User Guide to the 2005 Fetal Death Public Use File

2005 Fetal Death Data Set

User's Guide

This file documentation was prepared in the Division of Vital Statistics by Sharon Kirmeyer and Joyce Martin of the Reproductive Statistics Branch (RSB), and by Steven Steimel of the Systems, Programming, and Statistical Resources Branch (SPSRB). Marian MacDorman and Yashu Patel of RSB provided verification and creating 508 compliant files. The Registration Methods Section and the Data Acquisition and Evaluation Branch provided consultation to State Vital Statistics offices regarding collection of birth and death certificate data.

Questions on the documentation or substantive questions concerning the data should be directed to the Reproductive Statistics Branch, Division of Vital Statistics, NCHS, 3311 Toledo Road, Hyattsville, MD 20782-2003 (301-458-4111).

Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics
Division of Vital Statistics

2005 Fetal Death Data Set

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External links

Births: Final Data for 2006
http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_07.pdf

Fetal and Perinatal Mortality, United States, 2005
http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_08.pdf

Infant Mortality Statistics from the 2005 Period Linked Birth/Infant Death Data Set
http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_02.pdf

Introduction:

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U.S. fetal death data

United States fetal death data available in this file represent fetal deaths registered in the 50 states, the District of Columbia, and New York City. The majority of states require reporting fetal deaths of 20 weeks of gestation or more, or 350 grams delivery weight (roughly equivalent to 20 weeks), or some combination of the two. The Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS) receives these data as electronic files, prepared from individual records processed by each registration area, through the Vital Statistics Cooperative Program.

Fetal death data for the U.S. are limited to events occurring within the United States to U.S. residents and nonresidents. Fetal deaths to nonresidents of the United States are excluded from all tabulations by place of residence. Fetal deaths occurring to U.S. citizens outside of the United States are not included in this file. Most of the Documentation Tables included in this User's Guide are restricted to fetal deaths occurring at gestation of 20 weeks or more. For more detailed information on the 2005 fetal death file see the *Detailed Technical Notes –United States, 2005 – Fetal Deaths*.

Availability of geographic detail

Beginning with the 2005 data year, the U.S. micro-data fetal death file no longer includes geographic detail (e.g., mother's state of residence). Tabulations of fetal death data by residence of mother for states and for counties with populations of 250,000 or more are available for previous years using the VitalStats online data access tool described below. 2005 data will be soon available in VitalStats. Certain geographic level data may also be available upon request: See "NCHS Data Release and Access Policy for Micro-data and Compressed Vital Statistics Files, 2007," available at: http://www.cdc.gov/nchs/about/major/dvs/NCHS_DataRelease.htm.

The 2005 possessions file is also available at the address referenced above. It includes data on fetal deaths occurring in Puerto Rico, and Guam. Information identifying individual possessions and counties (or their equivalent) with populations of 250,000 or more by place of occurrence and residence are available in this file.

VitalStats

Fetal death public use data, including geographic level detail for states and counties are available at VitalStats. VitalStats is an online data access tool which provides access to a collection of interactive pre-built tables, and the ability to build tables from over 100 public use fetal death variables. Interactive charting and mapping tools are a key part of the system, and provide powerful options for visualizing and manipulating tabulated data. Tabulated data can be exported to Excel for further analysis. VitalStats for fetal deaths, 2003 – 2005, is available at: http://www.cdc.gov/nchs/VitalStats.htm.

Downloadable files

Fetal death public use data files from 1982 to 2005, including User Guides, U.S. Fetal Death Data, and U.S. Possessions Fetal Death Data are available for downloading directly from the NCHS website at: http://www.cdc.gov/nchs/about/major/dvs/Vitalstatsonline.htm .

The 1989 and 2003 Revisions of the U.S. Report of Fetal Death

This data file includes data based on both the 1989 Revision of the U.S. Standard Report of Fetal Death (unrevised) and the 2003 revision of the U.S. Report of Fetal Report in 2003 (revised). The 2003 revision is described in detail elsewhere. (See the 2003 Revision website at: http://www.cdc.gov/nchs/vital_certs_rev.htm). Eleven states, Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah, and Washington, implemented the revised fetal death report as of January 1, 2005. The 11 revised states represent 13 percent of all U.S. fetal deaths of 20 weeks and over. Where comparable, revised data are combined with data from the remaining 39 states, the District of Columbia, and New York City. (Revised data are denoted by "R;" unrevised data are denoted by "U" in the "Rev" column of the file layout.) Where data for the 1989 and 2003 certificate revisions are not comparable (e.g., educational attainment of the mother), unrevised and revised data are shown in separate fields in the data file. Also see discussion of reporting flags. For further information please contact us at births@cdc.gov or (301)458-4111.

Incomplete national reporting: Selecting reporting areas for the 2005 Fetal Death File

The use of reporting flags

As a result of the delayed, phased transition to the 2003 Standard Report of Fetal Deaths, the 2005 fetal death file includes data for reporting areas that use the 2003 revision of the U.S. Standard Report of Fetal Death (revised) and data for reporting areas that use the 1989 Report of Fetal Death (unrevised). Although many data items are comparable across revisions and are available for the entire United States, many items have more limited reporting areas. For example, information on pre-pregnancy and gestational diabetes, a revised data item, is available for 11 states for 2005; information on ultrasound, an unrevised item not included on the revised certificate, is available for 38 states, the District of Columbia, and New York City; (Hawaii does not report obstetric procedures). Reporting flags were developed to help the user more readily identify reporting areas for items with less than national reporting. The national reporting area is defined as the 50 states, the District of Columbia, and New York City; (NYC is an independent reporting area from New York State). Reporting flags are available for most items on the file. Positions for reporting flags are noted along with each data item in the file layout.

Translating "blanks"

In the 2005 fetal death file, for data items which are not common or comparable across certificate revisions, fetal deaths to residents of a revised state occurring in an unrevised state, and fetal deaths to residents in an unrevised state occurring in a revised state, are represented by "blanks." Blanks should be treated as "unknowns" for tabulations.

In sum, the correct use of reporting flags and translation of blanks will result in an accurate tally of fetal deaths for items with incomplete national reporting. For an example of SAS code that may be used to incorporate the correct use of reporting flags and the translation of blanks, see below.

Example of SAS code using reporting flags (and translating blanks)

The example below is for the revised prenatal care item. Prenatal care data based on the revised certificate are not considered comparable with data based on the unrevised certificate, and are presented separately. (See also Births: Final Data for 2006(1).) Accordingly, use of the reporting flag for this item will produce 2005 data for the month prenatal care began for the 11 revised states which had implemented the revised Report as of January 1, 2005.

Sample SAS program

```
01      DATA work;
02              INFILE 'c:fet05us.dat' LRECL=3350;
03              INPUT
04                      tabflg     9
05                      restatus 138
06                      precare 245-246
07                      f_mpcb 668;
08
09              /*Include if 20 weeks gestation or more*/
10              IF tabflg EQ 2;
11              /*Exclude foreign residents*/
12              IF restatus NE 4;
13              /*Select reporting area*/
14              IF f_mpcb=1;
15              /*Convert blanks to unknown*/
16              IF precare=. THEN precare=99;
17
18      PROC FREQ;
19              TABLE precare;
20      RUN;
```

In this example, "tabflg" is used to select fetal deaths of 20 weeks gestation or more. Also, "restatus" is used to exclude fetal deaths to foreign residents (this is standard practice for all NCHS tabulations). As well in this example, blanks are represented by numeric values SAS code = (.). However, for some items in the file, e.g., pregnancy risk factors, blanks are represented by character values for which the SAS code is empty quotes (' ').

References

1. Martin JA, Hamilton, B., et al. Births: Final data for 2006; vol 57 no 7. Hyattsville, MD: National Center for Health Statistics. 2009.

Control Count of Records

File Characteristics

All files:

Record format:	Blocked, Fixed, Format
Code scheme:	Numeric/Alphabetic/Blank
Record length:	3,350
Block size	26,800

Record counts

U.S. set record count:

Counts of 20 weeks or more:	
Record count:	25,931
By occurrence:	29,931
By residence:	25,894
To foreign residence:	37

Counts less than 20 weeks:	
Record count:	27,402
By occurrence:	27,402
By residence:	27,387
To foreign residence:	15

U.S. possessions set record count: 611 (20 weeks or more)

Counts of 20 weeks or more:	Guam	Puerto Rico
Record counts:	42	547
By occurrence:	42	547
By residence:	40	544
To foreign residence:	2	3

2005 LIST OF DATA ELEMENTS AND LOCATIONS – FETAL DEATH FILE

Data Items	Locations (*)
1. General	
a) Tabulation flag (gestational age)	9
b) Data year	15-18
c) Resident status	138
2. Prenatal Care	
a) Month began	245-246 -R 256-257 -U
b) Number of visits	270-271
3. Fetus	
a) Sex	436
b) Plurality	423
c) Weight at delivery	463-466
d) Gestational age	451-452
e) Month/year of delivery	15-20
f) Day of week of delivery	29
4. Mother	
a) Age	89-90
b) Race	143
c) Marital status	153
d) Education	155 -R 156-157 -U
e) Hispanic Origin	148,149
5. Pregnancy History	
a) Previous births, now living	204-205
b) Previous births, now dead	206-207
c) Previous terminations	208-209
d) Live birth order	212
e) Total birth order	217
6. Father	
a) Age	176-177
b) Race	191, 199-200 -U
c) Hispanic origin	195, 196 U
7. Other Items	
a) Place of delivery	42
b) Attendant at delivery	410
c) Residence reporting flags	569-800

LIST OF DATA ELEMENTS AND LOCATIONS

Data Items	Locations
8. Medical and Health Data	
a) Method of delivery	390-403
b) Medical risk factors	313-319 -R
	328-344 -U
c) Other risk factors	
Tobacco	284-289, 294 -R
	290, 291-292 -U
Alcohol	295, 296-297 -U
Weight gain during pregnancy	276-277
d) Obstetric procedures	355-361-U
e) Complications of labor and/or delivery	374-389-U
f) Congenital anomalies	492-503-R
	504-525

(*) specific revisions:
U = Unrevised; 1989 Report of Fetal Death
R = Revised; 2003 Report of Fetal Death

2005 Fetal Death
Public Use File Record Layout

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
1	6	FILLER	**Filler**			Blank	
7	1	VERSION	**Version**		R,U	A	State used the 2003 version of the US Standard Report of Fetal Death
						S	State used the 1989 version of the US Standard Report of Fetal Death
8	1	RECWT	**Record Weight**		R,U	1	
9	1	TABFLG	**Tabulation Flag**		R,U	1	Under 20 Weeks (exclude)
						2	20 Weeks or more (include)
10-14	5	FILLER	**Filler**			Blank	
15-18	4	DOD_YY	**Delivery Year**		R,U	2005	Year of delivery
19-20	2	DOD_MM	**Delivery Month**		R,U	01	January
						02	February
						03	March
						04	April
						05	May
						06	June
						07	July
						08	August
						09	September
						10	October
						11	November
						12	December
21-28	7	FILLER	**Filler**			Blank	
29	1	DOD_WK	**Weekday**		R,U	1	Sunday
						2	Monday
						3	Tuesday
						4	Wednesday
						5	Thursday
						6	Friday
						7	Saturday

* For the Version column (Ver) the following codes apply:
R 2003 Version of US Standard Report of Fetal Death
U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
30-31	2	OTERR	**Occurrence Territory/Possession** *(This item is available in the territory/possession file only, geographic codes are not available in the U.S. file)* Outlying Areas of the United States		U,R	GU PR	Guam Puerto Rico
32-36	5	FILLER	**Filler**			Blank	
37-39	3	OCNTY	**Occurrence County** *(This item is available in the territory/possession file only, geographic codes are not available in the U.S. file)* Puerto Rico Other Outlying Areas of the United States		U,R	127 999 000 999	San Juan County of less than 250,000 No county level geography County of less than 250,000
40	1	OCNTYPOP	**Occurrence County Pop** *(This item is available in the territory/possession file only, geographic codes are not available in the U.S. file)*		U,R	0 1 2 9	County of 1,000,000 or more County of 500,000 to 1,000,000 County of 250,000 to 500,000 County less than 250,000
41	1	FILLER	**Filler**			Blank	
42	1	UBFACIL	**Delivery Place**		R,U	1 2 3 4 5 9	Hospital Freestanding Birthing Center Clinic / Doctor's Office Residence Other Unknown

* For the Version column (Ver) the following codes apply:
R 2003 Version of US Standard Report of Fetal Death
U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
43-58	16	FILLER	**Filler**			Blank	
59	1	FILLER	**Filler**			Blank	
60-86	27	FILLER	**Filler**			Blank	
87	1	MAGE_IMPFLG	**Mother's Age Imputed**		R,U	Blank 1	Age not imputed Age imputed
88	1	MAGE_REPFLG	**Reported Age of Mother Flag**		R,U	Blank 1	Reported age not used Reported age used
89-90	2	MAGER41	**Mother's Age Recode 41**		R,U	12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34	12 years and under 13 years 14 years 15 years 16years 17 years 18 years 19 years 20 years 21years 22 years 23 years 24 years 25years 26 years 27 years 28 years 29 years 30 years 31 years 32years 33 years 34 years

* For the Version column (Ver) the following codes apply:
R 2003 Version of US Standard Report of Fetal Death
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Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
						35	35 years
						36	36 years
						37	37 years
						38	38 years
						39	39 years
						40	40 years
						41	41 years
						42	42 years
						43	43 years
						44	44 years
						45	45 years
						46	46 years
						47	47 years
						48	48 years
						49	49 years
						50	50 years and over
91-92	2	MAGER14	**Mother's Age Recode 14**		R,U	01	Under 15 Years
						03	15 years
						04	16 years
						05	17 years
						06	18 years
						07	19 years
						08	20-24 years
						09	25-29 years
						10	30-34 years
						11	35-39 years
						12	40-44 years
						13	45-49 years
						14	50-54 years
93	1	MAGER9	**Mother's Age Recode 9**		R,U	1	Under 15 years
						2	15-19 years
						3	20-24 years
						4	25-29 years
						5	30-34 years
						6	35-39 years
						7	40-44 years
						8	45-49 years
						9	50-54 years

* For the Version column (Ver) the following codes apply:

R 2003 Version of US Standard Report of Fetal Death

U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
94-95	2	MBCNTRY	**Mother's Birth Country** *(This item is available in the territory/possession file only, geographic codes are not available in the U.S. file)*		R**	AA-ZZ	A complete list of countries is shown in the Geographic Code Outline, which follows the record layout.
	** Also includes unrevised territories/possessions that use new geographic coding						
96-108	13	FILLER	**Filler**			Blank	
109-110	2	MRTERR	**Mother's Residence Territory/Possession** *(This item is available in the territory/possession file only, geographic codes are not available in the U.S. file)*		U,R		
			Outlying Areas of the United States			GU PR	Guam Puerto Rico
			Foreign			CC CU MX XX ZZ	Canada Cuba Mexico Not Applicable Not Classifiable
111-113	3	FILLER	**Filler**			Blank	
114-116	3	MRCNTY	**Mother's County of Residence** *(This item is available in the territory/possession file only, geographic codes are not available in the U.S. file)*		U,R		
			Puerto Rico			127 999	San Juan County of less than 250,000 population or foreign resident
			Other Outlying Areas of the United States			000 999	No county level geography County of less than 250,000 population or foreign resident
117-131	15	FILLER	**Filler**			Blank	

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Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
132	1	RCNTY_POP	**Population of Residence County** *(This item is available in the territory/possession file only, geographic codes are not available in the U.S. file)*		U,R	0 1 2 9 Z	County of 1,000,000 or more County of 500,000 to 1,000,000 County of 250,000 to 500,000 County less than 250,000 Foreign resident
133-136	4	FILLER	**Filler**			Blank	
137	1	RECTYPE	**Record Type** *(This item is available in the territory/possession file only, geographic codes are not available in the U.S. file)*		U,R	1 2	RESIDENT: Territory/Possession and county of occurrence and residence are the same. NONRESIDENT: Territory/Possession and county of occurrence and residence are different.
138	1	RESTATUS	**Residence Status**		R,U		
			<u>United States</u>			1 2 3 4	RESIDENT: State and county of occurrence and residence are the same. INTRASTATE NONRESIDENT: State of occurrence and residence are the same but county is different. INTERSTATE NONRESIDENT: State of occurrence and residence are different but both are one of the 50 US states or District of Columbia. FOREIGN RESIDENT: The state of residence is not one of the 50 US states or District of Columbia.
			<u>Possessions</u>			1 2 2 3	RESIDENT: State and county of occurrence and residence are the same. (Unique to Guam, all US residents are considered residents of Guam and thus are assigned 1.) INTRATERRITORY NONRESIDENT: Territory of occurrence and residence are the same but county is different. INTERTERRITORY RESIDENT: Territory of occurrence and residence are different but both are US Territories. FOREIGN RESIDENT: The residence is not a US Territory.
139-140	2	MBRACE	**Mother's Bridged Race** Includes only states reporting multiple race. Codes		R **	01 02	White – single race Black – single race

* For the Version column (Ver) the following codes apply:

R 2003 Version of US Standard Report of Fetal Death

U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
			01-14 used for individuals reporting only one race. Codes 21-24 used for individuals reporting more than one race that have been bridged to a single race. Code 24 also used for individuals reporting more than one Asian/Pacific Islander group; see "Technical Appendix." ** Also includes unrevised states that report multiple race.			03 04 05 06 07 08 09 10 11 12 13 14 21 22 23 24 Blank	American Indian / Alaskan Native – single race Asian Indian – single race Chinese – single race Filipino – single race Japanese – single race Korean – single race Vietnamese – single race Other Asian – single race Hawaiian – single race Guamanian – single race Samoan – single race Other Pacific Islander – single race White – bridged multiple race Black – bridged multiple race American Indian / Alaskan Native – bridged multiple race Asian / Pacific Islander – bridged multiple race Not on certificate
141-142	2	MRACE	**Mother's Race** Includes only states exclusively reporting single race. Some areas report additional Asian or Pacific Islander (API) codes for race. Codes 18-68 replace old code 08 for these areas. Code 78 replaces old code 08 for all other areas. See reporting flag at pos.650 for expanded API reporting area. United States	783 783	U		
						01 02 03 04 05 06 07 18 28 38 48 58 68 78	White Black American Indian or Alaskan Natives Chinese Japanese Hawaiian (includes part Hawaiian) Filipino Asian Indian Korean Samoan Vietnamese Guamanian Other Asian or Pacific Islander in areas reporting codes 18-58. Combined other Asian or Pacific

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Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
							Islander, includes 18-68 for areas that do not report them separately.
						Blank	Not on certificate
			Puerto Rico			01	White
						02	Black
						00	Other races
						Blank	Note on certificate
Black							
			Guam			01	White
						02	Black
						03	American Indian or Alaskan Natives
						04	Chinese
						05	Japanese
						06	Hawaiian (includes part Hawaiian)
						07	Filipino
						08	Other Asian or Pacific Islander
						58	Guamanian
						Blank	Not on certificate
143	1	MRACEREC	**Mother's Race Recode**		R,U		
			United States and non-Puerto Rican Territories			1	White
						2	Black
						3	American Indian or Alaskan Native
						4	Asian or Pacific Islander
			Puerto Rico			1	White
						2	Black
						0	Other (not classified as White or Black)
144	1	MRACEIMP	**Mother's Race Imputed**		R,U	Blank	Mother's race not imputed
						1	Unknown race imputed
						2	All other races, formerly coded 09, imputed.
145-147	3	FILLER	**Filler**			**Blank**	

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R 2003 Version of US Standard Report of Fetal Death
U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
148	1	UMHISP	**Mother's Hispanic Origin**				
				569	R,U	0	Non-Hispanic
						1	Mexican
						2	Puerto Rican
						3	Cuban
						4	Central or South American
						5	Other and Unknown Hispanic
						9	Origin unknown or not stated
149	1	MRACEHISP	**Mother's Race/Hispanic Origin**				
				569	R,U	1	Mexican
						2	Puerto Rican
						3	Cuban
						4	Central or South American
						5	Other and Unknown Hispanic
						6	Non-Hispanic White
						7	Non-Hispanic Black
						8	Non-Hispanic Other Races
						9	Origin unknown or not stated
150-152	3	FILLER	**Filler**			Blank	
153	1	MAR	**Mother's Marital Status**	780	R,U		
			United States & all non-Puerto Rican Territories			1	Yes
						2	No
						9	Unknown or not Stated
			Puerto Rico			1	Yes
						2	Unmarried parents living together
						3	Unmarried parents not living together
						9	Unknown or not stated
154	1	MAR_IMP	**Mother's Marital Status Imputed**		R,U	Blank	Marital Status not imputed
						1	Marital Status imputed
155	1	MEDUC	**Mother's Educ –Revised**	571	R	1	8th grade or less
						2	9th through 12th grade with no diploma
						3	High school graduate or GED completed
						4	Some college credit, but not a degree.
						5	Associate degree (AA,AS)
						6	Bachelor's degree (BA, AB, BS)

* For the Version column (Ver) the following codes apply:

R 2003 Version of US Standard Report of Fetal Death

U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
						7	Master's degree (MA, MS, MEng, MEd, MSW, MBA)
						8	Doctorate (PhD, EdD) or Professional Degree (MD, DDS, DVM, LLB, JD)
						9	Unknown
156-157	2	UMEDUC	**Mother's Educ –Unrevised**	647	U	00	No formal education
						01-08	Years of elementary school
						09	1 year of high school
						10	2 years of high school
						11	3 years of high school
						12	4 years of high school
						13	1 year of college
						14	2 years of college
						15	3 years of college
						16	4 years of college
						17	5 or more years of college
						99	Not stated
						Blank	Not on certificate
158	1	MEDUC_REC	**Mother's Education Recode**	647	U	1	0 – 8 years
						2	9 – 11 years
						3	12 years
						4	13 – 15 years
						5	16 years and over
						6	Not stated
159-174	16	FILLER	**Filler**			Blank	
175	1	FAGERPT_FLG	**Father's Reported Age Used**		R,U	0	Father's reported age not used
						1	Father's reported age used
176-177	2	FAGEREP	**Father's Reported Age**		R,U	09-98	
						99	
178-181	4	FILLER	**Filler**			Blank	

* For the Version column (Ver) the following codes apply:
R 2003 Version of US Standard Report of Fetal Death
U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
182-183	2	COMBAGEF	**Father's Combined Age (Revised)**		R	09-98 99 Blank	 Not on certificate
184-185	2	DFAGE	**Father's Combined Age**		R,U	10-98 99	
186-187	2	FAGEREC11	**Father's Age Recode 11**	786	R,U	01 02 03 04 05 06 07 08 09 10 11	Under 15 years 15-19 years 20-24 years 25-29 years 30-34 years 35-39 years 40-44 years 45-49 years 50-54 years 55-98 years Not stated
188-189	2	FBRACE	**Father's Bridged Race** Includes only states reporting multiple race. Codes 01-14 used for individuals reporting only one race. Codes 21-24 used for individuals reporting more than one race that have been bridged to a single race. Code 24 also used for individuals reporting more than one Asian/Pacific Islander group; see "Technical Appendix." ** Includes unrevised states that report multiple race.	**784**	**U** 10	00 01 02 03 04 05 06 07 08 09 Other Asian – single race 11 12 13 14 21 22 23 24	Not classified (Puerto Rico) White – single race Black – single race American Indian / Alaskan Native – single race Asian Indian – single race Chinese – single race Filipino – single race Japanese – single race Korean – single race Vietnamese – single race Hawaiian – single race Guamanian – single race Samoan – single race Other Pacific Islander – single race White – bridged multiple race Black – bridged multiple race American Indian / Alaskan Native – bridged multiple race Asian / Pacific Islander – bridged multiple race

* For the Version column (Ver) the following codes apply:
R 2003 Version of US Standard Report of Fetal Death
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Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
						99	Unknown or not stated, also includes states not reporting multiple race.
						Blank	Not on certificate
190	1	FILLER	**Filler**			Blank	
191	1	FRACEREC	**Father's Race Recode** Includes individuals reporting only one race and individuals reporting more than one race bridged to a single race.	784	U		
			United States and non-Puerto Rican Territories			1	White
						2	Black
						3	American Indian or Alaskan Native
						4	Asian or Pacific Islander
						9	Unknown or not stated
			Puerto Rico			1	White
						2	Black
						9	Unknown or not stated
						0	Other (not classified as White or Black)
192-194	3	FILLER	**Filler**			Blank	
195	1	UFHISP	F**ather's Hispanic Origin-**	570	U	0	Non-Hispanic
						1	Mexican
						2	Puerto Rican
						3	Cuban
						4	Central or South American
						5	Other and Unknown Hispanic
						9	Origin unknown or not stated
196	1	FRACEHISP	**Father's Race/Hisp Origin**	570	U	1	Mexican
						2	Puerto Rican
						3	Cuban
						4	Central or South American

* For the Version column (Ver) the following codes apply:
R 2003 Version of US Standard Report of Fetal Death
U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
						5	Other and Unknown Hispanic
						6	Non-Hispanic White
						7	Non-Hispanic Black
						8	Non-Hispanic Other Races
						9	Origin unknown or not stated
197-8	2	FILLER	**Filler**			Blank	Not on certificate
199-200	2	UFRACE	**Father's Race (Unrevised)**	784	U		
			United States			01	White
						02	Black
						03	American Indian & Alaskan Natives
						04	Chinese
						05	Japanese
						06	Hawaiian (includes part Hawaiian)
						07	Filipino
						18	Asian Indian
						28	Korean
						38	Samoan
						48	Vietnamese
						58	Guamanian
						68	Other Asian or Pacific Islander in areas reporting codes 18-58.
						78	Combined other Asian or Pacific Islander, includes 18-68 for areas that do not report them separately.
						99	Unknown or not stated
						Blank	Not on certificate
			Puerto Rico			01	White
						02	Black
						00	Other races not classified white or black
						99	Unknown or not stated
						Blank	Not on certificate
			Guam			01	White
						02	Black
						03	American Indian & Alaskan Natives
						04	Chinese

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Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
						05	Japanese
						06	Hawaiian (includes part Hawaiian)
						07	Filipino
						08	Other Asian or Pacific Islander
						58	Guamanian
						99	Unknown or not stated
						Blank	Not on certificate
201-203	3	FILLER	**Filler**			Blank	
204-205	2	PRIORLIVE	**Previous Births Now Living**		R,U	00-30	Number of children still living from previous live births.
						99	Unknown or not stated
206-207	2	PRIORDEAD	**Previous Births Now Dead**		R,U	00-30	Number of children dead from previous live births.
						99	Unknown or not stated
208-209	2	PRIORTERM	**Previous Other Terminations**		R,U	00-30	Number other terminations
						99	Unknown or not stated
210-211	2	LBO	'**Live Birth' Order**		R,U	00-31	Sum of all previous live births
						99	Unknown or not stated
212	1	LBO_REC	'**Live Birth' Order Recode**		R,U	0-7	Number of live birth order.
						8	8 or more live births
						9	Unknown or not stated
213-214	2	FILLER	**Filler**			Blank	
215-216	2	TBO	**Total 'Birth' Order**		R,U	01-40	Sum of all previous pregnancies plus this fetal death
						99	Unknown or not stated
217	1	TBO_REC	**Total 'Birth' Order Recode**		R,U	1-7	Number total pregnancies.
						8	8 or more pregnancies
						9	Unknown or not stated

* For the Version column (Ver) the following codes apply:
R 2003 Version of US Standard Report of Fetal Death
U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
218-219	27	FILLER	**Filler**			Blank	
220-221	2	FILLER	**Filler**			Blank	
222-225	4	FILLER	**Filler**			Blank	
226-244	19	FILLER	**Filler**			Blank	
245-246	2	PRECARE	**Month Prenatal Care Began (Revised)**	668	R	00 01-10 99	No prenatal care Month prenatal care began Unknown or not stated
247	1	PRECARE_REC	**Month Prenatal Care Began Recode (Revised)**	668	R	1 2 3 4 5	1st to 3rd month 4th to 6th month 7th to final month No prenatal care Unknown or not stated
248-255	8	FILLER	**Filler**			Blank	
256-257	2	MPCB	**Month Prenatal Care Began (Unrevised)**	669	U	00 01-10 99	No prenatal care Month prenatal care began Unknown or not stated
258	1	MPCB_REC6	**Month Prenatal Care Began Recode 6 (Unrevised)**	669	U	1 2 3 4	1st to 2nd month 3rd month 4th to 6th month 7th to final month

* For the Version column (Ver) the following codes apply:

R 2003 Version of US Standard Report of Fetal Death

U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
						5	No prenatal care
						6	Unknown or not stated
259	1	MPCB_REC5	**Month Prenatal Care Began Recode 5 (Unrevised)**				
				669	U	1	1st trimester (1st to 3rd month)
						2	2nd trimester (4th to 6th month)
						3	3rd trimester (7th to final month)
						4	No prenatal care
						5	Unknown or not stated
260-269	10	FILLER	**Filler**			Blank	
270-271	2	UPREVIS	**Number of Prenatal Visits**		R.U	00-49	Number of prenatal visits
				671		99	Unknown or not stated
272-273	2	PREVIS_REC	**Number of Prenatal Visits Recode**		R,U	01	No visits
				671		02	1 to 2 visits
						03	3 to 4 visits
						04	5 to 6 visits
						05	7 to 8 visits
						06	9 to 10 visits
						07	11 to 12 visits
						08	13 to 14 visits
						09	15 to 16 visits
						10	17 to 18 visits
						11	19 or more visits
						12	Unknown or not stated
274	2	FILLER	**Filler**			Blank	
276-277	2	WTGAIN	**Weight Gain**	648	R,U	00-97	Weight gain in pounds
						98	98 pounds and over
						99	Unknown or not stated
278	1	WTGAIN_REC	**Weight Gain Recode**	648	R,U	1	Less than 10 pounds
						2	10 to 14 pounds
						3	15 to 19 pounds
						4	20 to 24 pounds
						5	25 to 29 pounds
						6	30 to 34 pounds

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U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
						7	35 or more pounds
						8	Unknown or not stated
279	1	FILLER	Filler			Blank	
280	1	DFPC_IMP	**Day of Date First Prenatal Care Imputed**		R	Blank	Day of date first prenatal care not imputed
						1	Day of date first prenatal care imputed
281-283	3	FILLER	**Filler**			Blank	
284-285	2	CIG_1	**Cigarettes 1st Trimester**	673	R	00-97	Number of cigarettes daily
						98	98 or more cigarettes daily
						99	Unknown or not stated
286-287	2	CIG_2	**Cigarettes 2nd Trimester**	674	R	00-97	Number of cigarettes daily
						98	98 or more cigarettes daily
						99	Unknown or not stated
288-289	2	CIG_3	**Cigarettes 3rd Trimester**	675	R	00-97	Number of cigarettes daily
						98	98 or more cigarettes daily
						99	Unknown or not stated
290	1	TOBUSE	**Tobacco Use**	667	U	1	Yes
						2	No
						9	Unknown or not stated
291-292	2	CIGS	**Cigarettes per Day**	794	U	00-97	Number of cigarettes daily
						98	98 or more cigarettes daily
						99	Unknown or not stated
293	1	UCIG_REC6	**Cigarette Recode (Unrevised)**	794	U	0	Non-smoker
						1	1 to 5 cigarettes daily
						2	6 to 10 cigarettes daily
						3	11 to 20 cigarettes daily
						4	21 to 40 cigarettes daily
						5	41 or more cigarettes daily
						6	Unknown or not stated
294	1	CIG_REC	**Cigarette Recode (Revised)**	575	R	Y	Yes
						N	No

