiian or Other Pacific Islander	White	
Fetal mortality rate <sup>4</sup>							
Total.....	5.53	6.87	4.14	9.95	10.18	4.55	4.76
Plurality							
Single.....	5.29	6.49	3.99	9.62	9.96	4.33	4.56
Twin.....	12.64	20.53	9.53	16.86	*	10.81	12.35
Triplet or higher order.....	22.84	*	*	34.30	*	20.88	*
Sex of fetus							
Male.....	5.61	7.78	3.99	10.49	10.89	4.54	4.79
Female.....	5.45	5.93	4.30	9.40	9.46	4.57	4.73
Male–female ratio.....	1.03	1.31	0.93	1.12	1.15	0.99	1.01
Fetal deaths							
Total.....	20,005	170	897	4,941	104	8,171	4,520
Plurality							
Single.....	18,530	156	843	4,573	99	7,523	4,222
Twin.....	1,413	14	51	349	*	619	287
Triplet or higher order.....	62	*	*	19	*	29	11
Sex of fetus							
Male.....	10,377	98	447	2,649	56	4,175	2,322
Female.....	9,628	72	450	2,292	48	3,996	2,198
Male–female ratio.....	...	...	...	...	...	...	...
Live births							
Total.....	3,596,017	24,571	215,738	491,494	10,115	1,787,051	945,200
Plurality							
Single.....	3,482,971	23,899	210,328	470,612	9,842	1,729,043	921,711
Twin.....	110,393	668	5,300	20,347	270	56,648	22,954
Triplet or higher order.....	2,653	*	110	535	*	1,360	535
Sex of fetus							
Male.....	1,839,794	12,505	111,542	249,931	5,087	916,170	482,254
Female.....	1,756,223	12,066	104,196	241,563	5,028	870,881	462,946
Male–female ratio.....	...	...	...	...	...	...	...

\* Estimate does not meet National Center for Health Statistics standards of reliability.

... Category not applicable.

<sup>1</sup>Includes fetal deaths to race and Hispanic-origin groups not shown separately.

<sup>2</sup>Race and Hispanic origin are reported separately on the report of fetal death; people of Hispanic origin may be of any race. In this table, non-Hispanic women are classified by race. Race categories are consistent with the 1997 Office of Management and Budget standards; see Technical Notes in this report. Single race is defined as only one race reported on the report of fetal death.

<sup>3</sup>Includes all people of Hispanic origin of any race; see Technical Notes.

<sup>4</sup>Number of fetal deaths in specified group per 1,000 live births and fetal deaths.

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

## Period of gestation

- In 2023, just over one-half of all fetal deaths at 20 weeks of gestation or more (52.1%) occurred at 20–27 weeks (early fetal deaths), and 47.9% occurred at 28 weeks of gestation or more (late fetal deaths) ([Table 6](#)).
- The fetal mortality rate was highest at 20–23 weeks of gestation (528.14), declined to a low of 0.58 at 39–40 weeks, and then increased to 5.77 at 42 weeks of gestation or more.

## Birthweight

- In 2023, more than one-third of fetal deaths at 20 weeks of gestation or more (36.4%) weighed less than 500 grams (1 lb. 1 oz.) at delivery, and nearly one-half (47.8%) weighed less than 750 grams (1 lb. 12 oz.) ([Table 6](#)).
- The fetal mortality rate was highest for fetuses weighing less than 500 grams (584.82) and decreased with increasing birthweight to a low of 0.59 for fetuses weighing



3,500–3,999 grams. Fetal mortality rates then increased slightly for fetuses weighing 4,000 grams or more (1.24).

### Fetal mortality rates by state

- For combined years 2021–2023, the U.S. fetal mortality rate for fetal deaths at 24 weeks or more was 3.59 per 1,000 live births and fetal deaths (Table B).
- For combined years 2021–2023, fetal mortality rates were highest (above 5.00) in Mississippi (6.05) and Alabama (5.07), and lowest (below 3.00) in Texas (2.78), Vermont (2.78), Massachusetts (2.86), Montana (2.86), Maine (2.90), Connecticut (2.91), New Mexico (2.92), and Iowa (2.97).
- See Table 7 for fetal deaths at 20 weeks of gestation or more by state and territory for 2023.

### Selected causes of fetal death

- The five most common selected causes of fetal death accounted for 89.9% of fetal deaths in the 38-state and D.C. reporting area (Table 8, Figure 4). By order of frequency, these were: 1) Fetal death of unspecified cause (unspecified cause); 2) Fetus affected by complications of placenta, cord and membranes (placental, cord and membrane complications); 3) Fetus affected by maternal complications of pregnancy (maternal complications); 4) Congenital malformations, deformations and chromosomal abnormalities (congenital malformations); and 5) Fetus affected by maternal conditions that may be unrelated to present pregnancy (maternal conditions unrelated to pregnancy).
- The five most common selected causes of fetal death were the same for the six largest race and Hispanic-origin groups.

**Table B. Number of fetal deaths at 24 weeks of gestation or more and fetal mortality rate, by state and territory: United States, 2021–2023**

Area	Fetal deaths	Fetal mortality rate <sup>1</sup>	Area	Fetal deaths	Fetal mortality rate <sup>1</sup>
Total . . . . .	39,400	3.59	New Jersey . . . . .	954	3.11
Alabama . . . . .	887	5.07	New Mexico . . . . .	187	2.92
Alaska . . . . .	104	3.73	New York . . . . .	2,127	3.41
Arizona . . . . .	986	4.19	North Carolina . . . . .	1,366	3.76
Arkansas . . . . .	526	4.91	North Dakota . . . . .	92	3.13
California . . . . .	4,169	3.35	Ohio . . . . .	1,463	3.79
Colorado . . . . .	615	3.28	Oklahoma . . . . .	558	3.84
Connecticut . . . . .	308	2.91	Oregon . . . . .	403	3.38
Delaware . . . . .	115	3.61	Pennsylvania . . . . .	1,271	3.25
District of Columbia . . . . .	119	4.81	Rhode Island . . . . .	102	3.33
Florida . . . . .	2,942	4.42	South Carolina . . . . .	727	4.19
Georgia . . . . .	1,801	4.78	South Dakota . . . . .	131	3.86
Hawaii . . . . .	184	3.99	Tennessee . . . . .	1,058	4.27
Idaho . . . . .	212	3.14	Texas . . . . .	3,214	2.78
Illinois . . . . .	1,295	3.35	Utah . . . . .	513	3.72
Indiana . . . . .	828	3.46	Vermont . . . . .	44	2.78
Iowa . . . . .	326	2.97	Virginia . . . . .	941	3.30
Kansas . . . . .	401	3.87	Washington . . . . .	809	3.25
Kentucky . . . . .	600	3.82	West Virginia . . . . .	180	3.54
Louisiana . . . . .	611	3.61	Wisconsin . . . . .	605	3.32
Maine . . . . .	104	2.90	Wyoming . . . . .	79	4.30
Maryland . . . . .	769	3.78	American Samoa . . . . .	---	---
Massachusetts . . . . .	587	2.86	Guam . . . . .	80	10.56
Michigan . . . . .	1,141	3.71	Northern Marianas . . . . .	---	---
Minnesota . . . . .	661	3.46	Puerto Rico . . . . .	359	6.26
Mississippi . . . . .	635	6.05	U.S. Virgin Islands . . . . .	---	---
Missouri . . . . .	763	3.70			
Montana . . . . .	96	2.86			
Nebraska . . . . .	224	3.06			
Nevada . . . . .	449	4.53			
New Hampshire . . . . .	125	3.40			

