

User Guide to the 2015 Period Linked Birth/Infant Death Public Use File



DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics
Division of Vital Statistics

2015 Period Linked Birth/Infant Death Data Set

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Introduction

The linked birth/infant death data set (linked file) is released in two formats - period data and birth cohort data. This documentation is for the 2015 period linked file.

Period data - The numerator for the 2015 period linked file consists of all infant deaths occurring in 2015 linked to their corresponding birth certificates, whether the birth occurred in 2014 or 2015. The denominator file for this data set is the 2015 natality file, that is, all births occurring in 2015.

The 2015 period linked birth/infant death data set includes several data files. The first file includes all US infant deaths which occurred in the 2015 data year linked to their corresponding birth certificates, whether the birth occurred in 2014 or 2015 - referred to as the numerator file. The second file contains information from the death certificate for all US infant death records which could not be linked to their corresponding birth certificates - referred to as the unlinked death file. The third file is the 2015 NCHS natality file for the US, which is used to provide denominators for rate computations. These same three data files are also available for Puerto Rico and Guam.

Incomplete National Reporting - Using Reporting Flags

As a result of the delayed, phased transition to the 2003 U.S. Standard Certificate of Live Birth, the 2015 linked file includes data for reporting areas that use the 2003 revision of the U.S. Standard Certificate of Live Birth (revised) and data for reporting areas that use the 1989 Standard Certificate of Live Birth (unrevised) (see the [2015 Natality User Guide](#)). Although many data items are comparable across certificate revisions and are available for the entire United States, some items have more limited reporting areas. In addition, the 2015 linked file contains information on infants born in both 2014 and 2015. As reporting areas changed between 2014 and 2015, this complicates the file. Also, birth data are collected by place of occurrence but are typically tabulated by mother's place of residence. Reporting flags were developed to help the user more readily identify reporting areas for items with less than national reporting for the entirety of 2014 and 2015. Reporting flags are included in the file to assist in accurately excluding records from areas that do not report items when tabulating data by mother's place of residence.

Reporting areas for the 2015 linked file are different from those for the 2015 birth file, as items had to be reported by a state in both 2014 and 2015 to be able to provide complete data. Thus, data for non-comparable items from states that revised in 2015 are excluded from all tabulations. Positions for reporting flags are noted along with each data item in the file layout. Reporting flags must be invoked to generate accurate numbers by residence for items which are not reported by all states. Where applicable, reporting flags are shown in the column "Reporting Flag Position" in the file layout. Reporting flag codes are 0 (item reported in neither the current or previous year or item reported in the previous but not in the current year or item reported in the current but not in the previous year) and 1 (item reported in both current and previous year). When using these data, select

reporting flag=1 to get valid and complete data for an item (see SAS code examples below).

Translating “blanks” - In the 2015 linked file, for data items which are not common or comparable across certificate revisions, events to residents of a revised state occurring in an unrevised state, and events to residents in an unrevised state occurring in a revised state, are often represented by “blanks.” Blanks should be treated as “unknowns” for tabulations.

The correct use of reporting flags and translation of blanks will result in an accurate tally of births and infant deaths for items with incomplete national reporting.

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

An example of SAS code that may be used to incorporate the correct use of reporting flags and the translation of blanks is shown below. This example 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.

Sample SAS program

```
01 DATA work;
02     INFILE 'C:VS15LINK.USNUMPUB' LRECL=1743;
03     INPUT
04         restatus 104
05         precare 224-225
06         f_mpcb 226;
07
08     /*Exclude foreign residents*/
09     IF restatus NE 4;
10     /*Select reporting area*/
11     IF f_mpcb=1;
12     /*Convert blanks to unknown*/
13     IF precare=. THEN precare=99;
14
15 PROC FREQ;
16     TABLE precare;
17 RUN;
```

In this example, “restatus” is used to exclude births to foreign residents (this is standard practice for all NCHS tabulations). Also in this example, blanks are represented by numeric values SAS code = (.). However, for some items in the file, e.g., obstetric procedures, blanks are represented by character values for which the SAS code is empty single quotes (‘ ’).