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U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
						U	Unknown or not stated
295	1	ALCOHOL	**Alcohol Use**	649	U	1	Yes
						2	No
						9	Unknown or not stated
296-297	2	DRINKS	**Drinks per Week**	649	U	00-97	Number of drinks weekly
						98	98 or more drinks weekly
						99	Unknown or not stated
298	1	DRINKS_REC	**Drinks Recode**	649	U	0	Non drinker
						1	1 drink per week
						2	2 drinks per week
						3	3-4 drinks per week
						4	5 or more drinks per week
						5	Unknown or not stated
299-312	29	FILLER	**Filler**			Blank	
313-319	7	**Risk Factor (Revised)**			R	Y	Yes
						N	No
						U	Unknown or not stated
						Blank	Not on certificate
313	1	RE_PDIAB	Prepregnancy Diabetes	582			
313	1	RF_GDIAB	Gestational Diabetes	583			
314	1	RF_PHYPE	Prepregnancy Hypertension	584			
315	1	RF_GHYPE	Gestational Hypertension	585			
316	1	PF_EHYPE	Hypertension Eclampsia	586			
318	1	PF_PPB	Previous Preterm birth	587			
319	1	PF_PPO	Poor Pregnancy Outcome	588			
320-323	4	FILLER	**Filler**			Blank	
324	1	RF_PCES	Previous Cesarean	593	R	Y	Yes
						N	No
						U	Unknown, not stated
						Blank	Not on certificate
325	2	RF_NPCES	Number of Previous Cesareans	594	R	00	None
						01-30	Number of previous cesareans
						99	Unknown or not stated

* For the Version column (Ver) the following codes apply:

R 2003 Version of US Standard Report of Fetal Death

U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
						Blank	Not on certificate
327	1	FILLER	Filler			Blank	
328-344	17	**Risk Factors**		U			
		The checkbox items indented below follow this structure:				1	Yes
		The version is based on the 1989 Standard unless otherwise noted.				2	No
						9	Unknown
328	1	URF_ANEMIA	Anemia	681			
329	1	URF_CARDC	Cardiac	682			
330	1	URF_LUNG	Acute or Chronic Lung Disease	683			
331	1	URF_DIAB	Diabetes	684	R,U		
332	1	URF_GEN	Genital Herpes	685			
333	1	URF_HYDR	Hydramnios / Oligohydramnios	686			
334	1	URF_HEMO	Hemoglobinopathy	687			
335	1	URF_CHYPER	Chronic Hypertension	688	R,U		
336	1	URF_PHYPER	Prepregnacy Associated Hypertension	689	R,U		
337	1	URF_ECLAM	Eclampsia	690	R,U		
338	1	URF_INCERV	Incompetent Cervix	691			
339	1	URF_PRE4000	Previous Infant 4000+ Grams	692			
340	1	URF_PRETERM	Previous Preterm Small for Gestation	693			
341	1	URF_RENAL	Renal Disease	694			
342	1	URF_RH	Rh Sensitization	695			
343	1	URF_UTERINE	Uterine Bleeding	696			
344	1	URF_OTHER	Other medical risk factors	697			
345-354	14	FILLER	**Filler**			Blank	
		Obstetric Procedures (Unrevised)					
355-361	7				U		
		The checkbox items indented below follow this structure:				1	Yes
		The version is based one the 1989 Standard unless otherwise noted.				2	No
						9	Not stated
355	1	UOB_AMNIO	Amniocentesis	701			
356	1	UOB_MONITOR	Electronic Fetal Monitoring	702			
357	1	UOB_INDUC	Induction of Labor	703			
358	1	UOB_STIMULA	Stimulation of Labor	704			
359	1	UOB_TOCOL	Tocolysis	705			
360	1	UOB_ULTRA	Ultrasound	706			

* For the Version column (Ver) the following codes apply:

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Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
361	1	UOB_OTHER	Other Obstetric Procedures	707			
362-364	3	FILLER	**Filler**			Blank	
365-373	9	FILLER	**Filler**			Blank	
374-389	16	**Complications of Labor & Delivery**			U		
		The checkbox items indented below follow this structure:				1	Yes
		The version is based on the 1989 Standard unless otherwise noted.				2	No
						9	Not stated
374	1	ULD_FEBR	Febrile	711			
375	1	ULD_MECON	Meconium	712	R,U		
376	1	ULD_RUPTURE	Premature Rupture of Memb.	713			
377	1	ULD_ABRUPTIO	Abruptio Placenta	714			
378	1	ULD_PREPLACE	Placenta Previa	715			
379	1	ULD_EXCEBLE	Other Excessive Bleeding	716			
380	1	ULD_SEIZURE	Seizures During Labor	717			
381	1	ULD_PRECIP	Precipitous Labor	718	R,U		
382	1	ULD_PROLONG	Prolonged Labor	719			
383	1	ULD_DYSFUN	Dysfunctional Labor	720			
384	1	ULD_BREECH	Breech	721	R,U		
385	1	ULD_CEPHALO	Cephalopelvic Disproportion	722			
386	1	ULD_CORD	Cord Prolapse	723			
387	1	ULD_ANESTHE	Anesthetic Complications	724			
388	1	ULD_DISTRESS	Fetal Distress	725			
389	1	ULD_OTHERLB	Other Complications of L&D	726			
390-395	6	**Method of Delivery (Revised)**					
		The checkbox items indented below follow this structure unless otherwise indicated.				Y	Yes
						N	No
						X	Not applicable
						U	Unknown
						Blank	Not on certificate

* For the Version column (Ver) the following codes apply:

R 2003 Version of US Standard Report of Fetal Death

U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
390	1	RAttFor	Attempted Forceps	617	R	Y,N,X,U,B	
391	1	RAttVac	Attempted Vacuum	618	R	Y,N,X,U,B	
392	1	RPres	Fetal Presentation	619	R		
						1	Cephalic
						2	Breech
						3	Other
						9	Unknown
						Blank	Not on certificate
393	1	RRoute	Route and Method of Delivery	620	R		
						1	Spontaneous
						2	Forceps
						3	Vacuum
						4	Cesarean
						9	Unknown
						Blank	Not on certificate
394	1	RTLabor	Trial of Labor Att	621	R	Y,N,X,U,	
395	1	RHyster	Hysterect/Hysterotomy	800	R	Y,N,X,U	
396-403	8	**Method of Delivery**					
		The checkbox items indented below follow this structure unless otherwise indicated.				1	Yes
						2	No
						9	Unknown
396	1	Vaginal	Vaginal delivery	730	U,R		
397	1	VBAC	Vaginal after Cesarean	731	U		
398	1	PrimaC	Primary Cesarean	732	U		
399	1	Repeat	Repeat Cesarean	733	U		
400	1	Forcep	Forceps delivery	734	U,R		
401	1	Vacuum	Vacuum Delivery	735	U,R		
402	1	Hyster	Hysterec/Hysterotomy	797	U,R		
403	1	DelMeth	Method of Delivery Recode	730	U,R	1	Vaginal
						2	Cesarean
						9	Unknown

* For the Version column (Ver) the following codes apply:

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U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
404-409	6	FILLER	**Filler**			Blank	
410	1	ATTEND	**Attendant**		R,U	1	Doctor of Medicine (MD)
						2	Doctor of Osteopathy (DO)
						3	Certified Nurse Midwife (CNM)
						4	Other Midwife
						5	Other
						9	Unknown or not stated
411-422	12	FILLER	**Filler**			Blank	
423	1	DPLURAL	**Plurality Recode**		R,U	1	Single
						2	Twin
						3	Triplet
						4	Quadruplet
						5	Quintuplet or higher
424	1	FILLER	**Filler**			Blank	
425	1	IMP_PLUR	**Plurality Imputed**		R,U	Blank	Plurality is imputed
						1	Plurality is not imputed
426-435	10	FILLER	**Filler**			Blank	
436	1	SEX	**Sex of fetus**		R,U	M	Male
						F	Female
437	1	IMP_SEX	**Imputed Sex**		R,U	Blank	Fetus sex not imputed
						1	Fetus sex is imputed
438-439	2	DLMP_MM	**Last Normal Menses Month**	789	R,U	01	January
						02	February
						03	March
						04	April
						05	May
						06	June
						07	July

* For the Version column (Ver) the following codes apply:

R 2003 Version of US Standard Report of Fetal Death

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Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
						08	August
						09	September
						10	October
						11	November
						12	December
						99	Unknown or not stated
440-441	2	DLMP_DO	**Last Normal Menses- Day**	790	R,U	01-31	As applicable to month of LMP
						99	Unknown, not stated
442-445	4	DLMP_YY	**Year of Last Normal Menses Began**	791	R,U	nnnn	Year of last normal menses
						9999	Unknown or not stated
446-447	2	OBGEST	**Obstetric Clinical Gestation Estimated**	573	R,U	0-98	Reported Obstetric estimate of gestation
						02-47	Accepted range of Clinical estimate of gestation
						99	Unknown or not stated
448-450	3	FILLER	**Filler**			Blank	
451-452	2	COMBGEST	**Gestation– Detail in Weeks**		R,U	02-47	2nd through 47th week of Gestation
						99	Unknown
453-454	2	GESTREC12	**Gestation Recode 12**		R,U	01	Under 16 weeks
						02	16-19 weeks
						03	20-23 weeks
						04	24-27 weeks
						05	28-31 weeks
						06	32-35 weeks
						07	36 weeks
						08	37-39 weeks
						09	40 weeks
						10	41 weeks
						11	42 weeks and over
						12	Unknown
455	1	GESTREC5	**Gestation Recode 5**		R,U	1	Under 20 weeks
						2	20-23 weeks
						3	24-27 weeks
						4	28 weeks and over

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Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
						5	Unknown
456	1	OBGEST_FLG	**Obstetric Estimate of Gestation Used Flag**		R,U	Blank 1	Obstetric Estimate is not used Obstetricl Estimate is used
457	1	GEST_IMP	**Gestation Imputed Flag**		R,U	Blank 1	Gestation is not imputed Gestation is imputed
458-462	4	FILLER	**Filler**			Blank	
463-466	4	DBWT	**Weight of Fetus – Detail in Grams (Edited)**		R,U	0001-8165 9999	Number of grams Not stated of fetus weight
467-470	4	FILLER	**Filler**			Blank	
471-472	2	BWTR14	**Weight of Fetus Recode 14**		R,U	01 02 03 04 05 06 07 08 09 10 11 12 13 14	0249 grams or less 0250 – 0349 grams 0350 – 0499 grams 0500 – 0999 grams 1000 – 1499 grams 1500 – 1999 grams 2000 – 2499 grams 2500 – 2999 grams 3000 – 3499 grams 3500 – 3999 grams 4000 – 4499 grams 4500 – 4999 grams 5000 – 8165 grams Unknown or Not Stated
473	1	BWTR4	**Weight of Fetus Recode 4**		R,U	1 2 3 4	1499 grams or less 1500 – 2499 grams 2500 - 8165 grams Unknown or not stated
474-491	18	FILLER	**Filler**			Blank	

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Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
492-503	12	**Congential Anonomalies of the Fetus** (Revised)			R		
						Y	Yes
						N	No
						U	Unknown
						Blank	Not on certificate
492	1	CA_ANEN	Anencephaly	635			
493	1	CA_MNSB	Meninge/Spina Bifida	636			
494	1	CA_CCHD	Cynotic congen heart disease	637			
495	1	CA_CDH	Congenital diaphr. hernia	638			
496	1	CA_OMPH	Omphalocele	639			
497	1	CA_GAST	Gastroschisis	640			
498	1	CA_LIMB	Limb reduction defect	641			
499	1	CA_CL	Cleft lip w/ r w/o cleft palate	642			
500	1	CA_CP	Cleft palate alone	643			
501	1	CA_DOWN	Down syndrome	644		C	Confirmed
						P	Pending
						N	No
						U	Unknown
						Blank	Not on certificate
502	1	CA_DIT	Suspected chrom disorder	645		C	Confirmed
						P	Pending
						N	No
						U	Unknown
						Blank	Not on certificate
503	1	CA_HYPO	Hypospadias	646		Y	Yes, anomaly reported
						N	No, anomaly not reported
						U	Unknown
						Blank	**Not on certificate**
504-525	**22**	**Congential Anonomalies of the Fetus**			R		
		The checkbox items indented below follow this structure: The version is based on the 1989 Standard unless otherwise noted.				1	Anomaly reported
						2	Anomaly not reported
						9	Anomaly not classifiable
						Blank	Not on certificate
504	1	UCA_ANEN	Anencephalus	752	R,U		
505	1	UCA_SPINA	Spina Bifida / Meningocele	753	R,U		

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Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
506	1	UCA_HYDRO	Hydrocephalus	754			
507	1	UCA_MICRO	Microcephalus	755			
508	1	UCA_NERV	Other Central Nervous System Anomalies	756			
509	1	UCA_HEART	Heart Malformations	757			
510	1	UCA_CIRC	Other Circulatory / Respiration Anomalies	758			
511	1	UCA_RECTAL	Rectal Atresia / Stenosis	759			
512	1	UCA_TRACH	Tracheo-Esophageal Fistula	760			
513	1	UCA_OMPHA	Omphalocele / Gastroschisis	761	R,U		
514	1	UCA_GASTRO	Other Gastrointestinal Anomalies	762			
515	1	UCA_GENITAL	Malformed Genitalia	763			
516	1	UCA_RENAL	Renal Agenesis	764			
517	1	UCA_UROGEN	Other Urogenital Anomalies	765			
518	1	UCA_CLEFTLP	Cleft Lip / Palate	766	R,U		
519	1	UCA_ADACTY	Polydactyly / Syndactyly / Adactyly	767			
520	1	UCA_CLUBFT	Club Foot	768			
521	1	UCA_HERNIA	Diaphragmatic Hernia	769			
522	1	UCA_MUSCU	Other Musculoskeletal Anomalies	770			
523	1	UCA_DOWNS	Downs Syndrome ```	771	R,U		
524	1	UCA_CHROM	Other Chroml Anomalies	772			
525	1	UCA_OTHER	Other Congenital Anomalies	773			
526-568	43	FILLER	**Filler**			Blank	
		Flag File for Reporting Flags					
		The reporting flags indented below follow this coding structure:				0	Not reporting
						1	Reporting
569	1	F_MORIGIN	Origin of mother		U,R		
570	1	F_FORIGIN	Origin of father		U		
571	1	F_MEDUC	Education of Mother (revised)		R		
572	1	FILLER	**Filler**			Blank	
573	1	F_CLINEST	Clinical estimate of gestation		R,U		
574	1	FILLERf	Filler				
575	1	F_TOBACO	Tobacco use (revised)		R		

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U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
576-581	6	FILLER	**Filler**			Blank	
582-588							
582	1	F_PDIAB	Pre-pregnancy diabetes		R		
583	1	F_GDIAB	Gestational diabetes		R		
584	1	F_PHYPER	Pre-pregnancy hypertension		R		
585	1	F_GHYPER	Gestational hypertension		R		
586	1	F_ECLAMP	Eclamptic hypertension		R		
587	1	F_PREV	Previous preterm birth		R		
588	1	F_PPOOR	Poor prev preg outcome		R		
589-592	4	FILLER	Filler			Blank	
593	1	F_PCESAR	Previous Cesarean		R		
594	1	F_NPCESAR	Number of previous Cesareans		R		
595-600	6	FILLER	Filler			Blank	
601-616	16	FILLER	Filler			Blank	
617	1	F_ATFORC	Attempted forceps		R		
618	1	F_ATVAC	Attempted vacuum		R		
619	1	F_FETPRES	Fetal presentation		R		
620	1	F_FROUTE	Fine route/method delivery		R		
621	1	F_TRIAL	Trial of labor attempted		R		
622-634	13	FILLER	Filler			Blank	
635	1	F_ANEN	Anencephaly		R		
636	1	F_MENIN	Meningomyelocele/Spina bifida		R		
637	1	F_CYNOTIC	Cynotic heart disease		R		
638	1	F_DIAPHRM	Congenital diaphragmatic hernia		R		
639	1	F_OMPH	Omphalocele		R		
640	1	F_GASTRO	Gastroschisis		R		
641	1	F_LIMB	Limb reduction defect		R		
642	1	F_CLEFTL	Cleft lip (w, w/o cleft palate)		R		
643	1	F_CLEFTP	Cleft palate		R		
644	1	F_DOWN	Down syndrome		R		
645	1	F_CHROM	Suspected chromosomal disorder		R		
646		F_HYPO	Hypospadias		R		
647	1	F_MED	Mother’s Education (unrevised)		U		

* For the Version column (Ver) the following codes apply:

R 2003 Version of US Standard Report of Fetal Death

U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
648	1	F_WTGAIN	Weight gain		R,U		
649	1	F_ALCOL	Alcohol Use (unrevised)		U		
650	1	F_API	API cases		U		
651-666	16	FILLER	**Filler**			Blank	
667	1	F_TOBAC	Tobacco Use (unrevised)		U		
668	1	F_MPCB	Month Prenatal Care Began (revised)		R		
669	1	F_MPCB_U	Month Prenatal Care Began (unrevised)		U		
670	1	FILLER	Filler			Blank	
671	1	F_NOPNC	Number of prenatal care visits (rev)		R		
672	1	FILLER	Filler			Blank	
673	1	F_CIG_1	Number of cigarettes in 1st trimester		R		
674	1	F_CIG_2	Number Of cigarettes in 2nd trimester		R		
675	1	F_CIG_3	Number of cigarettes in 3rd trimester		R		
676-680	5	FILLER	**Filler**			Blank	
681	1	F_URF_ANEMIA	Anemia Flag		U		
682	1	F_URF_CARDIAC	Cardiac Flag		U		
683	1	F_URF_LUNG	Lungs Flag		U		
684	1	F_URF_DIABETES	Diabetes Flag		U		
685	1	F_URF_HERPES	Genital herpes Flag		U		
686	1	F_URF_HYDRA	Hydra Flag		U		
687	1	F_URF_HEMO	Hemo Flag		U		
688	1	F_URF_CHYPER	Chron Hyper Flag		U		
689	1	F_URF_PHYPER	Preg Hyper Flag		U		
690	1	F_URF_ECLAMP	Eclampsia Flag		U		
691	1	F_URF_INCERVIX	Incomp cervix Flag		U		
692	1	F_URF_PRE4000	Prev Birth 4000+ Flag		U		
693	1	F_URF_PRETERM	Prev Birth Small Flag		U		
694	1	F_URF_RENAL	Renal Flag		U		
695	1	F_URF_RH	Rh Flag		U		
696	1	F_URF_UTERINE	Uterine bleeding Flag		U		
697	1	F_URF_OTHERMR	Other MR Flag		U		
698-700	3	FILLER	**Filler**			Blank	
701	1	F_UOB_AMNIO	Amnio Flag		U		
702	1	F_UOB_MONITOR	Monitor Flag		U		

* For the Version column (Ver) the following codes apply:

R 2003 Version of US Standard Report of Fetal Death

U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
703	1	F_UOB_INDUCT	Induction Flag		U		
704	1	F_UOB_STIMUL	Stimulation Flag		U		
705	1	F_UOB_TOCOL	Tocolysis Flag		U		
706	1	F_UOB_ULTRAS	Ultrasound Flag		U		
707	1	F_UOB_OTHEROB	Other OB Flag		U		
708-710	3	FILLER	**Filler**			Blank	
711	1	F_ULD_FEBRILE	Febrile Flag		U		
712	1	F_ULD_MECONIUM	Meconium Flag		U		
713	1	F_ULD_RUPTURE	Rupture Flag		U		
714	1	F_ULD_ABRUPTIO	Abruption Flag		U		
715	1	F_ULD_PREPLACE	Preplace Flag		U		
716	1	F_ULD_EXCEBLD	Excess bleed Flag		U		
717	1	F_ULD_SEIZURE	Seizure Flag		U		
718	1	F_ULD_PRECIP	Precip Flag		U		
719	1	F_ULD_PROLONG	Prolong Flag		U		
720	1	F_ULD_DYSFUNC	Dysfunc Flag		U		
721	1	F_ULD_BREECH	Breech Flag		U		
722	1	F_ULD_CEPHALO	Cephalo Flag		U		
723	1	F_ULD_CORD	Cord Flag		U		
724	1	F_ULD_ANESTHE	Anesthesia Flag		U		
725	1	F_ULD_DISTRESS	Distress Flag		U		
726	1	F_ULD_OTHERLD	Other LD Flag		U		
727	3	FILLER	**Filler**			Blank	
730	1	F_U_VAGINAL	Vaginal Flag		U		
730 (also)	1	F_DELMETH	Method of Delivery Recode Flag		U.R		
731	1	F_U_VBAC	VBAC Flag		U		
732	1	F_U_PRIMAC	Primary C Flag		U		
733	1	F_U_REPEAC	Repeat C Flag		U		
734	1	F_U_FORCEP	Forceps Flag		U		
735	1	F_U_VACUUM	Vacuum Flag		U		
736-751	16	FILLER	**Filler**			Blank	
752	1	F_UCA_ANEN	Anen Flag		U		
753	1	F_UCA_SPINA	Spina Bifita Flag		U		
754	1	F_UCA_HYDRO	Hydro Flag		U		
755	1	F_UCA_MICROCE	Microce Flag		U		

* For the Version column (Ver) the following codes apply:

R 2003 Version of US Standard Report of Fetal Death

U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
756	1	F_UCA_NERVOUS	Nervous Flag		U		
757	1	F_UCA_HEART	Heart Flag		U		
758	1	F_UCA_CIRCUL	Circul/Respir Flag		U		
759	1	F_UCA_RECTAL	Rectal Flag		U		
760	1	F_UCA_TRACHEO	Tracheo Flag		U		
761	1	F_UCA_OMPHALO	Omphalo Flag		U		
762	1	F_UCA_GASTRO	Gastrointestinal Flag		U		
763	1	F_UCA_GENITAL	Malformed Genital Flag		U		
764	1	F_UCA_RENALAG	Renal Agenesis Flag		U		
765	1	F_UCA_UROGEN	Urogenital Flag		U		
766	1	F_UCA_CLEFTLP	Cleft Lip Flag		U		
767	1	F_UCA_ADACTYL	Adactyly Flag		U		
768	1	F_UCA_CLUB	Clubfoot Flag		U		
769	1	F_UCA_HERNIA	Hernia Flag		U		
770	1	F_UCA_MUSCULO	Muscloskeletal Flag		U		
771	1	F_UCA_DOWNS	Downs Syndrome Flag		U		
772	1	F_UCA_CHROMO	Other Chromosomal Flag		U		
773	1	F_UCA_OTHRCON	Other CA Flag		U		
774-779	6	FILLER	**Filler**			Blank	
780	1	F_MS	Mother's Marital Status		U,R		
781-782	2	FILLER	Filler			Blank	
783	1	F_MRACE_u	Mother's Race (Unrevised)		U		
784	1	F_FRACE_u	Father's Race (Unrevised)		U		
785	1	FILLER	Filler			Blank	
786	1	F_FAGE_u	Father's Age		U		
787	1	F_DLLB_MM	Date, last live birth, month		U		
788	1	F_DLLB_YY	Date, last live birth, year		U		
789	1	F_DLMP_MM	Date, last menstrual period, month		U		
790	1	D_DLMP_DD	Date, last menstrual period, day		U		
791	1	F_DLMP_YY	Date, last menstrual period, year		U		
792	1	F_TNPV_u	Total Number of Prenatal Visits		U		
793	1	F_CLINEST_u	Clinical Estimate of Gestation		U		
794	1	F_CIG/DAY_u	Cigarettes per Day (Unrevised)		U		
795	1	FILLER	**Filler**			Blank	

* For the Version column (Ver) the following codes apply:

R 2003 Version of US Standard Report of Fetal Death

U 1989 Version of US Standard Report of Fetal Death

Position	Len	Field	Description	Reporting Flag Position	Vers*	Values	Definition
796	1	F_DRINK/WK_u	Drinks per Week		U		
797	1	HYSTER	Hysterectomy/ hysterotomy		U,R		
798-799	2	FILLER	Filler			Blank	
800	1	F_HYSTER_R	Hysterectomy/hysterotomy		R		
801		**END OF RECORD (!)**					

* For the Version column (Ver) the following codes apply:
R 2003 Version of US Standard Report of Fetal Death
U 1989 Version of US Standard Report of Fetal Death

Country Codes
(Alphabetical by Code)

Code	Geopolitical Entity
AA	ARUBA
AC	ANTIGUA AND BARBUDA
AE	UNITED ARAB EMIRATES
AF	AFGHANISTAN
AG	ALGERIA
AJ	AZERBAIJAN
AL	ALBANIA
AM	ARMENIA
AN	ANDORRA
AO	ANGOLA
AQ	AMERICAN SAMOA
AR	ARGENTINA
AS	AUSTRALIA
AT	ASHMORE AND CARTIER ISLANDS
AU	AUSTRIA
AV	ANGUILLA
AY	ANTARCTICA
BA	BAHRAIN
BB	BARBADOS
BC	BOTSWANA
BD	BERMUDA
BE	BELGIUM
BF	BAHAMAS, THE
BG	BANGLADESH
BH	BELIZE
BK	BOSNIA AND HERZEGOVINA
BL	BOLIVIA
BM	BURMA
BN	BENIN
BO	BELARUS
BP	SOLOMON ISLANDS
BR	BRAZIL
BS	BASSAS DA INDIA
BT	BHUTAN
BU	BULGARIA
BV	BOUVET ISLAND
BX	BRUNEI
BY	BURUNDI
CA	CANADA
CB	CAMBODIA
CD	CHAD
CE	SRI LANKA
CF	CONGO
CG	CONGO
CH	CHINA
CI	CHILE
CJ	CAYMAN ISLANDS
CK	COCOS (KEELING) ISLANDS
CL	CENTRAL AND SOUTHERN LINE ISLANDS
CM	CAMEROON
CN	COMOROS
CO	COLOMBIA
CQ	NORTHERN MARIANAS ISLANDS
CR	CORAL SEA ISLANDS

Country Codes
(Alphabetical by Code)

Code	Geopolitical Entity
CS	COSTA RICA
CT	CENTRAL AFRICAN REPUBLIC
CU	CUBA
CV	CAPE VERDE
CW	COOK ISLANDS
CY	CYPRUS
CZ	CZECHOSLOVAKIA
DA	DENMARK
DJ	DJIBOUTI
DM	DAHOMEY [BENIN]
DO	DOMINICA
DQ	JARVIS ISLAND
DR	DOMINICAN REPUBLIC
EB	EAST BERLIN
EC	ECUADOR
EG	EGYPT
EI	IRELAND
EK	EQUATORIAL GUINEA
EN	ESTONIA
EQ	CANTON AND ENDERBERRY ISLANDS
ER	ERITREA
ES	EL SALVADOR
ET	ETHIOPIA
EU	EUROPA ISLAND
EZ	CZECH REPUBLIC
FG	FRENCH GUIANA
FI	FINLAND
FJ	FIJI
FK	FALKLAND ISLANDS
FM	MICRONESIA, FEDERATED STATES OF
FO	FAROE ISLANDS
FP	FRENCH POLYNESIA
FR	FRANCE
FS	FRENCH SOUTHERN AND ANTARCTIC LANDS
FT	FRENCH TERRITORY OF THE AFFARS AND ISSAS
GA	GAMBIA, THE
GB	GABON
GC	EAST GERMANY (GERMAN DEMOCRATIC REPUBLIC)
GE	WEST GERMANY (FEDERAL REPUBLIC OF GERMANY)
GG	GEORGIA
GH	GHANA
GI	GIBRALTAR
GJ	GRENADA
GK	GUERNSEY
GL	GREENLAND
GM	GERMANY
GN	GILBERT AND ELLICE ISLANDS
GO	GLORIOSO ISLANDS
GP	GUADELOUPE
GQ	GUAM
GR	GREECE
GS	GILBERT ISLANDS
GT	GUATEMALA
GV	GUINEA

Country Codes
(Alphabetical by Code)

Code	Geopolitical Entity
GY	GUYANA
GZ	GAZA STRIP
HA	HAITI
HK	HONG KONG
HM	HEARD ISLAND AND MCDONALD ISLANDS
HO	HONDURAS
HQ	HOWLAND ISLAND
HR	CROATIA
HU	HUNGARY
IC	ICELAND
ID	INDONESIA
IM	ISLE OF MAN
IN	INDIA
IO	BRITISH INDIAN OCEAN TERRITORY
IP	CLIPPERTON ISLAND
IQ	US MISCELLANEOUS PACIFIC ISLANDS
IR	IRAN
IS	ISRAEL
IT	ITALY
IU	ISRAEL-SYRIA DEMILITARIZED ZONE
IV	COTE D' IVOIRE
IW	ISRAEL-JORDAN DEMILITARIZED ZONE
IY	IRAQ-SAUDI ARABIA NEUTRAL ZONE
IZ	IRAQ
JA	JAPAN
JE	JERSEY
JM	JAMAICA
JN	JAN MAYEN
JO	JORDAN
JQ	JOHNSTON ISLAND
JS	SVALBARD AND JAN MAYEN
JU	JUAN DE NOVA ISLAND
KE	KENYA
KG	KYRGYZSTAN
KN	NORTH KOREA
KR	KIRIBATI
KS	SOUTH KOREA
KT	CHRISTMAS ISLAND
KU	KUWAIT
KZ	KAZAKHSTAN
LA	LAOS
LE	LEBANON
LG	LATVIA
LH	LITHUANIA
LI	LIBERIA
LO	SLOVAKIA
LQ	PALMYRA ATOLL
LS	LIECHTENSTEIN
LT	LESOTHO
LU	LUXEMBOURG
LY	LIBYA
MA	MADAGASCAR
MB	MARTINIQUE
MC	MACAU

Country Codes
(Alphabetical by Code)

Code	Geopolitical Entity
MD	MOLDOVA
ME	SPANISH NORTH AFRICA
MF	MAYOTTE
MG	MONGOLIA
MH	MONTSERRAT
MI	MALAWI
MK	MACEDONIA, F.Y.R.O.
ML	MALI
MN	MONACO
MO	MOROCCO
MP	MAURITIUS
MQ	MIDWAY ISLAND
MR	MAURITANIA
MT	MALTA
MU	OMAN
MV	MALDIVES
MX	MEXICO
MY	MALAYSIA
MZ	MOZAMBIQUE
NA	NETHERLANDS ANTILLES
NC	NEW CALEDONIA
NE	NIUE
NF	NORFOLK ISLAND
NG	NIGER
NH	VANUATU
NI	NIGERIA
NL	NETHERLANDS
NO	NORWAY
NP	NEPAL
NR	NAURU
NS	SURINAME
NT	NETHERLANDS ANTILLES
NU	NICARAGUA
NZ	NEW ZEALAND
PA	PARAGUAY
PC	PITCAIRN ISLAND
PE	PERU
PF	PARACEL ISLANDS
PG	SPRATLY ISLANDS
PK	PAKISTAN
PL	POLAND
PM	PANAMA
PN	PANAMA
PO	PORTUGAL
PP	PAPUA NEW GUINEA
PQ	PANAMA CANAL ZONE
PS	PALAU
PT	TIMOR
PU	GUINEA-BISSAU
QA	QATAR
RE	REUNION
RH	SOUTHERN RHODESIA
RM	MARSHALL ISLANDS
RO	ROMANIA

Country Codes
(Alphabetical by Code)

Code	Geopolitical Entity
RP	PHILIPPINES
RQ	PUERTO RICO
RS	RUSSIA
RW	RWANDA
SA	SAUDI ARABIA
SB	SAINT PIERRE AND MIQUELON
SC	SAINT KITTS AND NEVIS
SE	SEYCHELLES
SF	SOUTH AFRICA
SG	SENEGAL
SH	SAINT HELENA
SI	SLOVENIA
SK	SIKKIM
SL	SIERRA LEONE
SM	SAN MARINO
SN	SINGAPORE
SO	SOMALIA
SP	SPAIN
SQ	SWAN ISLANDS
SS	SPANISH SAHARA
ST	SAINT LUCIA
SU	SUDAN
SV	SVALBARD
SW	SWEDEN
SX	SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS
SY	SYRIA
SZ	SWITZERLAND
TC	UNITED ARAB EMIRATES
TD	TRINIDAD AND TOBAGO
TE	TROMELIN ISLAND
TH	THAILAND
TI	TAJIKISTAN
TK	TURKS AND CAICOS ISLANDS
TL	TOKELAU
TN	TONGA
TO	TOGO
TP	SAO TOME AND PRINCIPE
TQ	TRUST TERRITORY OF THE PACIFIC ISLANDS
TS	TUNISIA
TT	EAST TIMOR
TU	TURKEY
TV	TUVALU
TW	TAIWAN
TX	TURKMENISTAN
TZ	TANZANIA
UG	UGANDA
UK	UNITED KINGDOM
UP	UKRAINE
UR	UNION OF SOVIET SOCIALIST REPUBLICS
US	UNITED STATES
UV	BURKINA FASO
UY	URUGUAY
UZ	UZBEKISTAN
VC	SAINT VINCENT AND THE GRENADINES

Country Codes
(Alphabetical by Code)

Code	Geopolitical Entity
VE	VENEZUELA
VI	BRITISH VIRGIN ISLANDS
VM	VIETNAM
VN	NORTH VIETNAM
VQ	UNITED STATES VIRGIN ISLANDS
VS	SOUTH VIETNAM
VT	HOLY SEE (VATICAN CITY)
WA	NAMIBIA
WB	WEST BERLIN
WE	WEST BANK
WF	WALLIS AND FUTUNA
WI	WESTERN SAHARA
WQ	WAKE ISLAND
WS	SAMOA
WZ	SWAZILAND
YE	YEMEN (SANA'A)
YI	YUGOSLAVIA
YM	YEMEN
YO	YUGOSLAVIA
YQ	RYUKYU ISLANDS, SOUTHERN
YS	YEMEN (ADEN)
ZA	ZAMBIA
ZI	ZIMBABWE

Detailed Technical Notes- Fetal Death 2005

The U.S. Standard Reports of Fetal Death closely resembles the U.S. Certificates of Live Birth in both format and content. The majority of items on the Fetal Death Report are the same as those on the birth certificate. For information not found in the following discussion on the fetal death data file, please see *Detailed Technical Notes*, *United States, 2005 - Natality.*

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Internet: www.cdc.gov/nchs/
or
http://www.cdc.gov/nchs/about/major/fetaldth/abfetal.htm

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The Division of Vital Statistics, Charles J. Rothwell, Director, and Delton Atkinson, Deputy Director, manage the Vital Statistics Cooperative Program, through which the vital registration offices of all states, the District of Columbia, New York City, Puerto Rico, Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands, provided the data to the National Center for Health Statistics (NCHS). This Division, and its Data Acquisition and Evaluation Branch (DAEB) at Research Triangle Park (RTP), and Systems, Programming, and Statistical Resources Branch (SPSRB) staffs, processed computer edits, designed and programmed the tabulations, reviewed the data, prepared documentation for this publication, and were responsible for receipt and processing of the basic data file.