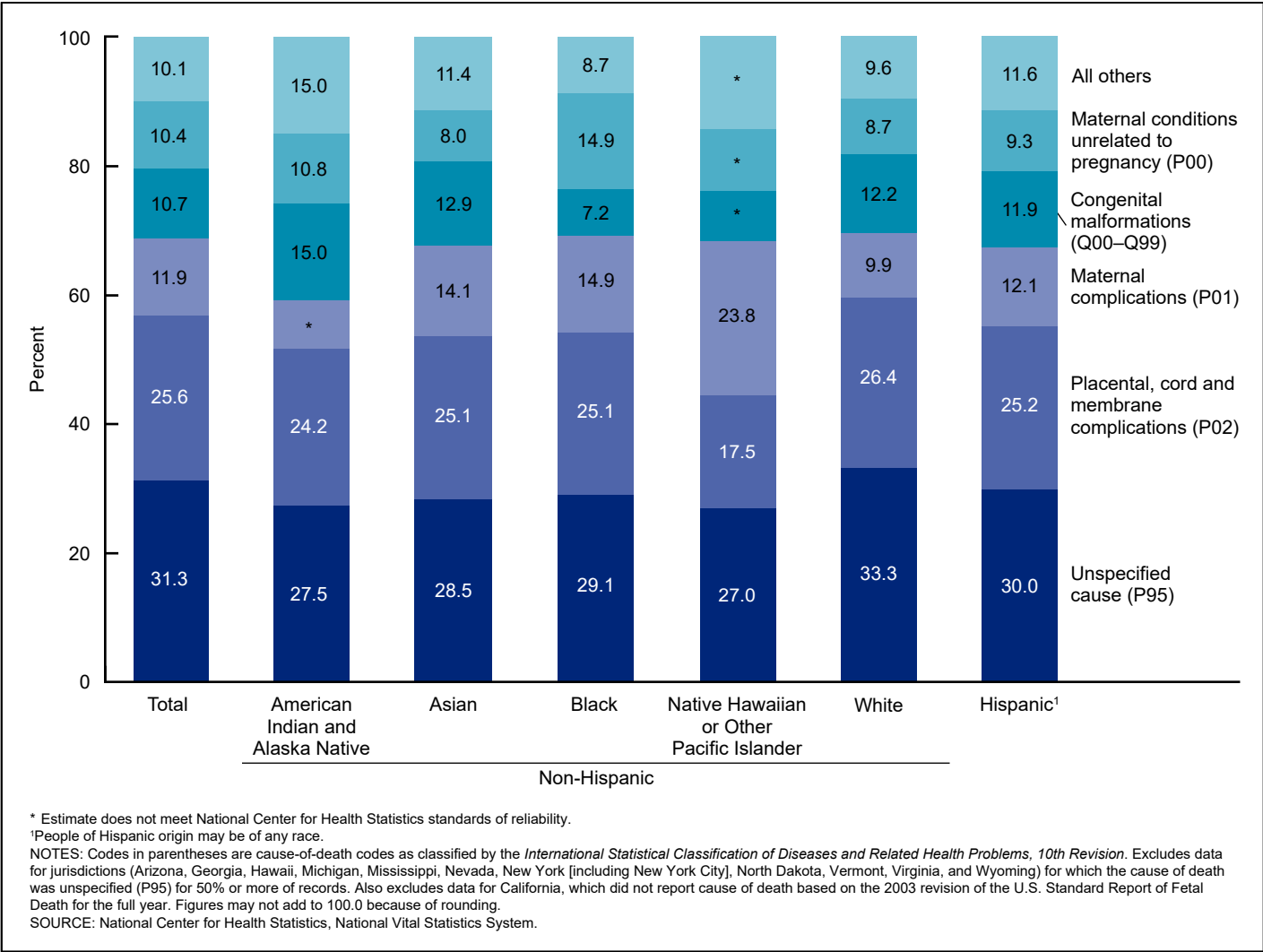
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<sup>1</sup>Number of fetal deaths in specified group per 1,000 live births and fetal deaths.

NOTES: Fetal deaths with not-stated period of gestation are proportionally distributed to less than 24 weeks and 24 weeks or more; see Technical Notes in this report. Numbers may not add to totals due to rounding.

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

**Figure 4. Percent distribution of fetal deaths, by selected causes of death and race and Hispanic origin of mother: 38 states and District of Columbia, 2023**



- Unspecified cause was the top category for all groups, while the ranking of the other causes differed.
- Placental, cord and membrane complications was the second most common cause of fetal death for all race and Hispanic-origin groups except for Native Hawaiian or Other Pacific Islander women, for whom maternal complications was the second most common cause.
  - Maternal complications, congenital malformations, and maternal conditions unrelated to pregnancy comprised the third through fifth most common causes for all groups except for Native Hawaiian or Other Pacific Islander women, for whom placental, cord and membrane complications replaced maternal complications.

References

1. Centers for Disease Control and Prevention. CDC WONDER. Fetal deaths information. Available from: <https://wonder.cdc.gov/fetal.html>.
2. National Center for Health Statistics. User guide to the 2023 fetal death public use file. 2024. Available from: [https://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Dataset\\_Documentation/DVS/fetaldeath/2023fetaluserguide.pdf](https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/DVS/fetaldeath/2023fetaluserguide.pdf).
3. Makelarski JA, Romitti PA, Caspers KM, Puzhankara S, McDowell BD, Piper KN. Use of active surveillance methodologies to examine over-reporting of stillbirths on fetal death certificates. *Birth Defects Res A Clin Mol Teratol*. 2011 Dec;91(12):1004–10. DOI: <https://www.doi.org/10.1002/bdra.22856>.
4. Heuser CC, Hunn J, Varner M, Hossain S, Vered S, Silver RM. Correlation between stillbirth vital statistics and medical records. *Obstet Gynecol*. 2010 Dec;116(6):1296–1301. DOI: <https://www.doi.org/10.1097/AOG.0b013e3181fb8838>.



