

Fetal Mortality: United States, 2022

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Abstract

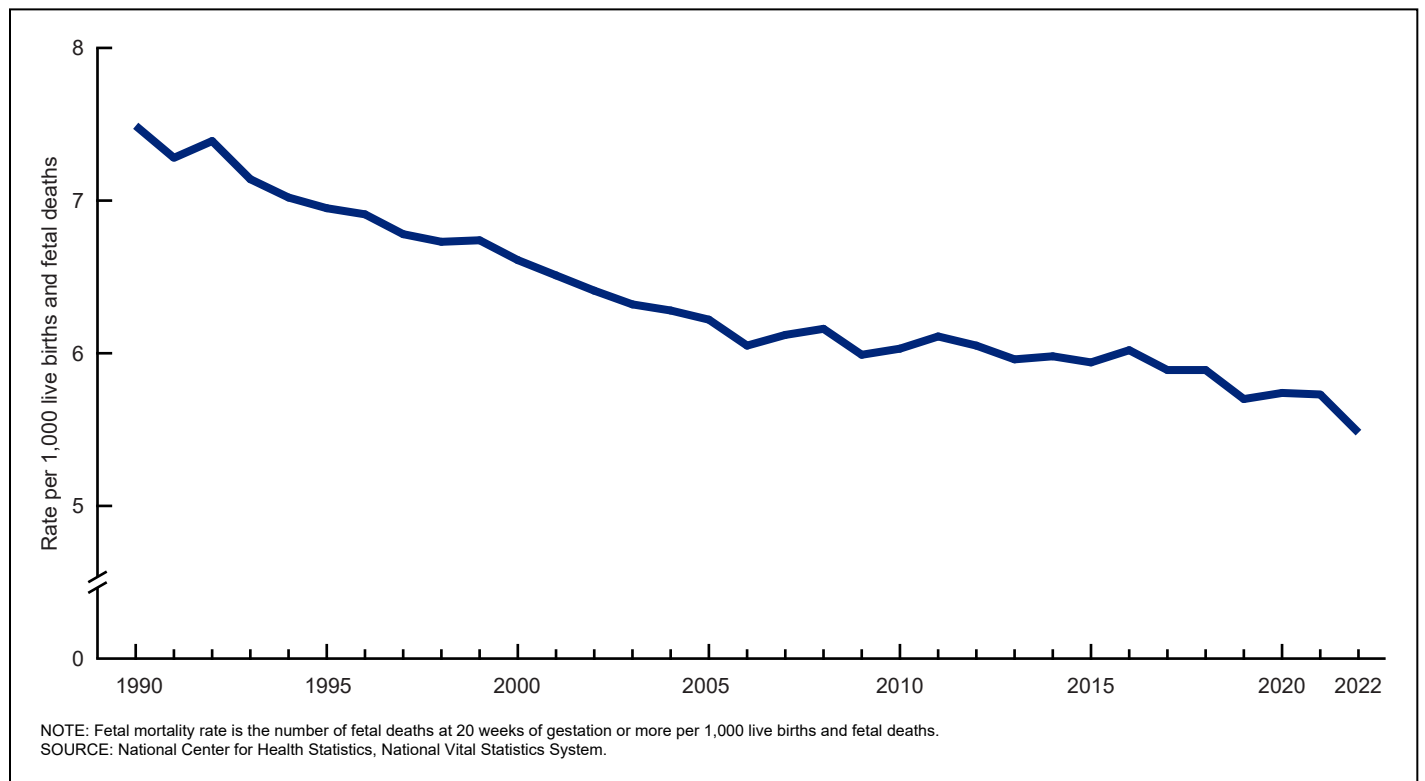
Objectives—This report presents 2022 fetal mortality data by maternal race and Hispanic origin, age, tobacco use during pregnancy, and state of residence, as well as by plurality, sex, gestational age, birthweight, and selected causes of death. Trends in fetal mortality are also examined.

Methods—Descriptive tabulations of data are presented and interpreted for all fetal deaths reported for the United States for 2022 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 43 states and District of Columbia where cause of death was based on the 2003 fetal death report revision and less than 50% of deaths were attributed to Fetal death of unspecified cause (P95).

Results—A total of 20,202 fetal deaths at 20 weeks of gestation or more were reported in the United States in 2022. The 2022 U.S. fetal mortality rate was 5.48 fetal deaths at 20 weeks of gestation or more per 1,000 live births and fetal deaths, 4% lower than in 2021 (5.73) and a new historic low for the United States. The fetal mortality rate in 2022 for deaths occurring at 20–27 weeks of gestation was 2.79, a 5% decline from 2021 (2.95). For

Figure 1. Fetal mortality rate: United States, 1990–2022



deaths occurring at 28 weeks of gestation or more, the rate in 2022 was 2.71, a 3% decline from 2021 (2.80). In 2022, the fetal mortality rate was highest for Native Hawaiian or Other Pacific Islander non-Hispanic (10.36) and Black non-Hispanic (10.05) females and lowest for Asian non-Hispanic females (3.70). Fetal mortality rates were highest for women ages 40 and older, for women who smoked during pregnancy, and for women with multiple gestation pregnancies. Five selected causes accounted for 90.0% of fetal deaths in the 43-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 reproductive 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 2022. 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). 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). National and state-level fetal death data may also be accessed via the Centers for Disease Control and Prevention’s (CDC) 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 2022 fetal death data set (for fetal deaths) and the 2022 birth data set (for births). The 2022 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 2022, 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 2022 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

2022). 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, 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). Fetal mortality rates are not shown when the number of events is too small (fewer than 20 events in the numerator) to calculate a reliable rate.

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 2022 Fetal Death Public Use File” (2).

Tobacco use data for Rhode Island for 2022 are excluded from tabulations shown in this report due to a high percentage of unknown responses (55.8%).

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 the latest 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 2022, 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 (2020–2022).

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 43 states and D.C. that reported cause of death based on the 2003 revision of the U.S. Standard Report of Fetal Death and met the reporting requirement of having less than 50% of records assigned to unspecified cause (P95). This reporting area includes 15,476 fetal deaths, representing 76.6% of all fetal deaths in 2022. 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 2022 User Guide (2).

Results

Trends in fetal mortality

- In 2022, 20,202 fetal deaths occurring at 20 weeks of gestation or more were reported in the United States, a decline of 4% from 2021 (21,105) (Table 1, Figure 1).
- The fetal mortality rate was 5.48 fetal deaths at 20 weeks of gestation or more per 1,000 live births and fetal deaths in 2022, down 4% from the 2021 rate of 5.73 and a record low for the nation (14). With minor fluctuations, the total U.S. fetal mortality rate has declined 27% since 1990 (7.49).
- The early fetal mortality rate (20–27 weeks of gestation) declined 5% from 2021 (2.95) to 2022 (2.79). This rate declined 12% from 2014 (3.16) to 2022.
- The late fetal mortality rate (28 weeks of gestation or more) declined 3% from 2021 (2.80) to 2022 (2.71), marking the first decline in the rate since 2014 (2.83).