NCHS acknowledges the essential role of the vital registration offices of all states and territories in maintaining the system through which vital statistics data are obtained and their cooperation in providing the information on which this publication is based.

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Figures

Text tables

Introduction

These technical notes, published by the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS), focus on information for the 2005 fetal death data file. These notes supplement the "Technical Notes" of the "Fetal and Perinatal Report, 2005" [1]. They are recommended for use with 2005 fetal death data available through VitalStats, a new data access and analysis tool, (http://www.cdc.gov/nchs/VitalStats.htm), and the public use micro-data file, which may be downloaded at: http://www.cdc.gov/nchs/about/major/dvs/Vitalstatsonline.htm#Downloadable [2].

Reference is also often made to the 2005 birth file's "Detailed Technical Notes," which is a more detailed discussion of many more items (variables), and the quality and completeness of the vital registry data. (See [3].) The majority of items on the fetal death report are the same as those on the birth certificate. The Natality Detailed Technical Notes supplements the "Technical Notes" section of "Births: Final data for 2005*"* [4]. Micro-data files for both birth and fetal death are also available on CD-ROM by request.

Fetal death definition and classification

The 1992 Revision of the *Model State Vital Statistics Act and Regulations* recommends the following definition of fetal death. This definition is based on that set forth by the World Health Organization in 1950.

> "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 [5].

The term "fetal death" is defined on an all-inclusive basis to avoid confusion arising from

the use of such terms as stillbirth, spontaneous abortion, and miscarriage. This definition has been adopted by NCHS as the nationally recommended standard. All 57 registration areas except Wisconsin and Puerto Rico have definitions similar to the standard definition [5, 6]. Puerto Rico and Wisconsin have no statutory provision but use a definition consistent with the model law [5,6].

Additionally, to increase comparability of data on fetal deaths for different countries, the United Nations [7] recommends that for statistical purposes fetal deaths be classified as early, intermediate, and late. These groups are defined as follows:

Less than 20 completed weeks of gestation
(early fetal deaths).....Group I

20 completed weeks of gestation but less than 28
(intermediate fetal deaths).....Group II

28 completed weeks of gestation and over
(late fetal deaths).....Group III

Gestation period not classifiable in groups I, II, and III.....Group IV

Group IV consists of fetal deaths with gestation not stated but presumed to be 20 weeks or more.

Sources of data

Fetal-death statistics

Fetal-death statistical files for every year are based on all reports of fetal death received by the National Center for Health Statistics. The fetal-death reporting system of the United States encompasses the 50 states, the District of Columbia, New York City (which is independent of New York State for the purpose of fetal death registration), Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands. In statistical tabulations, United States refers only to the aggregate of the 50 states (including New York City) and the District of Columbia. Data for the territories are presented separately from data for the United States.

Procedures used by NCHS to collect fetal death statistics have changed over the years. Before 1971, tabulations of fetal deaths were based solely on information obtained by NCHS from copies of the original certificates. The information from these copies was edited, coded, and

tabulated. Between 1971 and 2005, individual states made the transition from paper to electronic systems, and by 2005, 49 states, plus New York City, the District of Columbia, Puerto Rico, American Samoa, the Virgin Islands, and the Northern Mariana Islands provided NCHS, via the Vital Statistics Cooperative Program, electronic data files of fetal-death data coded according to NCHS specifications. The remaining areas, California and Guam, submitted photocopies of original reports of fetal deaths and the data were coded by NCHS.

Reporting requirements and completeness

All states have adopted laws requiring the reporting of fetal deaths. Responsibility for completing the report rests with either the hospital or funeral director, depending on state requirements. Registration area requirements for reporting fetal deaths vary [6]. Most of the areas require reporting of fetal death at gestations of 20 weeks or more. **Table A** shows the minimum period of gestation required by each state to report a fetal death in 2005. Substantial evidence indicates some fetal deaths for which reporting is required are not reported [8-11].

Under-reporting of fetal deaths is most likely to occur in the earlier part of the required reporting period for each state [9]. Thus, for states requiring reporting of all periods of gestation, fetal deaths occurring under 20 weeks of gestation are less completely reported; for states requiring reporting of fetal deaths of 20 weeks or more, fetal deaths occurring at 20-23 weeks are less completely reported. Reporting of fetal deaths at 20-23 weeks of gestation may be more complete for those states that report fetal deaths at all periods of gestation than for others.

To maximize the comparability of data by year and by state, most of the tables on fetal deaths published by NCHS are based on fetal deaths occurring at gestations of 20 weeks or more. These tabulations also include fetal deaths for which gestation is not stated for those states requiring reporting at 20 weeks of gestation or more only. Beginning with 1969 events, fetal deaths of not-stated gestation were excluded for states requiring reporting of all products of conception, except for those with a stated birthweight of 500 grams or more. In 2005, this rule was applied to the following states: Hawaii, New York, Rhode Island and Virginia (see **Table A**).

The 1992 revision of the *Model State Vital Statistics Act and Regulations* [5] changed the recommended reporting requirement to all spontaneous fetal deaths weighing 350 grams or more, or if weight is unknown, fetal deaths of 20 completed weeks of gestation or more. The

1977 revision of the *Model State Vital Statistics Act and Model State Vital Statistics Regulations* [12] had recommended that spontaneous fetal deaths at a gestation of 20 weeks or more or a weight of 350 grams or more be reported. The Model Law of 1977 also recommended that the form for reporting fetal deaths be changed from a certificate to a legally required statistical report.

Prior to 1939 the nationally recommended procedure for registration of a fetal death required the filing of a live-birth certificate and a death certificate. In 1939 a separate Standard Certificate of Stillbirth (fetal death) was created to replace the former procedure. Beginning with fetal deaths reported in 1970, procedures were implemented that attempted to separate reports of spontaneous fetal deaths from those of induced terminations of pregnancy. These procedures were implemented because the health implications of spontaneous fetal deaths are different from those of induced terminations of pregnancy. These procedures are still used [13].

Standard Report of Fetal Death

History and revisions

For many years, the U.S. Standard Report of Fetal Death, issued by the Public Health Service, has been used as the principal means to attain uniformity in the contents of documents used to collect information on these events [14,15, 16]. It has been modified in each state to the extent required by the particular needs of the state or by special provisions of the state vital statistics law. However, the reports or certificates of most states conform closely in content and arrangement to the standard.

Statistics on fetal deaths were first published for the birth-registration area in 1918 and then every year beginning with 1922. The first issue of the U.S. Standard Certificate of Fetal Death appeared in 1939. Since then, it has been revised in 1949, 1956, 1968, 1978, 1989 (**Figure 1**), and, most recently, in 2003 (**Figure 2**). The website for 2003 U.S. Standard Certificates is found at: http://www.cdc.gov/nchs/vital_certs_rev.htm; and the revised Report of Fetal Death at: http://www.cdc.gov/nchs/data/dvs/FDEATH11-03finalACC.pdf.

The revisions have been coordinated by the National Center for Health Statistics, Division of Vital Statistics, through consultation with state health officers and registrars; Federal agencies concerned with vital statistics; national, state, and county medical societies; and others working in such fields as public health, social welfare, demography, and insurance. This revision

procedure has ensured careful evaluation of each item in terms of its current and future usefulness for legal, medical and health, demographic, and research purposes. New items have been added when necessary, and old items have been modified to ensure better reporting; or in some cases, items have been dropped when their usefulness appeared to be limited.

The 2003 Revision.

In 2003, a revised U.S. Standard Report of Fetal Death (**Figure 2**) was adopted in Washington state January 1, 2003; Michigan adopted later in the year. Three states, Idaho, Michigan, and Utah, implemented the revised report as of January 1, 2004; Oklahoma revised later in 2004. Kansas, Kentucky, Maryland, Nebraska, New Hampshire and South Dakota implemented the revised report as of January 1, 2005. These eleven states reported 13% of the fetal deaths from all reporting areas. Full implementation of the new fetal death report in all states will be phased in over several years.

The 1989 version of the U.S. Standard Report of Fetal Death (**Figure 1**) was used in 2005 by 39 states, the District of Columbia, plus the territories. These reporting areas comprise 87% of the fetal deaths 20 weeks and over.

A key aspect of the 2003 Revision of the United States Standard Report of Fetal Death has been the re-engineering of the data collection and transmission system. The intent of the re-engineering is to improve data quality, to speed data collection and transmission, and to enhance standardization of vital statistics reporting of the 2003 Revision. This effort is described at: http://www.cdc.gov/nchs/data/dvs/panelreport_acc.pdf [17]. Data to complete the report are obtained from the "Patient's Worksheet" and the "Facility Worksheet." For the patient's worksheet, data are directly obtained from the mother and include items such as race, Hispanic origin, and educational attainment. For the facility worksheet, data are obtained directly from medical records of the patient and fetus for items such as date of last normal menses, pregnancy risk factors, and method of delivery. To assist hospital staff in completing the facility worksheet, a comprehensive instruction manual was developed: *Guide to Completing the Facility Worksheets for the Certificate of Live Birth and Report of Fetal Death (2003 Revision)* [18]. Details of the nature and content of the 1989 revision are available elsewhere [16,19].

The 2005 Fetal Death File

The 2005 Fetal Death Data File consists of data items from the 1989 Revision of the U.S. Standard Report of Fetal Death used by 39 states and the District of Columbia. It also includes selected data from 11 states: Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah, and Washington, which had implemented the 2003 revision of the U. S. Standard Report of Fetal Death as of January 1, 2005. Where comparable, data from the revised states are combined with data from the remaining 39 unrevised states and the District of Columbia. Data for items which are reported for both the 1989 and the 2003 fetal death reports, but which are not comparable between revisions, such as educational attainment, month prenatal care began, tobacco use and type of vaginal or cesarean delivery, are included in this data set. For a detailed discussion of these items, see *Detailed Technical Notes, United States, 2005, Natality* [3]. New medical checkbox items are also discussed in several reports [20, 21]. Data for a number of new items exclusive to the 2003 Standard Report of Fetal Death, such as maternal morbidity, are not included in the 2005 fetal death file. See Figure 2. Cause-of-fetal-death data are also not currently available in the file.

The file layout is the best source of information on the code structure because it provides the exact codes and recodes that are available. The general rules used to classify fetal death items for unrevised states are similar to those used for natality, as set forth in: *NCHS Instruction manual, Part 12: Computer edits for natality data, effective 1993,* available on the Internet at: http://www.cdc.gov/nchs/data/dvs/instr12.pdf [22]. There is comparable information for the 2003 fetal death revision [23].

Classification of selected key items is discussed in the following pages. Information on the completeness of reporting of fetal death record data is shown in **Table B**. For information on additional selected data items not discussed in this document, see *Detailed Technical Notes, United States, 2005, Natality.* (See NCHS [3]).

Geographic detail

Beginning with the 2005 data year, the public release micro-data fetal death file no longer includes geographic detail (e.g., state or county of birth). Information on the new data use policy is available at: http://www.cdc.gov/nchs/about/major/dvs/NCHS_DataRelease.htm [24]. However, tabulations of fetal death data by state and for counties with populations of 100,000 or

more may be made using the new interactive data access tool VitalStats found at http://www.cdc.gov/nchs/VitalStats.htm and described below.

Reporting flags

The 2005 public use micro-data file includes extensive reporting flags to assist in the accurate exclusion of records from non-reporting areas when tabulating data by mother's place of residence. Reporting flags should be used to generate accurate numbers by residence for items which are not reported by all states. More information on the use of reporting flags can be found in the introduction to the 2005 natality file documentation [3].

VitalStats

VitalStats is an online data access tool which gives users access to several interactive pre-built tables and the ability to build their own files from about 50 public-use variables. Interactive charting and mapping tools are a key part of the system, and provide powerful options for visualizing and manipulating tabulated data. Additionally, users can export tabulated data to Excel for further analysis. VitalStats is available at: http://www.cdc.gov/nchs/VitalStats.htm. Complete downloadable public use fetal death data sets are available from the same website.

Data Items

Item completeness

Interpretation of fetal death data must include evaluation of the item completeness of reporting. The percent "not stated" is one measure of the quality of the data. Completeness of reporting varies among items and states. See **Table B** for the percent of fetal death records on which specified items were not stated.

In general, percentages of unknown responses are considerably higher for fetal deaths than for live births; and among fetal deaths the percentage unknown is higher for fetal deaths that occur earlier in the gestational period. Unknown responses are shown in frequency tables, but are excluded from the computation of percent distributions and fetal and perinatal mortality rates. Thus, 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.

Hispanic Origin and Race

Race and Hispanic origin are reported separately on the fetal death report. In tabulations of fetal death data by race and Hispanic origin, data for Hispanic persons are not further classified by race because the majority of women of Hispanic origin are reported as white.

In 1997, the Office of Management and Budget (OMB) issued ‘‘Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity“[25]. The 1997 revised standards incorporated two major changes designed to reflect the changing racial and ethnic profile of the United States. First, the revision increased from four to five the minimum set of categories to be used by Federal agencies for identification of race. The 1977 standards required Federal agencies to report race-specific tabulations using a minimum set of four single-race categories: American Indian or Alaska Native (AIAN), Asian or Pacific Islander (API), black, and white. The revised standards called for reporting of Asians separately from Native Hawaiians or Other Pacific Islanders. Secondly, the revised standards also require Federal data collection programs to allow respondents to select *one or more race categories*.

For the 2005 data year, multiple-race was reported for fetal deaths by the 11 states which had implemented the 2003 revised certificate by January 1, as well as Minnesota which used the 1989 revision of the fetal death report. Data from the vital records of the remaining unrevised 38 states and the District of Columbia followed the 1977 OMB standards in which a single race is reported (26). In addition, these areas also report the minimum set of four races as stipulated in the 1977 standards, compared with the minimum of five races for the 1997 standards.

To provide uniformity and comparability of the data during the transition period, before multiple-race data are available for all reporting areas, it is necessary to “bridge” the responses of those who reported more than one race to a single-race. Multiple-race is imputed to a single race according to the combination of races, Hispanic origin, sex, and age indicated on the fetal death report of the mother. The bridging procedure imputes multiple-race of mothers to one of the four minimum races stipulated in the 1977 OMB standards, that is, AIAN, API, black, or white.

Beginning with data for 1989, NCHS is tabulating fetal death, perinatal, and live birth data by race of mother. When the race of the mother is unknown, the mother is assigned the father's race; when information for both parents is missing, the race of the mother is assigned to the specific race of the mother of the preceding record with known race. Information on

procedures used in 1988 and prior years is presented elsewhere [27]. For more detailed information on current year procedures, see *Detailed Technical Notes, United States, 2005, Natality* [3]

Age of mother

Beginning with data for 1989, the U.S. Standard Report of Fetal Death asks for the mother's date of birth. Age of mother is computed from the mother's date of birth and the date of delivery. For those states whose certificates do not contain an item for the mother's date of birth, reported age of the mother (in years) is used. The age of the mother is edited for upper and lower limits. When mothers are reported to be under 10 years of age or 55 years of age and over, the age of the mother is considered not stated and is assigned as follows: Age of mother not stated is imputed according to the age appearing on the record previously processed for a mother of identical race and having the same total-birth order (total of live births and other terminations).

Sex of fetus

Beginning with data for 1989, for all fetal deaths of 20 weeks of gestation or more, not-stated sex of fetus is assigned the sex of the fetus from the previous record. Before 1989, no such assignment was made.

Period of gestation

The period of gestation is the number of completed weeks elapsed between the first day of the last normal menstrual period (LMP) and the date of delivery. The first day of the LMP is used as the initial date because it can be more accurately determined than the date of conception, which usually occurs 2 weeks after LMP. Data on period of gestation are computed from information on “date of delivery” and “date last normal menses began.” If “date last normal menses began” is not on the record or if the calculated gestation falls beyond a duration considered biologically plausible, then the “clinical (or obstetric) estimate of gestation” is used.

To improve data quality, beginning with 1993 data, NCHS instituted a computer edit to check for consistency between gestation and birthweight for natality [22]. Briefly, if the LMP used at gestational age is inconsistent with birthweight, and the clinical estimate is consistent, the clinical estimate is used; if both are inconsistent with birthweight but are consistent with each other, LMP gestation is used, and birthweight is assigned to unknown. These procedures are described in NCHS instruction manuals [22, 23]. All areas reported the LMP in 2005, and all areas except California reported the clinical or obstetric estimate of gestation.

Not stated gestational age--Fetal deaths with gestational age not stated are presumed to be of 20 weeks of gestation or more if the state requires reporting of all fetal deaths at a gestational age of 20 weeks or more or the fetus weighed 500 grams or more in those states requiring reporting of all fetal deaths, regardless of gestational age.

Birthweight

Most of the 57 registration areas do not specify how weight should be given, that is, in pounds and ounces or in grams. In the tabulation and presentation of birthweight data, the metric system (grams) has been used to facilitate comparison with other data published in the United States and internationally. Birthweight specified in pounds and ounces is assigned the equivalent of the gram intervals, as follows:

Less than 350 grams	= 0 lb 12 oz or less
350-499 grams	= 0 lb 13 oz-1 lb 1 oz
500-999 grams	= 1 lb 2 oz-2 lb 3 oz
1,000-1,499 grams	= 2 lb 4 oz-3 lb 4 oz
1,500-1,999 grams	= 3 lb 5 oz-4 lb 6 oz
2,000-2,499 grams	= 4 lb 7 oz-5 lb 8 oz
2,500-2,999 grams	= 5 lb 9 oz-6 lb 9 oz
3,000-3,499 grams	= 6 lb 10 oz-7 lb 11 oz
3,500-3,999 grams	= 7 lb 12 oz-8 lb 13 oz
4,000-4,499 grams	= 8 lb 14 oz-9 lb 14 oz
4,500-4,999 grams	= 9 lb 15 oz-11 lb 0 oz
5,000 grams or more	= 11 lb 1 oz or more

Total-birth order

Total-birth order refers to the sum of live births and other terminations (including spontaneous fetal deaths and induced terminations of pregnancy) a woman has had, including the fetal death being recorded. For example, if a woman has given birth to two live babies and to one born dead, the next fetal death to occur is counted as number four in total-birth order.

Beginning with implementation of the 1989 revision of the U.S. Standard Report of Fetal Death, total-birth order is calculated from three items on pregnancy history: Number of previous live births now living; number of previous live births now dead; and number of other terminations (spontaneous and induced at anytime after conception). For a discussion of the calculation of total-birth order prior to 1989, see the Technical Appendix from *Vital Statistics of the United States*, 1988, volume II, Mortality [27]).

Although all registration areas use the two standard items in the number of previous live births, registration areas phrase the item pertaining to other terminations of pregnancy differently. Total-birth order for all areas is calculated from the sum of available information. Thus, information on total-birth order may not be completely comparable among the registration areas. In addition, there may be substantial under-reporting of other terminations of pregnancy on the fetal-death report [8-11].

Computation of fetal and perinatal mortality rates

Fetal-death and perinatal mortality *rates* shown in *Fetal and Perinatal Mortality, United States* (1,28,29) are computed on the basis of the number of live births and fetal deaths.

Perinatal definitions--Beginning with data year 1979, perinatal mortality data have been published for the United States. In ICD-10 [30], WHO recommends that national perinatal statistics should include all fetuses and infants delivered weighing at least 500 grams (or when birthweight is unavailable, the corresponding gestational age (22 weeks) or body length (25 cm crown-heel)), whether alive or dead. It further recommends that countries should present, solely for international comparisons, standard perinatal statistics in which both the numerator and denominator of all rates are restricted to fetuses and infants weighing 1,000 grams or more (or, where birthweight is unavailable, the corresponding gestational age (28 weeks) or body length (35 cm crown-heel)). The international recommendation is intended to capture statistics that are comparable and well-measured whereas countries are encouraged to capture earlier events

because of the importance of the earlier events and because it improves the completeness of reporting of later events.

Three definitions of perinatal mortality were developed for use by NCHS [31] in the 1950s:

Perinatal Definition I, generally used for international comparisons, which includes fetal deaths of 28 weeks of gestation or more and infant deaths under 7 days;

Perinatal Definition II, which includes fetal deaths of 20 weeks of gestation or more and infant deaths under 28 days; and

Perinatal Definition III, which includes fetal deaths of 20 weeks of gestation or more and infant deaths under 7 days. [31].

Birthweight and gestational age are not reported on the death certificate in the United States. Perinatal statistics are produced by birthweight or gestational age by using NCHS' linked birth/infant death data set for the infant death component of the perinatal events.

Variations in fetal death reporting requirements and practices have implications for comparing perinatal rates among states. Because reporting is generally less complete near the lower limit of the reporting requirement, states that require reporting of all products of pregnancy, regardless of gestation, are likely to have more complete reporting of fetal deaths at 20 weeks or more than those states that do not. The larger number of fetal deaths reported for these "all periods" states may result in higher perinatal mortality rates than those rates reported for states whose reporting is less complete. Accordingly, reporting completeness may account, in part, for differences among the state perinatal rates, particularly differences for Definitions II and III, which use data for fetal deaths at 20-27 weeks [32].

Not stated-- For Definition I, fetal deaths for which gestation is not stated but presumed to have been of 20 weeks or more are allocated to the category 28 weeks or more, according to the proportion of fetal deaths with stated gestational age that falls into that category. For Definitions II and III, fetal deaths at a presumed gestation of 20 weeks or more are included with those at a stated gestation of 20 weeks or more [32]).

The allocation of not-stated gestational age for fetal deaths is made individually for each state and separately for the entire United States. Accordingly, the sum of perinatal deaths for the areas according to Definition I may not equal the total number of perinatal deaths for the United States.

Error in 2005 Fetal Death Data

A programming error in the Tabulation Flag variable affected numbers of fetal deaths for four states and the US total. The Tabulation Flag variable identifies fetal deaths of stated or presumed period of gestation of either <20 weeks, or 20 weeks or more. Most tabulations and reports of fetal death data include only fetal deaths of 20 weeks of gestation or more. Due to the error, some fetal deaths with unknown gestational age that should have been included in the 20 weeks or more group were erroneously assigned to the <20 week group. The effect of this error is shown in Table C for four states and the United States total. Data for all other states were not affected. The effect of this error on national fetal death data is negligible, and accordingly, rates in *Fetal and Perinatal Mortality, 2005* and forward are not modified.

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SYMBOLS USED IN TABLES

Data not available.....	---
Category not applicable.....	...
Quantity zero.....	_
Quantity more than 0 but less than 0.05.....	0.0
Figure does not meet standards of reliability or precision.....	*

Figure 1

TYPE/PRINT IN PERMANENT BLACK INK FOR INSTRUCTIONS SEE HANDBOOK

U.S. STANDARD REPORT OF FETAL DEATH

STATE FILE NUMBER

1. FACILITY NAME *(If not institution, give street and number)*

2. CITY, TOWN, OR LOCATION OF DELIVERY | 3. COUNTY OF DELIVERY | 4. DATE OF DELIVERY *(Month, Day, Year)* | 5. SEX OF FETUS

PARENTS

6a. MOTHER'S NAME *(First, Middle, Last)* | 6b. MAIDEN SURNAME | 7. DATE OF BIRTH *(Month, Day, Year)*

8a. RESIDENCE STATE | 8b. COUNTY | 8c. CITY, TOWN, OR LOCATION | 8d. STREET AND NUMBER

8e. INSIDE CITY LIMITS? *(Yes or no)* | 8f. ZIP CODE | 9. FATHER'S NAME *(First, Middle, Last)* | 10. DATE OF BIRTH *(Month, Day, Year)*

	11. OF HISPANIC ORIGIN? (Specify No or Yes—If yes, specify Cuban, Mexican, Puerto Rican, etc.)	12. RACE—American Indian, Black, White, etc. *(Specify below)*	13. EDUCATION *(Specify only highest grade completed)*		14. OCCUPATION AND BUSINESS/INDUSTRY *(Worked during last year)*	
			Elementary/Secondary (0-12)	College (1-4 or 5+)	Occupation	Business/Industry
MOTHER	11a. ☐ No ☐ Yes Specify:	12a.	13a.		14a.	14b.
FATHER	11b. ☐ No ☐ Yes Specify:	12b.	13b.		14c.	14d.

15. PREGNANCY HISTORY *(Complete each section)*

LIVE BIRTHS		OTHER TERMINATIONS *(Spontaneous and induced at any time after conception)*
15a. Now Living	15b. Now Dead	15d. *(Do not include this fetus)*
Number ____ ☐ None	Number ____ ☐ None	Number ____ ☐ None
15c. DATE OF LAST LIVE BIRTH *(Month, Year)*		15e. DATE OF LAST OTHER TERMINATION *(Month, Year)*

MULTIPLE BIRTHS Enter State File Number for Mate(s) LIVE BIRTH(S)

FETAL DEATH(S)

16. MOTHER MARRIED? (At delivery, conception, or any time between) *(Yes or no)*

17. DATE LAST NORMAL MENSES BEGAN *(Month, Day, Year)*

18. MONTH OF PREGNANCY PRENATAL CARE BEGAN—First, Second, Third, etc. *(Specify)*

19. PRENATAL VISITS—Total Number *(If none, so state)*

20. WEIGHT OF FETUS *(Specify Unit)*

21. CLINICAL ESTIMATE OF GESTATION *(Weeks)*

22a. PLURALITY—Single, Twin, Triplet, etc. *(Specify)*

22b. IF NOT SINGLE BIRTH—Born First, Second, Third, etc. *(Specify)*

MEDICAL AND HEALTH INFORMATION

23a. MEDICAL RISK FACTORS FOR THIS PREGNANCY *(Check all that apply)*

- Anemia (Hct. < 30/Hgb. < 10) ... 01 ☐
- Cardiac disease ... 02 ☐
- Acute or chronic lung disease ... 03 ☐
- Diabetes ... 04 ☐
- Genital herpes ... 05 ☐
- Hydramnios/Oligohydramnios ... 06 ☐
- Hemoglobinopathy ... 07 ☐
- Hypertension, chronic ... 08 ☐
- Hypertension, pregnancy-associated ... 09 ☐
- Eclampsia ... 10 ☐
- Incompetent cervix ... 11 ☐
- Previous infant 4000+ grams ... 12 ☐
- Previous preterm or small-for-gestational-age infant ... 13 ☐
- Renal disease ... 14 ☐
- Rh sensitization ... 15 ☐
- Uterine bleeding ... 16 ☐
- None ... 00 ☐
- Other _____ 17 ☐ *(Specify)*

23b. OTHER RISK FACTORS FOR THIS PREGNANCY *(Complete all items)*

- Tobacco use during pregnancy ... Yes ☐ No ☐
  - Average number cigarettes per day ____
- Alcohol use during pregnancy ... Yes ☐ No ☐
  - Average number drinks per week ____
- Weight gained during pregnancy ____ lbs.

24. OBSTETRIC PROCEDURES *(Check all that apply)*

- Amniocentesis ... 01 ☐
- Electronic fetal monitoring ... 02 ☐
- Induction of labor ... 03 ☐
- Stimulation of labor ... 04 ☐
- Tocolysis ... 05 ☐
- Ultrasound ... 06 ☐
- None ... 00 ☐
- Other _____ 07 ☐ *(Specify)*

25. COMPLICATIONS OF LABOR AND/OR DELIVERY *(Check all that apply)*

- Febrile (>100°F. or 38°C.) ... 01 ☐
- Meconium, moderate/heavy ... 02 ☐
- Premature rupture of membrane (>12 hours) ... 03 ☐
- Abruptio placenta ... 04 ☐
- Placenta previa ... 05 ☐
- Other excessive bleeding ... 06 ☐
- Seizures during labor ... 07 ☐
- Precipitous labor (< 3 hours) ... 08 ☐
- Prolonged labor (>20 hours) ... 09 ☐
- Dysfunctional labor ... 10 ☐
- Breech/Malpresentation ... 11 ☐
- Cephalopelvic disproportion ... 12 ☐
- Cord prolapse ... 13 ☐
- Anesthetic complications ... 14 ☐
- Fetal distress ... 15 ☐
- None ... 00 ☐
- Other _____ 16 ☐ *(Specify)*

26. METHOD OF DELIVERY *(Check all that apply)*

- Vaginal ... 01 ☐
- Vaginal birth after previous C-section ... 02 ☐
- Primary C-section ... 03 ☐
- Repeat C-section ... 04 ☐
- Forceps ... 05 ☐
- Vacuum ... 06 ☐
- Hysterotomy/Hysterectomy ... 07 ☐

27. CONGENITAL ANOMALIES OF FETUS *(Check all that apply)*

- Anencephalus ... 01 ☐
- Spina bifida/Meningocele ... 02 ☐
- Hydrocephalus ... 03 ☐
- Microcephalus ... 04 ☐
- Other central nervous system anomalies *(Specify)* _____ 05 ☐
- Heart malformations ... 06 ☐
- Other circulatory/respiratory anomalies *(Specify)* _____ 07 ☐
- Rectal atresia/stenosis ... 08 ☐
- Tracheo esophageal fistula/Esophageal atresia ... 09 ☐
- Omphalocele/Gastroschisis ... 10 ☐
- Other gastrointestinal anomalies *(Specify)* _____ 11 ☐
- Malformed genitalia ... 12 ☐
- Renal agenesis ... 13 ☐
- Other urogenital anomalies *(Specify)* _____ 14 ☐
- Cleft lip/palate ... 15 ☐
- Polydactyly/Syndactyly/Adactyly ... 16 ☐
- Club foot ... 17 ☐
- Diaphragmatic hernia ... 18 ☐
- Other musculoskeletal/integumental anomalies *(Specify)* _____ 19 ☐
- Down's syndrome ... 20 ☐
- Other chromosomal anomalies *(Specify)* _____ 21 ☐
- None ... 00 ☐
- Other _____ 22 ☐ *(Specify)*

TMENT OF HEALTH AND HUMAN SERVICES — PUBLIC HEALTH SERVICE — NATIONAL CENTER FOR HEALTH STATISTICS — 1989 REVISION

DEPART

CAUSE OF FETAL DEATH

28. Enter only one cause per line for a, b, and c.

PART I. Fetal or maternal condition directly causing fetal death.