Alternatives to the use of reporting flags - The use of reporting flags provides a quick way to select records for all areas reporting comparable data for a given item in a particular

year. However, should a limited reporting area be needed, specific state(s) of residence may also be selected, or unselected. This approach may be useful, for example, in trend analysis where reporting areas have changed over time.

Example of SAS code using state of residence (and translating blanks)

```
01 DATA work;
02     INFILE 'C:\VS15LINK.USNUMPUB ' LRECL=1743;
03     INPUT
04         restatus 104
05         xmrstate $ 87-88
06         precare 224-225;
07
08     /*Exclude foreign residents*/
09     IF restatus NE 4;
10     /*Select reporting area*/
11     IF xmrstate in ('FL','MO','NC','NH','NV','PA');
12     /*Convert blanks to unknown*/
13     IF precare=. THEN precare=99;
14
15 PROC FREQ;
16     TABLE precare;
17 RUN;
```

Single, Multiple, and Bridged Race

In 1997, the Office of Management and Budget (OMB) issued revised standards requiring Federal collection programs to allow respondents to select *one or more race categories*. In 2014 data, forty-nine states and DC reported multiple race data, representing 99% of all U.S. births. For the 2015 period linked file, complete data for both 2014 and 2015 births are available from 49 states and DC, representing 99% of all U.S. births.

In 2015, multiple race data were reported on the death certificates of 48 states and DC. In order to provide uniformity and comparability of the data before all or most of the data are available in the new multiple-race format, it was necessary to “bridge” the responses of those for whom more than one race was reported (multiple race) to one, single race.

Weighting

A weight is added to the linked numerator file to correct in part for biases in percent of records linked by major characteristics. The number of infant deaths in the linked file are weighted to equal the sum of the linked plus unlinked infant deaths by age at death and state. The formula for computing the weights is as follows:

$$\frac{\text{number of linked infant deaths} + \text{number of unlinked infant deaths}}{\text{number of linked infant deaths}}$$

A separate weight is computed for each state of residence of birth and each age at death category (<7 days, 7-27 days, 28 days-1 year). Thus, weights are 1.0 for states which link all of their infant deaths. The denominator file is not weighted. Weights are not computed for the Puerto Rico and Guam file.

Marital

National estimates of births to unmarried women are based on two methods of determining marital status. In 2015, marital status was based on a direct question in 49 states, the District of Columbia, and New York City. New York (excluding New York City) used inferential procedures to compile birth statistics by marital status; a birth is categorized as nonmarital if either of these factors, listed in priority-of-use order, is present: a paternity acknowledgement was received or the father's name is missing.

Birthweight

An imputation for not-stated birthweight is added to the data set to reduce potential bias in the computation of birthweight-specific infant mortality rates. If birthweight is not stated and the period of gestation is known, birthweight is assigned the value from the previous record with the same period of gestation, race, sex, and plurality. Imputed values are flagged. The addition of this imputation has reduced the percent of not-stated responses for birthweight from 4.08 to 0.6% in the numerator file, and from 0.09 to 0.02% in the denominator file, thus reducing the potential for underestimation when computing birthweight-specific infant mortality rates.

Period of gestation

Information on period of gestation is available for the entire United States. Beginning with the 2014 data year, NCHS transitioned to a new standard for estimating the gestational age of the newborn. The new measure – the obstetric estimate of gestation at delivery (OE) replaces the measure based on the data of the last normal menses (LMP). Accordingly, gestational age data in standard tables are based on the OE. However, LMP-based data are also available in data files.

Comparisons of infant mortality data from the linked file with infant mortality data from the vital statistics mortality file

Although the time periods are the same, numbers of infant deaths and infant mortality rates by characteristics are not always identical between the period linked file and the vital statistics mortality file. Differences in numbers of infant deaths between the two data sources are primarily due to geographic coverage differences. For the vital statistics mortality file, all deaths occurring in the 50 states and the District of Columbia are included regardless of the place of birth of the infant. In contrast, to be included in the linked file, both the birth and death must occur in the 50 states and the District of Columbia. Also, although every effort has been made to design weights that will accurately reflect the

distribution of deaths by characteristics, weighting may contribute to small differences in numbers and rates by specific variables between these two data sets. In most cases, differences between numbers of infant deaths and infant mortality rates between the linked file and those computed from the vital statistics mortality file are negligible.