Race and Hispanic origin

- From 2021 to 2022, the fetal mortality rate declined 8% for White women (4.85 to 4.48). No significant changes in fetal mortality rates were observed for women of the remaining race and Hispanic-origin groups: American Indian and Alaska Native (7.48 to 7.22), Asian (3.94 to 3.70), Black (9.89 to

- 10.05), Native Hawaiian or Other Pacific Islander (9.87 to 10.36), and Hispanic (4.82 to 4.63) (Table 2, Figure 2).
- Among Hispanic-origin subgroups, from 2021 to 2022, no significant changes in fetal mortality rates were seen for Cuban (4.81 to 3.85), Dominican (4.39 to 4.22), Mexican (4.77 to 4.68), or Puerto Rican (5.11 to 4.64) women (Table 3). Beginning in 2022, fetal mortality rates for Central and South American and other and unknown Hispanic women are no longer comparable with those from earlier years due to changes in coding (Technical Notes). In 2022, the rate for Central and South American women was 4.02, and for other and unknown Hispanic-origin women, it was 5.81.
- In 2022, fetal mortality rates continued to vary by race and Hispanic origin; rates were highest for Native Hawaiian or Other Pacific Islander (10.36) and Black (10.05) women, followed by American Indian and Alaska Native (7.22) women (Table 2, Figure 2).
- The rate was lowest for Asian women (3.70), followed by White (4.48) and Hispanic (4.63) women.

- Among Hispanic-origin subgroups in 2022, rates ranged from 3.85 for Cuban women to 5.81 for other and unknown Hispanic women; however, differences among the groups were generally not significant (Table 3).

Maternal age

- Fetal mortality rates varied by maternal age (Table 4, Figure 3). In 2022, the rate was 6.84 for females ages 15–19, declined to a low for females ages 25–29 (4.98) and 30–34 (5.01), and then increased among older women, reaching highs of 8.41 for women ages 40–44 and 10.14 for women ages 45 and older.
- The fetal mortality rate for teenagers ages 15–17 (7.62) was more than 50% higher, and the rate for teenagers ages 18–19 (6.59) was 32% higher, than the rates for women ages 25–29 (4.98) and 30–34 (5.01).
- Age-specific fetal mortality rates were higher for Black females than for Asian, White, and Hispanic females for all age groups for which reliable rates could be calculated.

Figure 2. Fetal mortality rate, by race and Hispanic origin of mother: United States, 2021 and 2022

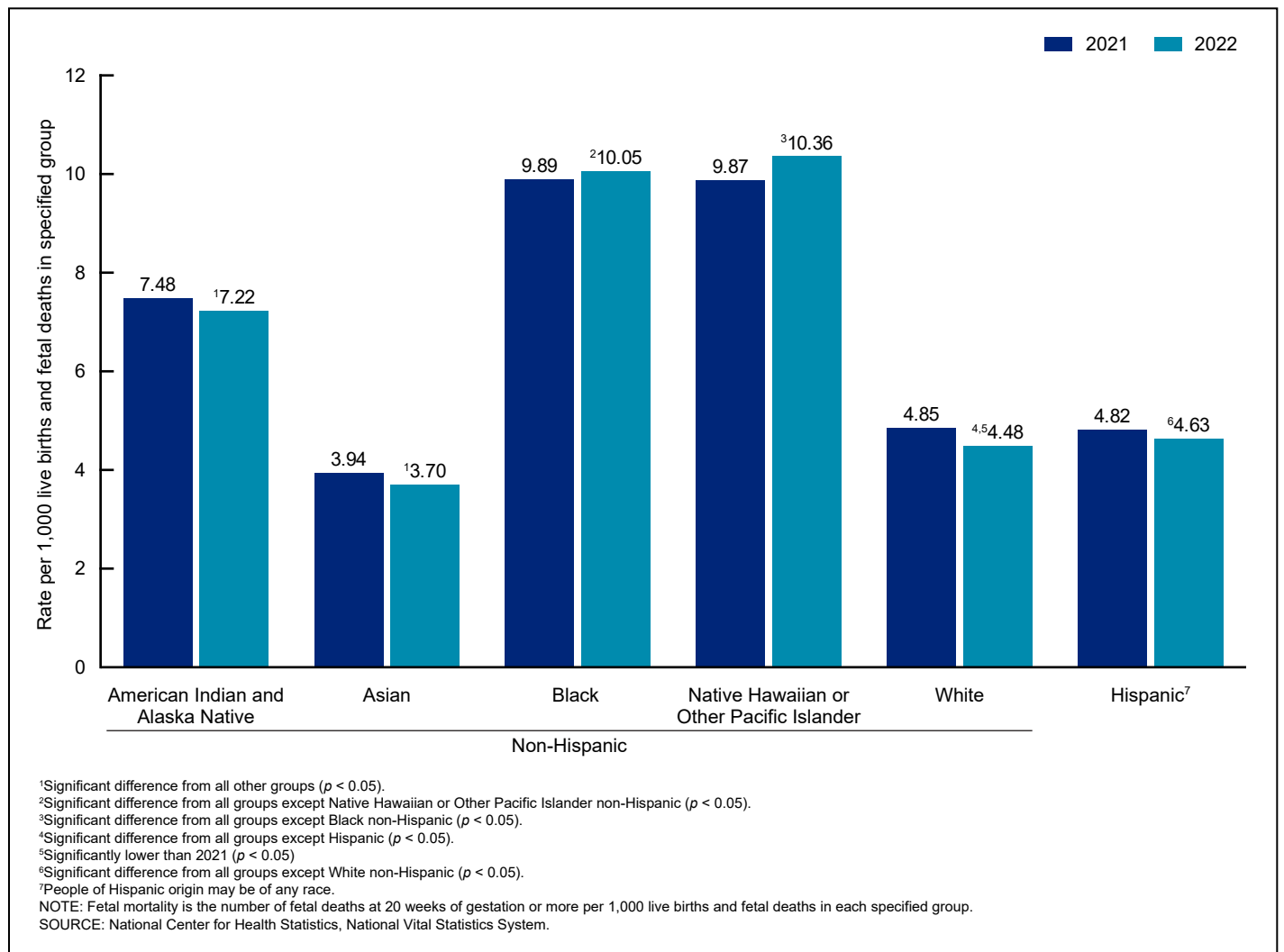
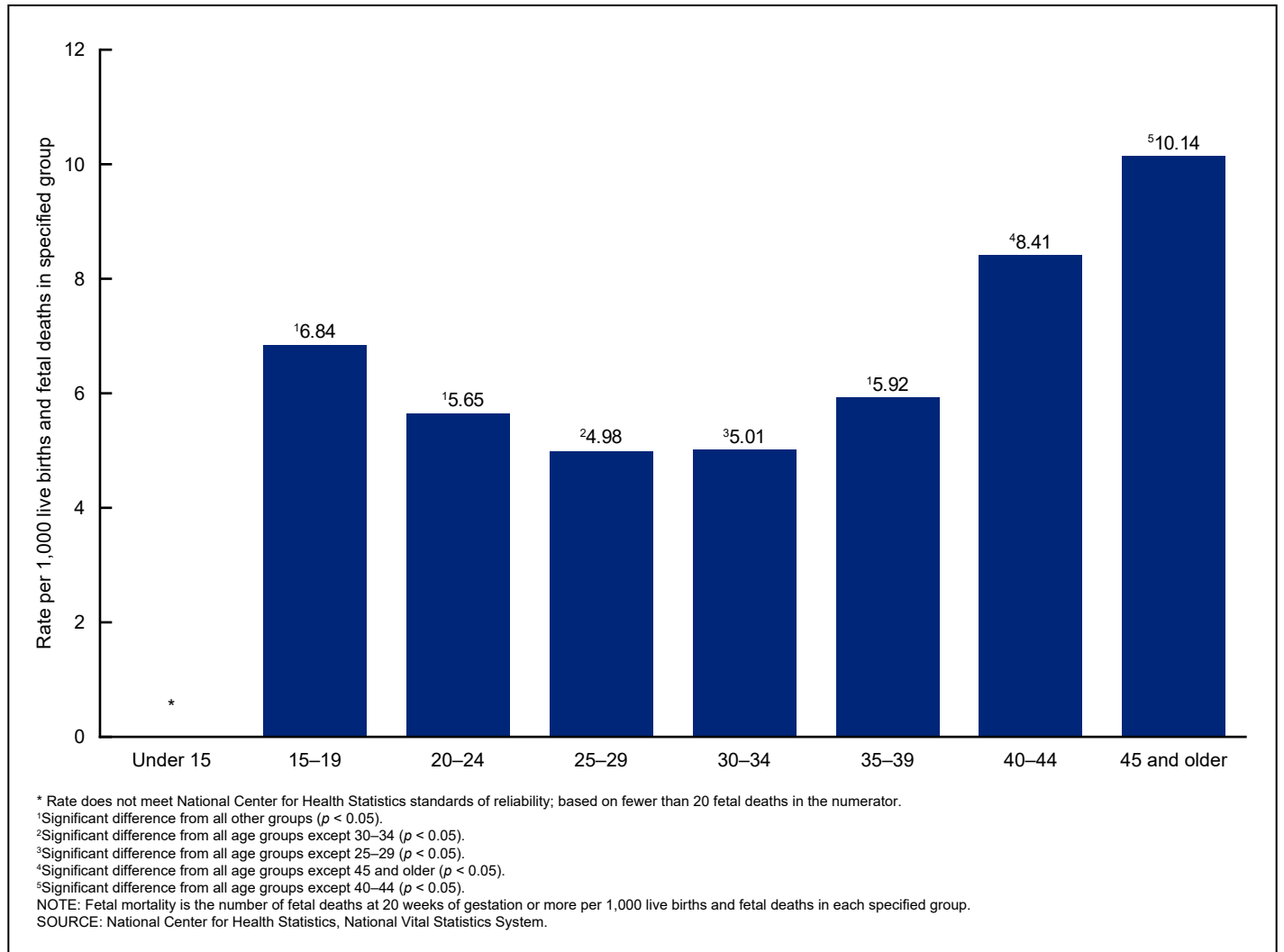