IMMEDIATE CAUSE

a. _____ | Specify Fetal or Maternal

DUE TO (OR AS A CONSEQUENCE OF):

Fetal and/or maternal conditions, if any, giving rise to the immediate cause(s), stating the underlying cause last.

b. _____ | Specify Fetal or Maternal

DUE TO (OR AS A CONSEQUENCE OF):

c. _____ | Specify Fetal or Maternal

PART II. Other significant conditions of fetus or mother contributing to fetal death but not resulting in the underlying cause given in Part I.

29. FETUS DIED BEFORE LABOR, DURING LABOR OR DELIVERY, UNKNOWN *(Specify)*

30. ATTENDANT'S NAME AND TITLE *(Type/Print)*

Name _____

☐ M.D. ☐ D.O. ☐ C.N.M. ☐ Other Midwife

☐ Other *(Specify)* _____

31. NAME AND TITLE OF PERSON COMPLETING REPORT *(Type/Print)*

Name _____

Title _____

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Figure 2

U.S. STANDARD REPORT OF FETAL DEATH

LOCAL FILE NO. STATE FILE NUMBER:

MOTHER

1. NAME OF FETUS (optional-at the discretion of the parents)
2. TIME OF DELIVERY (24hr)
3. SEX (M/F/Unk)
4. DATE OF DELIVERY (Mo/Day/Yr)

5a. CITY, TOWN, OR LOCATION OF DELIVERY

5b. ZIP CODE OF DELIVERY

6. COUNTY OF DELIVERY

7. PLACE WHERE DELIVERY OCCURRED (Check one)
Hospital
Freestanding birthing center
Home Delivery: Planned to deliver at home? Yes No
Clinic/Doctor's office
Other (Specify)_____

8. FACILITY NAME (If not institution, give street and number)

9. FACILITY ID. (NPI)

10a. MOTHER'S CURRENT LEGAL NAME (First, Middle, Last, Suffix)

10b. DATE OF BIRTH (Mo/Day/Yr)

10c. MOTHER'S NAME PRIOR TO FIRST MARRIAGE (First, Middle, Last, Suffix)

10d. BIRTHPLACE (State, Territory, or Foreign Country)

11a. RESIDENCE OF MOTHER-STATE

11b. COUNTY

11c. CITY, TOWN, OR LOCATION

11d. STREET AND NUMBER

11e. APT. NO.

11f. ZIP CODE

11g. INSIDE CITY LIMITS? Yes No

FATHER

12a. FATHER'S CURRENT LEGAL NAME (First, Middle, Last, Suffix)

12b. DATE OF BIRTH (Mo/Day/Yr)

12c. BIRTHPLACE (State, Territory, or Foreign Country)

DISPOSITION

13. METHOD OF DISPOSITION:
Burial Cremation Hospital Disposition Donation Removal from State Other (Specify)_____

ATTENDANT AND REGISTRATION INFORMATION

14. ATTENDANT'S NAME, TITLE, AND NPI
NAME: _____
NPI: _____
TITLE: MD DO CNM/CM OTHER MIDWIFE
OTHER (Specify)_____

15. NAME AND TITLE OF PERSON COMPLETING REPORT
Name _____
Title _____

16. DATE REPORT COMPLETED
MM / DD / YYYY

17. DATE RECEIVED BY REGISTRAR
MM / DD / YYYY

18. CAUSE/CONDITIONS CONTRIBUTING TO FETAL DEATH

CAUSE OF FETAL DEATH

18a. INITIATING CAUSE/CONDITION

(AMONG THE CHOICES BELOW, PLEASE SELECT THE ONE WHICH MOST LIKELY BEGAN THE SEQUENCE OF EVENTS RESULTING IN THE DEATH OF THE FETUS)

Maternal Conditions/Diseases (Specify) _____

Complications of Placenta, Cord, or Membranes
Rupture of membranes prior to onset of labor
Abruptio placenta
Placental insufficiency
Prolapsed cord
Chorioamnionitis
Other (Specify)_____

Other Obstetrical or Pregnancy Complications (Specify)_____

Fetal Anomaly (Specify)_____

Fetal Injury (Specify)_____

Fetal Infection (Specify)_____

Other Fetal Conditions/Disorders (Specify)_____

Unknown

18b. OTHER SIGNIFICANT CAUSES OR CONDITIONS
(SELECT OR SPECIFY ALL OTHER CONDITIONS CONTRIBUTING TO DEATH IN ITEM 18b)

Maternal Conditions/Diseases (Specify) _____

Complications of Placenta, Cord, or Membranes
Rupture of membranes prior to onset of labor
Abruptio placenta
Placental insufficiency
Prolapsed cord
Chorioamnionitis
Other (Specify)_____

Other Obstetrical or Pregnancy Complications (Specify)_____

Fetal Anomaly (Specify)_____

Fetal Injury (Specify)_____

Fetal Infection (Specify)_____

Other Fetal Conditions/Disorders (Specify)_____

Unknown

18c. WEIGHT OF FETUS (grams preferred, specify unit)
_____
grams lb/oz

18d. OBSTETRIC ESTIMATE OF GESTATION AT DELIVERY
_____ (completed weeks)

18e. ESTIMATED TIME OF FETAL DEATH
Dead at time of first assessment, no labor ongoing
Dead at time of first assessment, labor ongoing
Died during labor, after first assessment
Unknown time of fetal death

18f. WAS AN AUTOPSY PERFORMED? Yes No Planned

18g. WAS A HISTOLOGICAL PLACENTAL EXAMINATION PERFORMED? Yes No Planned

18h. WERE AUTOPSY OR HISTOLOGICAL PLACENTAL EXAMINATION RESULTS USED IN DETERMINING THE CAUSE OF FETAL DEATH? Yes No

Mother's Name _____ Mother's Medical Record No. _____

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MOTHER

19. MOTHER'S EDUCATION (Check the box that best describes the highest degree or level of school completed at the time of delivery)

- 8th grade or less
- 9th - 12th grade, no diploma
- High school graduate or GED completed
- Some college credit but no degree
- Associate degree (e.g., AA, AS)
- Bachelor's degree (e.g., BA, AB, BS)
- Master's degree (e.g., MA, MS, MEng, MEd, MSW, MBA)
- Doctorate (e.g., PhD, EdD) or Professional degree (e.g., MD, DDS, DVM, LLB, JD)

20. MOTHER OF HISPANIC ORIGIN? (Check the box that best describes whether the mother is Spanish/Hispanic/Latina. Check the "No" box if mother is not Spanish/Hispanic/Latina)

- No, not Spanish/Hispanic/Latina
- Yes, Mexican, Mexican American, Chicana
- Yes, Puerto Rican
- Yes, Cuban
- Yes, other Spanish/Hispanic/Latina

(Specify)_____

21. MOTHER'S RACE (Check one or more races to indicate what the mother considers herself to be)

- White
- Black or African American
- American Indian or Alaska Native
  (Name of the enrolled or principal tribe)_____
- Asian Indian
- Chinese
- Filipino
- Japanese
- Korean
- Vietnamese
- Other Asian (Specify)_____
- Native Hawaiian
- Guamanian or Chamorro
- Samoan
- Other Pacific Islander (Specify)_____
- Other (Specify)_____

22. MOTHER MARRIED? (At delivery, conception, or anytime between) Yes No

23a. DATE OF FIRST PRENATAL CARE VISIT _____/_____/_____ (MM DD YYYY) No Prenatal Care

23b. DATE OF LAST PRENATAL CARE VISIT _____/_____/_____ (MM DD YYYY)

24. TOTAL NUMBER OF PRENATAL VISITS FOR THIS PREGNANCY _____ (If none, enter "0".)

25. MOTHER'S HEIGHT _____ (feet/inches)

26. MOTHER'S PREPREGNANCY WEIGHT _____ (pounds)

27. MOTHER'S WEIGHT AT DELIVERY _____ (pounds)

28. DID MOTHER GET WIC FOOD FOR HERSELF DURING THIS PREGNANCY? Yes No

29. NUMBER OF PREVIOUS LIVE BIRTHS

29a. Now Living Number _____ None

29b. Now Dead Number _____ None

30. NUMBER OF OTHER PREGNANCY OUTCOMES (spontaneous or induced losses or ectopic pregnancies)

30a. Other Outcomes Number (Do not include this fetus) _____ None

31. CIGARETTE SMOKING BEFORE AND DURING PREGNANCY

For each time period, enter either the number of cigarettes or the number of packs of cigarettes smoked. IF NONE, ENTER "0".
Average number of cigarettes or packs of cigarettes smoked per day

	# of cigarettes	OR	# of packs
Three Months Before Pregnancy			
First Three Months of Pregnancy		OR	
Second Three Months of Pregnancy		OR	
Third Trimester of Pregnancy		OR	

29c. DATE OF LAST LIVE BIRTH _____/_____ (MM YYYY)

30b. DATE OF LAST OTHER PREGNANCY OUTCOME _____/_____ (MM YYYY)

32. DATE LAST NORMAL MENSES BEGAN _____/_____/_____ (M M D D Y Y Y Y)

33. PLURALITY - Single, Twin, Triplet, etc. (Specify)_____

34. IF NOT SINGLE BIRTH - Born First, Second, Third, etc. (Specify)_____

35. MOTHER TRANSFERRED FOR MATERNAL MEDICAL OR FETAL INDICATIONS FOR DELIVERY? Yes No
IF YES, ENTER NAME OF FACILITY MOTHER TRANSFERRED FROM: _____

MEDICAL AND HEALTH INFORMATION

36. RISK FACTORS IN THIS PREGNANCY (Check all that apply):

- Diabetes
  - Prepregnancy (Diagnosis prior to this pregnancy)
  - Gestational (Diagnosis in this pregnancy)
- Hypertension
  - Prepregnancy (Chronic)
  - Gestational (PIH, preeclampsia)
  - Eclampsia
- Previous preterm birth
- Other previous poor pregnancy outcome (Includes perinatal death, small-for-gestational age/intrauterine growth restricted birth)
- Pregnancy resulted from infertility treatment-If yes, check all that apply:
  - Fertility-enhancing drugs, Artificial insemination or Intrauterine insemination
  - Assisted reproductive technology (e.g., in vitro fertilization (IVF), gamete intrafallopian transfer (GIFT))
- Mother had a previous cesarean delivery
  - If yes, how many _____
- None of the above

37. INFECTIONS PRESENT AND/OR TREATED

DURING THIS PREGNANCY (Check all that apply)

- Gonorrhea
- Syphilis
- Chlamydia
- Listeria
- Group B Streptococcus
- Cytomegalovirus
- Parvovirus
- Toxoplasmosis
- None of the above
- Other (Specify)_____

38. METHOD OF DELIVERY

A. Was delivery with forceps attempted but unsuccessful? Yes No

B. Was delivery with vacuum extraction attempted but unsuccessful? Yes No

C. Fetal presentation at delivery
- Cephalic
- Breech
- Other

D. Final route and method of delivery (Check one)
- Vaginal/Spontaneous
- Vaginal/Forceps
- Vaginal/Vacuum
- Cesarean
  - If cesarean, was a trial of labor attempted?
    - Yes
    - No

E. Hysterotomy/Hysterectomy Yes No

39. MATERNAL MORBIDITY (Complications associated with labor and delivery)

- Maternal transfusion
- Third or fourth degree perineal laceration
- Ruptured uterus
- Unplanned hysterectomy
- Admission to intensive care unit
- Unplanned operating room procedure following delivery
- None of the above

40. CONGENITAL ANOMALIES OF THE FETUS (Check all that apply)

- Anencephaly
- Meningomyelocele/Spina bifida
- Cyanotic congenital heart disease
- Congenital diaphragmatic hernia
- Omphalocele
- Gastroschisis
- Limb reduction defect (excluding congenital amputation and dwarfing syndromes)
- Cleft Lip with or without Cleft Palate
- Cleft Palate alone
- Down Syndrome
  - Karyotype confirmed
  - Karyotype pending
- Suspected chromosomal disorder
  - Karyotype confirmed
  - Karyotype pending
- Hypospadias
- None of the anomalies listed above

Mother's Name _____ Mother's Medical Record No. _____

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NOTE: This recommended standard fetal death report is the result of an extensive evaluation process.
Information on the process and resulting recommendations as well as plans for future activities is available on the Internet at: http://www.cdc.gov/nchs/vital_certs_rev.htm.

Table A. Period of gestation/ weight minimums at which fetal-death reporting is required: Each reporting area, 2005

Area	All periods of gestation	16 weeks	20 weeks	20 weeks or 350 grams	20 weeks or 400 grams	20 weeks or 500 grams	5 months	350 grams	500grams
Alabama			X						
Alaska			X						
Arizona				X					
Arkansas	[1]X								
California			X						
Colorado	[1]X								
Connecticut			X						
Delaware								[2]X	
District of Columbia						X			
Florida			X						
Georgia	[1]X								
Hawaii	X								
Idaho				X					
Illinois			X						
Indiana			X						
Iowa			X						
Kansas								X	
Kentucky				X					
Louisiana				X					
Maine			X						
Maryland			[3]X						
Massachusetts				X					
Michigan					X				
Minnesota			X						
Mississippi				X					
Missouri				X					
Montana								[2]X	
Nebraska			X						
Nevada			X						
New Hampshire				X					
New Jersey			X						
New Mexico									X
New York	X								
New York excluding New York City	X								
New York City	X								
North Carolina			X						
North Dakota			X						
Ohio			X						
Oklahoma			X						
Oregon			X						
Pennsylvania		X							
Rhode Island	X								
South Carolina				X					
South Dakota									X
Tennessee									[4]X
Texas			X						
Utah			X						
Vermont			[5]X						
Virginia	X								
Washington			X						
West Virginia			X						
Wisconsin				X					
Wyoming			X						
Puerto Rico							X		
Virgin Islands	X								
Guam				X					

1/ Although State law requires the reporting of fetal deaths of all periods of gestation, only data for fetal deaths of 20 weeks of gestation or more are provided to NCHS.
2/ If weight is unknown, 20 completed weeks of gestation or more.
3/ If gestational age is unknown, weight of 500 grams or more.
4/ If weight is unknown, 22 completed weeks of gestation or more.
5/ If gestational age is unknown, weight of 400 grams or more, 15 ounces or more.

Table B. Percent of fetal death records on which specified items were not stated: United States, each state and the District of Columbia, 2005

[By place of residence. Records include only those with stated or presumed period of gestation of 20 weeks or more.]

Area	Total fetal deaths	Marital status[1]	Place of delivery	Hispanic origin of mother	Mother's educational attainment		Length of gestation[4]	Month prenatal care began		Number prenatal visits
					Unrevised states[2]	Revised states[3]		Unrevised states[2]	Revised states[3]	
Total of reporting areas	25,894	5.3	0.3	6.8	15.6	19.6	2.6	15.9	21.4	16.6
Alabama	534	1.1	-	0.9	10.1	---	0.4	6.0	---	6.6
Alaska	48	-	-	8.3	27.1	---	6.3	31.3	---	25.0
Arizona	569	0.4	-	8.6	2.3	---	1.1	2.8	---	2.8
Arkansas	279	1.1	-	-	12.2	---	0.4	15.8	---	15.8
California	3,051	---	-	1.5	6.1	---	9.0[4]	5.1	---	6.7
Colorado	378	1.9	-	2.6	9.8	---	-	7.9	---	10.8
Connecticut	253	6.3	0.4	6.3	30.4	---	-	19.8	---	17.4
Delaware	66	10.6	-	3.0	19.7	---	3.0	7.6	---	15.2
District of Columbia	68	13.2	-	13.2	47.1	---	2.9	38.2	---	26.5
Florida	1,608	9.3	-	10.5	16.8	---	1.6	22.6	---	23.7
Georgia	1,066	0.4	-	9.6	38.1	---	0.2	19.6	---	20.8
Hawaii	112	10.7	1.8	29.5	37.5	---	8.0	53.6	---	44.6
Idaho	129	-	-	-	---	6.2	0.8	---	7.0	7.8
Illinois	1,126	5.9	-	3.4	8.7	---	0.4	15.4	---	15.3
Indiana	492	4.7	0.4	4.3	15.4	---	2.2	14.0	---	17.1
Iowa	222	0.9	-	0.9	12.6	---	1.4	12.6	---	3.2
Kansas	200	0.5	-	1.0	---	6.5	0.5	---	17.5	9.0
Kentucky	338	0.6	-	0.3	---	10.4	0.3	---	13.0	3.3
Louisiana	483	18.4	15.5	15.7	18.8	---	19.7	24.2	---	24.2
Maine	76	7.9	-	35.5	34.2	---	-	14.5	---	15.8
Maryland	631	6.2	-	6.3	---	23.5	-	---	19.7	8.7
Massachusetts	419	4.8	-	22.0	21.2	---	-	20.5	---	15.3
Michigan	742	16.2	0.1	29.5	---	32.7	0.5	---	19.0	18.6
Minnesota	339	1.5	0.3	---	17.4	---	1.2	1.8	---	2.9
Mississippi	419	-	-	1.0	24.1	---	1.0	11.5	---	30.1
Missouri	444	-	-	0.0	6.8	---	0.5	6.5	---	6.8
Montana	54	-	-	3.7	-	---	-	-	---	1.9
Nebraska	134	0.7	-	-	---	10.4	-	---	8.2	1.5
Nevada	268	---	0.7	1.1	7.5	---	0.7	1.1	---	1.9
New Hampshire	64	1.6	1.6	9.4	---	7.8	-	---	62.5	1.6
New Jersey	703	5.7	-	1.0	6.3	---	-	6.3	---	6.8
New Mexico	82	2.4	-	1.2	29.3	---	-	-	---	19.5
New York City	809	---	-	7.3	28.3	---	1.3	43.8	---	41.0
New York State	1,253	---	-	4.9	47.6	---	0.6	34.2	---	36.0
North Carolina	847	1.2	-	0.8	4.4	---	0.9	3.8	---	5.8
North Dakota	46	-	-	8.7	2.2	---	2.2	6.5	---	4.3
Ohio	898	1.7	0.3	1.4	6.1	---	1.0	7.2	---	9.9
Oklahoma	288	7.3	-	10.8	---	21.5	2.1	---	40.6	24.3
Oregon	203	0.5	-	-	8.9	---	0.5	3.9	---	3.9
Pennsylvania	1,031	11.4	-	1.8	14.0	---	6.8	23.2	---	23.0
Rhode Island	83	81.9	-	95.2	94.0	---	-	96.4	---	94.0
South Carolina	500	0.2	-	1.2	9.0	---	-	6.8	---	7.4
South Dakota	46	4.3	-	2.2	---	8.7	-	---	4.3	-
Tennessee	393	1.5	-	0.8	20.1	---	3.1	16.5	---	16.5
Texas	2,082	---	0.0	1.2	6.0	---	3.9	15.1	---	16.6
Utah	266	-	-	-	---	3.8	0.8	---	3.4	3.0
Vermont	31	3.2	-	6.5	12.9	---	-	19.4	---	6.5
Virginia	693	6.3	-	5.5	34.8	---	0.1	32.5	---	36.8
Washington	496	11.7	-	15.7	---	22.2	1.6	---	36.5	35.9
West Virginia	126	1.6	-	-	13.5	---	-	18.3	---	15.9
Wisconsin	364	0.8	-	3.6	15.7	---	0.8	8.5	---	9.9
Wyoming	42	2.4	-	2.4	23.8	---	2.4	14.3	---	4.8

Table B. Percent of fetal death records on which specified items were not stated: United States, each state and the District of Columbia2005-Con.

[By place of residence. Records include only those with stated or presumed period of gestation of 20 weeks or more.]

Area	Delivery weight	Tobacco Use		Alcohol Use[5]	Medical risk factors	Obstetric procedures[6]	Method of Delivery[7]	Complications of labor & delivery	Congenital anomalies
		Unrevised states[2]	Revised states[3]						
Total of reporting areas	11.9	12.8	13.3	10.7	9.9	18.2	6.8	20.0	15.0
Alabama	2.6	3.0	---	3.7	2.8	3.0	2.2	3.9	3.0
Alaska	20.8	22.9	---	29.2	8.3	20.8	10.4	27.1	27.1
Arizona	5.3	1.1	---	1.1	4.4	4.7	2.1	4.9	5.1
Arkansas	1.4	3.6	---	6.1	0.4	0.7	1.4	0.4	-
California	1.5	---	---	---	2.8	2.3	1.5	2.5	3.3
Colorado	10.3	9.5	---	10.3	-	-	1.9	-	-
Connecticut	5.1	5.5	---	5.9	8.7	1.6	2.8	8.3	13.4
Delaware	4.5	19.7	---	22.7	15.2	18.2	13.6	15.2	15.2
District of Columbia	11.8	20.6	---	27.9	5.9	17.6	14.7	22.1	25.0
Florida	10.2	6.1	---	7.0	4.7	4.2	4.9	4.7	6.3
Georgia	12.4	14.3	---	15.1	8.3	5.3	9.0	7.8	11.7
Hawaii	40.2	---	---	---	---	---	---	---	---
Idaho	6.2	---	3.9	---	0.8	---	1.6	98.4	-
Illinois	9.9	15.4	---	16.2	17.9	11.4	10.6	18.5	21.3
Indiana	12.0	7.3[8]	---	10.4	11.0	10.2	3.7	7.3	9.8
Iowa	4.1	3.6	---	9.9	0.9	10.4	1.4	8.1	2.7
Kansas	2.0	---	7.0	---	-	---	-	---	-
Kentucky	11.2	---	8.6	---	0.6	---	5.0	91.7	1.2
Louisiana	28.4	22.6	---	22.8	19.5	17.8	18.0	20.3	18.8
Maine	25.0	10.5	---	18.4	10.5	6.6	7.9	15.8	18.4
Maryland	8.9	---	11.4	---	0.5	---	0.2	89.2	1.3
Massachusetts	4.3	16.2	---	14.3	18.9	7.2	1.7	19.8	19.3
Michigan	8.5	---	---[8]	---	4.3	---	4.2	---	0.9
Minnesota	2.7	3.8	---	5.9	5.3	5.0	1.8	6.8	18.0
Mississippi	2.9	8.1	---	8.6	2.1	1.7	1.0	1.9	5.5
Missouri	3.8	2.3	---	3.8	2.0	2.5	1.4	2.9	2.7
Montana	7.4	1.9	---	1.9	-	-	-	-	-
Nebraska	14.2	---	12.7	---	0.7	---	-	---	0.7
Nevada	12.7	13.8	---	17.5	8.6	9.0	9.3	15.3	12.3
New Hampshire	4.7	---	10.9	---	1.6	---	-	---	4.7
New Jersey	5.3	4.3	---	4.6	5.1	2.4	3.3	4.0	15.8
New Mexico	-	1.2	---	1.2	1.2	1.2	-	1.2	-
New York City	27.1	22.5	---	22.0	21.3	18.8	22.3	22.3	---
New York State	44.9	---	---	4.8	34.4	17.1	21.5	25.2	53.6
North Carolina	4.3	2.5	---	2.6	0.1	0.1	0.9	0.1	0.5
North Dakota	6.5	10.9	---	10.9	6.5	6.5	6.5	6.5	17.4
Ohio	7.5	6.2	---	10.0	6.6	4.0	4.6	7.6	7.5
Oklahoma	78.5	---	5.6	---	76.7	---	23.6	---	---
Oregon	2.0	3.4	---	5.4	3.4	1.5	6.4	1.5	-
Pennsylvania	20.4	17.0	---	21.9	16.2	14.7	12.7	18.8	28.3
Rhode Island	14.5	83.1	---	85.5	79.5	83.1	77.1	83.1	83.1
South Carolina	2.0	1.8	---	3.4	1.2	0.8	0.8	1.4	1.8
South Dakota	-	---	8.7	---	-	---	2.2	---	2.2
Tennessee	4.8	12.5	---	17.0	-	0.8	4.1	0.8	0.3
Texas	10.5	4.7	---	6.1	15.0	1.7	1.6	2.4	0.1
Utah	19.5	---	1.5	---	-	---	-	---	-
Vermont	9.7	16.1	---	22.6	9.7	12.9	3.2	16.1	9.7
Virginia	31.3	9.4	---	10.5	8.9	10.0	11.5	10.1	8.9
Washington	22.0	---	35.5	---	18.5	---	18.1	---	26.4
West Virginia	4.8	4.0	---	11.9	0.8	4.8	2.4	5.6	1.6
Wisconsin	1.9	1.4	---	1.4	0.3	-	0.5	0.5	3.3
Wyoming	9.5	-	---	16.7	-	14.3	2.4	16.7	-

0.0 Quantity more than zero but less than 0.05.

– Quantity zero.

--- Data not available.

FOOTNOTES

[1/] Marital status is not reported by California, Nevada, New York, and Texas.

[2/] Data are based on the 1989 Revision of the Report of Fetal Death. Births to residents using the 1989 Standard Certificate of Live Birth occurring in states using the 2003 Standards Cetificate of Live Birth are coded as as 'not stated' for this item. See "Technical Notes".

[3/] Data are based on the 2003 Report of Fetal Death. Births to residents of states using the 2003 Standard Certificate of Live Birth occurring in states using the 1989 Standard Certificate of Live Birth are coded as 'not stated' for this item. See "Technical Notes"

[4/] California reports date last normal menses began but does not report clinical estimate of gestation.

[5/] California and Hawaii do not report alchohol use. Also excludes data for Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakoda, Utah, and Washington, which implemented the 2003 Revision to the U.S. Report of Fetal Death for 2005.

[6/] Hawaii does not report obstetric procedures. Also excludes data for Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakoda, Utah, and Washington, which implemented the 2003 Revision to the U.S. Report of Fetal Death for 2005

[7/] Data on type of vaginal delivery or cesarean delivery for Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakoda, Utah, and Washington, are based on the 2003 Revision to the U.S. Report of Fetal Death, and are not comparable with data from states using 1989 Revision of the U.S. Report of Fetal Death.

Hysterectomy and hysterotomy are not reported by Alaska, California, Connecticut, New York, Oregon and Wyoming.

[8/] California and Hawaii do not report tobacco use. Indiana reports tobacco use but does not report the average number of cigarettes smoked per day in standard categories. Tobacco use data for Michigan are not compatible with those for either the 1989 or 2003 revisions.

Table C. Assessing the impact of miscoding of the tabulation flag variable on fetal deaths and mortality rates: United States and four individual states, 2005

	Number of fetal deaths[1]			Fetal mortality rate[2]		
	With new coding	Originally reported	Births	With new coding	Originally reported	Percent difference
United States	25,961	25,894	4,138,573	6.23	6.22	0.2
Idaho	130	129	23,062	5.610	5.56	0.9
Oklahoma	337	288	51,801	6.46	5.53	16.8
Utah	267	266	51,556	5.15	5.13	0.4
Washington	512	496	82,703	6.15	5.96	3.2

NOTE: No changes in numbers of deaths were found for other states

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

[2]Rate per 1,000 live births and fetal deaths in specified group.

SYMBOLS USED IN TABLES

Data not available.....	---
Category not applicable.....	...
Quantity zero.....	_
Quantity more than 0 but less than 0.05.....	0.0
Figure does not meet standards of reliability or precision.....	*

National Vital Statistics Reports

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Fetal and Perinatal Mortality, United States, 2005

by Marian F. MacDorman, Ph.D., and Sharon Kirmeyer, Ph.D., Division of Vital Statistics

Abstract

Objectives—This report presents 2005 fetal and perinatal mortality data by a variety of characteristics, including maternal age, marital status, race, Hispanic origin, and state of residence; and by fetal gestational age at delivery, birthweight, plurality, and sex. Trends in fetal and perinatal mortality are also examined.

Methods—Descriptive tabulations of data are presented and interpreted.

Results—In 2005, there were 25,894 reported fetal deaths of 20 weeks of gestation or more in the United States. The U.S. fetal mortality rate was 6.22 fetal deaths of 20 weeks of gestation or more per 1,000 live births and fetal deaths, not significantly different from the rate of 6.20 in 2004 or 6.23 in 2003. The fetal mortality rate declined slowly but steadily from 1990 to 2003, but did not decline from 2003 to 2005. Most of the decline in the overall fetal mortality rate from 1990 to 2003 was due to a decline in fetal deaths of 28 weeks of gestation or more; fetal deaths of 20–27 weeks did not decline. From 2003 to 2005, fetal mortality rates did not decline for either gestational age grouping. From 2003 to 2005, fetal mortality rates declined significantly for non-Hispanic white and non-Hispanic black women, but not for Hispanic, American Indian or Alaska Native (AIAN), or Asian or Pacific Islander women. In 2005, the fetal mortality rate for non-Hispanic black women (11.13) was 2.3 times the rate for non-Hispanic white women (4.79). The rate for AIAN women (6.17) was 29% higher, and the rate for Hispanic women (5.44) was 14% higher than the rate for non-Hispanic white women. Fetal mortality rates are elevated for a number of groups, including teenagers, women aged 35 years and over, unmarried women, and multiple deliveries. In 2005, one-half of fetal deaths of 20 weeks of gestation or more occurred at 20–27 weeks of gestation.

Keywords: fetal mortality • perinatal mortality • fetal death • stillbirth • pregnancy loss

Introduction

Fetal mortality is an important public health issue. Fetal mortality refers to the intrauterine death of a fetus at any gestational age. The National Survey of Family Growth estimates about 1 million fetal losses per year in the United States (1) with the vast majority of these occurring before 20 weeks of gestation. Fetal mortality data from

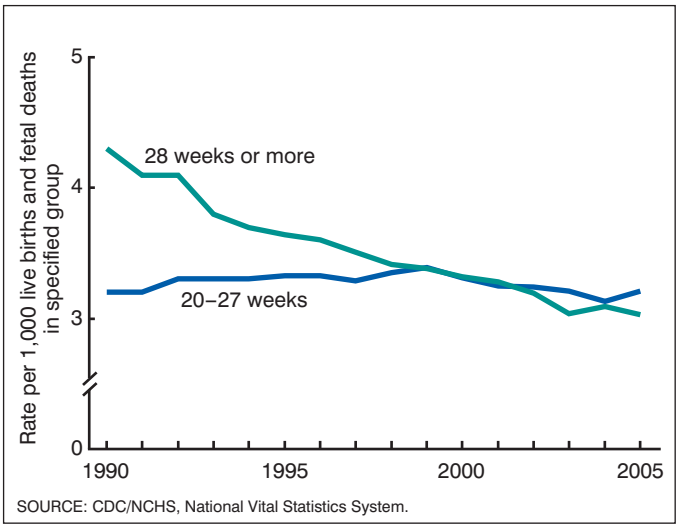

Figure 1. Fetal mortality rates by period of gestation: United States, 1990–2005

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics
National Vital Statistics System

the National Vital Statistics System are usually presented for fetal deaths of 20 weeks of gestation or more. Even when only fetal deaths of 20 weeks or more are considered, there are nearly as many fetal deaths as infant deaths in the United States each year. Perinatal mortality refers to death around the time of delivery and includes both fetal deaths (of at least 20 weeks of gestation) and early infant (neonatal) deaths. Much of the public concern regarding reproductive loss has concentrated on infant mortality; however, a focus on fetal mortality may provide further opportunities for prevention.

The U.S. fetal mortality rate declined from 25.0 fetal deaths of 20 weeks of gestation or more per 1,000 live births and fetal deaths in 1942 (2) to 6.23 in 2003 (3). The real decline in fetal mortality during this period was probably larger, as reporting of fetal deaths has improved over time (4,5). However, the U.S. fetal mortality rate did not decrease from 2003 to 2005, suggesting a halt in this long-term decline. A similar plateau in the U.S. infant mortality rate from 2000 to 2005 is described in a separate report (6). Also of concern are large racial and ethnic disparities in U.S. fetal and perinatal mortality rates. Fetal and perinatal mortality rates in the United States appear to be higher than those in many other developed countries (comparison made for fetal deaths of 28 weeks of gestation or more to avoid international differences in reporting requirements) (7–9). This report presents detailed data on fetal and perinatal deaths and mortality rates for the United States for 2005. Data are presented by maternal age, marital status, race, Hispanic origin, and state of residence; and by fetal gestational age at delivery, birthweight, plurality, and sex (Tables 1–3, A–F, and Figures 1–7). Trends in fetal and perinatal mortality are also examined.