Computation of rates

Infant mortality rates are the most commonly used index for measuring the risk of dying during the first year of life. For the linked birth/infant death dataset they are calculated by dividing the number of infant deaths in a calendar year by the number of live births registered for the same period and are presented as rates per 1,000 or per 100,000 live births. Both the mortality file and the linked birth/infant death file use this computation method but due to unique numbers of infant deaths, as explained in the section above on the comparison of these two files, the rates will often differ for specific variables (particularly for race and ethnicity). Infant mortality rates in the linked file use the number of live births in the denominator to approximate the population at risk of dying before the first birthday. In contrast to the infant mortality rates based on live births, infant death rates, used only in age-specific death rates with the mortality file, use the estimated population of persons under 1 year of age as the denominator.

For all variables, not stated responses were shown in tables of frequencies, but were subtracted before rates were computed. Rates per 1,000 live births display two digits after the decimal place to provide a more precise and sensitive measurement. For rates per 100,000 live births (by cause of death) the infant mortality rate is shown for one decimal place. Adding an additional decimal for rates per 100,000 does not increase precision as it does for rates per 1,000.

As stated previously, infant death records for the 50 States and the District of Columbia in the US linked file are weighted so that the infant mortality rates are not underestimated for those areas that did not successfully link all records.

Random variation in infant mortality rates

The number of infant 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 (61). As a result, numbers of births, deaths, and infant 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 is usually small. When the number of events is small (i.e., 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 (3,4).

Estimates of relative standard errors (RSE's) and 95-percent confidence intervals are shown below.

The formula for the RSE of infant deaths and live births is:

$$\text{RSE}(D)=100*\sqrt{\frac{1}{D}} \quad \text{where } D \text{ is the number of deaths and}$$

$$\text{RSE}(B)=100*\sqrt{\frac{1}{B}} \quad \text{where } B \text{ is the number of births.}$$

For example, let us say that for group A the number of infant deaths was 497 while the number of live births was 81,555 yielding an infant mortality rate of 6.09 infant deaths per 1,000 live births.

$$\text{The RSE of the deaths} = 100*\sqrt{\frac{1}{497}} = 4.49, \quad \text{while the RSE of the births} = 100*\sqrt{\frac{1}{81,555}} = 0.35.$$

The formula for the RSE of the IMR is:

$$\text{RSE}(\text{IMR})=100*\sqrt{\frac{1}{D} + \frac{1}{B}}$$

The RSE of the IMR for the example above

$$= 100*\sqrt{\frac{1}{497} + \frac{1}{81,555}} = 4.50.$$

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

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

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

Thus, for Group A:

$$\text{Lower: } 6.09 - (1.96 * 6.09 * \frac{4.50}{100}) = 5.55$$

$$\text{Upper: } 6.09 + (1.96 * 6.09 * \frac{4.50}{100}) = 6.63$$

Thus the chances are 95 out of 100 that the true IMR for Group A lies somewhere in the 5.55–6.63 interval.

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

$$\text{Lower: IMR} * L(.95, D_{\text{adj}})$$

$$\text{Upper: IMR} * U(.95, D_{\text{adj}})$$

where D_{adj} is the adjusted number of infant deaths (rounded to the nearest integer) used to take into account the RSE of the number of infant deaths and live births, and is computed as follows:

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

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

For example, let us say that for Group B the number of infant deaths was 53, the number of live births was 9,241, and the infant mortality rate was 5.74.

$$D_{adj} = \frac{53 * 9,241}{53 + 9,241} = 53$$

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

$$\text{Lower: } 5.74 * 0.74907 = 4.30$$

$$\text{Upper: } 5.74 * 1.30802 = 7.51$$

Comparison of two infant 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 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 may be used to define a significance test statistic:

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

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.

Methodology

The methodology used to create the national file of linked birth and infant death records uses two data sources:

1. State linked files for the identification of linked birth and infant death certificates; and
2. NCHS natality and mortality computerized statistical files, the source of computer records for the two linked certificates.