Figure 3. Fetal mortality rate, by age of mother: United States, 2022

Tobacco use during pregnancy

- The fetal mortality rate for women who smoked cigarettes during pregnancy (9.75) was two times higher than that for women who did not smoke during pregnancy (4.86) (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 nearly two times higher for Black women (17.43 and 9.09, respectively), and two or more times higher for White (8.03 and 3.96) and Hispanic (12.44 and 4.26) women. See Table 5 for fetal mortality rates by tobacco use during pregnancy by age.

Plurality

- The fetal mortality rate for twins (11.45) was more than twice that for singletons (5.27) (Table A). The rate for triplet or higher-order deliveries (23.94) was more than four times that for singletons.

- The pattern was similar for the four largest race and Hispanic-origin groups. For example, the fetal mortality rate for twins compared with singletons was more than twice as high for Asian (8.24 and 3.57, respectively), White (9.09 and 4.31), and Hispanic (12.20 and 4.43) women, and nearly twice as high for Black women (16.27 and 9.74).

Sex of fetus

- In 2022, the fetal mortality rate for male fetuses was 5.58, which was 4% higher than the rate for female fetuses (5.37) (Table A).
- The fetal mortality rate for male fetuses compared with female fetuses was 7% higher for Black women (10.41 and 9.69, respectively). No significant difference was seen for American Indian and Alaska Native (7.75 and 6.67), Asian (3.84 and 3.55), Native Hawaiian or Other Pacific Islander (12.43 and 8.13), White (4.49 and 4.47), and Hispanic (4.75 and 4.51) women.

Table A. Fetal mortality rate, by selected characteristics and race and Hispanic origin of mother: United States, 2022

Characteristic	Total ²	Non-Hispanic, single race ¹					
		American Indian and Alaska Native	Asian	Black	Native Hawaiian or Other Pacific Islander	White	Hispanic ³
Fetal mortality rate ⁴							
Total	5.48	7.22	3.70	10.05	10.36	4.48	4.63
Plurality							
Single	5.27	7.02	3.57	9.74	10.31	4.31	4.43
Twin	11.45	*	8.24	16.27	*	9.09	12.20
Triplet or higher order	23.94	*	*	47.95	*	16.51	*
Sex of fetus							
Male	5.58	7.75	3.84	10.41	12.43	4.49	4.75
Female	5.37	6.67	3.55	9.69	8.13	4.47	4.51
Male–female ratio	1.04	1.16	1.08	1.07	1.53	1.00	1.05
Fetal deaths							
Total	20,202	187	813	5,194	106	8,280	4,359
Plurality							
Single	18,805	177	765	4,816	103	7,704	4,064
Twin	1,326	10	43	350	3	550	284
Triplet or higher order	71	–	5	28	–	26	11
Sex of fetus							
Male	10,519	102	434	2,734	66	4,252	2,277
Female	9,683	85	379	2,460	40	4,028	2,082
Male–female ratio .....	...	...	...	...	...	...	...
Live births							
Total	3,667,758	25,721	218,994	511,439	10,122	1,840,739	937,421
Plurality							
Single	3,550,380	25,024	213,707	489,720	9,890	1,779,221	913,854
Twin	114,483	682	5,177	21,163	232	59,969	22,992
Triplet or higher order	2,895	15	110	556	–	1,549	575
Sex of fetus							
Male	1,874,446	13,063	112,726	259,987	5,243	942,920	477,401
Female	1,793,312	12,658	106,268	251,452	4,879	897,819	460,020
Male–female ratio .....	...	...	...	...	...	...	...