Methods

Data sources—Data shown in this report are drawn from two different National Center for Health Statistics (NCHS) vital statistics data files: the 2005 fetal death data set (for fetal deaths), and the 2005 period linked birth/infant death data set (linked file) (for live births and infant deaths). The 2005 fetal death data set contains information from all Reports of Fetal Death filed in the 50 states, the District of Columbia, Puerto Rico, the Virgin Islands, and Guam (10). In the linked file the information from the death certificate is linked to the information from the birth certificate for each infant under 1 year of age who died in 2005 (11,12). The purpose of the linkage is to use the many additional variables available from the birth certificate to conduct more detailed analyses of infant and perinatal mortality patterns. Infant deaths from the linked file are used in preference to those from the main mortality file for tabulating perinatal deaths because the linked file contains data by birth and maternal characteristics, similar to the fetal death file. Tables showing data by state also provide separate information for Puerto Rico, the Virgin Islands, and Guam; however, these data are not included in U.S. totals.

Fetal mortality—Fetal death refers to the intrauterine death of a fetus before delivery (see "Technical Notes"). Fetal mortality is generally divided into three periods: early (less than 20 completed weeks of gestation), intermediate (20–27 weeks of gestation), and late (28 weeks of gestation or more). Although the vast majority of fetal deaths occur early in pregnancy (1), most states in the U.S. only report fetal deaths of 20 weeks of gestation or more, and these intermediate and late fetal deaths are the subject of this report. Statistics on fetal death exclude data for induced terminations of pregnancy. There is substantial variation among states in reporting requirements and completeness of reporting for fetal death data, and these variations have important implications for data quality and completeness (13–16). In particular, three states (New Mexico, South Dakota, and Tennessee) require reporting of fetal deaths with birthweights of 500 grams or more (roughly equivalent to 22 weeks of gestation). Lack of full reporting for these states leads to a slight underestimate of the U.S. fetal mortality rate. For example, when data for these three states were excluded, the 2005 fetal mortality rate was 6.28, compared with 6.22 for all states combined (see "Technical Notes").

Correct interpretation of fetal death data must include an evaluation of the completeness of reporting of fetal deaths, and also an evaluation of the completeness of reporting for the specific variables of interest. The percentage of not stated responses for fetal death data varies substantially among variables and states (see "Technical Notes"). Fetal mortality rates in this report are computed as the number of fetal deaths of 20 weeks of gestation or more per 1,000 live births and fetal deaths of 20 weeks or more, the population at risk of the event (see "Technical Notes").

Perinatal mortality—This report includes two different definitions of perinatal mortality. Perinatal definition I includes infant deaths of less than 7 days of age and fetal deaths of 28 weeks of gestation or more. Perinatal definition II is the most inclusive definition, and includes infant deaths of less than 28 days of age and fetal deaths of 20 weeks or more. The denominators for all perinatal rate computations are per 1,000 live births plus fetal deaths; see "Technical Notes." Perinatal definition I is preferred for international comparisons due to differences among countries in completeness of reporting of fetal deaths of 20–27 weeks of gestation. Perinatal definition II is useful for monitoring perinatal mortality throughout the gestational age spectrum, as the majority of fetal deaths occur before 28 weeks of gestation.

The 2003 Revision of the U.S. Standard Report of Fetal Death—This report includes data for 11 states (Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah, and Washington) that implemented the 2003 Revision of the U.S. Standard Report of Fetal Death on or before January 1, 2005 (revised). The remaining reporting areas include data that are based on the 1989 Revision of the U.S. Standard Report of Fetal Death (unrevised); see "Technical Notes." Because the variables included in this report are comparable between revisions, these changes had little effect on the data in this report.

Race and Hispanic origin—Race and Hispanic origin of mother are reported independently on vital records. In tabulations of data by race and Hispanic origin, data for Hispanic persons are not further classified by race as the vast majority of women of Hispanic origin are reported as white. Data for American Indian or Alaska Native (AIAN) and Asian or Pacific Islander (API) women are not shown separately by Hispanic origin because the vast majority of these populations are non-Hispanic. The 2003 Revision of the U.S. Standard Report of Fetal Death allows the reporting of more than one race (multiple races) for each parent (17). In 2005, 12 states (the 11 revised states and Minnesota) allowed the reporting of more than one race for fetal death data (10). To provide uniformity and comparability of the data, multiple-race data were bridged to a single race; see "Technical Notes."

Statistical significance—Text statements have been tested for statistical significance, and a statement that a given mortality rate is higher or lower than another rate indicates that the rates are

significantly different. For information on the methods used to test for statistical significance, as well as information on the definition, reporting requirements, and data quality of fetal death data, the 2003 Revision of the U.S. Standard Certificates and Reports, computation of rates, multiple-race data, period of gestation, and availability of fetal and perinatal data, see "Technical Notes."

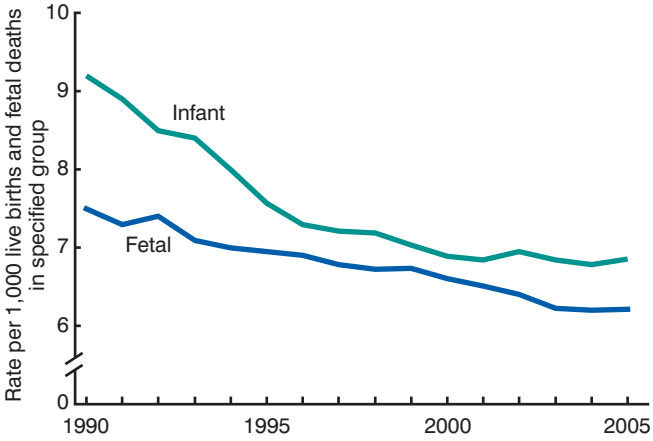
Results

Trends in fetal and perinatal mortality

In 2005, the U.S. fetal mortality rate was 6.22 fetal deaths of 20 weeks of gestation or more per 1,000 live births and fetal deaths. This rate was not significantly different from the rate of 6.20 in 2004 or 6.23 in 2003, halting a long-term decline. From 1990–2003, the fetal mortality rate declined slowly but steadily, by an average of 1.4% per year (Figure 2). In contrast, the infant mortality rate declined twice as fast as the fetal mortality rate from 1990–2000 (by an average of 2.8% per year), but did not decline from 2000–2005.

The trend in fetal mortality rates by period of gestation is shown in Figure 1. The fetal mortality rate for 28 weeks of gestation or more declined by 29% from 1990–2003, but did not decline significantly from 2003–2005. In contrast, the fetal mortality rate for 20–27 weeks of gestation has changed little since 1990 (Figure 1 and Table A). Thus, nearly all the decline in fetal mortality from 1990 to 2003 was among fetal deaths of 28 weeks of gestation or more.

Figure 3 shows trends for perinatal mortality rates, definitions I and II, from 1990–2005. The perinatal mortality rate, definition I, declined by 25% from 1990–2003. However, the rate of 6.64 in 2005 was not significantly different from the rate of 6.69 in 2004, or 6.74 in 2003 (Figure 3 and Table A). The perinatal mortality rate, definition II, declined by 17% from 1990–2003. The rate of 10.73 in 2005 was not significantly different from the rate of 10.70 in 2004 or 10.83 in 2003. The decline in the perinatal mortality rate, definition I, was more rapid than for perinatal definition II because perinatal definition I includes only late fetal deaths, and as noted, almost all the decline in fetal mortality from 1990–2003 was among late fetal deaths.



NOTE: Infant mortality rates are the number of infant deaths per 1,000 live births. Fetal mortality rates are the number of fetal deaths of 20 weeks of gestation or more per 1,000 live births and fetal deaths.

SOURCE: CDC/NCHS; National Vital Statistics System.

Figure 2. Fetal and infant mortality rates: United States, 1990–2005

Trends in numbers of fetal deaths, neonatal deaths, and live births (the components used to compute fetal and perinatal mortality rates) are shown in Table B. Consistent with a trend observed for many years, the number of fetal deaths of 20 weeks of gestation or more in 2005 (25,894) was substantially greater then the number of neonatal deaths (18,782). The total number of infant deaths in 2005 was 28,384 (12), about 10% higher than the total number of fetal deaths of 20 weeks of gestation or more.

Race and Hispanic origin

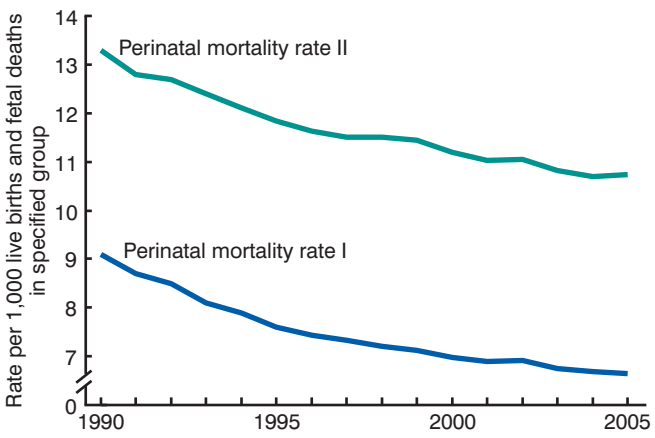
Fetal and perinatal mortality rates vary considerably by race and Hispanic origin of mother (Figure 4). The fetal mortality rate for

Table A. Fetal and perinatal mortality rates: United States, 1985, 1990, and 1995–2005

Year	Fetal mortality rate[1]			Perinatal mortality rate	
	Total[2]	20–27 weeks[3]	28 weeks or more[3]	Definition I[4]	Definition II[5]
2005	6.22	3.21	3.03	6.64	10.73
2004	6.20	3.13	3.09	6.69	10.70
2003	6.23	3.21	3.04	6.74	10.83
2002	6.41	3.24	3.19	6.91	11.05
2001	6.51	3.25	3.28	6.90	11.02
2000	6.61	3.31	3.32	6.97	11.19
1999	6.74	3.39	3.38	7.12	11.44
1998	6.73	3.35	3.41	7.21	11.50
1997	6.78	3.29	3.51	7.32	11.51
1996	6.91	3.33	3.60	7.43	11.64
1995	6.95	3.33	3.64	7.60	11.84
1990	7.49	3.22	4.30	8.95	13.12
1985	7.83	2.91	4.95	10.59	14.57

[1]Rate is number of fetal deaths in specified group per 1,000 live births and fetal deaths.
[2]Fetal deaths with stated or presumed period of gestation of 20 weeks or more.
[3]Not stated gestational age proportionally distributed; see "Technical Notes."
[4]Infant deaths of less than 7 days and fetal deaths with stated or presumed period of gestation of 28 weeks or more, per 1,000 live births and fetal deaths.
[5]Infant deaths of less than 28 days and fetal deaths with stated or presumed period of gestation of 20 weeks or more, per 1,000 live births and fetal deaths.

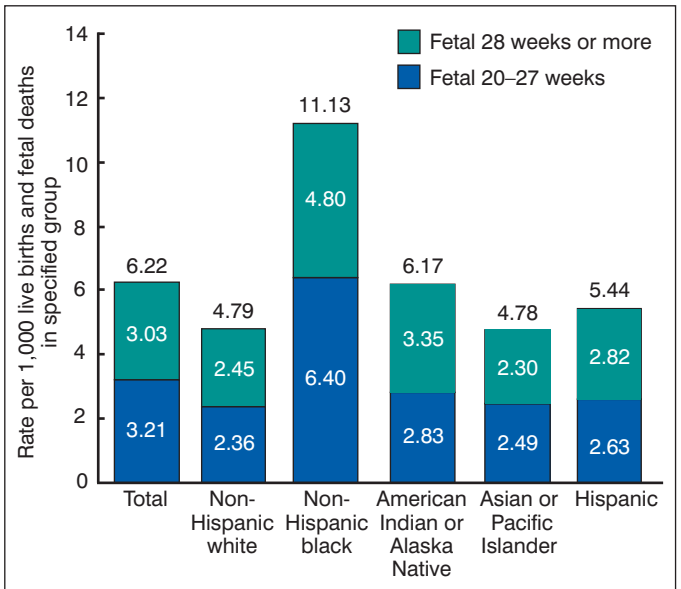
SOURCE: CDC/NCHS, National Vital Statistics System.



NOTE: Perinatal I includes infant deaths less than 7 days of age and fetal deaths 28 weeks or more. Perinatal II includes infants less than 28 days of age and fetal deaths 20 weeks or more.

SOURCE: CDC/NCHS, National Vital Statistics System.

Figure 3. Perinatal mortality rates: United States, 1990–2005



NOTE: Rates for subtotals do not add exactly to totals due to slight differences in the denominators used for rate computations; see "Technical Notes."

SOURCE: CDC/NCHS, National Vital Statistics System.

Figure 4. Fetal mortality rates by race and Hispanic origin of mother: United States, 2005

non-Hispanic white women was 4.79, similar to the rate of 4.78 for API women. In contrast, the fetal mortality rate of 11.13 for non-Hispanic black women was 2.3 times the rate for non-Hispanic white women. About two-thirds (64%) of the difference between non-Hispanic black and non-Hispanic white fetal mortality was due to higher non-Hispanic black fetal mortality at 20–27 weeks of gestation and about one-third (36%) was due to higher mortality at 28 weeks of gestation or more. The rate for AIAN women (6.17) was 29% higher and the rate for Hispanic women (5.44) was 14% higher than the rate for non-Hispanic white women. Fetal mortality generally declined for most racial and ethnic groups from 1995–2003 (Table C). From 2003–2005, fetal mortality rates declined significantly for non-Hispanic white and non-Hispanic black women, but not for Hispanic, AIAN, or API women (Table C).

Differences by race and Hispanic origin in the perinatal mortality rate, definition I, are shown in Figure 5. Rates were lowest for API women (4.96), followed by non-Hispanic white (5.36), Hispanic (5.89), and AIAN women (6.29). The rate for non-Hispanic black women (12.19) was the highest among the racial and ethnic groups, and was 2.3 times the rate for non-Hispanic white women.

Data by race and Hispanic origin for the perinatal mortality rate, definition II, are shown in Figure 6. The patterns were similar to those for definition I. Rates were lowest for API women (8.13), followed by non-Hispanic white (8.48), Hispanic (9.27), and AIAN women (10.18). The rate for non-Hispanic black women (20.17) was 2.4 times the rate for non-Hispanic white women.

Part of the higher risk of fetal and perinatal mortality for non-Hispanic black women relates to their higher risk of preterm delivery (18,19), however, the reasons for the preterm disparity are not well understood. Factors frequently mentioned as contributing to the

Table B. Components of perinatal mortality: United States, 1985, 1990, and 1995–2005

Year	Fetal deaths			Infant deaths		Live births
	Total[1]	20–27 weeks[2]	28 weeks or more[2]	Less than 7 days	Less than 28 days	
2005	25,894	13,327	12,567	15,013	18,782	4,138,573
2004	25,655	12,894	12,761	14,836	18,602	4,112,055
2003	25,653	13,168	12,485	15,152	18,935	4,090,007
2002	25,943	13,072	12,871	15,020	18,791	4,021,825
2001	26,373	13,122	13,251	14,622	18,275	4,026,036
2000	27,003	13,497	13,506	14,893	18,733	4,058,882
1999	26,884	13,457	13,427	14,874	18,700	3,959,417
1998	26,702	13,229	13,473	15,061	18,915	3,941,553
1997	26,486	12,800	13,686	14,827	18,507	3,880,894
1996	27,069	12,990	14,079	14,947	18,556	3,891,494
1995	27,294	13,043	14,251	15,483	19,186	3,899,589
1990	31,386	13,427	17,959	19,439	23,591	4,158,445
1985	29,661	10,958	18,703	21,317	25,573	3,760,833

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

[2]Not stated gestational age proportionally distributed; see" Technical Notes."

SOURCE: CDC/NCHS, National Vital Statistics System.

Table C. Fetal deaths and mortality rates by race and Hispanic origin of mother: United States, 1995–2005

	All races and origins	White	Black	American Indian or Alaska Native	Asian or Pacific Islander	Hispanic[1]					Non-Hispanic[1]	
						Total Hispanic	Mexican	Puerto Rican	Cuban	Central and South American	White	Black
Rates												
2005	6.22	5.31	11.35	6.17	4.78	5.44	5.24	6.09	4.15	4.50	4.79	11.13
2004	6.20	5.30	11.45	5.84	4.77	5.43	5.07	6.25	5.46	4.57	4.98	11.25
2003	6.23	5.25	11.97	6.09	4.98	5.43	5.08	7.44	5.09	4.63	4.94	11.56
2002	6.41	5.47	11.91	6.24	4.95	5.71	5.42	7.03	5.32	4.76	5.14	11.47
2001	6.51	5.52	12.13	5.91	5.21	5.64	5.22	6.91	5.40	4.93	5.24	11.72
2000	6.61	5.57	12.45	5.54	5.17	5.79	5.48	6.61	7.55	4.73	5.26	11.97
1999	6.74	5.68	12.63	6.14	5.40	5.84	5.34	7.03	6.84	5.06	5.37	12.18
1998	6.73	5.73	12.31	5.85	5.12	5.74	5.23	6.31	5.59	5.38	5.42	11.75
1997	6.78	5.77	12.45	6.75	4.81	6.01	5.49	7.69	5.24	5.10	5.49	11.90
1996	6.91	5.93	12.49	6.43	5.11	6.03	5.45	7.56	6.15	5.44	5.70	11.81
1995	6.95	5.92	12.71	7.11	5.02	6.09	5.76	8.05	6.37	5.54	5.67	12.18
Number of deaths												
2005	25,894	17,238	7,269	278	1,109	5,387	3,651	388	67	683	10,973	6,573
2004	25,655	17,164	7,135	258	1,098	5,135	3,425	384	82	658	11,316	6,530
2003	25,653	17,016	7,265	264	1,108	4,950	3,315	437	76	629	11,350	6,685
2002	25,943	17,468	7,159	266	1,050	5,002	3,393	406	76	601	11,690	6,654
2001	26,373	17,629	7,446	249	1,049	4,803	3,183	400	76	600	12,080	6,939
2000	27,003	17,883	7,846	232	1,042	4,728	3,189	386	102	538	12,324	7,264
1999	26,884	17,904	7,750	248	982	4,470	2,888	404	90	524	12,484	7,210
1998	26,702	17,974	7,603	237	888	4,197	2,696	362	74	521	12,453	6,712
1997	26,486	17,838	7,566	262	820	4,202	2,738	393	67	474	12,119	6,598
1996	27,069	18,448	7,524	245	852	4,169	2,669	384	77	509	12,731	6,518
1995	27,294	18,452	7,766	267	809	4,079	2,704	409	79	501	12,777	6,840

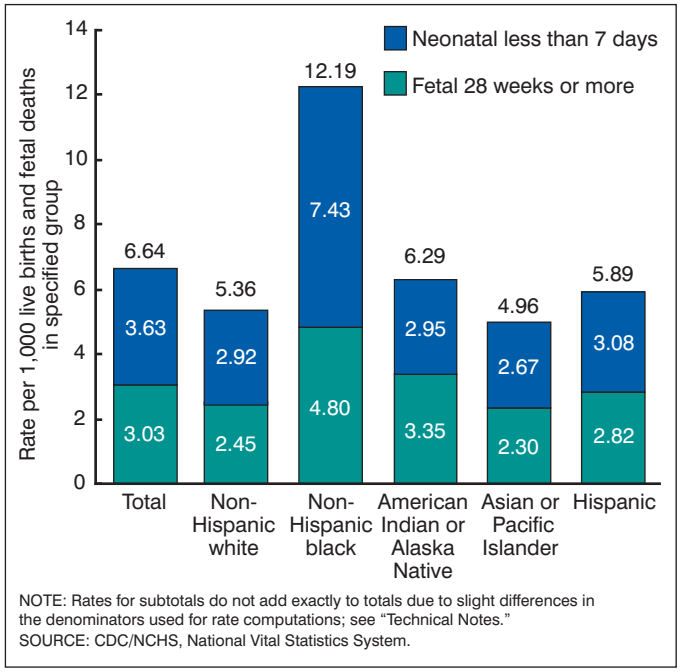
[1]Figures exclude data from Maryland, Massachusetts, and Oklahoma in 1995–1997, Maryland and Oklahoma in 1998, and Oklahoma in 1999–2004, which did not report Hispanic origin on the fetal death report.

SOURCE: CDC/NCHS, National Vital Statistics System.

black/white fetal and perinatal mortality gap are racial differences in maternal preconception health, infection, income, access to quality health care, stress and racism, and cultural factors; however, much of the black/white disparity in perinatal mortality remains unexplained (20–23).

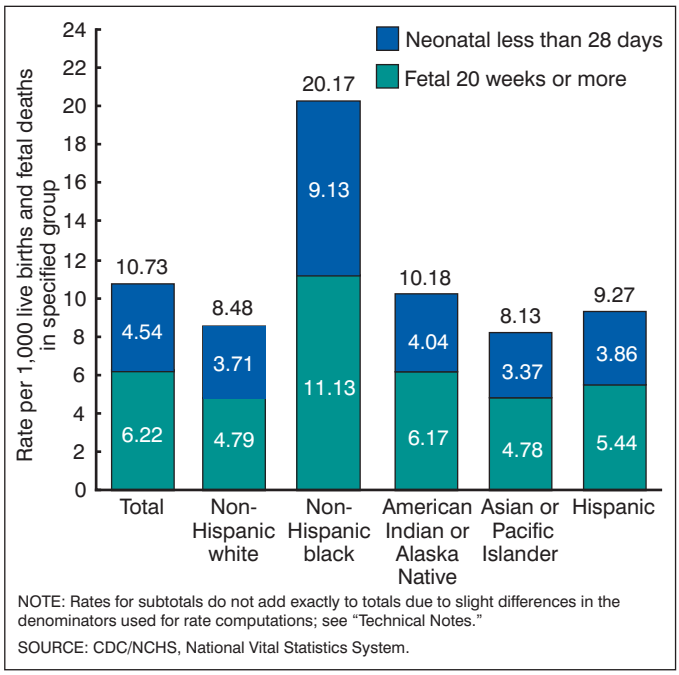
Maternal age

Fetal mortality rates vary considerably by maternal age. Fetal mortality rates were lowest for women aged 25–29 years and higher for teenagers and those aged 35 years and over (Table 1). The rate



NOTE: Rates for subtotals do not add exactly to totals due to slight differences in the denominators used for rate computations; see "Technical Notes."
SOURCE: CDC/NCHS, National Vital Statistics System.

Figure 5. Perinatal mortality rates, definition I, by race and Hispanic origin of mother: United States, 2005



NOTE: Rates for subtotals do not add exactly to totals due to slight differences in the denominators used for rate computations; see "Technical Notes."
SOURCE: CDC/NCHS, National Vital Statistics System.

Figure 6. Perinatal mortality rates, definition II, by race and Hispanic origin of mother: United States, 2005

for teenagers under 15 years of age was 12.20, more than twice the rate of 5.47 for women aged 25–29 years—the lowest risk group. Rates for teenagers 15–17 (8.26), and 18–19 years (7.20) were 51% and 32% higher, respectively, than for women aged 25–29 years. The higher risk for teenagers may relate to less favorable socioeconomic and behavioral conditions among pregnant teenagers, although biologic immaturity may also play a role, particularly for the youngest teenagers (24).

At the opposite end of the age spectrum, fetal mortality rates increased rapidly for women aged 35 years and over. For women aged 45 years and over the fetal mortality rate was 15.51, 2.8 times the rate for women aged 25–29 years. Maternal age over 35 appears to be an independent risk factor for fetal death, even after adjusting for medical conditions that are more common among older women, such as hypertension, diabetes, placental problems, and multiple gestation (25–27). However, the magnitude of the elevated risk differs somewhat by race (28).

Marital status

In 2005, 49% of fetal deaths were to unmarried women, as compared with 37% of live births (Table D) in an area including 46 states and the District of Columbia. Marital status was not reported for fetal deaths in California, Nevada, New York, and Texas. In general, fetal mortality rates were higher for unmarried than for married women (Table E). For non-Hispanic white women, the fetal mortality rate for unmarried women was 37% higher than for married women. For non-Hispanic black women, the rate for unmarried women was 9% higher, while the 8% difference for Hispanic women was not statistically significant. Marital status may be a marker for the presence or absence of social, emotional, and financial resources (29,30).

Sex of fetus

In 2005, the fetal mortality rate for male fetuses was 6.43, 7% higher than for female (6.00) fetuses (Table E). Fetal mortality rates were higher for male than for female fetuses for non-Hispanic white, non-Hispanic black, and Hispanic women. The higher risk for males appears to relate in part to a higher risk of preterm delivery and preterm premature rupture of membranes among male fetuses. (31,32) A more detailed discussion of sex ratios for fetal deaths was included in a previous report (33).

Plurality

In 2005, 9% of fetal deaths occurred in multiple deliveries, as compared with 3% of live births (Table D). A multiple delivery is one in which more than one fetus is delivered live or dead at any time during the pregnancy, and a given multiple pregnancy may include any combination of fetal deaths or live births.

The fetal mortality rate for twins (16.08) was 2.7 times that for singletons (5.85) (Table E). The fetal mortality rate for triplet or higher order deliveries (27.18) was five times that for singletons. The increased risks for multiple pregnancies may relate in part to increased rates of preterm labor, fetal growth restriction, pre-eclampsia, congenital anomalies, placental abruption, and cord accidents (34). Also, many multiple pregnancies are the result of assisted reproductive technologies (35). Studies have suggested that both the underlying infertility problem, and the use of these therapies may increase the risk of adverse outcomes (35).

Period of gestation

In general, many more fetal deaths than live births occur early in pregnancy. In 2005, more than one-third (35%) of all fetal deaths at 20 weeks of gestation or more occurred at 20–23 weeks of gestation, and more than one-half (51%) occurred at 20–27 weeks (Table 2).

Table D. Percentage of fetal deaths and live births with selected demographic, medical, and health characteristics: United States, 2005

	Fetal deaths				Live births			
		Non-Hispanic				Non-Hispanic		
	Total[1]	White	Black	Hispanic	Total[1]	White	Black	Hispanic
Mother's characteristics:								
Less than 20 years of age	12.5	9.5	16.8	15.3	10.2	7.3	17.0	14.1
40 years of age and over	4.9	5.5	4.0	4.7	2.7	3.0	2.2	2.0
Unmarried[2]	49.0	35.9	72.8	51.4	36.8	26.0	70.9	49.4
Fetal/infant characteristics:								
Birthweight								
Less than 1,500 grams	65.79	62.84	72.42	62.79	1.52	1.23	3.35	1.22
Less than 2,500 grams	82.0	79.9	87.5	79.1	8.2	7.3	14.1	6.9
4,000 grams or more	1.7	1.7	1.4	2.1	8.1	9.6	4.4	7.6
Period of gestation								
Less than 32 weeks	64.20	61.48	70.24	61.37	2.03	1.64	4.17	1.79
Preterm (less than 37 weeks)	82.0	80.4	86.1	79.9	12.7	11.7	18.4	12.1
Plural delivery	9.1	11.0	7.7	7.2	3.4	3.8	3.7	2.3

[1]Includes races other than white and black and origin not stated.

[2]Excludes data from California, Nevada, New York, and Texas, which did not report marital status on the fetal death report.

NOTE: Not stated responses excluded when computing percent distributions.

SOURCE: CDC/NCHS, National Vital Statistics System.

Table E. Fetal mortality rates by selected characteristics and race and Hispanic origin of mother, United States, 2005

Characteristic	Fetal mortality rates[1]				Fetal deaths				Live births			
	All races[2]	Non-Hispanic white	Non-Hispanic black	Hispanic	All races[2]	Non-Hispanic white	Non-Hispanic black	Hispanic	All races[2]	Non-Hispanic white	Non-Hispanic black	Hispanic
Plurality	6.22	4.79	11.13	5.44	25,894	10,973	6,573	5,387	4,138,573	2,279,959	583,764	985,513
Single	5.85	4.43	10.68	5.17	23,532	9,763	6,067	5,000	3,998,753	2,192,768	561,894	963,027
Twin	16.08	13.26	21.95	16.12	2,175	1,105	477	356	133,126	82,225	21,254	21,725
Triplet or higher order	27.18	20.71	44.96	39.14	187	105	29	31	6,694	4,966	616	761
Sex of fetus	6.22	4.79	11.13	5.44	25,894	10,973	6,573	5,387	4,138,573	2,279,959	583,764	985,513
Male	6.43	4.93	11.78	5.58	13,706	5,802	3,530	2,826	2,119,101	1,170,614	296,240	503,489
Female	6.00	4.64	10.47	5.28	12,188	5,171	3,043	2,561	2,019,472	1,109,345	287,524	482,024
Ratio male/female	1.07	1.06	1.12	1.06	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Marital status, total[3]	6.27	4.70	10.96	5.26	18,431	8,701	5,164	2,324	2,920,138	1,841,034	466,193	439,713
Married	4.80	3.98	9.85	4.92	8,898	5,439	1,350	1,099	1,844,849	1,362,348	135,678	222,328
Unmarried	7.89	6.32	10.84	5.33	8,550	3,044	3,622	1,164	1,075,289	478,686	330,515	217,385
Ratio unmarried/married	1.64	1.59	1.10	1.08	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .

. . . Category not applicable.
[1]Rate per 1,000 live births and fetal deaths in specified group.
[2]Includes races other than white, black, and origin not stated.
[3]Excludes data from California, Nevada, New York, and Texas, which did not report marital status on the fetal death report. Includes records with marital status not stated.

SOURCE: CDC/NCHS, National Vital Statistics System.

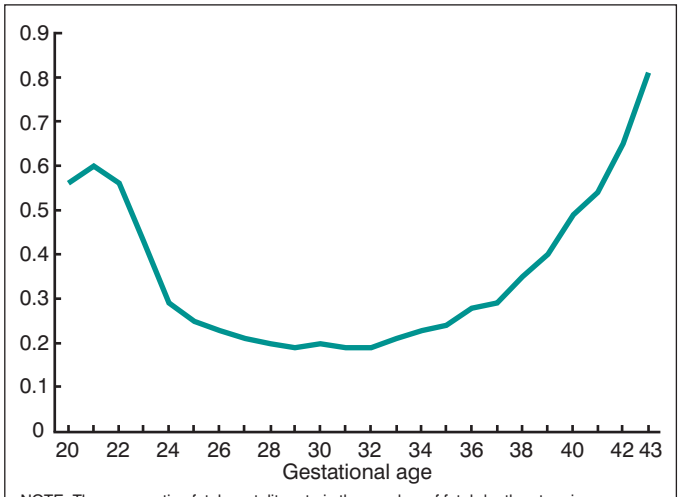
Traditionally, fetal mortality rates by gestational age have been computed as the number of fetal deaths at a given gestational age per 1,000 live births and fetal deaths at that gestational age. Fetal mortality rates computed in this fashion are very high at the earliest gestational ages (where few live births occur), are lowest at 40 and 41 weeks of gestation, and then increase slightly at 42 weeks of gestation or more. In 2005, the fetal mortality rate computed by this method was 504.10 at 20–23 weeks of gestation, declined sharply to a low of 0.86 at 40 weeks of gestation, and then increased to 1.66 for fetal deaths at 42 weeks of gestation or more (Table 2). Gestational age data are primarily based on the interval between the first day of the mother's last normal menstrual period (LMP) and the date of delivery, and is subject to error due to imperfect maternal recall or misidentification of the LMP; see "Technical Notes" (18).