States routinely link infant death certificates to their corresponding birth certificates for legal and statistical purposes. When the birth and death of an infant occur in different states, copies of the records are exchanged by the state of death and state of birth in

order to effect a link. In addition, if a third state is identified as the state of residence at the time of birth or death, that state is also sent a copy of the appropriate certificate by the state where the birth or death occurred.

The NCHS natality and mortality files, produced annually, include statistical data from birth and death certificates that are provided to NCHS by states under the Vital Statistics Cooperative Program (VSCP). The data have been coded according to uniform coding specifications, have passed quality control standards, have been edited and reviewed, and are the basis for official U.S. birth and death statistics.

To initiate processing, NCHS obtained matching birth certificate numbers from states for all infant deaths that occurred in their jurisdiction. We use this information to extract final, edited mortality and natality data from the NCHS natality and mortality statistical files. Individual birth and death records were selected from their respective files and linked into a single statistical record, thereby establishing a national linked record file.

Characteristics of Unlinked File

For the 2015 linked file 0.6% of all infant death records could not be linked to their corresponding birth certificates. Unlinked records are included in a separate data file in this data set. The unlinked record file uses the same record layout as the numerator file of linked birth and infant death records. However, except as noted below, locations reserved for information from the matching birth certificate are blank since no matching birth certificate could be found for these records. The sex field contains the sex of infant as reported on the death certificate, rather than the sex of infant from the birth certificate, which is not available. The race field contains the race of the decedent as reported on the death certificate rather than the race of mother as reported on the birth certificate as is the case with the linked record file. The race of mother on the birth certificate is generally considered to be more accurate than the race information from the death certificate. Also, date of birth as reported on the death certificate is used to generate age at death. This information is used in place of date of birth from the birth certificate, which is not available.

Percent of Records Linked

The 2015 linked file for the 50 States and D.C. includes 23,347 linked infant death records and 143 unlinked infant death records. The linked file is weighted to the sum of linked plus unlinked records, thus the total number of weighted infant deaths by place of occurrence is 23,490.

Table 1 below shows the percent of infant deaths linked by state of occurrence of death. While many states link all of their infant deaths, linkage rates for some states are below the national average. When a high percentage of deaths remain unlinked, unweighted infant mortality rates computed for these states are underestimated. It is for this reason that weights are added to the file to correct for biases in the data due to poor data linkage for particular states.

Table 1. Percent of infant deaths linked by state of occurrence of death: United States, 2015 linked file

United States	99.4	Nebraska	99.4
Alabama	100	Nevada	100
Alaska	100	New Hampshire	100
Arizona	99.1	New Jersey	98.1
Arkansas	99.6	New Mexico	100
California	98.2	New York State	99
Colorado	100	New York City	100
Connecticut	99.5	North Carolina	99.9
Delaware	99	North Dakota	100
District of Columbia	100	Ohio	99.5
Florida	100	Oklahoma	100
Georgia	100	Oregon	100
Hawaii	100	Pennsylvania	99.5
Idaho	100	Rhode Island	100
Illinois	99.8	South Carolina	100
Indiana	99	South Dakota	100
Iowa	100	Tennessee	99.4
Kansas	100	Texas	97.9
Kentucky	98.8	Utah	100
Louisiana	100	Vermont	100
Maine	98.7	Virginia	100
Maryland	100	Washington	100
Massachusetts	99.7	West Virginia	99.3
Michigan	99.9	Wisconsin	100
Minnesota	100	Wyoming	100
Mississippi	100	Puerto Rico	100
Missouri	99.8	Virgin Islands	NA
Montana	100	Guam	100

Confidentiality

To minimize the risk of disclosure of individual or institutional information NCHS public-use data files do not contain the actual day of the birth or the dates of birth of the mother or father. Also, for public-use files from 2005 forward, no U.S. geographic detail is identified.