* Estimate does not meet National Center for Health Statistics standards of reliability; based on fewer than 20 fetal deaths in the numerator.

– Quantity zero.

... Category not applicable.

¹Race 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 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.

²Includes fetal deaths to race and Hispanic-origin groups not shown separately.

³Includes all people of Hispanic origin of any race; see Technical Notes.

⁴Number 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 2022, just over one-half of all fetal deaths at 20 weeks of gestation or more (50.7%) occurred at 20–27 weeks (early fetal deaths), and 49.3% 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 (525.78), declined to a low of 0.63 at 39–40 weeks, and then increased to 5.68 at 42 weeks of gestation or more.

Birthweight

- In 2022, more than one-third of fetal deaths at 20 weeks of gestation or more (35.0%) weighed less than 500 grams (1 lb. 1 oz.) at delivery, and nearly one-half (46.0%) weighed less than 750 grams (1 lb. 12 oz.) (Table 6).
- The fetal mortality rate was highest for fetuses weighing less than 500 grams (573.25) and decreased with increasing birthweight to a low of 0.61 for fetuses weighing 3,500–3,999 grams. Fetal mortality rates then increased slightly for fetuses weighing 4,000 grams or more (1.37).

Fetal mortality rates by state

- For combined years 2020–2022, the U.S. fetal mortality rate for fetal deaths at 24 weeks and greater was 3.64 per 1,000 live births and fetal deaths (Table B).
- For combined years 2020–2022, fetal mortality rates were highest (above 5.00) in Mississippi (6.22), Arkansas (5.38), and Alabama (5.21), and lowest (below 3.00) in New Mexico (2.58), Texas (2.78), Connecticut (2.84), Montana (2.91), Nebraska (2.94), and Massachusetts (2.96).
- See Table 7 for fetal deaths at 20 weeks of gestation or more by state and territory for 2022.

Selected causes of fetal death

- The five most common selected causes of fetal death accounted for 90.0% of fetal deaths in the 43-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) Fetus affected by maternal conditions that may be unrelated to present pregnancy (maternal conditions unrelated to pregnancy); and 5) Congenital malformations, deformations and chromosomal abnormalities (congenital malformations).

- The five most common selected causes of fetal death (with one additional cause for Native Hawaiian or Other Pacific Islander women) and the top two causes were the same for the six largest race and Hispanic-origin groups, while the ranking of the other causes differed.
- Unspecified cause and placental, cord and membrane complications were the two most common of the selected causes for all six groups.

Table B. Number of fetal deaths at 24 weeks of gestation or more and fetal mortality rate, by state and territory: United States, 2020–2022

Area	Fetal deaths	Fetal mortality rate ¹	Area	Fetal deaths	Fetal mortality rate ¹
Total	40,025	3.64	New Jersey	1,011	3.33
Alabama	910	5.21	New Mexico	168	2.58
Alaska	107	3.78	New York	2,230	3.54
Arizona	959	4.09	North Carolina	1,342	3.73
Arkansas	577	5.38	North Dakota	109	3.65
California	4,319	3.42	Ohio	1,469	3.78
Colorado	572	3.05	Oklahoma	568	3.92
Connecticut	297	2.84	Oregon	413	3.42
Delaware	116	3.65	Pennsylvania	1,341	3.40
District of Columbia	124	4.82	Rhode Island	116	3.75
Florida	2,865	4.39	South Carolina	735	4.29
Georgia	1,865	4.98	South Dakota	123	3.65
Hawaii	189	4.01	Tennessee	1,068	4.38
Idaho	219	3.29	Texas	3,150	2.78
Illinois	1,337	3.38	Utah	488	3.52
Indiana	838	3.51	Vermont	52	3.27
Iowa	336	3.06	Virginia	918	3.20
Kansas	393	3.78	Washington	791	3.15
Kentucky	636	4.06	West Virginia	193	3.74
Louisiana	631	3.67	Wisconsin	642	3.51
Maine	116	3.24	Wyoming	80	4.33
Maryland	800	3.88	American Samoa	---	---
Massachusetts	607	2.96	Guam	90	11.02
Michigan	1,173	3.75	Northern Marianas	---	---
Minnesota	656	3.41	Puerto Rico	340	5.89
Mississippi	659	6.22	U.S. Virgin Islands	---	---
Missouri	809	3.88			
Montana	97	2.91			
Nebraska	216	2.94			
Nevada	470	4.65			
New Hampshire	129	3.52			

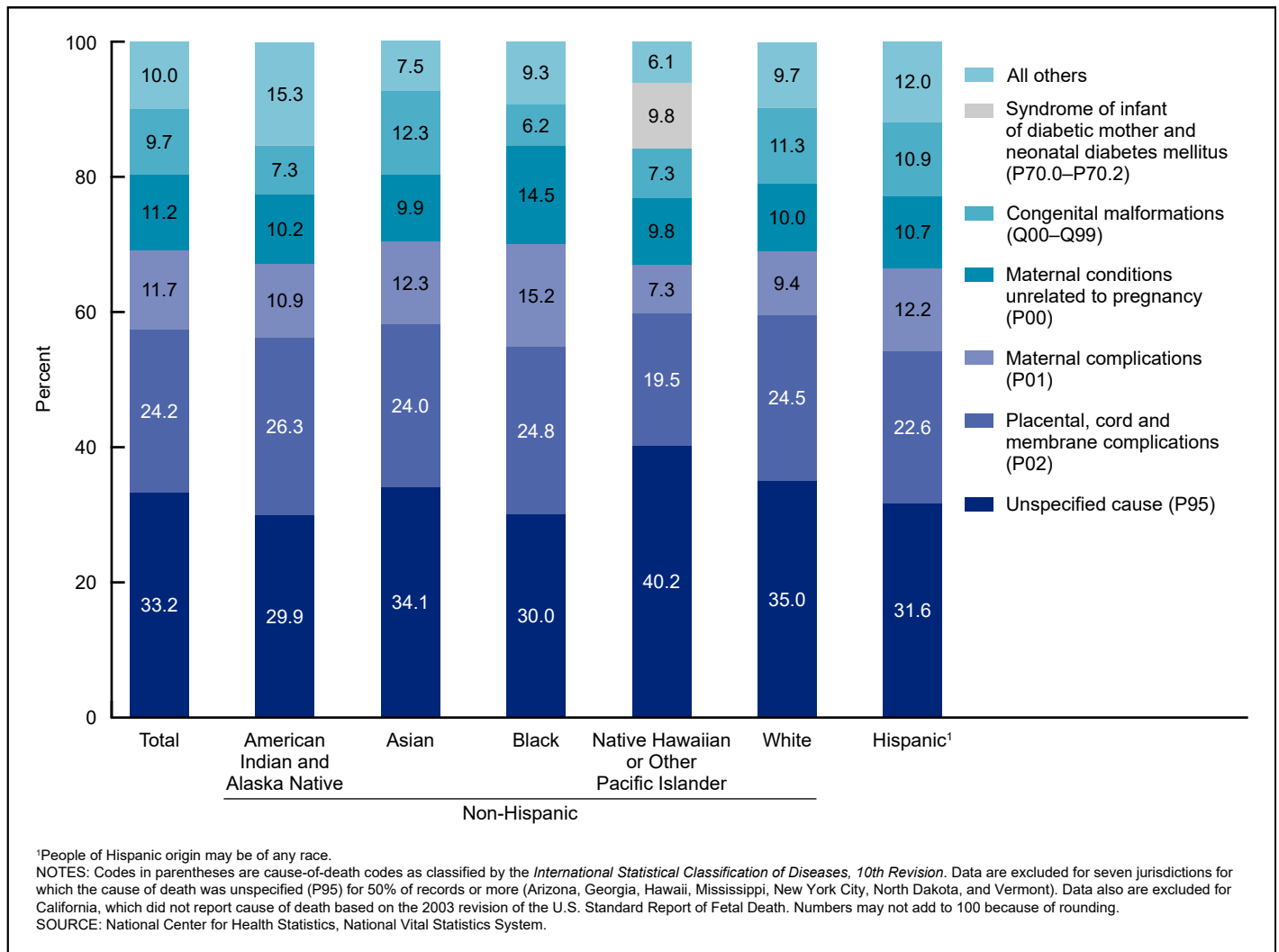
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¹Number of fetal deaths in specified group per 1,000 live births and fetal deaths.