Some researchers have suggested changing the method of computing fetal mortality rates by gestational age to use a different denominator that would more accurately represent the population at risk of the event (36–38). For fetal mortality at a given gestational age, a more appropriate indication of the population at risk of fetal death is actually **all of the women who are still pregnant at that gestational age**. This *prospective fetal mortality rate* is computed as the number of fetal deaths at a given gestational age (in single weeks), per 1,000 live births and fetal deaths at that gestational age or greater. Prospective fetal mortality rates are shown in Figure 7 for fetal deaths between 20 and 43 weeks of gestation. In general, rates were high at the earliest and latest gestational ages. The rate was high (0.56–0.60) at 20–22 weeks of gestation, and declined to a low of 0.19–0.21 at 27–33 weeks of gestation. The rate remained relatively low until about 37 weeks of gestation, and then increased rapidly to a high of 0.81 at 43 weeks of gestation. The lower rate at 20 weeks than 21 weeks of gestation probably reflects underreporting of fetal deaths at 20 weeks of gestation.

The prospective fetal mortality rate is useful in identifying two distinct peaks in fetal mortality risk: early fetal mortality (less than 23 weeks), and fetal mortality at 40 weeks of gestation or more. These two peaks suggest etiological differences. Early fetal mortality may be more related to congenital infections, anomalies, utero-placental insufficiency, and underlying maternal medical conditions (39). Fetal mortality at 40 weeks or more may include the previously mentioned conditions, but may also be related to problems that manifest around the time of delivery, such as placental (abruptio, previa) and cord (prolapse) problems, or other problems in the labor and delivery process. However, investigations into late fetal deaths have found that a substantial number are of unknown cause (26, 39–41).

Birthweight

In 2005, over one-third (35%) of fetal deaths at 20 weeks of gestation or more weighed less than 500 grams at delivery, and one-half weighed less than 750 grams (Table 2). Fetal mortality rates were computed by the traditional method as the number of fetal



NOTE: The prospective fetal mortality rate is the number of fetal deaths at a given gestational age per 1,000 live births and fetal deaths at that gestational age or greater.

SOURCE: CDC/NCHS, National Vital Statistics System.

Figure 7. Prospective fetal mortality rate by single weeks of gestation: United States, 2005

deaths at a given birthweight per 1,000 fetal deaths and live births at that birthweight. Rates were highest for less than 500-gram fetuses and decreased rapidly with increasing birthweight. Fetal mortality rates were lowest at 3,000–3,999 grams, and then increased slightly for heavier fetuses (Table 2). However, 12% of fetal deaths in the United States in 2005 had unknown birthweight, and proportional distribution of unknown responses was not attempted as unknowns were more frequent at earlier gestational ages (see "Technical Notes," Table II). Thus, the birthweight-specific fetal mortality rates shown in Table 2 should be interpreted with caution and may be understated.

Although some researchers have questioned the traditional method of computing fetal mortality rates by birthweight (37), the prospective method of computation does not apply as easily to birthweight as to gestational age. Birthweight is not always a progressive variable for fetal deaths as a fetus may lose weight in utero if the death occurs several days or weeks before delivery (42). Also, a much higher proportion of fetal deaths than live births are small for gestational age, making birthweight comparisons between the two populations somewhat problematic (37, 41).

Fetal and perinatal mortality rates by state

Fetal and perinatal mortality rates by state are shown in Table 3. Comparisons of fetal and perinatal mortality rates by state are affected by differences in reporting requirements for fetal deaths among registration areas; see "Technical Notes." Although most areas report fetal deaths starting at 20 weeks of gestation if not earlier, three areas (New Mexico, South Dakota, and Tennessee) report fetal deaths of 500 grams or more. Because 500 grams is roughly the equivalent of 22 weeks of gestation, fetal mortality rates are not comparable for these states for measures that include fetal deaths of 20 weeks of gestation or more. Also, small numbers of fetal deaths in some states lead to considerable random variation in fetal mortality rates between years. Table F attempts to address these problems by comparing fetal mortality rates for fetal deaths of 24 weeks of gestation or more for the latest 3-year period (2003–2005). The United States fetal mortality rate specially computed for this measure was 4.06 fetal deaths of 24 weeks of gestation or more per 1,000 live births and fetal deaths. When comparing data by state, fetal mortality rates were highest (5.00 or above) in Alabama, Arkansas, Mississippi, Puerto Rico, the Virgin Islands, and Guam, and were lowest (below 3.00) in Maine, New Mexico, and Vermont. Some variation even in this refined rate may be due to state differences in reporting requirements.

The perinatal mortality rate, definition I, includes fetal deaths of 28 weeks of gestation or more, and infant deaths of less than 7 days. This is the perinatal rate used most often for international comparisons, because it is not affected by differences in reporting of fetal deaths of 20–27 weeks of gestation. It is also suitable for state-to-state comparisons because of variations by state in reporting requirements for fetal deaths. In 2004, the rate was 6.64 for the United States as a whole (Table 3). The highest rates (9.00 or above) were for Alabama, the District of Columbia, Mississippi, the Virgin Islands and Guam, whereas the lowest rates (below 5.00) were for Alaska and New Mexico.

Perinatal definition II (fetal deaths of 20 weeks of gestation or more and infant deaths of less than 28 days) is the most inclusive perinatal definition, and is useful for monitoring perinatal mortality throughout the gestational age spectrum, as the majority of fetal deaths occur before 28 weeks of gestation. As discussed above, New Mexico, South Dakota, and Tennessee were excluded from the comparison of mortality differences for perinatal definition II, due to differences in fetal death

Table F. Fetal deaths of 24 weeks of gestation or more and fetal mortality rates by state, 2003–2005

	Fetal deaths	Fetal mortality rate[1]
United States[2]	50,263	4.06
Alabama	1,029	5.70
Alaska	117	3.77
Arizona	1,134	4.02
Arkansas	582	5.01
California	6,226	3.79
Colorado	805	3.88
Connecticut	449	3.53
Delaware	112	3.25
District of Columbia	109	4.61
Florida	3,023	4.58
Georgia	1,962	4.68
Hawaii	190	3.49
Idaho	284	4.20
Illinois	2,157	3.96
Indiana	1,083	4.14
Iowa	413	3.55
Kansas	475	3.97
Kentucky	762	4.53
Louisiana	875	4.55
Maine	121	2.88
Maryland	1,024	4.54
Massachusetts	876	3.71
Michigan	1,424	3.65
Minnesota	725	3.41
Mississippi	778	6.06
Missouri	985	4.20
Montana	123	3.55
Nebraska	310	3.94
Nevada	478	4.48
New Hampshire	140	3.22
New Jersey	1,363	3.92
New Mexico	221	2.59
New York	3,411	4.53
North Carolina	1,681	4.63
North Dakota	79	3.21
Ohio	1,832	4.08
Oklahoma	544	3.52
Oregon	435	3.15
Pennsylvania	1,816	4.15
Rhode Island	128	3.30
South Carolina	917	5.37
South Dakota	114	3.36
Tennessee	1,022	4.24
Texas	4,094	3.56
Utah	513	3.36
Vermont	59	2.99
Virginia	1,215	3.91
Washington	883	3.59
West Virginia	292	4.64
Wisconsin	774	3.65
Wyoming	99	4.75
Puerto Rico	908	5.92
Virgin Islands	37	7.81
Guam	85	8.54

[1]Rate per 1,000 live births and specified fetal deaths.
[2]Excludes data for Puerto Rico, Virgin Islands, and Guam.

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." Numbers may not add exactly to totals due to rounding.

reporting requirements for those states. In 2005, this rate was 10.73 for the United States as a whole; if data from the three states were excluded, the rate was 10.72. Among the states with comparable data, the highest rates (above 15) were for the District of Columbia, Mississippi, Puerto Rico, the Virgin Islands, and Guam, whereas the lowest rates (below 8.5) were for Alaska, Minnesota, Nebraska, Oregon, and Utah.

Differences in population characteristics among states (as regards race, ethnicity, income, access to health care, and prevalence of risk behaviors such as maternal smoking) may help to explain differences in fetal and perinatal mortality rates between states. Caution must be used in interpreting differences in fetal and perinatal mortality rates between states as differences may not be statistically significant.

Discussion

Fetal mortality declined slowly but steadily from 1990–2003. However, the fetal mortality rate did not decline significantly from 2003–2005. Several other developed countries have experienced similar plateaus in fetal (43,44) or perinatal (8) mortality in recent years. Infant mortality in the United States did not decline from 2000–2005, although preliminary data for 2006 suggest a recent decline (6).

Virtually all the decline in the fetal mortality rate from 1990–2003 occurred among fetal deaths at 28 weeks of gestation or more, while mortality rates for fetal deaths at 20–27 weeks of gestation did not decline. In 2005, well over one-half (58%) of all perinatal deaths in the United States were fetal deaths. Fetal mortality rates were elevated for a number of groups, including non-Hispanic black women, teenagers, women aged 35 years and over, unmarried women, and multiple deliveries. Fetal and perinatal mortality rates varied considerably by state, reflecting differences in perinatal risk as well as differences in fetal death reporting among states.

Much of the public concern regarding reproductive loss has concentrated on infant mortality, in part due to a lesser knowledge of the incidence, etiology, and prevention strategies for fetal mortality. The analysis of fetal mortality data presents challenges due to possible underreporting of early fetal deaths, and also due to a high percentage of unknown responses for some fetal death variables. Despite these challenges, there is an increasing awareness of the magnitude and impact of fetal mortality as a public health problem. In particular, several recent initiatives examine the etiology and prevention of fetal death. The Stillbirth Research Collaborative Network is a National Institute of Child Health and Human Development (NICHD)-sponsored multicenter research study on the etiology and prevention of fetal death (45,46). The Centers for Disease Control and Prevention has initiated active fetal death surveillance in Iowa and metropolitan Atlanta (47). The International Stillbirth Alliance facilitates research on the causes and prevention of stillbirth, raises public awareness, and provides support to families experiencing a fetal loss (48).

In addition to the variables discussed in this report, research into risk factors associated with fetal and perinatal mortality has identified a wide variety of related factors, including maternal obesity, smoking during pregnancy, severe or uncontrolled hypertension or diabetes, congenital anomalies, infections, placental and cord problems, intrauterine growth retardation, previous perinatal death, previous cesarean section, and other factors (49–55).

Considerable programmatic effort has been put into reducing infant mortality in the United States, with sometimes limited results. Prevention of fetal mortality may represent a previously underutilized opportunity to improve perinatal health. Improved reporting of fetal deaths and the promotion of greater consistency in reporting among states will be essential to measure the effectiveness of prevention efforts. Research opportunities will also be improved as more states implement the 2003 Revision of the U.S. Standard Report of Fetal Death, with its expanded medical and health information (56,57). It is hoped that recent research efforts will lead to a more comprehensive understanding of factors related to fetal and perinatal mortality, and ultimately to the development of improved prevention strategies.

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List of Detailed Tables

Table 1. Fetal deaths and mortality rates, by period of gestation, age, and race and Hispanic origin of mother: United States, 2005

Age and race and Hispanic origin of mother	Fetal deaths			Fetal mortality rate[1]		
	Total	20–27 weeks[2]	28+ weeks[2]	Total	20–27 weeks[2]	28+ weeks[2]
All races[3]	25,894	13,327	12,567	6.22	3.21	3.03
Less than 15 years	83	50	33	12.20	7.38	4.89
15–19 years	3,152	1,717	1,435	7.54	4.12	3.45
15–17 years	1,110	627	483	8.26	4.69	3.61
18–19 years	2,042	1,090	952	7.20	3.86	3.37
20–24 years	6,135	3,035	3,100	5.86	2.91	2.97
25–29 years	6,221	3,211	3,010	5.47	2.83	2.65
30–34 years	5,495	2,892	2,603	5.75	3.03	2.73
35–39 years	3,530	1,800	1,730	7.25	3.71	3.57
40–44 years	1,175	568	607	11.10	5.40	5.77
45 years and over	103	54	49	15.51	8.19	7.44
Non-Hispanic white	10,973	5,382	5,591	4.79	2.36	2.45
Less than 15 years	13	5	8	*	*	*
15–19 years	1,033	530	503	6.22	3.20	3.04
15–17 years	311	163	148	7.04	3.70	3.36
18–19 years	722	367	355	5.92	3.02	2.92
20–24 years	2,375	1,104	1,271	4.59	2.14	2.46
25–29 years	2,752	1,372	1,380	4.26	2.13	2.14
30–34 years	2,487	1,252	1,235	4.26	2.15	2.12
35–39 years	1,710	836	874	5.57	2.73	2.86
40–44 years	547	259	288	8.43	4.01	4.46
45 years and over	56	24	32	13.09	5.65	7.52
Non-Hispanic black	6,573	3,758	2,815	11.13	6.40	4.80
Less than 15 years	45	28	17	16.41	10.28	*
15–19 years	1,058	622	436	10.81	6.38	4.48
15–17 years	378	222	156	10.94	6.45	4.54
18–19 years	680	400	280	10.74	6.35	4.45
20–24 years	1,829	996	833	9.60	5.25	4.40
25–29 years	1,422	823	599	9.85	5.73	4.17
30–34 years	1,202	708	494	12.85	7.61	5.32
35–39 years	753	433	320	15.63	9.05	6.70
40–44 years	246	136	110	19.68	10.97	8.90
45 years and over	18	12	6	*	*	*
Hispanic[4]	5,387	2,598	2,789	5.44	2.63	2.82
Less than 15 years	19	12	7	*	*	*
15–19 years	806	422	384	5.85	3.07	2.80
15–17 years	327	186	141	6.49	3.70	2.81
18–19 years	479	237	242	5.48	2.72	2.78
20–24 years	1,363	636	727	4.71	2.20	2.52
25–29 years	1,315	632	683	4.91	2.37	2.56
30–34 years	1,050	522	528	5.60	2.79	2.82
35–39 years	581	270	311	6.73	3.14	3.61
40–44 years	242	97	145	12.85	5.19	7.74
45 years and over	11	7	4	*	*	*

* Figure does not meet standards of reliability or precision; based on fewer than 20 fetal deaths in the numerator.

[1] Rate per 1,000 live births and fetal deaths in specified group.

[2] Fetal deaths with not stated gestational age were proportionally distributed; see "Technical Notes."

[3] Includes races other than white or black and origin not stated.

[4] Includes all persons of Hispanic origin of any race.

Table 2. Fetal deaths and mortality rates, by birthweight, gestational age, and race and Hispanic origin of mother: United States, 2005

Birthweight (grams) and race and Hispanic origin of mother	Gestational age in weeks											Fetal mortality rate[1]
	Total	20–23	24–27	28–31	32–33	34–36	37–39	40	41	42+	Not stated	
All races[2]	25,894	8,922	4,051	3,212	1,589	2,896	3,132	684	324	399	685	6.22
Less than 500	7,942	5,743	1,368	417	81	108	77	7	8	19	114	545.69
500–749	3,394	1,513	1,212	437	81	61	27	3	3	9	48	228.52
750–999	1,530	172	590	523	97	87	22	3	5	5	26	109.75
1,000–1,249	1,141	58	226	521	147	87	49	7	3	6	37	74.06
1,250–1,499	1,008	39	89	394	208	184	45	6	3	13	27	55.79
1,500–1,999	1,910	42	73	420	445	578	232	32	21	32	35	27.94
2,000–2,499	1,785	–	26	140	257	717	474	59	32	48	32	8.42
2,500–2,999	1,715	–	17	46	81	510	762	145	59	68	27	2.29
3,000–3,499	1,389	–	–	21	32	215	714	210	96	72	29	0.87
3,500–3,999	625	–	–	8	12	75	312	109	44	45	20	0.56
4,000 or more	384	–	–	–	10	50	173	59	34	40	18	1.14
Not stated	3,071	1,355	450	285	138	224	245	44	16	42	48	- - -
Fetal mortality rate[1]	6.22	504.10	160.49	58.36	23.56	7.69	1.42	0.86	0.91	1.66	- - -	- - -
Non-Hispanic white	10,973	3,597	1,693	1,341	687	1,350	1,465	309	158	186	187	4.86
Less than 500	3,153	2,242	568	176	29	49	36	5	5	9	34	562.33
500–749	1,393	617	501	186	43	24	8	–	2	4	8	235.30
750–999	618	73	253	202	41	34	9	1	2	–	3	103.94
1,000–1,249	464	20	91	223	53	39	23	3	1	1	10	66.79
1,250–1,499	404	12	38	154	82	75	23	3	1	4	12	46.73
1,500–1,999	814	17	30	167	200	255	100	11	7	13	14	23.95
2,000–2,499	823	–	6	62	117	353	214	18	14	23	16	7.90
2,500–2,999	806	–	9	14	33	261	350	60	36	36	7	2.24
3,000–3,499	662	–	–	9	11	103	356	100	44	30	9	0.78
3,500–3,999	298	–	–	2	9	31	144	63	20	24	5	0.45
4,000 or more	164	–	–	–	2	22	77	22	17	18	6	0.76
Not stated	1,374	616	197	146	67	104	125	23	9	24	12	- - -
Fetal mortality rate[1]	4.86	526.80	163.35	52.79	21.11	6.95	1.21	0.71	0.80	1.45	- - -	- - -
Non-Hispanic black	6,573	2,603	1,076	841	412	610	656	111	56	70	138	11.22
Less than 500	2,390	1,765	394	116	31	30	16	2	–	4	32	492.78
500–749	920	421	341	110	15	19	5	–	–	1	8	186.73
750–999	389	40	148	146	21	17	7	1	1	3	5	89.73
1,000–1,249	305	23	49	146	44	19	13	2	1	2	6	68.66
1,250–1,499	264	12	22	111	61	37	8	2	1	4	6	56.98
1,500–1,999	481	9	17	116	118	135	63	5	8	7	3	29.82
2,000–2,499	406	–	9	26	62	156	112	19	7	10	5	8.67
2,500–2,999	342	–	5	9	18	87	168	29	11	13	2	2.38
3,000–3,499	211	–	–	5	8	36	110	26	13	6	7	0.96
3,500–3,999	102	–	–	2	1	14	64	4	5	6	6	0.94
4,000 or more	83	–	–	–	3	8	40	15	8	8	1	3.23
Not stated	680	333	91	54	30	52	50	6	1	6	57	. . .
Fetal mortality rate[1]	11.22	448.10	132.01	60.49	28.29	8.89	2.19	1.13	1.32	2.27	- - -	- - -
Hispanic[3]	5,387	1,670	839	682	325	639	692	178	79	96	187	5.47
Less than 500	1,522	1,075	269	81	14	23	17	–	3	4	36	558.12
500–749	729	310	252	93	15	14	13	1	–	4	27	246.62
750–999	343	42	116	118	26	22	5	–	2	1	11	128.18
1,000–1,249	252	11	60	104	33	20	9	1	1	2	11	85.51
1,250–1,499	228	13	19	82	44	52	10	1	1	2	4	65.33
1,500–1,999	430	10	18	92	75	146	54	12	1	7	15	32.97
2,000–2,499	371	–	11	35	53	130	103	17	7	9	6	8.54
2,500–2,999	391	–	3	18	24	112	160	41	7	13	13	2.22
3,000–3,499	362	–	–	6	10	51	169	58	30	26	12	0.91
3,500–3,999	166	–	–	4	1	24	75	28	16	13	5	0.63
4,000 or more	102	–	–	–	5	15	41	14	9	8	10	1.37
Not stated	491	209	91	49	25	30	36	5	2	7	37	. . .
Fetal mortality rate[1]	5.47	494.81	169.39	57.70	20.97	7.49	1.36	0.93	0.90	1.54	- - -	. . .

– Quantity zero.
- - - Data not available.
. . . Category not applicable.
[1]Rate per 1,000 live births and fetal deaths in specified group.
[2]Includes races other than white or black and origin not stated.
[3]Includes all persons of Hispanic origin of any race.

Table 3. Fetal and perinatal deaths and mortality rates: United States and each state and territory, 2005

	Fetal deaths[1]		Perinatal definition I[2]		Perinatal definition II[3]	
	Number of deaths	Mortality rate[4]	Number of deaths[5]	Mortality rate[4]	Number of deaths[5]	Mortality rate[4]
United States	25,894	6.22	27,580	6.64	44,676	10.73
Alabama	534	8.76	551	9.07	886	14.53
Alaska	48	4.57	51	4.86	79	7.52
Arizona	569	5.88	617	6.39	1,000	10.33
Arkansas	279	7.07	290	7.36	470	11.90
California	3,051	5.53	3,243	5.89	5,041	9.13
Colorado	378	5.45	487	7.04	708	10.21
Connecticut	253	6.03	268	6.41	429	10.22
Delaware	66	5.64	98	8.40	145	12.38
District of Columbia	68	8.46	80	10.01	146	18.16
Florida	1,608	7.06	1,537	6.77	2,640	11.59
Georgia	1,066	7.44	1,076	7.54	1,832	12.79
Hawaii	112	6.21	90	5.01	189	10.48
Idaho	129	5.56	152	6.57	223	9.62
Illinois	1,126	6.25	1,303	7.26	2,022	11.22
Indiana	492	5.61	652	7.46	967	11.03
Iowa	222	5.62	228	5.78	359	9.08
Kansas	200	4.99	287	7.17	394	9.83
Kentucky	338	5.95	337	5.95	565	9.95
Louisiana	483	7.86	466	7.62	816	13.29
Maine	76	5.36	88	6.22	145	10.22
Maryland	631	8.35	567	7.54	1,026	13.57
Massachusetts	419	5.42	434	5.63	707	9.15
Michigan	742	5.78	915	7.14	1,441	11.22
Minnesota	339	4.76	371	5.22	571	8.01
Mississippi	419	9.79	404	9.49	705	16.47
Missouri	444	5.62	525	6.66	814	10.30
Montana	54	4.64	78	6.71	103	8.85
Nebraska	134	5.10	141	5.38	221	8.41
Nevada	268	7.14	215	5.75	394	10.50
New Hampshire	64	4.42	91	6.29	125	8.63
New Jersey	703	6.14	632	5.54	1,100	9.61
New Mexico[6]	82	2.84	140	4.84	186	6.43
New York	2,062	8.30	1,610	6.51	3,056	12.30
North Carolina	847	6.83	1,034	8.37	1,605	12.95
North Dakota	46	5.45	58	6.89	82	9.72
Ohio	898	6.02	1,074	7.22	1,720	11.52
Oklahoma	288	5.53	316	6.09	537	10.31
Oregon	203	4.40	231	5.02	380	8.24
Pennsylvania	1,031	7.04	1,130	7.75	1,786	12.20
Rhode Island	83	6.49	98	7.69	148	11.58
South Carolina	500	8.59	482	8.32	839	14.41
South Dakota[6]	46	4.00	78	6.79	98	8.52
Tennessee[6]	393	4.78	657	8.01	854	10.40
Texas	2,082	5.37	2,279	5.89	3,670	9.46
Utah	266	5.13	268	5.18	424	8.18
Vermont	31	4.77	39	6.01	57	8.76
Virginia	693	6.58	726	6.92	1,234	11.72
Washington	496	5.96	430	5.18	748	8.99
West Virginia	126	6.01	151	7.22	232	11.07
Wisconsin	364	5.10	462	6.49	681	9.54
Wyoming	42	5.77	57	7.84	74	10.16
Puerto Rico	544	10.64	435	8.57	879	17.20
Virgin Islands	20	12.31	21	12.92	30	18.46
Guam	40	12.42	40	12.47	62	19.25

* Figure does not meet standards of reliability or precision; based on fewer than 20 deaths in the numerator.

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

[2]Infant deaths of less than 7 days and fetal deaths with stated or presumed period of gestation of 28 weeks or more. Fetal deaths with not stated gestational age are proportionally distributed to 20–27 weeks and 28 weeks or more.

[3]Infant deaths of less than 28 days and fetal deaths with stated or presumed period of gestation of 20 weeks or more.

[4]Rate per 1,000 live births and specified fetal deaths.

[5]Infant deaths are weighted so numbers may not exactly add to totals due to rounding.

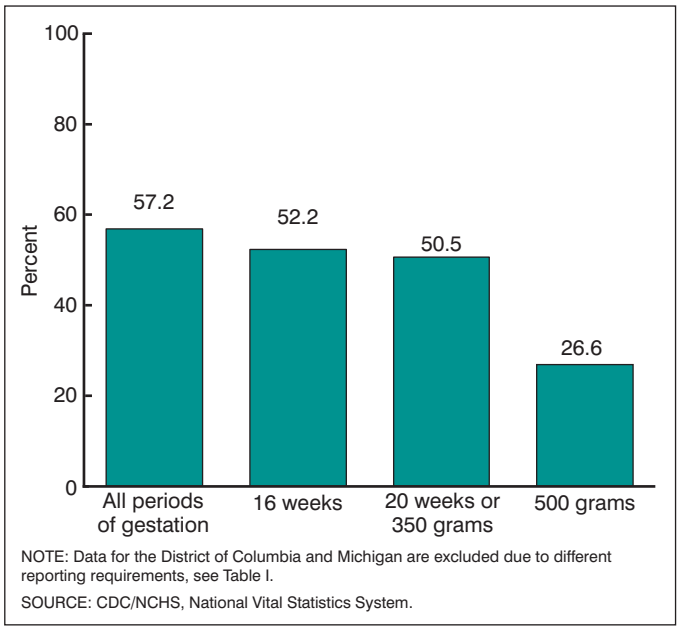
[6]State reports only fetal deaths of 500 grams or more; data for fetal and perinatal definition II are not comparable to data from other states; see "Technical Notes."

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 (58).

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. This definition has been adopted by NCHS as the nationally recommended standard, and is based on the definition published by the World Health Organization in 1950 and revised in 1988. 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 (10,59). Fetal deaths do not include induced terminations of pregnancy.



NOTE: Data for the District of Columbia and Michigan are excluded due to different reporting requirements, see Table I.

SOURCE: CDC/NCHS, National Vital Statistics System.

Figure I. Percentage of fetal deaths 20–27 weeks of all fetal deaths 20 weeks or more according to state reporting requirements, 2005

Reporting requirements for fetal death data

Reporting requirements for fetal deaths vary by state and these differences have important implications for comparisons of fetal and perinatal mortality rates by state. Table I shows the period of gestation at which fetal death reporting is required for each reporting area. The majority of states require reporting of fetal deaths of 20 weeks of gestation or more, or a minimum of 350 grams birthweight (roughly equivalent to 20 weeks) or some combination of the two. However, seven states (and the U.S. Virgin Islands) require reporting of fetal deaths of all periods of gestation (although three of these do not send data for fetal deaths of less than 20 weeks of gestation to NCHS), whereas one state requires reporting beginning at 16 weeks of gestation. At the other end of the spectrum, three states (New Mexico, South Dakota and Tennessee) require reporting of fetal deaths with birthweights of 500 grams or more (roughly equivalent to 22 weeks of gestation). Lack of full reporting for these states leads to a slight overestimate of the U.S. fetal mortality rate. For example, when data for these three states were excluded, the fetal mortality rate was 6.28 in 2005, compared with 6.22 for all states combined.

There is substantial evidence that not all fetal deaths for which reporting is required are reported (10,13,15). Underreporting of fetal deaths is most likely to occur in the earlier part of the required reporting period for each state (10,15). This is illustrated in Figure I, which compares the percentage of fetal deaths 20 weeks or more that are 20 to 27 weeks of gestation by state reporting requirements. In general, fetal deaths tend to be somewhat underreported near the lower limit of the reporting requirement. For those states requiring reporting of fetal deaths of all periods of gestation, 57 percent of fetal deaths 20 weeks or more were 20–27 weeks, whereas for states requiring reporting of fetal deaths of 500 grams or more, only 27 percent were at 20–27 weeks, thus indicating substantial underreporting of early fetal deaths.

Variations in fetal death reporting requirements and practices have implications for comparing fetal and perinatal mortality rates among states. Because reporting is generally incomplete near the lower limit of the reporting requirement, states that require reporting of all products of pregnancy, regardless of gestation, are likely to have more complete reporting of fetal deaths at 20 weeks or more than those states that do not. The larger number of fetal deaths reported for these "all periods" states may result in higher perinatal mortality rates than those rates reported for states whose reporting is less complete. Accordingly, reporting completeness may account, in part, for differences in fetal and perinatal mortality rates among states. To promote the comparability of data by year and by state while including as much meaningful data as possible, this report presents data on fetal deaths with a stated or presumed period of gestation of 20 weeks or more (10).

Percentage of unknown responses by characteristics

Table II shows the percentage of unknown responses for particular variables shown in this report, in the fetal death file, and for U.S. live births. In general, percentages of unknown responses are considerably higher for fetal deaths than for live births; and among fetal deaths the percentage unknown is higher for fetal deaths that occur earlier in the gestational period. In the tables shown in this report, unknown responses are shown in frequencies tables, but are excluded from the computation of percent distributions and fetal and perinatal mortality rates. Thus, 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.

The 1989 and 2003 Revisions of the U.S. Standard Certificates and Reports

This report includes data for 11 states: Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South

Table I. Period of gestation and weight minimums at which fetal death reporting is required: Each reporting area, 2005

Area	All periods of gestation	16 weeks	20 weeks	20 weeks or 350 grams	20 weeks or 400 grams	20 weeks or 500 grams	5 months	350 grams	500 grams
Alabama			X						
Alaska			X						
Arizona				X					
Arkansas	[1]X								
California			X						
Colorado	[1]X								
Connecticut			X						
Delaware								[2]X	
District of Columbia						X			
Florida			X						
Georgia	[1]X								
Hawaii	X								
Idaho				X					
Illinois			X						
Indiana			X						
Iowa			X						
Kansas								X	
Kentucky				X					
Louisiana				X					
Maine			X						
Maryland			[3]X						
Massachusetts				X					
Michigan					X				
Minnesota			X						
Mississippi				X					
Missouri				X					
Montana								[2]X	
Nebraska			X						
Nevada			X						
New Hampshire				X					
New Jersey			X						
New Mexico									X
New York	X								
New York excluding New York City	X								
New York City	X								
North Carolina			X						
North Dakota			X						
Ohio			X						
Oklahoma			X						
Oregon			X						
Pennsylvania		X							
Rhode Island	X								
South Carolina				X					
South Dakota									X
Tennessee									[4]X
Texas			X						
Utah			X						
Vermont			[5]X						
Virginia	X								
Washington			X						
West Virginia			X						
Wisconsin				X					
Wyoming			X						
Puerto Rico							X		
Virgin Islands	X								
Guam				X					

[1]Although state law requires the reporting of fetal deaths of all periods of gestation, only data for fetal deaths of 20 weeks of gestation or more are provided to NCHS.
[2]If weight is unknown, 20 completed weeks of gestation or more.
[3]If gestational age is unknown, weight of 500 grams or more.
[4]If weight is unknown, 22 completed weeks of gestation or more.
[5]If gestational age is unknown, weight of 400 grams or more, 15 ounces or more.

Dakota, Utah, and Washington, which implemented the 2003 Revision of the U.S. Standard Report of Fetal Death by January 1, 2005. Data from all other areas are based on the 1989 revision (unrevised).

For live births, 12 states—Florida, Idaho, Kansas, Kentucky, Nebraska, New Hampshire, New York (excluding New York City), Pennsylvania, South Carolina, Tennessee, Texas, and Washington—implemented the 2003 revision of the U.S. Standard Certificate of Birth by January 1, 2005. Data from all other areas are based on the 1989 revision.

For infant deaths included in perinatal mortality rates, 17 states (California, Connecticut, Florida, Idaho, Kansas, Michigan, Montana, Nebraska, New Hampshire, New Jersey, New York, Oklahoma, South

Table II. Percentage of unknown responses for selected variables for fetal deaths and live births, United States, 2005

	Fetal deaths			
	Total[2]	20–27 weeks	28 weeks or more	Live births[1]
Marital status[3]	5.33	5.22	3.80	0.03
Hispanic origin	6.80	6.98	5.80	0.72
Period of gestation	2.65	. . .	. . .	0.71
Birthweight	11.86	13.91	8.12	+0.01

. . . Category not applicable.

+ For the linked file, not stated birthweight is imputed for records with known period of gestation; the percentage of unknown responses before imputation is 0.09.

[1]Based on the denominator file for the linked file. Figures for the linked file differ slightly from the natality file.

[2]Includes fetal deaths with stated or presumed period of gestation of 20 weeks or more.

[3]For fetal deaths, excludes data for residents of California, Nevada, New York, and Texas, which did not report marital status on the fetal death report. For live births, excludes data from Michigan and New York, which did not report marital status on the birth certificate. For births only, marital status was inferred for nonreporting states and not stated marital status was imputed in reporting states (31). See "Technical Notes," Births: 2005.