5. Lydon-Rochelle MT, Cárdenas V, Nelson JL, Tomashek KM, Mueller BA, Easterling TR. Validity of maternal and perinatal risk factors reported on fetal death certificates. *Am J Public Health*. 2005 Nov;95(11):1948–51. DOI: <https://www.dx.doi.org/10.2105/AJPH.2004.044305>.
6. National Center for Health Statistics. Patient's worksheet for the report of fetal death. 2019. Available from: <https://www.cdc.gov/nchs/data/dvs/fetal-death-mother-worksheet-english-2019-508.pdf>.
7. National Center for Health Statistics. Facility worksheet for the report of fetal death. 2019. Available from: <https://www.cdc.gov/nchs/data/dvs/fetal-death-facility-worksheet-2019-508.pdf>.
8. National Center for Health Statistics. Guide to completing the facility worksheets for the Certificate of Live Birth and Report of Fetal Death (2003 revision). 2022. Available from: <https://www.cdc.gov/nchs/data/dvs/GuidetoCompleteFacilityWks.pdf>.
9. National Center for Health Statistics. 2003 revision of the U.S. Standard Report of Fetal Death. Available from: <https://www.cdc.gov/nchs/data/dvs/FDEATH11-03finalACC.pdf>.
10. Office of Management and Budget. Revisions to the standards for the classification of federal data on race and ethnicity. *Fed Regist*. 1997;62(210):58782–90.
11. MacDorman MF, Gregory ECW. Fetal and perinatal mortality: United States, 2013. *Natl Vital Stat Rep*. 2015 Jul;64(8):1–24.
12. World Health Organization. International statistical classification of diseases and related health problems, 10th revision. 2009.
13. National Center for Health Statistics. Instruction manual, part 9: ICD–10 cause-of-death lists for tabulating mortality statistics (updated September 2020 to include WHO updates to ICD–10 for data year 2019). 2020. Available from: <https://www.cdc.gov/nchs/data/dvs/Part9InstructionManual2019-508.pdf>.
14. National Center for Health Statistics. Model state vital statistics act and regulations, 1992 revision. Public Health Service, PHS 94–1115. 1994. Available from: <https://www.cdc.gov/nchs/data/misc/mvsact92b.pdf>.
15. Kowaleski J. State definitions and reporting requirements for live births, fetal deaths, and induced terminations of pregnancy. National Center for Health Statistics. 1997. Available from: <https://www.cdc.gov/nchs/data/misc/itop97.pdf>.
16. National Center for Health Statistics. Report of the Panel to Evaluate the U.S. Standard Certificates. 2000. Available from: [https://archive.cdc.gov/www\\_cdc\\_gov/nchs/data/dvs/panelreport\\_acc.pdf](https://archive.cdc.gov/www_cdc_gov/nchs/data/dvs/panelreport_acc.pdf).
17. Hoyert DL. Perinatal mortality in the United States: 1985–91. *Vital Health Stat* 20. 1995 Aug;(26):1–26.
18. Parker JD, Talih M, Irimata KE, Zhang G, Branum AM, Davis D, et al. National Center for Health Statistics data presentation standards for rates and counts. *Vital Health Stat* 2. 2023 Mar;(200):1–26. DOI: <https://dx.doi.org/10.15620/cdc:124368>.
19. Parker JD, Talih M, Malec DJ, Beresovsky V, Carroll M, Gonzalez JF, et al. National Center for Health Statistics data presentation standards for proportions. *Vital Health Stat* 2. 2017 Aug;(175):1–22.
20. Gregory ECW, Valenzuela CP, Hoyert DL. Fetal Mortality: United States, 2022. *Natl Vital Stat Rep*. 2024 Sep;(9). DOI: <https://dx.doi.org/10.15620/cdc/158788>.
21. Martin JA, Osterman MJK, Kirmeyer SE, Gregory ECW. Measuring gestational age in vital statistics data: Transitioning to the obstetric estimate. *Natl Vital Stat Rep*. 2015 Jun;64(5):1–20.
22. National Center for Health Statistics. Editing specifications for fetal death records [unpublished]. 2020.
23. National Center for Health Statistics. User guide to the 2017 fetal death public use file. 2019. Available from: [https://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Dataset\\_Documentation/DVS/fetaldeath/2017FetalUserGuide.pdf](https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/DVS/fetaldeath/2017FetalUserGuide.pdf).
24. National Center for Health Statistics. User guide to the 2018 fetal death public use file. 2020. Available from: [https://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Dataset\\_Documentation/DVS/fetaldeath/2018FetalUserGuide.pdf](https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/DVS/fetaldeath/2018FetalUserGuide.pdf).

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**Table 1. Number of fetal deaths and births and fetal mortality rate for 1990–2023 and early and late fetal deaths and fetal mortality rate for 2014–2023: United States**

Year	Fetal deaths			Live births	Fetal mortality rate <sup>1</sup>		
	Total <sup>2</sup>	20–27 weeks <sup>3</sup>	28 weeks or more <sup>3</sup>		Total <sup>2</sup>	20–27 weeks <sup>3</sup>	28 weeks or more <sup>3</sup>
2023.....	20,005	10,431	9,574	3,596,017	5.53	2.89	2.66
2022.....	20,202	10,246	9,956	3,667,758	5.48	2.79	2.71
2021.....	21,105	10,824	10,281	3,664,292	5.73	2.95	2.80
2020.....	20,854	10,764	10,090	3,613,647	5.74	2.97	2.78
2019.....	21,478	11,216	10,262	3,747,540	5.70	2.98	2.73
2018.....	22,459	11,844	10,615	3,791,712	5.89	3.11	2.79
2017.....	22,827	11,861	10,966	3,855,500	5.89	3.07	2.84
2016.....	23,880	12,486	11,394	3,945,875	6.02	3.15	2.88
2015.....	23,776	12,407	11,369	3,978,497	5.94	3.11	2.85
2014 <sup>4</sup> .....	23,980	12,652	11,328	3,988,076	5.98	3.16	2.83
2013.....	23,595	---	---	3,932,181	5.96	---	---
2012.....	24,073	---	---	3,952,841	6.05	---	---
2011.....	24,289	---	---	3,953,590	6.11	---	---
2010.....	24,258	---	---	3,999,386	6.03	---	---
2009.....	24,872	---	---	4,130,665	5.99	---	---
2008.....	26,335	---	---	4,247,726	6.16	---	---
2007.....	26,593	---	---	4,316,233	6.12	---	---
2006.....	25,972	---	---	4,265,593	6.05	---	---
2005.....	25,894	---	---	4,138,573	6.22	---	---
2004.....	26,001	---	---	4,112,055	6.28	---	---
2003.....	26,004	---	---	4,090,007	6.32	---	---
2002.....	25,943	---	---	4,021,825	6.41	---	---
2001.....	26,373	---	---	4,026,036	6.51	---	---
2000.....	27,003	---	---	4,058,882	6.61	---	---
1995.....	27,294	---	---	3,899,589	6.95	---	---
1990.....	31,386	---	---	4,158,445	7.49	---	---

--- Data not available.

<sup>1</sup>Number of fetal deaths in specified group per 1,000 live births and fetal deaths.<sup>2</sup>Fetal deaths with stated or presumed period of gestation of 20 weeks or more.<sup>3</sup>Not stated gestational age proportionally distributed.<sup>4</sup>Beginning with the 2014 data year, the obstetric estimate of gestation at delivery replaced the measure based on the date of last normal menses as the standard for measuring gestational age; see Technical Notes in this report.

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

**Table 2. Number of fetal deaths and mortality rate, by race and Hispanic origin of mother: United States, 2018–2023**

Year	Non-Hispanic, single race <sup>1</sup>						
	All races and origins <sup>2</sup>	American Indian and Alaska Native	Asian	Black	Native Hawaiian or Other Pacific Islander	White	Hispanic <sup>3</sup>
				Rate <sup>4</sup>			
2023.....	5.53	6.87	4.14	9.95	10.18	4.55	4.76
2022.....	5.48	7.22	3.70	10.05	10.36	4.48	4.63
2021.....	5.73	7.48	3.94	9.89	9.87	4.85	4.82
2020.....	5.74	7.84	3.93	10.34	10.59	4.73	4.86
2019.....	5.70	7.47	4.02	10.41	10.03	4.71	4.79
2018.....	5.89	6.25	4.26	10.64	9.93	4.89	5.06
				Fetal deaths			
2023.....	20,005	170	897	4,941	104	8,171	4,520
2022.....	20,202	187	813	5,194	106	8,280	4,359
2021.....	21,105	197	846	5,173	95	9,196	4,290
2020.....	20,854	212	864	5,536	103	8,753	4,231
2019.....	21,478	214	963	5,766	99	9,067	4,264
2018.....	22,459	183	1,029	5,938	95	9,621	4,510

<sup>1</sup>Race and Hispanic origin are reported separately on reports of fetal death; people of Hispanic origin may be of any race. In this table, non-Hispanic women are classified by race. Race categories are consistent with the 1997 Office of Management and Budget standards; see Technical Notes in this report. Single race is defined as only one race reported on the report of fetal death.