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. American Samoa did not report data for 2020–2022. Data for the Commonwealth of the Northern Mariana Islands (Northern Marianas) and U.S. Virgin Islands are excluded due to small numbers.

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: 43 states and District of Columbia, 2022



- Among American Indian and Alaska Native and Black women, maternal complications was the third most common cause of fetal death, maternal conditions unrelated to pregnancy was fourth, and congenital malformations was fifth.
- Among Asian women, maternal complications and congenital malformations were tied for the third most common cause of fetal death, and maternal conditions unrelated to pregnancy was fifth.
- Among Native Hawaiian or Other Pacific Islander women, maternal conditions unrelated to pregnancy and syndrome of infant of diabetic mother and neonatal diabetes mellitus were tied for the third most common cause of fetal death, and maternal complications and congenital malformations were tied for fifth.
- Among White women, congenital malformations was the third most common cause of fetal death, followed by maternal conditions unrelated to pregnancy and maternal complications.
- Among Hispanic women, maternal complications was the third most common cause of fetal death, followed

by congenital malformations and maternal conditions unrelated to pregnancy.

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List of Detailed Tables

1. Number of fetal deaths and births and fetal mortality rate for 1990–2022 and early and late fetal deaths and fetal mortality rate for 2014–2022: United States	10
2. Number of fetal deaths and mortality rate, by race and Hispanic origin of mother: United States, 2018–2022	10
3. Number of fetal deaths and mortality rate, by Hispanic origin of mother: United States, 2018–2022	11
4. Number and rate of total, early, and late fetal deaths, by age and race and Hispanic origin of mother: United States, 2022	12
5. Fetal mortality rate, by tobacco use during pregnancy, age, and race and Hispanic origin of mother: 49 states and District of Columbia, 2022	13
6. Number of fetal deaths and mortality rate, by birthweight, gestational age, and race and Hispanic origin of mother: United States, 2022	14
7. Number of fetal deaths at 20 weeks of gestation or more and fetal mortality rate: United States and each state and territory, 2022	16
8. Number of fetal deaths and percentage of total deaths for the five selected causes, by race and Hispanic origin of mother: 43 states and District of Columbia, 2022	17

Table 1. Number of fetal deaths and births and fetal mortality rate for 1990–2022 and early and late fetal deaths and fetal mortality rate for 2014–2022: United States

Year	Fetal deaths			Live births	Fetal mortality rate ¹		
	Total ²	20–27 weeks ³	28 weeks or more ³		Total ²	20–27 weeks ³	28 weeks or more ³
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 ⁴	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.

¹Number of fetal deaths in specified group per 1,000 live births and fetal deaths.

²Fetal deaths with stated or presumed period of gestation of 20 weeks or more.

³Not stated gestational age proportionally distributed.

⁴Beginning with the 2014 data year, the obstetric estimate of gestation at delivery replaces 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, 2018–2022

Year	Non-Hispanic, single race ¹						
	All races and origins ²	American Indian and Alaska Native	Asian	Black	Native Hawaiian or Other Pacific Islander	White	Hispanic ³
				Rate ⁴			
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			
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

¹Race 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 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.

²Includes fetal deaths to race and Hispanic-origin groups not shown separately.

³Includes all people of Hispanic origin of any race; see Technical Notes.

⁴Number 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, 2018–2022

Year	Total	Central and South American	Cuban	Dominican	Mexican	Puerto Rican	Other and unknown Hispanic
				Rate ¹			
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			
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.

¹Number of fetal deaths in specified group per 1,000 live births and fetal deaths.

NOTE: In this table, Hispanic women are classified by place of origin only; 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, 2022