Carolina, South Dakota, Utah, Washington, and Wyoming) implemented the 2003 Revision of the U.S. Standard Certificate of Death as of January 1, 2005. Data from all other areas are based on the 1989 revision.

The 2003 Revision of the U.S. Standard Certificates and Reports is described in detail elsewhere (56). Because the variables included in this report are comparable between the 1989 and 2003 revisions, these changes had little effect on the data included in this report.

Computation of rates

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

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

$$\text{Perinatal mortality rate, Definition I} = \frac{\text{Fetal deaths 28 weeks or more and infant deaths less than 7 days}}{\text{Live births and fetal deaths 28 weeks or more}} \times 1{,}000$$

$$\text{Perinatal mortality rate, Definition II} = \frac{\text{Fetal deaths 20 weeks or more and infant deaths less than 28 days}}{\text{Live births and fetal deaths 20 weeks or more}} \times 1{,}000$$

In each case, the fetal deaths included in the denominator of each rate mirror the fetal deaths included in the numerator. Thus, rates for subtotals in Figures 4, 5, and 6 do not exactly add to the total fetal or perinatal rates, due to the slightly different denominators used to compute the subtotal rates. A previous NCHS report contains information on the historical development of various perinatal measures (60). An asterisk (*) is shown in place of any rate based on fewer than 20 fetal or perinatal deaths in the numerator.

Prospective fetal mortality rate—When examining fetal mortality at a given gestational age, the prospective fetal mortality rate may provide a more appropriate indication of the population at risk of fetal death, as the denominator for this rate is all of the women who are still pregnant at that gestational age. The prospective fetal mortality rate is computed as the number of fetal deaths at a given gestational age (in single weeks), per 1,000 live births and fetal deaths at that gestational age or greater. Records with not stated gestational age are excluded from totals before computations are begun.

$$\text{Prospective fetal mortality rate}_w = \text{Fetal deaths}_w / \left(\Sigma_w^{max} \text{ fetal deaths} + \Sigma_w^{max} \text{ live births}\right) * 1000;$$

where w = specific gestational age in weeks, and max = highest gestational age in weeks.

Multiple race data

Beginning in 2003 some states revised their race reporting to allow respondents to select one or more race categories, to comply with the current Office of Management and Budget (OMB) standards (61). For fetal deaths, states reporting multiple-race data by January 2005 were Idaho, Kansas, Kentucky, Maryland, Michigan, Minnesota, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah, and Washington. For 2005 births, the 18 states reporting multiple-race data were: California, Florida, Hawaii, Idaho, Kansas, Kentucky, Michigan, Minnesota, Nebraska, New Hampshire, New York (excluding New York City), Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Utah, and Washington. Eventually all U.S. states will report multiple-race data. However, in the interim, the numerators for fetal mortality rates are incompatible with the denominators (births). In order to compute rates, it is necessary to "bridge" data for multiple-race persons to single-race categories, using methods described elsewhere (18,62–65). This has been done for fetal and perinatal mortality rates by race presented in this report. Once all states revise their registration systems to be compliant with the current OMB standards, the use of "bridged" data can be discontinued. This change should have little or no impact on the data in this report.

Period of gestation

The primary measure used to determine the gestational age of the fetus is the interval between the first day of the mother's last normal menstrual period (LMP) and the date of delivery. It is subject to error for several reasons, including imperfect maternal recall or misidentification of the LMP because of post-conception bleeding, delayed ovulation, or intervening early miscarriage. These data are edited for LMP-based gestational ages that are clearly inconsistent with birthweight and plurality, but reporting problems for this item persist. If the date of LMP is not reported or if the computed period of gestation is inconsistent with birthweight, the clinical or obstetric estimate of gestation is used (14.6 percent of fetal death records and 5.1 percent of live birth records in 2005). These procedures are described in more detail elsewhere (18,66).

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 a gestational age of 20 weeks or more, or the fetus weighed 500 grams or more in those states requiring reporting of all fetal deaths regardless of gestational age. Furthermore, in Tables A, B, 1, and 3 fetal deaths with not stated gestational age are allocated to 20–27 weeks and 28 weeks or more according to the proportion of fetal deaths with stated gestational age that fall into each

category (proportional distribution). Similarly, for Table F, fetal deaths with not stated gestational age are proportionally distributed into the 20–23 week and 24 weeks or more categories. Proportional distribution is not performed for tables showing more detailed gestational age categories (Table 2). The allocation of not stated gestational age for fetal deaths is made individually for each maternal age, race and Hispanic origin group, and state.

Random variation in fetal and perinatal mortality rates

The number of fetal deaths, perinatal deaths, and live births reported for an area represent complete counts of such events. As such, they are not subject to sampling error, although they are subject to nonsampling error in the registration process. However, when the figures are used for analytic purposes, such as the comparison of rates over time, for different areas, or among different subgroups, the number of events that actually occurred may be considered as one of a large series of possible results that could have arisen under the same circumstances (67). As a result, numbers of births, fetal deaths, perinatal deaths, and fetal and perinatal mortality rates are subject to random variation. The probable range of values may be estimated from the actual figures according to certain statistical assumptions.

In general, distributions of vital events may be assumed to follow the normal distribution. When the number of events is large, the relative standard error (RSE) is usually small. When the number of events is small (perhaps less than 100) and the probability of such an event is small, considerable caution must be observed in interpreting the data. Such infrequent events may be assumed to follow a Poisson probability distribution. Estimates of RSEs and 95 percent confidence intervals are shown below. **In the formulas below, D = the number of fetal or perinatal deaths, and B = the number of live births plus fetal deaths used as the denominator in computing fetal and perinatal mortality rates.**

The formulas for the two RSEs are:

$$\mathrm{RSE}(D) = 100 \bullet \sqrt{\frac{1}{D}}$$

and

$$\mathrm{RSE}\,(B) = 100 \bullet \sqrt{\frac{1}{B}}$$

For example, let us say that for group A the number of fetal deaths was 238, whereas the number of live births plus fetal deaths in the denominator was 32,650, yielding a fetal mortality rate of 7.29 fetal deaths per 1,000 live births and fetal deaths.

$$\text{The RSE of the deaths} = 100 \bullet \sqrt{\frac{1}{238}} = 6.48,$$

$$\text{whereas the RSE for the births plus fetal deaths in the denominator} = 100 \bullet \sqrt{\frac{1}{32{,}650}} = 0.55.$$

The formula for the RSE of the fetal mortality rate is:

$$\mathrm{RSE} = 100 \bullet \sqrt{\frac{1}{D} + \frac{1}{B}}$$

Thus the RSE for the example above is:

$$= 100 \bullet \sqrt{\frac{1}{238} + \frac{1}{32{,}650}} = 6.51.$$

Normal distribution—When the number of events is greater than 100, the normal distribution is used to estimate the 95 percent confidence intervals of a rate, R_1, as follows:

$$\text{Lower: } R_1 - 1.96 \bullet R_1 \bullet \frac{\mathrm{RSE}(R_1)}{100}$$

$$\text{Upper: } R_1 + 1.96 \bullet R_1 \bullet \frac{\mathrm{RSE}(R_1)}{100}$$

Thus, for group A:

$$\text{Lower: } 7.29 - \left(1.96 \bullet 7.29 \bullet \frac{6.51}{100}\right) = 6.36$$

$$\text{Upper: } 7.29 + \left(1.96 \bullet 7.29 \bullet \frac{6.51}{100}\right) = 8.22$$

Thus the chances are 95 out of 100 that the true fetal or perinatal mortality rate for Group A lies somewhere in the 6.36 to 8.22 interval.

Poisson distribution—When the number of events in the numerator is less than 100 the confidence interval for the rate, R_1, can be estimated based on the Poisson distribution using the values in Table III.

$$\text{Lower: } R_1 \bullet L\,(.95,\ D_{adj})$$

$$\text{Upper: } R_1 \bullet U\,(.95,\ D_{adj})$$

where D_{adj} is the adjusted number of fetal or perinatal deaths (rounded to the nearest integer) used to take into account the RSE of the number of deaths in the numerator and the number of live births plus fetal deaths in the denominator, and is computed as follows:

$$D_{adj} = \frac{D \bullet B}{D + B}$$

$L\,(.95,\ D_{adj})$ and $U\,(.95,\ D_{adj})$ refer to the values in Table III corresponding to the value of D_{adj}.

For example, let us say that for Group B the number of fetal deaths was 73, and the number of live births plus fetal deaths in the denominator was 11,422, and the fetal mortality rate was 6.39.

$$D_{adj} = \frac{(73 \bullet 11{,}422)}{(73 + 11{,}422)} = 73$$

Therefore, the 95 percent confidence interval (using the formula in Table III for 1–99 infant deaths) =

$$\text{Lower: } 6.39 \bullet 0.78384 = 5.01$$

$$\text{Upper: } 6.39 \bullet 1.25735 = 8.03$$

Comparison of two fetal or perinatal mortality rates—If either of the two rates to be compared is based on less than 100 deaths, compute the confidence intervals for both rates and check to see if they overlap. If so, the difference is not statistically significant at the

Table III. Lower and upper 95 percent and 96 percent confidence limit factors for a death rate based on a Poisson variable of 1 through 99 deaths, *D*

D	L(1−α = .95,*D*)	U(1−α = .95,*D*)	L(1−α = .96,*D*)	U(1−α = .96,*D*)	*D*	L(1−α = .95,*D*)	U(1−α = .95,*D*)	L(1−α = .96,*D*)	U(1−α = .96,*D*)
1	0.02532	5.57164	0.02020	5.83392	51	0.74457	1.31482	0.73385	1.33057
2	0.12110	3.61234	0.10735	3.75830	52	0.74685	1.31137	0.73621	1.32694
3	0.20622	2.92242	0.18907	3.02804	53	0.74907	1.30802	0.73851	1.32342
4	0.27247	2.56040	0.25406	2.64510	54	0.75123	1.30478	0.74075	1.32002
5	0.32470	2.33367	0.30591	2.40540	55	0.75334	1.30164	0.74293	1.31671
6	0.36698	2.17658	0.34819	2.23940	56	0.75539	1.29858	0.74506	1.31349
7	0.40205	2.06038	0.38344	2.11666	57	0.75739	1.29562	0.74713	1.31037
8	0.43173	1.97040	0.41339	2.02164	58	0.75934	1.29273	0.74916	1.30734
9	0.45726	1.89831	0.43923	1.94553	59	0.76125	1.28993	0.75113	1.30439
10	0.47954	1.83904	0.46183	1.88297	60	0.76311	1.28720	0.75306	1.30152
11	0.49920	1.78928	0.48182	1.83047	61	0.76492	1.28454	0.75494	1.29873
12	0.51671	1.74680	0.49966	1.78566	62	0.76669	1.28195	0.75678	1.29601
13	0.53246	1.71003	0.51571	1.74688	63	0.76843	1.27943	0.75857	1.29336
14	0.54671	1.67783	0.53027	1.71292	64	0.77012	1.27698	0.76033	1.29077
15	0.55969	1.64935	0.54354	1.68289	65	0.77178	1.27458	0.76205	1.28826
16	0.57159	1.62394	0.55571	1.65610	66	0.77340	1.27225	0.76373	1.28580
17	0.58254	1.60110	0.56692	1.63203	67	0.77499	1.26996	0.76537	1.28340
18	0.59266	1.58043	0.57730	1.61024	68	0.77654	1.26774	0.76698	1.28106
19	0.60207	1.56162	0.58695	1.59042	69	0.77806	1.26556	0.76856	1.27877
20	0.61083	1.54442	0.59594	1.57230	70	0.77955	1.26344	0.77011	1.27654
21	0.61902	1.52861	0.60435	1.55563	71	0.78101	1.26136	0.77162	1.27436
22	0.62669	1.51401	0.61224	1.54026	72	0.78244	1.25933	0.77310	1.27223
23	0.63391	1.50049	0.61966	1.52602	73	0.78384	1.25735	0.77456	1.27014
24	0.64072	1.48792	0.62666	1.51278	74	0.78522	1.25541	0.77598	1.26810
25	0.64715	1.47620	0.63328	1.50043	75	0.78656	1.25351	0.77738	1.26610
26	0.65323	1.46523	0.63954	1.48888	76	0.78789	1.25165	0.77876	1.26415
27	0.65901	1.45495	0.64549	1.47805	77	0.78918	1.24983	0.78010	1.26223
28	0.66449	1.44528	0.65114	1.46787	78	0.79046	1.24805	0.78143	1.26036
29	0.66972	1.43617	0.65652	1.45827	79	0.79171	1.24630	0.78272	1.25852
30	0.67470	1.42756	0.66166	1.44922	80	0.79294	1.24459	0.78400	1.25672
31	0.67945	1.41942	0.66656	1.44064	81	0.79414	1.24291	0.78525	1.25496
32	0.68400	1.41170	0.67125	1.43252	82	0.79533	1.24126	0.78648	1.25323
33	0.68835	1.40437	0.67575	1.42480	83	0.79649	1.23965	0.78769	1.25153
34	0.69253	1.39740	0.68005	1.41746	84	0.79764	1.23807	0.78888	1.24987
35	0.69654	1.39076	0.68419	1.41047	85	0.79876	1.23652	0.79005	1.24824
36	0.70039	1.38442	0.68817	1.40380	86	0.79987	1.23499	0.79120	1.24664
37	0.70409	1.37837	0.69199	1.39743	87	0.80096	1.23350	0.79233	1.24507
38	0.70766	1.37258	0.69568	1.39134	88	0.80203	1.23203	0.79344	1.24352
39	0.71110	1.36703	0.69923	1.38550	89	0.80308	1.23059	0.79453	1.24201
40	0.71441	1.36172	0.70266	1.37991	90	0.80412	1.22917	0.79561	1.24052
41	0.71762	1.35661	0.70597	1.37454	91	0.80514	1.22778	0.79667	1.23906
42	0.72071	1.35171	0.70917	1.36938	92	0.80614	1.22641	0.79771	1.23762
43	0.72370	1.34699	0.71227	1.36442	93	0.80713	1.22507	0.79874	1.23621
44	0.72660	1.34245	0.71526	1.35964	94	0.80810	1.22375	0.79975	1.23482
45	0.72941	1.33808	0.71816	1.35504	95	0.80906	1.22245	0.80074	1.23345
46	0.73213	1.33386	0.72098	1.35060	96	0.81000	1.22117	0.80172	1.23211
47	0.73476	1.32979	0.72370	1.34632	97	0.81093	1.21992	0.80269	1.23079
48	0.73732	1.32585	0.72635	1.34218	98	0.81185	1.21868	0.80364	1.22949
49	0.73981	1.32205	0.72892	1.33818	99	0.81275	1.21746	0.80458	1.22822
50	0.74222	1.31838	0.73142	1.33431					

95 percent level. If they do not overlap, the difference is statistically significant. If both of the two rates (R_1 and R_2) to be compared are based on 100 or more deaths, the following z-test should be used to define a significance test statistic:

$$z = \frac{R_1 - R_2}{\sqrt{R_1^2\left(\frac{\mathrm{RSE}(R_1)}{100}\right)^2 + R_2^2\left(\frac{\mathrm{RSE}(R_2)}{100}\right)^2}}$$

If $|z| \geq 1.96$, then the difference is statistically significant at the 0.05 level and if $|z| < 1.96$, the difference is not significant.

Availability of fetal and perinatal data

Beginning with the 1982 data year, fetal death data and associated User's Guides can be downloaded from the NCHS website at: http://www.cdc.gov/nchs/about/major/dvs/Vitalstatsonline.htm. Each file contains all of the variables included in this report plus many additional variables (10). Fetal mortality data are also available on CD–ROMs by request from NCHS. Questions about these data may be directed to 1–866–441–6247 or by e-mail to births@cdc.gov. Additional information on fetal and perinatal mortality is available from: http://www.cdc.gov/nchs.

Contents

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Fetal Death Documentation Table 1. Fetal Deaths by Period of Gestation and State of Occurrence: United States and Each State, 2005
(Fetal deaths by place of occurrence include fetal deaths that occur to nonresidents of the United States)

State of Occurrence	All Fetal Deaths				Fetal Deaths with Stated or Presumed Gestation of 20 Weeks or More			
	Total	Under 20 Weeks	20 Weeks and Over	Not Stated	Total	20-27 Weeks	28 Weeks and Over	Not Stated
United States	53,333	25,184	25,242	2,907	25,931	12,991	12,251	689
Alabama	540	24	514	2	516	259	255	2
Alaska	49	2	44	3	47	20	24	3
Arizona	755	175	573	7	580	284	289	7
Arkansas	288	9	278	1	279	135	143	1
California	3,152	103	2,773	276	3,049	1,282	1,491	276
Colorado	395	12	383	-	383	177	206	-
Connecticut	255	4	250	1	251	134	116	1
Delaware	75	6	67	2	69	38	29	2
District of Columbia	138	6	130	2	132	93	37	2
Florida	1,671	57	1,589	25	1,614	869	720	25
Georgia	1,258	177	1,077	4	1,079	604	473	2
Hawaii	954	696	105	153	114	70	35	9
Idaho	127	6	118	3	119	52	66	1
Illinois	1,132	37	1,092	3	1,095	557	535	3
Indiana	500	9	479	12	491	220	259	12
Iowa	217	5	209	3	212	98	111	3
Kansas	202	2	200	-	200	63	137	-
Kentucky	331	11	319	1	320	162	157	1
Louisiana	523	55	373	95	468	209	164	95
Maine	74	-	74	-	74	40	34	-
Maryland	610	27	583	-	583	360	223	-
Massachusetts	437	16	421	-	421	214	207	-
Michigan	802	76	722	4	726	373	349	4
Minnesota	340	8	328	4	332	149	179	4
Mississippi	433	11	418	4	422	234	184	4
Missouri	495	22	470	3	473	233	237	3
Montana	54	1	53	-	53	15	38	-
Nebraska	147	3	144	-	144	75	69	-
Nevada	280	16	262	2	264	148	114	2
New Hampshire	66	1	65	-	65	20	45	-
New Jersey	710	31	679	-	679	373	306	-
New Mexico	84	4	80	-	80	17	63	-
New York	7,123	5,300	754	1,069	759	415	339	5
New York City	12,072	10,710	1,303	59	1,319	827	476	16
North Carolina	887	33	846	8	854	412	434	8
North Dakota	58	4	53	1	54	20	33	1
Ohio	952	35	908	9	917	476	432	9
Oklahoma	337	10	269	58	277	151	118	8
Oregon	227	12	214	1	215	114	100	1
Pennsylvania	1,438	403	965	70	1,035	505	460	70
Rhode Island	1,050	949	89	12	89	46	43	-
South Carolina	510	19	491	-	491	280	211	-
South Dakota	52	-	52	-	52	17	35	-
Tennessee	431	15	405	11	416	107	298	11
Texas	2,331	223	2,024	84	2,108	1,015	1,009	84
Utah	304	22	279	3	281	136	143	2
Vermont	32	-	32	-	32	14	18	-
Virginia	7,372	5,815	672	885	673	394	278	1
Washington	519	8	488	23	495	256	232	7
West Virginia	129	1	128	-	128	50	78	-
Wisconsin	378	12	363	3	366	168	195	3
Wyoming	37	1	35	1	36	11	24	1

- Quantity zero.

Fetal Death Documentation Table 1-B Possessions. Fetal Deaths by Period of Gestation and State of Occurrence: United States Territories, 2005
(Fetal deaths by place of occurrence include fetal deaths that occur to nonresidents of the United States)

Territory of Occurrence	All Fetal Deaths				Fetal Deaths with Stated or Presumed Gestation of 20 Weeks or More			
	Total	Under 20 Weeks	20 Weeks and Over	Not Stated	Total	20-27 Weeks	28 Weeks and Over	Not Stated
Puerto Rico	548	1	542	5	547	352	190	5
Guam	45	3	41	1	42	14	27	1

- Quantity zero.

Fetal deaths Documentation Table 2. Fetal deaths by race of mother: United States and each state, 2005(Fetal deaths include only those with stated or presumed period of gestation of 20 weeks or more; see Technical Appendix.)

State	Number				
	All races	White	Black	American Indian or Alaska Native[1]	Asian or Pacific Islander
United States	25,894	17,238	7,269	278	1,109
Alabama	534	253	274	1	6
Alaska	48	25	5	15	3
Arizona	569	472	36	47	14
Arkansas	279	189	89	-	1
California	3,051	2,349	374	10	318
Colorado	378	338	24	4	12
Connecticut	253	188	55	-	10
Delaware	66	30	34	-	2
District of Columbia	68	11	54	-	3
Florida	1,608	934	640	11	23
Georgia	1,066	478	554	5	29
Hawaii	112	21	2	1	88
Idaho	129	121	2	3	3
Illinois	1,126	723	356	-	47
Indiana	492	384	101	-	7
Iowa	222	188	27	1	6
Kansas	200	159	31	1	9
Kentucky	338	283	50	-	5
Louisiana	483	205	274	-	4
Maine	76	71	4	-	1
Maryland	631	254	348	-	29
Massachusetts	419	289	102	-	28
Michigan	742	476	247	2	17
Minnesota	339	261	50	12	16
Mississippi	419	134	281	1	3
Missouri	444	310	123	4	7
Montana	54	43	-	11	-
Nebraska	134	108	16	7	3
Nevada	268	214	36	2	16
New Hampshire	64	61	1	1	1
New Jersey	703	408	242	1	52
New Mexico	82	69	-	11	2
New York	2,062	1,233	698	2	129
North Carolina	847	426	385	16	20
North Dakota	46	37	-	8	1
Ohio	898	638	246	1	13
Oklahoma	288	191	58	34	5
Oregon	203	181	9	6	7
Pennsylvania	1,031	735	270	2	24
Rhode Island	83	79	4	-	-
South Carolina	500	222	273	-	5
South Dakota	46	35	1	10	-
Tennessee	393	247	140	-	6
Texas	2,082	1,601	418	14	49
Utah	266	257	2	2	5
Vermont	31	30	-	-	1
Virginia	693	446	216	2	29
Washington	496	381	57	20	38
West Virginia	126	121	4	-	1
Wisconsin	364	290	56	7	11
Wyoming	42	39	-	3	-

- Quantity zero
[1] Includes fetal deaths to Aleuts and Eskimos
NOTES: Race and Hispanic origin are reported separately on birth certificates. Race categories are consistent with the 1977 office of Management and Budget (OMB) standards. Data for states which report multiple-race for mothers were bridged to the single-race categories of the 1977 OMB standards for camparability with other states; see "Technical Appendix". In this table all women (including Hispanic women)are classified only according to their race; see "Technical Appendix".

The SAS System

Fetal deaths Documentation Table 3. Fetal deaths by Hispanic origin of mother and by race for mothers of non-Hispanic origin: United States, 2005
[By place of residence]

State	All origins	Origin of mother									
		Hispanic						Non-Hispanic			
		Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total[1]	White	Black	Not stated
United States.....	25,894	5,387	3,651	388	67	683	598	18,746	10,973	6,573	1,761
Alabama.....	534	26	19	3	-	4	-	503	225	271	5
Alaska.....	48	2	-	-	-	1	1	42	23	3	4
Arizona.....	569	250	240	1	-	9	-	270	190	30	49
Arkansas.....	279	19	19	-	-	-	-	260	171	89	-
California.....	3,051	1,545	1,337	15	2	133	58	1,460	792	354	46
Colorado.....	378	120	95	2	-	14	9	248	212	21	10
Connecticut.....	253	57	5	28	1	17	6	180	119	51	16
Delaware.....	66	9	8	1	-	-	-	55	22	31	2
District of Columbia.....	68	6	1	-	-	5	-	53	6	44	9
Florida.....	1,608	294	87	56	49	85	17	1,145	577	537	169
Georgia.....	1,066	109	67	2	-	19	21	855	321	513	102
Hawaii.....	112	9	3	2	1	-	3	70	12	1	33
Idaho.....	129	20	18	-	-	-	2	109	102	2	-
Illinois.....	1,126	249	203	16	-	5	25	839	464	328	38
Indiana.....	492	55	20	-	-	1	34	416	313	96	21
Iowa.....	222	13	7	-	-	1	5	207	173	27	2
Kansas.....	200	31	21	-	-	2	8	167	132	28	2
Kentucky.....	338	14	14	-	-	-	-	323	271	47	1
Louisiana.....	483	12	12	-	-	-	-	395	160	232	76
Maine.....	76	-	-	-	-	-	-	49	45	3	27
Maryland.....	631	54	16	4	2	25	7	537	201	309	40
Massachusetts.....	419	50	-	22	1	20	7	277	180	74	92
Michigan.....	742	44	32	6	-	-	6	479	307	160	219
Minnesota.....	339	1	1	-	-	-	-	16	15	-	322
Mississippi.....	419	13	9	-	-	-	4	402	117	281	4
Missouri.....	444	18	13	-	-	1	4	426	295	122	-
Montana.....	54	1	1	-	-	-	-	51	40	-	2
Nebraska.....	134	17	16	-	-	1	-	117	92	15	-

Nevada	268	101	83	2	-	6	10	164	111	36	3
New Hampshire	64	3	1	2	-	-	-	55	53	1	6
New Jersey	703	172	38	48	3	79	4	524	256	217	7
New Mexico	82	52	30	-	-	-	22	29	17	-	1
New York	2,062	471	84	93	3	135	156	1,459	725	610	132
North Carolina	847	107	75	5	1	19	7	733	321	377	7
North Dakota	46	-	-	-	-	-	-	42	33	-	4
Ohio	898	39	16	5	-	5	13	846	595	239	13
Oklahoma	288	22	22	-	-	-	-	235	156	48	31
Oregon	203	51	41	-	-	1	9	152	130	9	-
Pennsylvania	1,031	95	14	56	-	6	19	917	637	254	19
Rhode Island	83	-	-	-	-	-	-	4	2	2	79
South Carolina	500	26	20	1	-	2	3	468	196	267	6
South Dakota	46	2	1	-	-	1	-	43	32	1	1
Tennessee	393	28	23	-	-	3	2	362	217	139	3
Texas	2,082	946	800	9	1	58	78	1,110	644	409	26
Utah	266	47	37	1	-	2	7	219	210	2	-
Vermont	31	-	-	-	-	-	-	29	28	-	2
Virginia	693	69	11	4	1	18	35	586	355	204	38
Washington	496	81	68	2	1	1	9	337	274	30	78
West Virginia	126	-	-	-	-	-	-	126	121	4	-
Wisconsin	364	33	21	2	1	4	5	318	248	55	13
Wyoming	42	4	2	-	-	-	2	37	35	-	1

- Quantity zero
[1] Includes races other then white and black
NOTES: Race and Hispanic origin are reported separately on birth certificates. Race categories are consistent with the 1977 office of Management and Budget (OMB) standards. Data for states which report multiple-race for mothers were bridged to the single-race categories of the 1977 OMB standards for camparability with other states; see "Technical Appendix". In this table all women (including Hispanic women)are classified only according to their race; see "Technical Appendix".

Fetal Death Documentation Table 4

Fetal Deaths by Age of Mother, Race and Hispanic Origin of Mother, and Sex of Fetus: United States, 2005

(Fetal deaths include only those with stated or presumed period of gestation of 20 weeks or more.
Not stated sex imputed for fetal deaths of 20 weeks or more gestation: see Technical Appendix.)

Race, Hispanic origin, and sex /[1]	Total	Age of mother								
		Under 15 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years
All races	25,894	83	3,152	6,135	6,221	5,495	3,530	1,175	95	8
Male	13,706	46	1,713	3,240	3,280	2,927	1,810	625	60	5
Female	12,188	37	1,439	2,895	2,941	2,568	1,720	550	35	3
Non-Hispanic white	10,973	13	1,033	2,375	2,752	2,487	1,710	547	52	4
Male	5,802	8	585	1,254	1,460	1,315	864	278	36	2
Female	5,171	5	448	1,121	1,292	1,172	846	269	16	2
Non-Hispanic black	6,573	45	1,058	1,829	1,422	1,202	753	246	16	2
Male	3,530	27	578	969	771	633	394	149	7	2
Female	3,043	18	480	860	651	569	359	97	9	0
Hispanic	5,387	19	806	1,363	1,315	1,050	581	242	9	2
Male	2,826	8	408	714	682	564	314	131	4	1
Female	2,561	11	398	649	633	486	267	111	5	1

- Quantity zero.

[1] Includes races other than white and black and origin not stated.

NOTE: Race and Hispanic origin are reported separately on fetal death reports. Race categories are consistent with the 1977 Office of Management and Budget standards. Data for fetal deaths are according to mother's Hispanic origin and reported race; see Technical Appendix.

Fetal Death Documentation Table 5
Fetal Deaths by Birthweight and Sex: United States, 2005

(Fetal deaths include only those with stated or presumed period of gestation of 20 weeks or more.
Not stated sex imputed for fetal deaths of 20 weeks or more gestation: see Technical Appendix.)

Sex	Total	Birthweight												
		Under 350 grams	350-499 grams	500-999 grams	1000-1,499 grams	1,500-1,999 grams	2,000-2,499 grams	2,500 2,999 grams	3,000-3,499 grams	3,500 3,999 grams	4,000-4,499 grams	4,500-4,999 grams	5000-grams or more	Not stated
Total	25,894	3,965	3,977	4,924	2,149	1,910	1,785	1,715	1,389	625	223	92	69	3,071
Male	13,706	2,082	2,133	2,628	1,135	1,012	920	852	735	357	119	49	42	1,642
Female	12,188	1,883	1,844	2,296	1,014	898	865	863	654	268	104	43	27	1,429

- Quantity zero.

Fetal Death Documentation Table 6.
Fetal Deaths by Period of Gestation and Sex: United States, 2005

(Fetal deaths include only those with stated or presumed period of gestation of 20 weeks or more. Not stated sex imputed for fetal deaths of 20 weeks or more gestation: see Technical Appendix.)

Weeks of Gestation/[1]	Total	Male	Female
Total	25894	13706	12188
20 weeks	2324	1338	986
21 weeks	2492	1363	1129
22 weeks	2330	1269	1061
23 weeks	1776	934	842
24 weeks	1210	604	606
25 weeks	1026	503	523
26 weeks	960	472	488
27 weeks	855	464	391
28 weeks	801	416	385
29 weeks	788	402	386
30 weeks	833	451	382
31 weeks	790	425	365
32 weeks	758	396	362
33 weeks	831	451	380
34 weeks	919	456	463
35 weeks	918	478	440
36 weeks	1059	571	488
37 weeks	1047	538	509
38 weeks	1126	606	520
39 weeks	959	493	466
40 weeks	684	360	324
41 weeks or more	723	343	380
Not stated	685	373	312

- Quantity zero.
[1] Expressed in completed weeks.

Fetal Death Documentation Table 7.
Fetal Deaths by Smoking Status and Age of Mother :
Total of 37 Reporting States and the District of Columbia, 2005

(Fetal deaths include only those with stated or presumed period of gestation of 20 weeks or more: see Technical Appendix.)

Smoking status	All fetal deaths	Age of mother								
		Under 15 years	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-54 years
			Total	15-17 years	18-19 years					
Total	19,397	74	2,423	848	1,575	4,733	4,591	4,091	2,587	898
Smoker	2,560	11	329	81	248	867	660	354	245	94
Non-smoker	14,353	47	1,829	679	1,150	3,292	3,406	3,174	1,944	661
Not stated	2,484	16	265	88	177	574	525	563	398	143

- Quantity zero.

Notes: Excludes data for California and Hawaii which do not report tobacco use. Also excludes data for Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah, and Washington which implemented the 2003 Revision of the U.S. Standard Report of Fetal Death. This change resulted in a lack of comparability between data based on the 2003 Revision and data based on the 1989 Revision of the U.S. Standard Report of Fetal Death; see Technical Appendix.