Documents

The documents listed below describe in detail the procedures employed for demographic classification on both the birth and death records and medical classification on death records. These documents, while not absolutely essential to the proper interpretation of the data for a number of general applications, should nevertheless be studied carefully prior to any detailed analysis of demographic or medical data variables. In particular, there are a number of details about multiple cause-of-death coding which, if not understood and analyzed properly, may result in faulty analysis of the data. Volumes 1, 2 and 3 of the ICD-10 may be purchased from the World Health Organization (WHO) Publication Center USA, see <http://www.cdc.gov/nchs/icd/icd10.htm> . Many of the instruction manuals listed below are available electronically on the NCHS website.

- A. National Center for Health Statistics. Vital statistics, Instructions for Classifying the Underlying Cause-of-Death, ICD-10, 2015. NCHS Instruction Manual, Part 2a. Hyattsville, Maryland: Public Health Service.
- B. National Center for Health Statistics. Vital statistics, Instructions for Classifying Multiple Cause-of-Death, ICD-10, 2014. NCHS Instruction Manual, Part 2b. Hyattsville, Maryland: Public Health Service.
- C. National Center for Health Statistics. Vital statistics, ICD-10 ACME Decision Tables for Classifying Underlying Causes-of-Death, 2014. NCHS Instruction Manual, Part 2c. Hyattsville, Maryland: Public Health Service.
- D. National Center for Health Statistics. Specifications for U.S. Standard Certificate of Birth – 2003 Revision. NCHS Instruction manual, Part 3A. Hyattsville, Maryland: Public Health Service.
- E. National Center for Health Statistics. Specifications for U.S. Standard Certificate of Death – 2003 Revision. NCHS Instruction manual, Part 4. Hyattsville, Maryland: Public Health Service.
- F. National Center for Health Statistics. Vital statistics, Computer Edits for Natality Data, Effective 1993. NCHS Instruction Manual Part 12. Hyattsville, Maryland: Public Health Service.
- G. National Center for Health Statistics. Vital statistics, Computer Edits for Mortality Data, Effective 2014. NCHS Instruction Manual Part 11. Hyattsville, Maryland: Public Health Service.

Instructions manuals are available at:

http://www.cdc.gov/nchs/nvss/instruction_manuals.htm

Also see: http://www.cdc.gov/nchs/nvss/vital_certificate_revisions.htm for the most recent information about revised certificates.

Cause of Death Classification

The mortality statistics presented in this report were compiled in accordance with the World Health Organization (WHO) regulations, which specify that member nations classify and code causes of death in accordance with the current revision of the International Statistical Classification of Diseases. The ICD provides the basic guidance used in virtually all countries to code and classify causes of death. The ICD not only details disease classification but also provides definitions, tabulation lists, the format of the death certificate, and the rules for coding cause of death. Cause-of-death data presented in this report were coded by procedures outlined in annual issues of the NCHS Instruction Manual (50,51).

About every 10-20 years, the International Classification of Diseases is revised to take into account advances in medical knowledge. Effective with deaths occurring in 1999, the United States began using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) (5); during the period 1979-98, causes were coded and classified according to the Ninth Revision (ICD-9) (52).

Changes in classification of causes of death due to these revisions may result in discontinuities in cause-of-death trends. Measures of this discontinuity are essential to the interpretation of mortality trends, and are discussed in detail in other NCHS publications (4,53,54).

Underlying Cause of Death Data

Mortality statistics by cause of death are compiled from entries on the medical certification portion of the death certificate. Causes of death include "all those diseases, morbid conditions or injuries which either resulted in or contributed to death and the circumstances of the accident or violence which produced these injuries". The medical certification of death is divided into two sections. In Part I, the physician is asked to provide the causal chain of morbid conditions that led to death, beginning with the condition most proximate to death on line (a) and working backwards to the initiating condition. Part I of the medical certification is designed to facilitate the selection of the underlying cause of death when two or more causes are recorded on the certificate. The underlying cause of death is defined by the WHO in the ICD-10 as "(a) the disease or injury which initiated the chain of morbid events leading directly to death, or (b) the circumstances of the accident or violence that produced the fatal injury" and is generally considered the most useful cause from a public health standpoint. Part II of the cause-of-death section of the death certificate solicits other conditions that the certifier believed contributed to death, but were not in the causal chain. While some details of the death certificate vary by state, all states use the same general format for medical certification outlined in the U.S. Standard Certificate. The U.S. Standard Certificate, in turn, closely follows the format recommended by the WHO.