Race and Hispanic origin and age of mother	Fetal deaths			Fetal mortality rate ¹		
	Total	20–27 weeks ²	28 weeks or more ²	Total	20–27 weeks ²	28 weeks or more ²
All races ³	20,202	10,246	9,956	5.48	2.79	2.71
Younger than 15	16	12	4	*	*	*
15–19	991	546	445	6.84	3.78	3.09
15–17	272	162	110	7.62	4.55	3.10
18–19	719	384	335	6.59	3.53	3.08
20–24	3,631	1,793	1,838	5.65	2.80	2.87
25–29	5,071	2,537	2,534	4.98	2.50	2.49
30–34	5,634	2,876	2,758	5.01	2.56	2.46
35–39	3,613	1,868	1,745	5.92	3.07	2.87
40–44	1,138	563	575	8.41	4.18	4.27
45 and older	108	49	59	10.14	4.63	5.57
Non-Hispanic, single race ⁴ :						
Asian	813	435	378	3.70	1.98	1.72
Younger than 15	–	–	–	*	*	*
15–19	5	4	1	*	*	*
15–17	1	1	–	*	*	*
18–19	4	3	1	*	*	*
20–24	51	25	26	5.07	2.49	2.59
25–29	151	90	61	3.57	2.13	1.45
30–34	307	156	151	3.41	1.74	1.68
35–39	209	111	98	3.40	1.81	1.60
40–44	81	45	36	5.88	3.27	2.62
45 and older	9	5	4	*	*	*
Black	5,194	2,857	2,337	10.05	5.56	4.55
Younger than 15	7	5	2	*	*	*
15–19	345	208	137	11.68	7.07	4.67
15–17	104	68	36	13.13	8.62	4.58
18–19	241	140	101	11.15	6.51	4.70
20–24	1,105	593	512	9.87	5.32	4.60
25–29	1,344	741	603	9.36	5.18	4.22
30–34	1,288	703	585	9.53	5.22	4.35
35–39	806	458	348	10.83	6.18	4.71
40–44	260	129	131	13.19	6.59	6.69
45 and older	39	20	19	21.86	11.33	*
White	8,280	3,974	4,306	4.48	2.15	2.33
Younger than 15	5	4	1	*	*	*
15–19	275	147	128	5.69	3.05	2.66
15–17	65	37	28	6.53	3.73	2.82
18–19	210	111	99	5.47	2.90	2.59
20–24	1,262	590	672	4.55	2.13	2.43
25–29	2,190	1,016	1,174	4.23	1.97	2.27
30–34	2,540	1,232	1,308	4.11	2.00	2.12
35–39	1,545	764	781	4.83	2.39	2.45
40–44	435	212	223	6.95	3.40	3.57
45 and older	28	9	19	6.06	*	*

Table 4. Number and rate of total, early, and late fetal deaths, by age and race and Hispanic origin of mother: United States, 2022—Con.

Race and Hispanic origin and age of mother	Fetal deaths			Fetal mortality rate ¹		
	Total	20–27 weeks ²	28 weeks or more ²	Total	20–27 weeks ²	28 weeks or more ²
Hispanic ⁵	4,359	2,200	2,159	4.63	2.34	2.30
Younger than 15	3	2	1	*	*	*
15–19	294	152	142	5.17	2.68	2.50
15–17	84	49	35	5.50	3.22	2.30
18–19	210	103	107	5.05	2.48	2.58
20–24	906	434	472	4.36	2.09	2.28
25–29	1,021	510	511	3.76	1.88	1.89
30–34	1,069	560	509	4.48	2.35	2.14
35–39	777	404	373	5.96	3.11	2.87
40–44	266	125	141	7.97	3.76	4.24
45 and older	23	12	11	10.02	*	*

* Estimate does not meet National Center for Health Statistics standards of reliability; based on fewer than 20 fetal deaths in the numerator.
 – Quantity zero.

¹Number of fetal deaths in specified group per 1,000 live births and fetal deaths.

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

³Includes fetal deaths to race and Hispanic-origin groups not shown separately.

⁴Race 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 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.

⁵Includes 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 District of Columbia, 2022

Race and Hispanic origin of mother and tobacco use during pregnancy	Fetal deaths	Fetal mortality rate ²							Not stated
		All ages	Under 20	20–24	25–29	30–34	35–39	40–54	
All races and origins¹	Number	Fetal mortality rate²							Number
Total	20,150	5.48	6.87	5.65	4.98	5.01	5.93	8.55	1,706
Yes	1,318	9.75	9.66	7.66	8.09	10.21	13.77	17.64	...
No	17,126	4.86	6.07	5.09	4.44	4.42	5.18	7.50	...
Non-Hispanic, single race³									
Asian:									
Total	813	3.71	*	5.08	3.58	3.42	3.41	5.99	38
Yes	6	*	*	*	*	*	*	*	...
No	769	3.52	*	4.62	3.41	3.21	3.29	5.88	...
Black:									
Total	5,185	10.05	11.73	9.88	9.35	9.52	10.84	13.94	383
Yes	284	17.43	*	16.67	13.67	16.89	22.29	*	...
No	4,518	9.09	10.50	9.13	8.53	8.54	9.56	12.42	...
White:									
Total	8,256	4.48	5.73	4.53	4.23	4.11	4.84	6.89	583
Yes	801	8.03	7.68	6.19	6.93	8.59	10.79	15.43	...
No	6,872	3.96	4.99	4.07	3.79	3.63	4.18	5.98	...
Hispanic⁴									
Total	4,345	4.63	5.17	4.36	3.76	4.47	5.96	8.10	285
Yes	113	12.44	*	*	10.87	13.28	22.83	*	...
No	3,947	4.26	4.82	3.98	3.48	4.11	5.49	7.43	...

... Category not applicable.

* Estimate does not meet National Center for Health Statistics standards of reliability; based on fewer than 20 fetal deaths in the numerator.

¹Includes fetal deaths to race and Hispanic-origin groups not shown separately.

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

³Race 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 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.

⁴Includes all people of Hispanic origin of any race; see Technical Notes.

NOTE: Findings exclude data for Rhode Island; 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, 2022