Fetal Death Documentation Table 8.
Fetal Deaths by Drinking Status of Mother and by Mother's Average Number of Drinks per Week, by Age of Mother:
Total of 37 Reporting States and the District of Columbia, 2005

(Fetal deaths include only those with stated or presumed period of gestation of 20 weeks or more: see Technical Appendix.)
(For a listing of reporting areas: see Technical Appendix)

Drinking status, and average number of drinks per week	All Ages	Age of mother								
		Under 15 years	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-54 years
			Total	15-17 years	18-19 years					
All women	19,397	74	2,423	848	1,575	4,733	4,591	4,091	2,587	898
Drinker	306	1	33	8	25	78	66	57	47	24
1 drink or less	66	-	9	4	5	18	15	16	6	2
2 drinks	37	-	2	-	2	5	13	7	5	5
3-4 drinks	20	-	2	-	2	1	3	4	7	3
5 drinks or more	50	-	5	1	4	8	8	12	12	5
If drinker, not stated no. of drinks	133	1	15	3	12	46	27	18	17	9
Non-drinker	17,023	60	2,140	766	1,374	4,163	4,073	3,565	2,259	763
Not stated	2,068	13	250	74	176	492	452	469	281	111

- Quantity zero.

Note: Excludes data for California, Hawaii, Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah, and Washington .

FETAL DEATH DOCUMENTATION TABLE 9

FETAL DEATHS BY WEIGHT GAIN OF MOTHER DURING PREGNANCY, BY STATE:
TOTAL OF 48 REPORTING STATES AND THE DISTRICT OF COLUMBIA, 2005
[FETAL DEATHS INCLUDE ONLY THOSE WITH STATED OR PRESUMED PERIOD OF GESTATION OF 20 WEEKS OR MORE:
SEE TECHNICAL APPENDIX.] fOR A LISTING OF REPORTING AREAS: SEE TECHNICAL APPENDIX.

STATE	Total	Weight gain during pregnancy							
		Less than 10 pounds	10-14 pounds	15-19 pounds	20-24 pounds	25-29 pounds	30-34 pounds	35 pounds or more	Not Stated
United States	22,731	3,908	2,677	2,040	2,152	1,271	1,133	1,939	7,611
Alabama	534	91	83	57	62	48	28	58	107
Alaska	48	5	4	3	6	-	1	4	25
Arizona	569	101	63	44	73	42	29	69	148
Arkansas	279	36	31	18	37	20	15	26	96
Colorado	378	62	37	38	43	19	15	34	130
Connecticut	253	42	34	23	27	20	15	18	74
Delaware	66	9	12	4	6	3	4	3	25
District of Columbia	68	6	5	1	2	1	1	-	52
Florida	1,608	249	218	161	141	93	82	152	512
Georgia	1,066	148	81	50	57	34	32	57	607
Idaho	129	32	17	22	11	7	4	20	16
Illinois	1,126	144	157	83	102	59	49	90	442
Indiana	492	88	50	48	57	47	30	55	117
Iowa	222	46	36	29	23	17	12	19	40
Kansas	200	33	32	19	34	14	19	33	16
Kentucky	338	108	46	38	30	23	26	49	18
Louisiana	483	103	63	35	30	26	17	24	185
Maine	76	10	9	7	5	6	4	2	33
Maryland	631	165	90	74	66	36	16	55	129
Massachusetts	419	73	50	40	34	33	26	26	137
Michigan	742	161	77	83	86	55	51	99	130
Minnesota	339	35	33	34	37	27	25	22	126
Mississippi	419	93	57	27	36	13	16	27	150
Missouri	444	89	59	56	59	29	34	58	60
Montana	54	4	7	4	14	4	5	10	6
Nebraska	134	42	24	12	17	12	4	9	14
Nevada	268	19	12	12	13	11	3	10	188
New Hampshire	64	5	2	2	3	1	2	5	44
New Jersey	703	138	125	85	83	47	40	64	121
New Mexico	82	8	11	6	10	6	2	10	29
New York	2,062	245	169	150	172	85	86	117	1,038
North Carolina	847	180	126	85	106	62	58	85	145
North Dakota	46	10	4	1	4	7	3	6	11
Ohio	898	126	119	95	76	48	65	89	280
Oklahoma	288	49	25	23	24	12	12	21	122
Oregon	203	33	39	25	32	6	16	21	31
Pennsylvania	1,031	114	84	57	60	44	33	65	574
Rhode Island	83	-	2	2	-	-	1	1	77
South Carolina	500	121	85	55	54	27	29	37	92
South Dakota	46	7	5	7	6	2	5	7	7
Tennessee	393	17	22	27	37	20	26	34	210
Texas	2,082	454	261	202	201	92	90	159	623
Utah	266	61	37	37	34	23	14	42	18
Vermont	31	2	1	4	2	3	1	4	14
Virginia	693	147	60	40	40	29	24	36	317
Washington	496	109	43	37	42	22	21	45	177
West Virginia	126	21	10	8	16	8	4	11	48
Wisconsin	364	59	55	64	39	23	33	47	44
Wyoming	42	8	5	6	3	5	5	4	6

- Quantity zero
NOTE: Excludes data for California and Hawaii, which did not report weight gain during pregnancy

FETAL DEATH DOCUMENTATION TABLE 10

FETAL DEATHS WITH SELECTED OBSTETRIC PROCEDURES BY AGE OF MOTHER:
TOTAL OF 38 REPORTING STATES AND THE DISTRICT OF COLUMBIA, 2005
(FETAL DEATHS INCLUDE ONLY THOSE WITH STATED OR PRESUMED PERIOD OF GESTATION OF 20 WEEKS OR MORE: SEE TECHNICAL APPENDIX.)
(FOR A LISTING OF REPORTING AREAS: SEE TECHNICAL APPENDIX.)

OBSTETRIC PROCEDURE	OBSTETRIC PROCEDURES REPORTED									
	AGE OF MOTHER								OBSTERIC PROCEDURE	
	ALL FETAL DEATHS(1)	ALL AGES	UNDER 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-54 years	NOT REPORTED	NOT STATED(2)
AMINOCENTESIS.....	22448	1358	111	221	248	299	340	139	19651	1439
ELECTRONIC FETAL MONITORING	22448	5480	696	1438	1300	1126	714	206	15529	1439
INDUCTION OF LABOR.....	22448	7085	893	1689	1768	1465	937	333	13924	1439
STIMULATION OF LABOR.....	22448	1691	262	442	413	301	183	90	19318	1439
TOCOLYSIS.....	22448	684	89	174	168	146	83	24	20325	1439
ULTRASOUND.....	22448	12202	1524	2919	2883	2618	1700	558	8807	1439

1 Total number of fetal deaths to residents of reporting areas.
2 No response reported for the obstetric procedure item.

NOTE: Excludes data for Hawaii, Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah and Washington.

Fetal Death Documentation Table 11.
Fetal Deaths by Method of Delivery by Age of Mother:
Total of 38 reporting states and the District of Columbia, 2005

(Fetal deaths include only those with stated or presumed period of gestation of 20 weeks or more: see Technical Appendix.)
(For a listing of reporting areas, see Technical Notes .)

Age of mother	All Fetal deaths/[1]	Method of delivery										
		Vaginal							Cesearean			Hyster-otomy or Hyster-ectomy /[3]
		Total	Vaginal birth after cesearean			Other vaginal			Total	Primary	Repeat	
			All /[2]	Forceps	Vacuum	All /[2]	Forceps	Vacuum				
Total	22,448	18,074	723	4	9	17,349	194	163	2,930	1,797	1,133	75
Under 15 years	81	71	-	-	-	71	2	1	3	3	-	-
15-19 years	2,743	2,405	25	1	-	2,379	18	26	230	197	33	7
20-24-years	5,332	4,408	119	-	3	4,288	41	41	626	421	205	14
25-29 years	5,327	4,325	160	-	3	4,165	40	28	683	409	274	20
30-34 years	4,754	3,655	201	1	2	3,454	47	30	730	412	318	16
35-39 years	3,095	2,369	156	2	1	2,213	39	26	485	262	223	12
40-44 years	1,025	773	56	-	-	717	6	11	159	82	77	6
45-54 years	91	68	6	-	-	62	1	-	14	11	3	-

- Quantity zero.

[1] Includes fetal deaths with not stated method of delivery.
[2] Includes fetal deaths that were not delivered by forceps or vacuum extraction.
[3] Excludes data for Alaska, California, Conneticut, New York, Oregon, and Wyoming which do not report hysterectomy or hysterectomy.

Notes: Excludes data for Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakoda, Utah, and Washington which implemented the 2003 Revision of the U.S. Standard Report of Fetal Death. This change resulted in a lack of comparability between data based on the 2003 Revision and data based on the 1989 Revision of the U.S. Standard Report of Fetal Death; see Technical Appendix.

Fetal Death Documentation Table 12. Fetal deaths with selected medical risk factors by age of mother:
Total of 49 reporting states and the District of Columbia, 2005
(Fetal deaths include only those with stated or presumed period of gestation of 20 weeks or more; see Technical Appendix.)

Medical risk factor	All fetal deaths/1	Medical Risk Factor Reported									
		Age of Mother								Medical risk factor not reported	Not stated/2
		All ages	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-54 years		
All races											
Anemia/3	22,448	587	89	169	137	100	67	22	3	19,677	2,184
Cardiac disease/3	22,448	219	9	34	30	34	21	8	83	20,053	2,176
Acute or chronic lung disease/3	22,448	202	30	53	49	35	27	7	1	20,062	2,184
Diabetes	25,782	1,205	48	180	300	322	256	93	6	22,127	2,450
Genital herpes/3,4	20,366	154	16	45	34	22	27	9	1	18,340	1,872
Hydramnios/oligohydramnios/3	22,448	837	77	197	194	185	126	53	5	19,427	2,184
Hemoglobinopathy/3	22,448	142	5	12	16	10	13	3	83	20,130	2,176
Hypertension, chronic	25,782	907	25	107	179	273	219	91	13	22,425	2,450
Hypertension, pregnancy-associated	25,782	1,131	133	290	254	251	139	58	6	22,201	2,450
Eclampsia/5	23,993	246	27	46	31	32	19	4	87	21,652	2,095
Incompetent cervix/3	22,448	751	74	159	203	180	105	29	1	19,513	2,184
Previous infant 4000+ grams/3	22,448	149	1	15	28	42	48	12	3	20,115	2,184
Previous preterm/small for gestation/3	22,448	666	30	141	200	153	101	38	3	19,598	2,184
Renal disease/3	22,448	188	15	22	27	25	12	4	83	20,084	2,176
RH sensitization/3	22,448	190	14	27	27	23	13	3	83	20,082	2,176
Uterine bleeding/3,4	20,366	635	76	166	170	123	72	26	2	17,859	1,872

- Quantity zero
1/ Total number of fetal deaths to residents of areas reporting specified medical risk factors.
2/ No response reported for the medical risk factor item.
3/ Excludes data for Idaho, Kansas, Kentucky, Maryland,Michigan, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah, and Washington which implemented the 2003 Revision to the U.S. Standard Report of Fetal Death. This change resulted in a lack of comparability between data based on the 2003 Revision and data based on the 1989 Revision to the U.S. Standard Report of Fetal Death; see "Technical Appendix."
4/ Texas does not report this risk factor.
5/ Excludes data for Idaho, Michigan, Nebraska, Oklahoma and Washington.

NOTE: Excludes data for Hawaii, which does not report medical risk factors.

Fetal death documentation table 13. Fetal deaths with selected complications of labor and/or delivery by age of mother: total of 38 reporting states and the District of Columbia, 2005
(Fetal deaths include only those with stated or presumed period of gestation of 20 weeks or more; see "Technical Notes." For a listing of reporting areas, see "Technical Notes.")

Complication	All fetal deaths/1	Complication reported								Complication not reported	Not stated/2
		Age of mother									
		All ages	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-54 years		
Febrile	22,448	1,070	131	248	267	240	137	44	3	19,493	1,885
Meconium moderate/heavy	22,448	965	134	232	245	188	123	41	2	19,598	1,885
Premature rupture of membrane	22,448	1,631	226	355	413	343	236	50	8	18,932	1,885
Abruptio placenta	22,448	1,762	250	518	414	331	189	57	3	18,801	1,885
Placenta previa	22,448	144	15	34	41	26	20	8	-	20,419	1,885
Other excessive bleeding	22,448	362	58	84	72	86	50	8	4	20,201	1,885
Seizures during labor	22,448	27	4	6	7	6	3	1	-	20,536	1,885
Precipitous labor	22,448	314	46	71	78	57	43	18	1	20,249	1,885
Prolonged labor	22,448	154	16	32	44	36	15	9	2	20,409	1,885
Dysfunctional labor	22,448	93	9	17	20	21	20	6	-	20,470	1,885
Breech/malpresentation	22,448	2,543	389	593	597	512	341	101	10	18,020	1,885
Cephalopelvic disproportion/3	20,366	42	3	8	11	12	7	1	-	18,488	1,836
Cord prolapse	22,448	320	51	75	75	67	40	12	-	20,243	1,885
Anesthetic complications/3	20,366	13	2	2	6	1	2	-	-	18,517	1,836
Fetal distress/3	20,366	344	46	90	82	71	36	17	2	18,186	1,836

- Quantity zero.
1 Total number of fetal deaths to residents of areas reporting specified complication.
2 No response reported for the specified complication.
3 Texas does not report this risk factor.

NOTE: Excludes data for Hawaii, Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah, and Washington, which do not report complications of labor and delivery.

Fetal death documentation table 14. Fetal death with selected congenital anomalies by period of gestation: total of 47 reporting states and the District of Columbia, 2005
(Fetal deaths include only those with stated or presumed period of gestation of 20 weeks or more; see "Technical Notes." For a listing of reporting areas, see "Technical Notes.)"

Congenital anomaly	All fetal deaths/1	Congenital anomaly reported						Congenital anomaly not reported	Not stated/2
		Total/2	Period of gestation						
			20-27 weeks	28-31 weeks	32-36 weeks	37-39 weeks	40 weeks or more		
Anencephalus	23,638	245	128	37	37	21	22	21,279	2,114
Spina bifida/meningocele	23,638	88	56	13	8	6	5	21,436	2,114
Hydrocephalus/3	20,304	178	110	25	28	12	3	18,344	1,782
Microcephalus/3	20,304	21	8	-	6	5	2	18,501	1,782
Other central nervous system anomalies/3	20,304	222	135	27	26	24	10	18,300	1,782
Heart malformations/3	20,304	418	238	63	63	35	19	18,104	1,782
Other circulatory/respiratory anomalies/3	20,304	159	83	23	33	11	9	18,363	1,782
Rectal atresia/stenosis/3	20,304	18	11	1	6	-	-	18,504	1,782
Tracheo-esophageal fistula/esophageal atresia/3	20,304	37	12	9	5	6	5	18,485	1,782
Omphalocele/gastroschisis	23,638	194	100	41	31	12	10	21,330	2,114
Other gastrointestinal anomalies/3	20,304	112	60	21	20	9	2	18,410	1,782
Malformed genitalia/3	20,304	64	36	8	9	6	5	18,458	1,782
Renal agenesis/3	20,304	101	64	13	16	6	2	18,421	1,782
Other urogenital anomalies/3	20,304	119	71	10	23	10	5	18,403	1,782
Cleft lip/palate	23,638	192	93	34	34	19	12	21,332	2,114
Polydactyly/syndactyly/adactyly/3	20,304	102	42	15	17	19	9	18,420	1,782
Club foot/3	20,304	173	89	34	27	12	11	18,349	1,782
Diaphragmatic hernia/3	20,304	31	17	7	4	1	2	18,491	1,782
Other musculoskeletal/integumental anomalies/3	20,304	240	136	30	40	22	12	18,282	1,782
Down's syndrome	23,638	258	137	21	58	27	15	21,266	2,114
Other chromosomal anomalies/3	20,304	553	310	67	86	54	36	17,969	1,782

- Quantity zero.
1 Total number of fetal deaths to residents of reporting areas.
2 No response reported.
3 Excludes data for Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah and Washington, which implemented the 2003 Revision to the U.S. Standard Report of Fetal Death. This change has resulted in a lack of comparability between data based on the 2003 Revision and the data based on the 1989 Revision to the U.S. Standard Report of Fetal Death: see "Technical Notes."

Note: Excludes data for Hawaii, New Mexico, and New York which do not report congenital anomalies.

Fetal Death Documentation Table 15 (Revised States). Number of fetal deaths by education of mother: Total of 11 reporting areas; Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah, and Washington, 2005

	All fetal deaths	8th grade or less	9th - 12th grade no diploma	12th grade grad or GED	Some college no degree	Assoc. degree	Bachelor degree	Master degree	PhD or Prof.	Unknown
Total	3,334	126	512	798	505	176	396	137	32	652

- Quantity zero

Fetal Death Documentation Table 16 (Revised states). Smoking status of mother before and during pregnancy by age of mother:
Total of 10 reporting areas: Idaho, Kansas, Kentucky, Maryland, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah, and Washington, 2005

Average number of cigarettes smoked per day	All fetal deaths	Smoking status stated							Smoking Status Not Stated or Unknown/1
		All ages	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-54 years	
First three months of pregnancy									
Total	2,592	2,248	275	573	570	464	276	90	344
Smoker	328	328	43	127	70	49	27	12	-
1-5	93	93	17	36	23	9	7	1	-
6-10	131	131	16	56	24	18	9	8	-
11-15	13	13	1	8	2	1	1	-	-
16-20	82	82	6	25	19	20	9	3	-
21-30	3	3	1	1	1	-	-	-	-
31-40	3	3	-	1	-	1	1	-	-
Greater than 41	3	3	2	-	1	-	-	-	-
Non-smoker	1,920	1,920	232	446	500	415	249	78	-
Not stated	344	-	-	-	-	-	-	-	344
Second three months of pregnancy									
Total	2,592	2,248	275	573	570	464	276	90	344
Smoker	276	276	37	106	59	40	23	11	-
1-5	81	81	18	29	18	8	6	2	-
6-10	116	116	13	51	21	15	9	7	-
11-15	8	8	-	5	2	1	-	-	-
16-20	64	64	4	19	16	16	7	2	-
21-30	2	2	-	1	1	-	-	-	-
31-40	3	3	1	1	-	-	1	-	-
Greater than 41	2	2	1	-	1	-	-	-	-
Non-smoker	1,972	1,972	238	467	511	424	253	79	-
Not stated	344	-	-	-	-	-	-	-	344
Third trimester of pregnancy									
Total	2,592	2,248	275	573	570	464	276	90	344
Smoker	226	226	30	80	52	36	19	9	-
1-5	70	70	16	21	18	8	5	2	-
6-10	90	90	9	39	17	13	7	5	-
11-15	4	4	1	2	-	1	-	-	-
16-20	56	56	3	16	15	14	6	2	-
21-30	2	2	-	1	1	-	-	-	-
31-40	2	2	-	1	-	-	1	-	-
Greater than 41	2	2	1	-	1	-	-	-	-
Non-smoker	2,022	2,022	245	493	518	428	257	81	-
Not stated	344	-	-	-	-	-	-	-	344

- Quantity zero
1 Based on smoking status throughout the pregnancy; unknown status 3 months before pregnancy indicates women whose smoking status 3 months before pregnancy is known, but whose smoking status during pregnancy is unknown.
Note: Excludes Michigan which does not report tobacco use compatible with either the 1989 Revision or the 2003 Revision to the U.S. Standard Report of Fetal Death.

Fetal Death Documentation Table 17.(Revised states). Number of fetal deaths with selected maternal risk factors in this pregnancy by age of mother: Total of 11 reporting areas, Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah, and Washington, 2005

Risk factor	All fetal deaths[1]	Risk Factor reported	Under 20 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-54 Years	Not stated[2]
Diabetes									
Pregnancy (Diagnosis prior to this pregnancy)	3334	74	6	9	23	19	13	4	518
Gestational (Diagnosis in this pregnancy)	3334	88	3	14	22	25	18	6	518
Hypertension									
Pregnancy (Chronic)	3334	92	4	8	16	26	29	9	518
Gestational (PIH, preeclampsia)	3334	160	17	39	37	36	20	11	518
Eclampsia[3]	1545	-	-	-	-	-	-	-	118
Previous preterm birth	3334	229	10	46	61	67	39	6	518
Other previous poor pregnancy outcome (includes perinatal death, small-for-gestational age intrauterine growth restricted birth)	3334	271	14	48	71	67	54	17	518
Mother had a previous cesarian delivery	3334	296	3	46	82	84	62	19	518

- Quality zero
1 total number of fetal deaths to residents of reporting area.
2 No response reported.
3 Idaho, Michigan, Nebraska, Oklahoma and Washington do not report eclampsia.

Fetal Death Documentation Table 18.(Revised states). Number of fetal deaths according to method of delivery and age of mother: Total of 11 reporting areas: Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska, New Hampshire, Oklahoma, South Dakota, Utah, and Washington, 2005

Methods of delivery	Total fetal deaths[1]	Total reported All ages	Under 20 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-54 Years	Not stated[2]
Attempted forceps / unsuccesful[3]	3046	19	2	4	4	7	1	1	386
Attempted vacuum extraction / unsuccesful[3]	3046	18	1	5	4	5	1	2	393
Fetal presentation at birth									
Cephalic	3334	1890	231	434	496	398	241	90	422
Breech	3334	802	101	198	205	165	99	34	422
Other	3334	220	23	66	61	40	23	7	422
Final route and method of delivery									
Vaginal/Spontaneous	3334	2509	313	618	654	509	306	109	374
Vaginal/Forceps	3334	20	2	5	5	7	1	-	374
Vaginal/Vacuum	3334	29	6	6	6	8	1	2	374
Cesarean	3334	402	31	75	106	103	63	24	374
Cesarian delivery/trial of labor attempted[3]	356	51	6	7	13	9	10	6	64
Hysterotomy/Hysterectomy[3]	3046	50	4	13	10	13	7	3	527

- Quality zero
1 total number of fetal deaths to residents of reporting area.
2 No response reported.
3 Oklahoma does not report attempted forceps, attempted vacuum extraction, attempted trial of labor or hysterotomy/hysterectomy.

Fetal Death Documentation Table 19 (Revised states). Number of congenital anomalities of the fetus by age of mother:
Total of 11 reporting areas: Idaho, Kansas, Kentucky, Maryland, Michigan, Nebraska,
New Hampshire, Oklahoma, South Dakota, Utah, and Washington, 2005

Congenital anomaly	All fetal deaths[1]	Congenital Anomaly reported, All ages	Under 20 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-54 Years	Not stated[2]
Anencephaly	3334	45	3	10	18	8	5	1	575
Menigomyelocele/spina bifida	3334	18	1	4	8	1	3	1	575
Cyanotic congenital heart desease	3334	16	1	5	6	1	3	-	575
Congenital diaphragmic hemia	3334	7	1	1	3	-	1	1	575
Omphalocele	3334	19	3	4	2	3	3	4	575
Gastroschisis	3334	14	4	4	6	-	-	-	575
Limb reduction defect	3334	10	1	3	3	2	-	1	575
Clrft lip(with or without cleft palate)	3334	25	1	8	5	7	3	1	575
Cleft palate, alone[3]	3046	2	-	-	-	1	1	-	299
Down syndrome	3334	58	8	7	18	7	11	7	575
Suspected chromosomal disorder[3]	3046	110	11	21	30	17	20	11	299
Hypospadias	3334	1	-	-	1	-	-	-	575

- Quantity zero
1 Total number of fetal deaths to residents of areas reporting specified congenital anomalities of the fetus.
2 No response reported for specified congenital anomaly.
3 Oklahoma does not report cleft palate, alone or suspected chromosomal disorder.

FETAL DEATH DOCUMENTATION TABLE 20

FETAL DEATHS BY PLURALITY, BY STATE:
TOTAL OF 50 REPORTING STATES AND THE DISTRICT OF COLUMBIA, 2005
[FETAL DEATHS INCLUDE ONLY THOSE WITH STATED OR PRESUMED PERIOD OF GESTATION OF 20 WEEKS OR MORE: SEE TECHNICAL APPENDIX.]

STATE	Total	PLURALITY		
		Singleton	Twin	Triplet or higher
United States	25,894	23,532	2,175	187
Alabama	534	477	54	3
Alaska	48	45	3	-
Arizona	569	527	40	2
Arkansas	279	242	35	2
California	3,051	2,730	294	27
Colorado	378	341	37	-
Connecticut	253	223	29	1
Delaware	66	57	7	2
District of Columbia	68	63	5	-
Florida	1,608	1,470	132	6
Georgia	1,066	971	86	9
Hawaii	112	105	6	1
Idaho	129	119	10	-
Illinois	1,126	1,022	87	17
Indiana	492	446	44	2
Iowa	222	203	19	-
Kansas	200	187	13	-
Kentucky	338	314	19	5
Louisiana	483	439	39	5
Maine	76	67	9	-
Maryland	631	569	57	5
Massachusetts	419	365	47	7
Michigan	742	662	75	5
Minnesota	339	313	26	-
Mississippi	419	391	26	2
Missouri	444	404	39	1
Montana	54	51	3	-
Nebraska	134	121	13	-
Nevada	268	250	18	-
New Hampshire	64	60	4	-
New Jersey	703	627	65	11
New Mexico	82	79	3	-
New York	2,062	1,860	178	24
North Carolina	847	768	67	12
North Dakota	46	44	2	-
Ohio	898	816	76	6
Oklahoma	288	264	21	3
Oregon	203	179	20	4
Pennsylvania	1,031	924	104	3
Rhode Island	83	70	10	3
South Carolina	500	456	41	3
South Dakota	46	41	3	2
Tennessee	393	371	19	3
Texas	2,082	1,943	134	5
Utah	266	249	17	-
Vermont	31	24	7	-
Virginia	693	645	45	3
Washington	496	443	51	2
West Virginia	126	119	7	-
Wisconsin	364	336	27	1
Wyoming	42	40	2	-

- Quantity zero

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FETAL DEATH DOCUMENTATION TABLE 21. (REVISED STATES).
FETAL DEATHS BY PLACE OF DELIVERY, BY AGE OF MOTHER:
TOTAL OF 11 REPORTING AREAS: IDAHO, KANSAS, KENTUCKY, MARYLAND, MICHIGAN, NEBRASKA,
NEW HAMPSHIRE, OKLAHOMA, SOUTH DAKOTA, UTAH, AND WASHINGTON, 2005
[FETAL DEATHS INCLUDE ONLY THOSE WITH STATED OR PRESUMED PERIOD OF GESTATION OF 20 WEEKS OR MORE:
SEE TECHNICAL APPENDIX.]

PLACE OF DELIVERY	Total	AGE OF MOTHER								
		Under 15 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years
Total	3,334	2	398	777	869	714	418	145	10	1
Hospital	3,086	2	371	732	806	656	378	130	10	1
Free standing birthing center	12	-	-	3	4	3	1	1	-	-
Home (total)	44	-	8	10	11	8	6	1	-	-
Planned	11	-	-	4	4	2	-	1	-	-
Unplanned	24	-	7	4	3	6	4	-	-	-
Unknown if planned	9	-	1	2	4	-	2	-	-	-
Clinic/Doctor's office	5	-	-	2	-	1	2	-	-	-
Other	14	-	4	3	6	1	-	-	-	-
Unknown	173	-	15	27	42	45	31	13	-	-

- Quantity zero

FETAL DEATH DOCUMENTATION TABLE 22

FETAL DEATHS BY MARITAL STATUS, BY STATE:
TOTAL OF 46 REPORTING STATES AND THE DISTRICT OF COLUMBIA, 2005
[FETAL DEATHS INCLUDE ONLY THOSE WITH STATED OR PRESUMED PERIOD OF GESTATION OF 20 WEEKS OR MORE:
SEE TECHNICAL APPENDIX.]

STATE	Total	MARITAL STATUS	
		Married	Not Married
United States	18,431	8,898	8,550
Alabama	534	228	300
Alaska	48	31	17
Arizona	569	266	301
Arkansas	279	112	164
Colorado	378	256	115
Connecticut	253	129	108
Delaware	66	24	35
District of Columbia	68	21	38
Florida	1,608	688	771
Georgia	1,066	494	568
Hawaii	112	57	43
Idaho	129	87	42
Illinois	1,126	568	492
Indiana	492	251	218
Iowa	222	116	104
Kansas	200	120	79
Kentucky	338	217	119
Louisiana	483	170	224
Maine	76	46	24
Maryland	631	292	300
Massachusetts	419	236	163
Michigan	742	286	336
Minnesota	339	208	126
Mississippi	419	130	289
Missouri	444	212	232
Montana	54	36	18
Nebraska	134	94	39
New Hampshire	64	39	24
New Jersey	703	342	321
New Mexico	82	33	47
North Carolina	847	375	462
North Dakota	46	34	12
Ohio	898	432	451
Oklahoma	288	148	119
Oregon	203	113	89
Pennsylvania	1,031	452	461
Rhode Island	83	7	8
South Carolina	500	181	318
South Dakota	46	21	23
Tennessee	393	175	212
Utah	266	215	51
Vermont	31	18	12
Virginia	693	382	267
Washington	496	266	172
West Virginia	126	60	64
Wisconsin	364	206	155
Wyoming	42	24	17

- Quantity zero
NOTE: Excludes data for California, Nevada, New York, and Texas, which did not report mother's marital status.

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FETAL DEATH DOCUMENTATION TABLE 23. (REVISED STATES).
FETAL DEATHS BY MONTH PRENATAL CARE BEGAN, BY AGE OF MOTHER:
TOTAL OF 11 REPORTING AREAS: IDAHO, KANSAS, KENTUCKY, MARYLAND, MICHIGAN, NEBRASKA,
NEW HAMPSHIRE, OKLAHOMA, SOUTH DAKOTA, UTAH, AND WASHINGTON, 2005
[FETAL DEATHS INCLUDE ONLY THOSE WITH STATED OR PRESUMED PERIOD OF GESTATION OF 20 WEEKS OR MORE:
SEE TECHNICAL APPENDIX.]

MONTH PRENATAL CARE BEGAN	Total	AGE OF MOTHER								
		Under 15 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years
Total	3,334	2	398	777	869	714	418	145	10	1
First	302	-	26	71	88	68	36	13	-	-
Second	760	-	73	157	220	190	90	28	2	-
Third	822	1	66	209	220	174	113	35	4	-
Fourth	290	-	56	66	71	51	32	12	1	1
Fifth	140	-	22	41	36	20	13	8	-	-
Six	78	-	17	19	17	14	9	2	-	-
Seventh	40	-	3	15	9	9	4	-	-	-
Eighth	19	1	6	3	2	5	2	-	-	-
Nineth	-	-	-	-	-	-	-	-	-	-
Tenth	6	-	-	2	-	1	3	-	-	-
None	164	-	29	46	32	27	20	9	1	-
Not stated	713	-	100	148	174	155	96	38	2	-

- Quantity zero

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FETAL DEATH DOCUMENTATION TABLE 24. (REVISED STATES).
FETAL DEATHS BY NUMBER OF PRENATAL VISITS, BY AGE OF MOTHER:
TOTAL OF 11 REPORTING AREAS: IDAHO, KANSAS, KENTUCKY, MARYLAND, MICHIGAN, NEBRASKA,
NEW HAMPSHIRE, OKLAHOMA, SOUTH DAKOTA, UTAH, AND WASHINGTON, 2005
[FETAL DEATHS INCLUDE ONLY THOSE WITH STATED OR PRESUMED PERIOD OF GESTATION OF 20 WEEKS OR MORE:
SEE TECHNICAL APPENDIX.]

NUMBER OF PRENATAL VISITS	Total	AGE OF MOTHER								
		Under 15 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years
Total	3,334	2	398	777	869	714	418	145	10	1
None	162	-	29	46	30	27	20	9	1	-
1 - 2	203	-	47	54	44	36	15	7	-	-
3 - 4	522	2	73	132	125	110	64	14	1	1
5 - 6	593	-	60	150	161	128	66	27	1	-
7 - 8	412	-	32	87	139	80	60	12	2	-
9 - 10	345	-	26	79	92	79	49	19	1	-
11 - 12	204	-	28	37	56	47	27	8	1	-
13 - 18	190	-	13	42	60	39	22	14	-	-
19 - 49	57	-	4	13	12	16	10	2	-	-
50 - 98	4	-	-	2	1	1	-	-	-	-
Not stated	642	-	86	135	149	151	85	33	3	-

- Quantity zero