For a given death, the underlying cause is selected from the condition or conditions recorded by the certifier in the cause-of-death section of the death certificate. NCHS is bound by international agreement to make the selection of the underlying cause through the use of the ICD-10 classification structure, and the selection and modification rules contained in this revision of the ICD. Additional information on the underlying cause of death can be found at <http://www.cdc.gov/nchs/data/dvs/mort99doc.pdf> .

Multiple Cause of Death Data

The limitations of the underlying cause concept and the need for more comprehensive data suggested the need for coding and tabulating all conditions listed on the death certificate. Coding all listed conditions on the death certificate was designed with two objectives in mind. First, to facilitate studies of the relationships among conditions reported on the death certificate, which require presenting each condition and its location on the death certificate in the exact manner given by the certifier. Secondly, the coding needed to be carried out in a manner by which the underlying cause-of-death could be assigned using the WHO coding rules. Thus, the approach in developing multiple cause data was to provide two fields: 1) entity axis and 2) record axis. For entity axis, NCHS suspends the provisions of the ICD that create linkages between conditions for the purpose of coding each individual condition, or entity, with minimum regard to other conditions present on the death certificate.

Record axis is designed for the generation of person-based multiple cause statistics. Person-based analysis requires that each condition be coded within the context of every other condition on the same death certificate and modified or linked to such conditions as provided by ICD-10. By definition, the entity data cannot meet this requirement since the linkage provisions modify the character and placement of the information originally recorded by the certifier. Essentially, the axis of the classification has been converted from an entity basis to a record (or person) basis. The record axis codes are assigned in terms of the set of codes that best describe the overall medical certification portion of the death certificate. Additional information on multiple cause data processing can be found at <http://www.cdc.gov/nchs/data/dvs/mort99doc.pdf> .

Entity Axis Codes

The original conditions coded for selection of the underlying cause-of-death are reformatted and edited prior to creating the public-use data file. The following paragraphs describe the format and application of entity axis data.

- 1. Format.* Each entity-axis code is displayed as an overall seven byte code with subcomponents as follows:

1. Line indicator: The first byte represents the line of the death certificate on which the code appears. Six lines (1-6) are allowable with the fourth and fifth denoting one or two written in "due to"s beyond the three lines provided in Part I of the U.S. standard death certificate. Line "6" represents Part II of the death certificate.
2. Position indicator: The next byte indicates the position of the code on the line, i.e., it is the first (1), second (2), third (3) eighth (8) code on the line.
3. Cause category: The next four bytes represent the ICD-10 cause code.
4. The last byte is blank.

A maximum of 20 of these seven byte codes are captured on a record for multiple cause purposes. This may consist of a maximum of 8 codes on any given line with up to 20 codes distributed across three or more lines depending on where the subject conditions are located on the certificate. Codes may be omitted from one or more lines, e.g., line 1 with one or more codes, line 2 with no codes, line 3 with one or more codes.

In writing out these codes, they are ordered as follows: line 1 first code, line 1 second code, etc. ----- line 2 first code, line 2 second code, etc. ----- line 3 ---- line 4 ----- line 5 ----- line 6. Any space remaining in the field is left blank. The specifics of locations are contained in the record layout given later in this document.

2. Edit. The original conditions are edited to remove invalid codes, reverify the coding of certain rare causes of death, and assure age/cause and sex/cause compatibility. Detailed information relating to the edit criteria and the sets of cause codes which are valid to underlying cause coding and multiple cause coding are provided in NCHS Instruction Manual Part 11.

3. Entity Axis Applications. The entity axis multiple cause data file is appropriate for analyses that require that each condition be coded as a stand alone entity without linkage to other conditions and/or require information on the placement of such conditions in the death certificate. Within this framework, the entity data are appropriate to examine relationships among conditions and the validity of traditional assumptions in underlying cause selection. Additionally, the entity data provide in certain categories a more detailed code assignment that could be excluded in creating record axis data. Where such detail is needed for a study, the user should use entity data. Finally, the researcher may not wish to be bound by the assumptions used in the axis translation process.