<sup>2</sup>Includes fetal deaths to race and Hispanic-origin groups not shown separately.

<sup>3</sup>Includes all people of Hispanic origin of any race; see Technical Notes.

<sup>4</sup>Number of fetal deaths in specified group per 1,000 live births and fetal deaths.

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

**Table 3. Number of fetal deaths and mortality rate, by Hispanic origin of mother: United States, 2018–2023**

Year	Total	Central and South American	Cuban	Dominican	Mexican	Puerto Rican	Other and Unknown Hispanic
				Rate <sup>1</sup>			
2023.....	4.76	4.31	4.81	4.24	4.63	4.89	6.44
2022.....	4.63	4.02	3.85	4.22	4.68	4.64	5.81
2021.....	4.82	---	4.81	4.39	4.77	5.11	---
2020.....	4.86	---	5.23	4.41	4.79	4.98	---
2019.....	4.79	---	4.71	4.75	4.86	5.17	---
2018.....	5.06	---	4.16	5.09	5.19	5.07	---
				Fetal deaths			
2023.....	4,520	902	145	143	2,365	325	640
2022.....	4,359	779	102	142	2,400	323	613
2021.....	4,290	---	118	147	2,325	363	---
2020.....	4,231	---	122	140	2,312	349	---
2019.....	4,264	---	112	155	2,427	369	---
2018.....	4,510	---	98	164	2,587	365	---

--- Data not available.

<sup>1</sup>Number of fetal deaths in specified group per 1,000 live births and fetal deaths.

NOTE: In this table, Hispanic women are classified only by place of origin; non-Hispanic women are not shown.

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

**Table 4. Number and rate of total, early, and late fetal deaths, by age and race and Hispanic origin of mother: United States, 2023**

Race and Hispanic origin and age of mother	Fetal deaths			Fetal mortality rate <sup>1</sup>		
	Total	20–27 weeks <sup>2</sup>	28 weeks or more <sup>2</sup>	Total	20–27 weeks <sup>2</sup>	28 weeks or more <sup>2</sup>
All races and origins <sup>3</sup> .....	20,005	10,431	9,574	5.53	2.89	2.66
Younger than 15 .....	23	16	*	12.86	8.98	*
15–19 .....	981	531	450	6.91	3.75	3.18
15–17 .....	284	155	129	7.89	4.32	3.60
18–19 .....	697	376	321	6.58	3.56	3.04
20–24 .....	3,420	1,781	1,639	5.51	2.88	2.65
25–29 .....	5,031	2,540	2,491	5.07	2.57	2.52
30–34 .....	5,689	2,935	2,754	5.15	2.67	2.50
35–39 .....	3,567	1,936	1,631	5.86	3.19	2.69
40–44 .....	1,150	608	542	8.36	4.44	3.96
45 and older .....	144	84	60	13.25	7.77	5.57
Non-Hispanic, single race <sup>4</sup> :						
Asian .....	897	499	398	4.14	2.31	1.84
Younger than 15 .....	*	*	*	*	*	*
15–19 .....	15	*	*	15.96	*	*
15–17 .....	*	*	*	*	*	*
18–19 .....	14	*	*	18.69	*	*
20–24 .....	45	23	22	4.75	2.44	2.33
25–29 .....	171	89	82	4.17	2.17	2.00
30–34 .....	340	176	164	3.83	1.98	1.85
35–39 .....	246	152	94	4.03	2.49	1.54
40–44 .....	70	43	27	4.99	3.07	1.93
45 and older .....	10	*	*	*	*	*
Black .....	4,941	2,716	2,225	9.95	5.50	4.51
Younger than 15 .....	*	*	*	*	*	*
15–19 .....	322	191	131	11.21	6.68	4.59
15–17 .....	109	65	44	13.42	8.05	5.46
18–19 .....	213	127	86	10.33	6.19	4.20
20–24 .....	990	536	454	9.51	5.17	4.39
25–29 .....	1,255	661	594	9.44	4.99	4.49
30–34 .....	1,267	717	550	9.54	5.42	4.17
35–39 .....	820	454	366	10.89	6.06	4.89
40–44 .....	244	132	112	12.10	6.58	5.59
45 and older .....	37	21	16	19.15	10.96	8.37
White .....	8,171	4,141	4,030	4.55	2.31	2.25
Younger than 15 .....	*	*	*	*	*	*
15–19 .....	277	144	133	6.13	3.20	2.95
15–17 .....	63	27	36	6.78	2.92	3.89
18–19 .....	214	117	97	5.96	3.27	2.71
20–24 .....	1,236	626	610	4.66	2.37	2.31
25–29 .....	2,089	1,028	1,061	4.15	2.05	2.11
30–34 .....	2,527	1,264	1,263	4.22	2.12	2.12
35–39 .....	1,528	801	727	4.84	2.54	2.31
40–44 .....	456	245	211	7.23	3.90	3.36
45 and older .....	54	31	23	11.70	6.75	5.02

**Table 4. Number and rate of total, early, and late fetal deaths, by age and race and Hispanic origin of mother: United States, 2023—Con**

Race and Hispanic origin and age of mother	Fetal deaths			Fetal mortality rate <sup>1</sup>		
	Total	20–27 weeks <sup>2</sup>	28 weeks or more <sup>2</sup>	Total	20–27 weeks <sup>2</sup>	28 weeks or more <sup>2</sup>
Hispanic <sup>5</sup> .....	4,520	2,299	2,221	4.76	2.43	2.34
Younger than 15 .....	10	*	*	*	*	*
15–19 .....	288	140	148	4.95	2.41	2.55
15–17 .....	84	42	42	5.26	2.64	2.64
18–19 .....	204	98	106	4.83	2.33	2.52
20–24 .....	905	471	434	4.34	2.26	2.09
25–29 .....	1,148	564	584	4.23	2.08	2.16
30–34 .....	1,133	574	559	4.69	2.38	2.32
35–39 .....	698	376	322	5.28	2.85	2.44
40–44 .....	306	150	156	8.91	4.39	4.56
45 and older .....	32	17	15	13.65	7.30	6.45

\* Estimate does not meet National Center for Health Statistics standards of reliability.

<sup>1</sup>Number of fetal deaths in specified group per 1,000 live births and fetal deaths.

<sup>2</sup>Fetal deaths with gestational age not stated were proportionally distributed; see Technical Notes in this report.

<sup>3</sup>Includes fetal deaths to race and Hispanic-origin groups not shown separately.

<sup>4</sup>Race and Hispanic origin are reported separately on reports of fetal death; people of Hispanic origin may be of any race. In this table, non-Hispanic women are classified by race. Race categories are consistent with the 1997 Office of Management and Budget standards; see Technical Notes. Single race is defined as only one race reported on the report of fetal death.