Race and Hispanic origin of mother and birthweight (grams)	Total	Gestational age (weeks)										Fetal mortality rate ¹
		20–23	24–27	28–31	32–33	34–36	37–38	39–40	41	42 or more	Not stated	
All races and origins ²	20,202	7,087	3,086	2,487	1,425	2,613	1,873	1,275	159	54	143	5.48
Less than 500	6,554	5,268	980	192	20	41	22	7	–	–	24	573.25
500–749	2,043	801	941	245	30	15	3	3	–	–	5	196.35
750–999	1,278	147	604	406	65	35	12	2	–	–	7	116.15
1,000–1,249	1,010	43	200	559	124	64	7	3	1	–	9	79.84
1,250–1,499	905	30	72	445	195	140	17	3	–	1	2	55.97
1,500–1,999	1,698	21	46	407	565	506	105	31	2	1	14	27.00
2,000–2,499	1,595	–	10	93	270	820	282	93	12	1	14	7.75
2,500–2,999	1,553	–	9	11	58	560	587	285	24	10	9	2.15
3,000–3,499	1,141	–	–	10	17	179	458	407	46	19	5	0.80
3,500–3,999	573	–	–	2	4	81	158	265	52	7	4	0.61
4,000 or more	358	–	–	–	4	64	134	125	17	7	7	1.37
Not stated	1,494	777	224	117	73	108	88	51	5	8	43	...
Fetal mortality rate ¹	5.48	525.78	163.73	68.80	31.28	9.27	1.74	0.63	0.92	5.68	...	...
Non-Hispanic, single race ³ :												
Asian	813	304	129	87	52	94	89	45	7	2	4	3.70
Less than 500	286	227	48	6	1	2	–	–	–	–	2	582.48
500–749	78	33	36	8	–	1	–	–	–	–	–	176.47
750–999	58	6	30	15	6	1	–	–	–	–	–	113.95
1,000–1,249	36	–	9	21	3	3	–	–	–	–	–	54.55
1,250–1,499	31	1	–	14	11	3	2	–	–	–	–	35.23
1,500–1,999	57	–	1	16	18	14	6	–	1	1	–	15.20
2,000–2,499	57	–	–	–	8	32	14	3	–	–	–	3.95
2,500–2,999	77	–	1	–	1	22	43	8	1	1	–	1.37
3,000–3,499	42	–	–	–	–	6	14	18	4	–	–	0.46
3,500–3,999	20	–	–	–	1	2	4	13	–	–	–	0.47
4,000 or more	9	–	–	–	–	3	4	1	1	–	–	*
Not stated	62	37	4	7	3	5	2	2	–	–	2	...
Fetal mortality rate ¹	3.70	533.33	156.17	49.35	22.94	6.14	1.28	0.37	*	*	...	...
Black	5,194	1,914	918	706	367	608	391	217	20	8	45	10.05
Less than 500	1,826	1,460	288	54	6	8	3	–	–	–	7	514.51
500–749	576	209	294	62	6	4	–	1	–	–	–	167.00
750–999	373	30	189	116	19	13	2	1	–	–	3	109.96
1,000–1,249	323	13	49	197	35	22	2	1	–	–	4	91.48
1,250–1,499	247	7	17	133	47	38	4	–	–	–	1	58.84
1,500–1,999	454	5	11	105	167	133	24	6	–	–	3	30.24
2,000–2,499	347	–	1	11	56	189	59	23	3	–	5	7.48
2,500–2,999	324	–	3	2	11	114	127	57	7	–	3	2.40
3,000–3,499	183	–	–	1	2	32	74	64	4	4	2	0.96
3,500–3,999	85	–	–	–	2	15	32	29	5	–	2	0.95
4,000 or more	90	–	–	–	1	16	41	26	1	2	3	4.33
Not stated	366	190	66	25	15	24	23	9	–	2	12	...
Fetal mortality rate ¹	10.05	472.94	157.14	81.24	37.17	12.12	2.33	0.87	1.07	*	...	...
White	8,280	2,774	1,184	999	570	1,120	863	617	88	31	34	4.48
Less than 500	2,587	2,068	391	80	6	22	12	4	–	–	4	629.75
500–749	757	293	344	99	13	6	1	–	–	–	1	215.55
750–999	480	62	228	151	21	9	6	1	–	–	2	120.27
1,000–1,249	389	13	87	217	44	22	3	1	1	–	1	78.08
1,250–1,499	354	11	32	179	76	48	7	–	–	1	–	54.14
1,500–1,999	692	9	15	173	216	220	45	10	–	–	4	26.04
2,000–2,499	731	–	5	40	127	359	142	47	5	1	5	8.38
2,500–2,999	706	–	1	5	24	259	265	131	12	6	3	2.27
3,000–3,499	567	–	–	4	9	79	239	201	26	9	–	0.80
3,500–3,999	290	–	–	2	1	35	73	142	29	6	2	0.54
4,000 or more	137	–	–	–	2	18	41	57	13	5	1	0.85
Not stated	590	318	81	49	31	43	29	23	2	3	11	...
Fetal mortality rate ¹	4.48	579.49	174.14	66.33	27.88	8.43	1.69	0.59	0.90	5.16	...	...

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, 2022—Con.

Race and Hispanic origin of mother and birthweight (grams)	Gestational age (weeks)											Fetal mortality rate ¹
	Total	20–23	24–27	28–31	32–33	34–36	37–38	39–40	41	42 or more	Not stated	
Hispanic ⁴	4,359	1,562	624	499	328	593	400	284	34	8	27	4.63
Less than 500	1,406	1,147	194	38	4	7	6	2	–	–	8	556.39
500–749	481	218	197	51	8	3	2	1	–	–	1	196.01
750–999	271	37	116	91	17	7	2	–	–	–	1	105.86
1,000–1,249	196	14	41	95	30	13	2	1	–	–	–	68.34
1,250–1,499	198	8	16	92	47	30	4	1	–	–	–	52.59
1,500–1,999	363	4	16	82	123	103	20	12	1	–	2	24.96
2,000–2,499	350	–	2	28	55	194	50	17	3	–	1	7.24
2,500–2,999	330	–	4	2	20	118	118	62	2	2	2	1.74
3,000–3,499	251	–	–	2	6	48	98	82	8	5	2	0.66
3,500–3,999	144	–	–	–	–	25	39	65	15	–	–	0.62
4,000 or more	99	–	–	–	1	23	39	32	2	–	2	1.65
Not stated	270	134	38	18	17	22	20	9	3	1	8	...
Fetal mortality rate ¹	4.63	494.46	141.66	56.78	30.39	8.41	1.42	0.55	0.82	*	...	...

* Estimate does not meet National Center for Health Statistics standards of reliability; based on fewer than 20 fetal deaths in the numerator.

– Quantity zero.

... Category not applicable.

¹Number of fetal deaths in specified group per 1,000 live births and fetal deaths.

²Includes fetal deaths to race and Hispanic-origin groups not shown separately.

³Race 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 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.

⁴Includes 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, 2022

Area	Fetal deaths ¹	Fetal mortality rate ²	Area	Fetal deaths ¹	Fetal mortality rate ²
Total	20,202	5.48	New Jersey	498	4.82
Alabama	426	7.27	New Mexico	69	3.18
Alaska	54	5.74	New York	1,211	5.79
Arizona	492	6.22	North Carolina	696	5.69
Arkansas	265	7.42	North Dakota	47	4.89
California	2,115	5.02	Ohio	741	5.75
Colorado	305	4.87	Oklahoma	293	6.03
Connecticut	175	4.93	Oregon	195	4.91
Delaware	56	5.15	Pennsylvania	663	5.06
District of Columbia	65	7.99	Rhode Island	52	5.04
Florida	1,548	6.85	South Carolina	288	4.96
Georgia	1,000	7.87	South Dakota	54	4.80
Hawaii	97	6.21	Tennessee	538	6.50
Idaho	91	4.05	Texas	1,613	4.12
Illinois	737	5.71	Utah	252	5.48
Indiana	439	5.48	Vermont	21	3.93
Iowa	163	4.45	Virginia	497	5.17
Kansas	205	5.92	Washington	421	5.03
Kentucky	283	5.38	West Virginia	70	4.12
Louisiana	300	5.28	Wisconsin	320	5.30
Maine	63	5.18	Wyoming	36	5.92
Maryland	366	5.29	American Samoa	---	---
Massachusetts	284	4.12	Guam	34	13.32
Michigan	614	5.96	Northern Marianas	---	---
Minnesota	351	5.45	Puerto Rico	218	11.28
Mississippi	320	9.14	U.S. Virgin Islands	---	---
Missouri	358	5.16			
Montana	54	4.81			
Nebraska	110	4.50			
Nevada	235	7.03			
New Hampshire	56	4.62			

--- Data not available.