<sup>5</sup>Includes all people of Hispanic origin of any race; see Technical Notes.

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

**Table 5. Fetal mortality rate, by tobacco use during pregnancy, age, and race and Hispanic origin of mother: 49 states and the District of Columbia, 2023**

Race and Hispanic origin of mother and tobacco use during pregnancy	Fetal deaths	All ages	Younger than 20	20–24	25–29	30–34	35–39	40–54	Not stated
All races and origins <sup>1</sup>	Number	Fetal mortality rate <sup>2</sup>							Number
Total .....	19,915	5.53	6.97	5.51	5.07	5.16	5.86	8.73	1,769
Yes .....	1,078	9.92	8.20	8.35	8.66	10.49	11.90	16.10	...
No .....	17,068	4.91	6.23	4.92	4.53	4.56	5.14	7.78	...
Non-Hispanic, single race <sup>3</sup>									
Asian:									
Total .....	893	4.19	15.22	4.88	4.25	3.87	4.06	5.32	65
Yes .....	*	*	*	*	*	*	*	*	...
No .....	822	3.87	*	4.26	4.04	3.57	3.71	5.02	...
Black:									
Total .....	4,940	9.96	11.22	9.52	9.45	9.55	10.88	12.72	372
Yes .....	253	18.59	*	19.98	19.05	15.60	19.70	28.70	...
No .....	4,315	8.99	10.27	8.77	8.48	8.56	9.74	11.35	...
White:									
Total .....	8,162	4.55	6.17	4.67	4.15	4.23	4.84	7.56	635
Yes .....	652	8.19	7.92	6.84	6.70	8.88	10.07	14.47	...
No .....	6,875	4.03	5.38	4.15	3.72	3.71	4.27	6.69	...
Hispanic <sup>4</sup>									
Total .....	4,509	4.76	5.04	4.34	4.23	4.70	5.27	9.21	333
Yes .....	73	9.95	*	10.48	9.77	11.16	*	*	...
No .....	4,103	4.38	4.54	3.91	3.92	4.36	4.85	8.53	...

... Category not applicable.

\* Estimate does not meet National Center for Health Statistics standards of reliability.

<sup>1</sup>Includes fetal deaths to race and Hispanic-origin groups not shown separately.

<sup>2</sup>Number of fetal deaths in specified group per 1,000 live births and fetal deaths.

<sup>3</sup>Race and Hispanic origin are reported separately on the report of fetal death; people of Hispanic origin may be of any race. In this table, non-Hispanic women are classified by race. Race categories are consistent with the 1997 Office of Management and Budget standards; see Technical Notes in this report. Single race is defined as only one race reported on the report of fetal death.

<sup>4</sup>Includes all people of Hispanic origin of any race; see Technical Notes.

NOTE: Findings exclude data for Hawaii; see Technical Notes.

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

**Table 6. Number of fetal deaths and mortality rate, by birthweight, gestational age, and race and Hispanic origin of mother: United States, 2023**

Race and Hispanic origin of mother and birthweight (grams)	Gestational age (weeks)											Fetal mortality rate <sup>1</sup>
	Total	20–23	24–27	28–31	32–33	34–36	37–38	39–40	41	42 or more	Not stated	
All races and origins <sup>2</sup> . . . . .	20,005	7,206	3,159	2,618	1,386	2,407	1,766	1,145	138	54	126	5.53
Less than 500 . . . . .	6,733	5,354	1,032	216	42	27	32	*	*	*	19	584.82
500–749 . . . . .	2,094	786	957	283	34	17	*	*	*	*	11	201.21
750–999 . . . . .	1,290	161	598	427	55	34	*	*	*	*	*	119.41
1,000–1,249 . . . . .	983	41	205	548	116	55	*	*	*	*	*	79.46
1,250–1,499 . . . . .	883	22	66	448	188	126	26	*	*	*	*	56.17
1,500–1,999 . . . . .	1,613	19	42	444	503	473	99	24	*	*	*	26.35
2,000–2,499 . . . . .	1,489	*	13	83	280	766	251	78	*	*	14	7.40
2,500–2,999 . . . . .	1,416	*	*	21	60	506	533	254	18	*	12	1.99
3,000–3,499 . . . . .	1,123	*	*	*	29	185	445	383	52	11	*	0.80
3,500–3,999 . . . . .	539	*	*	*	*	79	178	221	32	14	*	0.59
4,000 or more . . . . .	316	*	*	*	*	40	107	124	20	14	*	1.24
Not stated . . . . .	1,526	823	242	134	66	99	75	37	*	*	37	...
Fetal mortality rate <sup>1</sup> . . . . .	5.53	528.14	169.47	73.19	31.22	8.69	1.64	0.58	0.84	5.77	...	...
Non-Hispanic, single race <sup>3</sup> :												
Asian . . . . .	897	356	140	99	53	98	75	63	*	*	*	4.14
Less than 500 . . . . .	317	265	37	*	*	*	*	*	*	*	*	632.73
500–749 . . . . .	107	39	48	15	*	*	*	*	*	*	*	219.71
750–999 . . . . .	51	*	31	10	*	*	*	*	*	*	*	90.27
1,000–1,249 . . . . .	46	*	*	24	*	*	*	*	*	*	*	70.12
1,250–1,499 . . . . .	32	*	*	19	*	*	*	*	*	*	*	39.51
1,500–1,999 . . . . .	66	*	*	19	19	24	*	*	*	*	*	17.65
2,000–2,499 . . . . .	66	*	*	*	11	36	13	*	*	*	*	4.62
2,500–2,999 . . . . .	57	*	*	*	*	12	22	17	*	*	*	1.02
3,000–3,499 . . . . .	56	*	*	*	*	*	19	29	*	*	*	0.62
3,500–3,999 . . . . .	19	*	*	*	*	*	*	*	*	*	*	0.46
4,000 or more . . . . .	*	*	*	*	*	*	*	*	*	*	*	*
Not stated . . . . .	73	43	13	*	*	*	*	*	*	*	*	...
Fetal mortality rate <sup>1</sup> . . . . .	4.14	581.70	154.87	55.90	23.68	6.65	1.09	0.52	*	*	...	...
Black . . . . .	4,941	1,828	867	728	355	564	348	184	19	10	38	9.95
Less than 500 . . . . .	1,829	1,423	305	70	12	10	*	*	*	*	*	525.12
500–749 . . . . .	544	183	280	67	*	*	*	*	*	*	*	167.38
750–999 . . . . .	331	32	151	120	15	12	*	*	*	*	*	105.92
1,000–1,249 . . . . .	292	11	53	173	29	20	*	*	*	*	*	86.65
1,250–1,499 . . . . .	269	*	18	145	57	37	*	*	*	*	*	65.85
1,500–1,999 . . . . .	404	*	10	93	140	122	25	*	*	*	*	27.91
2,000–2,499 . . . . .	356	*	*	18	67	195	58	11	*	*	*	7.93
2,500–2,999 . . . . .	278	*	*	*	10	93	119	45	*	*	*	2.13
3,000–3,499 . . . . .	172	*	*	*	*	30	71	53	10	*	*	0.94
3,500–3,999 . . . . .	85	*	*	*	*	16	28	33	*	*	*	0.99
4,000 or more . . . . .	64	*	*	*	*	*	27	25	*	*	*	3.30
Not stated . . . . .	317	172	49	36	16	20	*	*	*	*	*	...
Fetal mortality rate <sup>1</sup> . . . . .	9.95	459.76	161.63	84.50	38.25	11.59	2.11	0.78	1.13	*	...	...
White . . . . .	8,171	2,844	1,278	1,012	543	1,016	800	535	74	31	38	4.55
Less than 500 . . . . .	2,643	2,100	424	70	13	*	16	*	*	*	*	647.95
500–749 . . . . .	815	291	379	119	15	*	*	*	*	*	*	230.03
750–999 . . . . .	514	61	243	170	20	12	*	*	*	*	*	133.23
1,000–1,249 . . . . .	360	15	78	205	41	14	*	*	*	*	*	74.80
1,250–1,499 . . . . .	311	*	23	150	71	45	12	*	*	*	*	49.65
1,500–1,999 . . . . .	627	*	17	187	198	168	41	*	*	*	*	24.84
2,000–2,499 . . . . .	643	*	*	43	120	324	109	35	*	*	*	7.67
2,500–2,999 . . . . .	653	*	*	*	25	260	240	105	*	*	*	2.17
3,000–3,499 . . . . .	547	*	*	*	14	83	223	183	29	*	*	0.80
3,500–3,999 . . . . .	260	*	*	*	*	34	82	112	15	*	*	0.50
4,000 or more . . . . .	139	*	*	*	*	13	34	65	12	*	*	0.89
Not stated . . . . .	659	363	107	53	19	51	31	18	*	*	11	...
Fetal mortality rate <sup>1</sup> . . . . .	4.55	598.61	187.28	69.63	27.19	7.88	1.58	0.53	0.80	5.10	...	...

See footnotes at end of table.



**Table 6. Number of fetal deaths and mortality rate, by birthweight, gestational age, and race and Hispanic origin of mother: United States, 2023—Con.**

Race and Hispanic origin of mother and birthweight (grams)	Gestational age (weeks)											Fetal mortality rate <sup>1</sup>
	Total	20–23	24–27	28–31	32–33	34–36	37–38	39–40	41	42 or more	Not stated	
Hispanic <sup>4</sup> . . . . .	4,520	1,642	647	584	324	559	429	277	30	*	20	4.76
Less than 500 . . . . .	1,495	1,218	195	54	10	*	10	*	*	*	*	551.46
500–749 . . . . .	471	207	187	61	*	*	*	*	*	*	*	182.63
750–999 . . . . .	299	43	138	93	13	*	*	*	*	*	*	111.69
1,000–1,249 . . . . .	219	*	50	111	28	16	*	*	*	*	*	75.80
1,250–1,499 . . . . .	218	*	18	105	46	34	*	*	*	*	*	57.70
1,500–1,999 . . . . .	395	*	10	110	114	119	26	*	*	*	*	26.82
2,000–2,499 . . . . .	322	*	*	15	59	162	60	18	*	*	*	6.58
2,500–2,999 . . . . .	331	*	*	*	19	105	123	65	*	*	*	1.73
3,000–3,499 . . . . .	268	*	*	*	*	46	105	95	*	*	*	0.69
3,500–3,999 . . . . .	142	*	*	*	*	23	46	56	12	*	*	0.61
4,000 or more . . . . .	84	*	*	*	*	17	33	25	*	*	*	1.42
Not stated . . . . .	276	150	42	25	13	17	17	*	*	*	*	...
Fetal mortality rate <sup>1</sup> . . . . .	4.76	484.22	141.79	65.34	30.17	7.81	1.49	0.53	0.76	*	...	...

\* Estimate does not meet National Center for Health Statistics standards of reliability.

... Category not applicable.

<sup>1</sup>Number of fetal deaths in specified group per 1,000 live births and fetal deaths.<sup>2</sup>Includes fetal deaths to race and Hispanic-origin groups not shown separately.<sup>3</sup>Race and Hispanic origin are reported separately on the report of fetal death; people of Hispanic origin may be of any race. In this table, non-Hispanic women are classified by race. Race categories are consistent with the 1997 Office of Management and Budget standards; see Technical Notes in this report. Single race is defined as only one race reported on the report of fetal death.<sup>4</sup>Includes all people of Hispanic origin of any race; see Technical Notes.

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

**Table 7. Number of fetal deaths at 20 weeks of gestation or more and fetal mortality rate: United States and each state and territory, 2023**

Area	Fetal deaths <sup>1</sup>	Fetal mortality rate <sup>2</sup>	Area	Fetal deaths <sup>1</sup>	Fetal mortality rate <sup>2</sup>
Total . . . . .	20,005	5.53	New Jersey . . . . .	562	5.53
Alabama . . . . .	436	7.48	New Mexico . . . . .	94	4.47
Alaska . . . . .	42	4.64	New York . . . . .	1,137	5.55
Arizona . . . . .	494	6.29	North Carolina . . . . .	697	5.77
Arkansas . . . . .	248	6.98	North Dakota . . . . .	42	4.33
California . . . . .	1,993	4.96	Ohio . . . . .	775	6.07
Colorado . . . . .	378	6.11	Oklahoma . . . . .	275	5.71
Connecticut . . . . .	171	4.92	Oregon . . . . .	179	4.65
Delaware . . . . .	62	5.91	Pennsylvania . . . . .	593	4.65
District of Columbia . . . . .	55	6.92	Rhode Island . . . . .	49	4.97
Florida . . . . .	1,509	6.77	South Carolina . . . . .	310	5.34
Georgia . . . . .	959	7.61	South Dakota . . . . .	84	7.44
Hawaii . . . . .	90	6.04	Tennessee . . . . .	471	5.64
Idaho . . . . .	123	5.46	Texas . . . . .	1,615	4.15
Illinois . . . . .	740	5.89	Utah . . . . .	296	6.53
Indiana . . . . .	496	6.24	Vermont . . . . .	19	3.74
Iowa . . . . .	159	4.39	Virginia . . . . .	495	5.31
Kansas . . . . .	184	5.37	Washington . . . . .	432	5.31
Kentucky . . . . .	277	5.30	West Virginia . . . . .	62	3.72
Louisiana . . . . .	296	5.36	Wisconsin . . . . .	314	5.23
Maine . . . . .	41	3.51	Wyoming . . . . .	33	5.48
Maryland . . . . .	430	6.51	American Samoa . . . . .	---	---
Massachusetts . . . . .	261	3.88	Guam . . . . .	35	14.66
Michigan . . . . .	532	5.34	Northern Marianas . . . . .	---	---
Minnesota . . . . .	319	5.14	Puerto Rico . . . . .	221	11.74
Mississippi . . . . .	343	9.86	U.S. Virgin Islands . . . . .	---	---
Missouri . . . . .	372	5.51			
Montana . . . . .	49	4.40			
Nebraska . . . . .	123	5.08			
Nevada . . . . .	245	7.65			
New Hampshire . . . . .	44	3.67			

--- Data not available.

<sup>1</sup>Fetal deaths with stated or presumed period of gestation of 20 weeks or more.<sup>2</sup>Number of fetal deaths per 1,000 live births and fetal deaths.

NOTES: American Samoa did not report data for 2023. Data for the Northern Marianas and the U.S. Virgin Islands were excluded due to small numbers.