¹Fetal deaths with stated or presumed period of gestation of 20 weeks or more.

²Number of fetal deaths per 1,000 live births and fetal deaths.

NOTES: American Samoa did not report data for 2022. Data for the Commonwealth of the Northern Mariana Islands (Northern Marianas) and U.S. Virgin Islands are 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: 43 states and District of Columbia, 2022

Rank	Cause and race and Hispanic origin of mother	Fetal deaths	Percent
All races and origins ¹			
...	All causes	15,476	100.0
1	Fetal death of unspecified cause (P95)	5,142	33.2
2	Fetus affected by complications of placenta, cord and membranes (P02)	3,743	24.2
3	Fetus affected by maternal complications of pregnancy (P01)	1,804	11.7
4	Fetus affected by maternal conditions that may be unrelated to present pregnancy (P00)	1,740	11.2
5	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	1,502	9.7
...	All other causes	1,545	10.0
Non-Hispanic, single race ²			
American Indian and Alaska Native:			
...	All causes	137	100.0
1	Fetal death of unspecified cause (P95)	41	29.9
2	Fetus affected by complications of placenta, cord and membranes (P02)	36	26.3
3	Fetus affected by maternal complications of pregnancy (P01)	15	10.9
4	Fetus affected by maternal conditions that may be unrelated to present pregnancy (P00)	14	10.2
5	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	10	7.3
...	All other causes	21	15.3
Asian:			
...	All causes	505	100.0
1	Fetal death of unspecified cause (P95)	172	34.1
2	Fetus affected by complications of placenta, cord and membranes (P02)	121	24.0
3	Fetus affected by maternal complications of pregnancy (P01)	62	12.3
3	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	62	12.3
5	Fetus affected by maternal conditions that may be unrelated to present pregnancy (P00)	50	9.9
...	All other causes	38	7.5
Black:			
...	All causes	4,010	100.0
1	Fetal death of unspecified cause (P95)	1,204	30.0
2	Fetus affected by complications of placenta, cord and membranes (P02)	993	24.8
3	Fetus affected by maternal complications of pregnancy (P01)	610	15.2
4	Fetus affected by maternal conditions that may be unrelated to present pregnancy (P00)	580	14.5
5	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	250	6.2
...	All other causes	373	9.3
Native Hawaiian or Other Pacific Islander:			
...	All causes	82	100.0
1	Fetal death of unspecified cause (P95)	33	40.2
2	Fetus affected by complications of placenta, cord and membranes (P02)	16	19.5
3	Fetus affected by maternal conditions that may be unrelated to present pregnancy (P00)	8	9.8
3	Syndrome of infant of diabetic mother and neonatal diabetes mellitus (P70.0–P70.2)	8	9.8
5	Fetus affected by maternal complications of pregnancy (P01)	6	7.3
5	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	6	7.3
...	All other causes	5	6.1
White:			
...	All causes	7,034	100.0
1	Fetal death of unspecified cause (P95)	2,465	35.0
2	Fetus affected by complications of placenta, cord and membranes (P02)	1,725	24.5
3	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	796	11.3
4	Fetus affected by maternal conditions that may be unrelated to present pregnancy (P00)	705	10.0
5	Fetus affected by maternal complications of pregnancy (P01)	661	9.4
...	All other causes	682	9.7

Table 8. Number of fetal deaths and percentage of total deaths for the five selected causes, by race and Hispanic origin of mother: 43 states and District of Columbia, 2022—Con.

Rank	Cause and race and Hispanic origin of mother	Fetal deaths	Percent
	Hispanic ³		
...	All causes	2,788	100.0
1	Fetal death of unspecified cause..... (P95)	881	31.6
2	Fetus affected by complications of placenta, cord and membranes..... (P02)	631	22.6
3	Fetus affected by maternal complications of pregnancy..... (P01)	339	12.2
4	Congenital malformations, deformations and chromosomal abnormalities..... (Q00–Q99)	303	10.9
5	Fetus affected by maternal conditions that may be unrelated to present pregnancy..... (P00)	299	10.7
...	All other causes	335	12.0

... Category not applicable.

¹Includes fetal deaths to race and Hispanic-origin groups not shown separately.

²Race 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 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.

³Includes all people of Hispanic origin of any race; see Technical Notes.

NOTES: Findings exclude data for seven jurisdictions for which the cause of death was unspecified (P95) for 50% or more of records (Arizona, Georgia, Hawaii, Mississippi, New York City, North Dakota, and Vermont). Data also are excluded for California, which did not report cause of death based on the 2003 revision of the U.S. Standard Report of Fetal Death.

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 (15) 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 (16). 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 Rhode Island are excluded due to a high percentage of unknown responses (55.8%).

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

Data for 2018–2022 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 (17).

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.

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

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 (18) contains information on the historical development of various perinatal measures. An asterisk (*) is shown in place of any rate based on fewer than 20 fetal deaths in the numerator.

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 (73 records in 2022). Accordingly, fetal mortality rates calculated for these two groups are considered noncomparable beginning with 2022.

Additionally, because this change was not made for the birth file until 2023, the birth component of the denominators for these rates was calculated specifically for this report, and the number of births for these two groups differs from that reported on the 2022 birth file (Table).

Table. Change in number of births for selected Hispanic-origin subgroups, based on new recode applied for 2022 data

Hispanic origin of mother	2022 birth file number of births	2022 birth numbers based on new recode
Central and South American	207,843	193,109
Other and unknown Hispanic	90,197	104,931

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

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, Commonwealth of the Northern Marianas Islands (subsequently, 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 2022, 2.1% 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 one 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 (19). 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 (0.5% of fetal death records and 0.1% of live birth records in 2022). These procedures are described in more detail elsewhere (20).

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 (21,22).

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 43 states and District of Columbia that reported cause of death based on the 2003 revision of the U.S. Standard Report of Fetal Death 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, Mississippi, New York City, North Dakota, and Vermont).

Random variation in fetal mortality

See the “User Guide to the 2022 Fetal Death Public Use File” (2) for more detailed information and formulas.

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Contents

Abstract 1
Introduction 2
Methods 2
 Data sources 2
 Fetal mortality 2
 Data limitations 2
 2003 revision of U.S. Standard Report of Fetal Death 2
 Race and Hispanic origin 3
 Fetal deaths by state 3
 Cause of death 3
 Statistical significance 3
Results 3
 Trends in fetal mortality 3
 Race and Hispanic origin 3
 Maternal age 4
 Tobacco use during pregnancy 5
 Plurality 5
 Sex of fetus 5
 Period of gestation 6
 Birthweight 6
 Fetal mortality rates by state 7
 Selected causes of fetal death 7

References 8
List of Detailed Tables 9
Technical Notes 19

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