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

**Table 8. Number of fetal deaths and percentage of total deaths for the five selected causes, by race and Hispanic origin of mother: 38 states and the District of Columbia, 2023**

Rank	Cause and race and Hispanic origin of mother	Fetal deaths	Percent
All races and origins <sup>1</sup>			
...	All causes .....	13,623	100.0
1	Fetal death of unspecified cause ..... (P95)	4,266	31.3
2	Fetus affected by complications of placenta, cord and membranes ..... (P02)	3,486	25.6
3	Fetus affected by maternal complications of pregnancy ..... (P01)	1,615	11.9
4	Congenital malformations, deformations and chromosomal abnormalities ..... (Q00–Q99)	1,463	10.7
5	Fetus affected by maternal conditions that may be unrelated to present pregnancy ..... (P00)	1,420	10.4
...	All other causes .....	1,373	10.1
Non-Hispanic, single race <sup>2</sup>			
American Indian and Alaska Native:			
...	All causes .....	120	100.0
1	Fetal death of unspecified cause ..... (P95)	33	27.5
2	Fetus affected by complications of placenta, cord and membranes ..... (P02)	29	24.2
3	Congenital malformations, deformations and chromosomal abnormalities ..... (Q00–Q99)	18	15.0
4	Fetus affected by maternal conditions that may be unrelated to present pregnancy ..... (P00)	13	10.8
5	Fetus affected by maternal complications of pregnancy ..... (P01)	*	*
...	All other causes .....	18	15.0
Asian:			
...	All causes .....	498	100.0
1	Fetal death of unspecified cause ..... (P95)	142	28.5
2	Fetus affected by complications of placenta, cord and membranes ..... (P02)	125	25.1
3	Fetus affected by maternal complications of pregnancy ..... (P01)	70	14.1
4	Congenital malformations, deformations and chromosomal abnormalities ..... (Q00–Q99)	64	12.9
5	Fetus affected by maternal conditions that may be unrelated to present pregnancy ..... (P00)	40	8.0
...	All other causes .....	57	11.4
Black:			
...	All causes .....	3,340	100.0
1	Fetal death of unspecified cause ..... (P95)	972	29.1
2	Fetus affected by complications of placenta, cord and membranes ..... (P02)	840	25.1
3	Fetus affected by maternal complications of pregnancy ..... (P01)	498	14.9
3	Fetus affected by maternal conditions that may be unrelated to present pregnancy ..... (P00)	498	14.9
5	Congenital malformations, deformations and chromosomal abnormalities ..... (Q00–Q99)	240	7.2
...	All other causes .....	292	8.7
Native Hawaiian or Other Pacific Islander:			
...	All causes .....	63	100.0
1	Fetal death of unspecified cause ..... (P95)	17	27.0
2	Fetus affected by maternal complications of pregnancy ..... (P01)	15	23.8
3	Fetus affected by complications of placenta, cord and membranes ..... (P02)	11	17.5
4	Fetus affected by maternal conditions that may be unrelated to present pregnancy ..... (P00)	*	*
5	Congenital malformations, deformations and chromosomal abnormalities ..... (Q00–Q99)	*	*
...	All other causes .....	*	*
White:			
...	All causes .....	6,187	100.0
1	Fetal death of unspecified cause ..... (P95)	2,058	33.3
2	Fetus affected by complications of placenta, cord and membranes ..... (P02)	1,634	26.4
3	Congenital malformations, deformations and chromosomal abnormalities ..... (Q00–Q99)	754	12.2
4	Fetus affected by maternal complications of pregnancy ..... (P01)	610	9.9
5	Fetus affected by maternal conditions that may be unrelated to present pregnancy ..... (P00)	540	8.7
...	All other causes .....	591	9.6

**Table 8. Number of fetal deaths and percentage of total deaths for the five selected causes, by race and Hispanic origin of mother: 38 states and District of Columbia, 2023—Con.**

Rank	Cause and race and Hispanic origin of mother	Fetal deaths	Percent
	Hispanic <sup>3</sup>		
...	All causes . . . . .	2,788	100.0
1	Fetal death of unspecified cause. . . . . (P95)	837	30.0
2	Fetus affected by complications of placenta, cord and membranes . . . . . (P02)	703	25.2
3	Fetus affected by maternal complications of pregnancy. . . . . (P01)	336	12.1
4	Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	331	11.9
5	Fetus affected by maternal conditions that may be unrelated to present pregnancy. . . . . (P00)	258	9.3
...	All other causes . . . . .	323	11.6

... Category not applicable.  
\* Estimate does not meet National Center for Health Statistics standards of reliability.  
<sup>1</sup>Includes fetal deaths to race and Hispanic-origin groups not shown separately.  
<sup>2</sup>Race and Hispanic origin are reported separately on the report of fetal death; people of Hispanic origin may be of any race. In this table, non-Hispanic women are classified by race. Race categories are consistent with the 1997 Office of Management and Budget standards; see Technical Notes in this report. Single race is defined as only one race reported on the report of fetal death.  
<sup>3</sup>Includes all people of Hispanic origin of any race; see Technical Notes.  
NOTES: Findings exclude data for jurisdictions for which the cause of death was unspecified (P95) for 50% or more of records (Arizona, Georgia, Hawaii, Michigan, Mississippi, Nevada, New York [including New York City], North Dakota, Vermont, Virginia, and Wyoming). Also excludes data for California, which did not report cause of death based on the 2003 revision of the U.S. Standard Report of Fetal Death for the full year.  
SOURCE: National Center for Health Statistics, National Vital Statistics System.

## Technical Notes

### Definition of fetal death

Fetal death means “death prior to the complete expulsion or extraction from its mother of a product of human conception, irrespective of the duration of pregnancy and which is not an induced termination of pregnancy.” The death is indicated by the fact that after such expulsion or extraction, the fetus does not breathe or show any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. Heartbeats are to be distinguished from transient cardiac contractions; respirations are to be distinguished from fleeting respiratory efforts or gasps.

This definition (14) has been adopted by the Centers for Disease Control and Prevention, National Center for Health Statistics as the nationally recommended standard and is based on the definition published by the World Health Organization in 1950 and revised in 1988. The term fetal death is defined on an all-inclusive basis to end confusion arising from the use of such terms as stillbirth, spontaneous abortion, and miscarriage. All U.S. states and registration areas have definitions similar to the standard definition, except for Puerto Rico and Wisconsin, which have no formal definition (15). Fetal deaths do not include induced terminations of pregnancy.

### Reporting requirements for fetal death data

Variation exists among states in reporting requirements (2) and possibly in completeness of reporting for fetal death data, and this can have important implications for comparisons of fetal mortality rates by state. All jurisdictions require reporting of fetal deaths of at least 20 weeks of gestation or more, or a minimum birthweight of 350 grams (roughly equal to 20 weeks), or some combination of the two. However, six states, New York City, American Samoa, and U.S. Virgin Islands require reporting of fetal deaths at all periods of gestation, two states require reporting beginning at 12 weeks of gestation, and one state requires reporting beginning at 16 weeks of gestation. Areas that report fetal deaths at all periods of gestation appear to have a higher percentage of fetal deaths occurring at 20–27 weeks of gestation than those that begin reporting at later gestational ages. [Table B](#) presents fetal mortality rates for fetal deaths at 24 weeks of gestation or more for a combined 3-year period to better account for state differences in reporting requirements and to improve on the reliability of rates based on smaller numbers. Aside from this exception, this report presents data on fetal deaths with a stated or presumed period of gestation of 20 weeks or more.

### Percentage of unknown responses

In the tables in this report, unknown responses are shown in frequencies tables but are excluded from the computation of percent distributions and fetal mortality rates. As a result, rates published in this report by variables with a substantial percentage of unknown responses (such as birthweight) may understate the true rates of fetal mortality for that characteristic.

In this report, tobacco use data for Hawaii are excluded due to a high percentage of unknown responses (60.0%).

### 2003 revision of U.S. Standard Report of Fetal Death

Data for 2018–2023 presented in this report are based on the 2003 revision of the U.S. Standard Report of Fetal Death; data for earlier years are based on both the 1989 and the 2003 fetal death report revisions. The 2003 revision is described in detail elsewhere (16).

### Computation of rates

Fetal mortality rates in this report are computed as the number of fetal deaths at 20 weeks of gestation or more per 1,000 live births and fetal deaths at 20 weeks or more. The denominators for all fetal mortality rates are live births plus fetal deaths in the specified gestational age group, to represent the population at risk of the event.

$$\text{Fetal mortality rate} = \frac{\text{Fetal deaths at 20 weeks of gestation or more}}{\text{Live births and fetal deaths at 20 weeks or more}} \bullet 1,000$$

In each case, the fetal deaths included in the denominator of each rate mirror the fetal deaths included in the numerator. A previous National Center for Health Statistics report (17) contains information on the historical development of various perinatal measures.

### Presentation of counts, rates, and percentages

An asterisk (\*) in the tables indicates that a count, rate, or percentage does not meet National Center for Health Statistics (NCHS) standards of reliability (18,19). Three separate criteria are used to determine if a count (number of events), rate, or proportion meets these standards (2).

### Presentation of counts and rates

New criteria for showing counts and rates were adopted by NCHS beginning with 2023 data (18). For counts, the number of deaths or births is shown depending on the count of deaths or births and on the relative width of the confidence interval of the count, based on a gamma distribution. Before the 2023 data year, the number of deaths or births was shown regardless of the count. For rates, whether a rate is shown depends on the count for the numerator and on the relative width of the confidence interval of the rate based on a Student's *t* interval for the logarithm of the rate. Rates published for data years before 2023 were represented by an asterisk when the numerator was fewer than 20 deaths. For detailed information on the new criteria, see “National Center for Health Statistics Data Presentation Standards for Rates and Counts” (18).

## Presentation of percentages

For proportions (or percentages), new criteria were adopted by NCHS beginning with 2017 data but were only implemented for fetal deaths starting with 2023 data. For 2023 and later, a proportion (percentage) is shown based on the denominator size and on the absolute or relative widths of the confidence interval of the proportion or percentage calculated using the Clopper–Pearson method. Additionally, proportions or percentages based on fewer than 10 deaths in the numerator are represented with an asterisk. For earlier years, percentages were represented by an asterisk when the numerator was fewer than 20 deaths. For detailed information on these criteria, see “National Center for Health Statistics Data Presentation Standards for Proportions” (19).

## Hispanic origin and race

### Hispanic origin

Hispanic origin and race are reported separately on the report of fetal death. Data are presented in some tables for specific Hispanic subgroups: Central and South American, Cuban, Dominican, Mexican, other and unknown Hispanic, and Puerto Rican. Data are presented separately for Dominican women beginning in 2018. Data for this subgroup had previously been included in the category other and unknown Hispanic. In tabulations of fetal death data by race and Hispanic origin, data for people of Hispanic origin are not further classified by race because most fetal deaths to Hispanic women are reported as White.

Beginning in 2022, fetal death records for which the mother’s detailed Hispanic origin is reported as “Latin American” are recoded to “other and unknown Hispanic origin” for the mother’s Hispanic origin recode shown in this report (2). In previous years, a record with a reported detailed Hispanic origin of Latin American was recoded to “Central and South American” (2). This change resulted in a substantial shift in the number of women reported in these two categories (20). Accordingly, fetal mortality rates calculated for these two groups are considered not comparable beginning with 2022.

### Race

This report presents data on race and Hispanic origin based on the 1997 Office of Management and Budget standards (10). The 2003 revision of the U.S. Standard Report of Fetal Death requires the reporting of a minimum of five race categories and allows for the reporting of race either alone (single race) or in combination (more than one race or multiple races) for the mother (9), according to the Office of Management and Budget’s 1997 revised standards (10). The five categories for race specified in the revised standards are: American Indian and Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White.

Beginning in 2018, all states and the District of Columbia, in addition to Guam, Northern Marianas, Puerto Rico, and U.S. Virgin Islands, were reporting race on fetal death reports according to

the 1997 revised Office of Management and Budget’s standards. In 2023, 2.3% of women in the United States reported more than one race. Before 2018, the number of states that reported multiple-race information varied widely, increasing from 1 state in 2003 to all 50 states, District of Columbia, Guam, Northern Marianas, Puerto Rico, and U.S. Virgin Islands in 2018.

## Period of gestation

Beginning with the 2014 data year, the National Center for Health Statistics began using the obstetric estimate of gestation at delivery as the primary measure for estimating gestational age (21). Obstetric estimate of gestation at delivery data are edited for gestational ages that are clearly inconsistent with birthweight. If the obstetric estimate of gestation at delivery is not reported, or is inconsistent with birthweight, the last menstrual period-based gestational age is used (0.6% of fetal death records and 0.1% of live birth records in 2023). These procedures are described in more detail elsewhere (22).

See the “User Guide to the 2017 Fetal Death Data File” for a more detailed description of the transition and Table 1 of the “User Guide to the 2018 Fetal Death Data File” for trends in total, early, and late fetal mortality based on both the obstetric estimate of gestation at delivery and last menstrual period measures (23,24).

## Gestational age not stated

Fetal deaths with not-stated gestational age are presumed to be 20 weeks of gestation or more if the state requires reporting of all fetal deaths at 20 weeks or more, or if the fetus weighed 350 grams or more in those states requiring reporting of all fetal deaths regardless of gestational age. In [Tables 1 and 4](#), fetal deaths with not-stated gestational age are allocated to the 20–27 weeks and 28 weeks or more categories according to the proportion of fetal deaths with stated gestational age that fall into each category (proportional distribution). Similarly, for [Table B](#), fetal deaths with not-stated gestational age are proportionally distributed into the 20–23 weeks and 24 weeks or more categories. Proportional distribution is not performed for data in tables that show more detailed gestational age categories ([Table 6](#)). The allocation of not-stated gestational age for fetal deaths is made individually for each maternal age, race and Hispanic-origin group, and state in the computation of fetal mortality rates.

## Cause of death

Cause-of-death data are included for the 38 states and District of Columbia that reported cause of death based on the 2003 revision of the U.S. Standard Report of Fetal Death for the full year and met the reporting requirement of having less than 50% of records assigned to unspecified cause (P95) (cause-of-death data did not meet these requirements for Arizona, California, Georgia, Hawaii, Michigan, Mississippi, Nevada, New York [including New York City], North Dakota, Vermont, Virginia, and Wyoming).



## **Random variation in fetal mortality**

See the “User Guide to the 2023 Fetal Death Public Use File”  
(2) for more detailed information and formulas.

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