The main limitation of entity axis data is that it does not necessarily reflect the best code for a condition when considered within the context of the medical certification as a whole. As a result, certain entity codes can be misleading or even contradict other codes in the record. For example, category K80.2 is titled "Calculus of gallbladder without cholecystitis." Within the framework of entity codes this is interpreted to mean that the codable entity itself contained no mention of cholecystitis rather than that cholecystitis was not mentioned anywhere on the record. Tabulation of records with a "K80.2" as a count of

persons having Calculus of gallbladder without cholecystitis would therefore be erroneous. This illustrates the fact that under entity coding the ICD-10 titles cannot be taken literally. The user should study the rules for entity coding as they relate to his/her research prior to use of entity data. The user is further cautioned that the inclusion notes in ICD-10 that relate to modifying and combining categories are seldom applicable to entity coding (except where provided in NCHS Instruction Manual Part 2b).

In tabulating the entity axis data, one may count codes with an individual code representing the number of times the condition(s) appears in the file. In this kind of tabulation of morbid conditions, the counts among categories may be added together to produce counts for groups of codes. Alternatively, subject to the limitations given above, one may count persons having mention of the disease represented by a code or codes. In this instance it is not correct to add counts for individual codes to create person counts for groups of codes. Since more than one code in the researcher's interest may appear together on the certificate, totaling must account for higher order interactions among codes. Up to 20 codes may be assigned on a record; therefore, a 20-way interaction is theoretically possible. All totaling must be based on mention of one or more of the categories under investigation.

Record Axis Codes

The following paragraphs describe the format and application of record-axis data. Part 2f of the Instruction Manual Series (ICD-10 TRANSAX Disease Reference Tables for classifying Multiple Causes-of-Death) describes the TRANSAX process for creating record axis data from entity axis data.

1. Format. Each record (or person) axis code is displayed in five bytes. Location information is not relevant. The Code consists of the following components:

1. Cause category: The first four bytes represent the ICD-10 cause code.
2. The last byte is blank.

Again, a maximum of 20 codes are captured on a record for multiple cause purposes. The codes are written in a 100-byte field in ascending code number (5 bytes) order with any unused bytes left blank.

2. Edit. The record axis codes are edited for rare causes and age/cause and sex/cause compatibility. Likewise, individual code validity is checked. The valid code set for record axis coding is the same as that for entity coding.

3. Record Axis Applications. The record axis multiple cause data are the basis for NCHS core multiple cause tabulations. Location of codes is not relevant to this data, and conditions have been linked into the most meaningful categories for the certification. The most immediate consequence for the user is that the codes on the record already represent mention of a disease assignable to that particular ICD-10 category. This is in

contrast to the entity code which is assigned each time such a disease is reported on different lines of the certification. Secondly, the linkage implies that within the constraints of ICD-10 the most meaningful code has been assigned. The translation process creates for the user a data file that is edited for contradictions, duplicate codes, and imprecisions. In contrast to entity axis data, record axis data are classified in a manner comparable to underlying cause of death classification thereby facilitating joint analysis of these variables. A potential disadvantage of record axis data is that some detail is sacrificed in a number of the linkages.

The user can take the record axis codes as literally representing the information conveyed in ICD-10 category titles. While knowledge of the rules for combining and linking and coding conditions is useful, it is not a prerequisite to meaningful analysis of the data as long as one is willing to accept the assumptions of the axis translation process. The user is cautioned, however, that due to special rules in mortality coding, not all linkage notes in ICD-10 are used. (NCHS Instruction Manual Part 2f).

The user should proceed with caution in using record axis data to count conditions as opposed to people with conditions, since linkages have been invoked and duplicate codes have been eliminated. As with entity data, person-based tabulations that combine individual cause categories must take into account the possible interaction of up to 20 codes on a single certificate.

Additional Information

In using the NCHS multiple cause data files, the user is urged to review the information in this document and its references. The instructional material does change from year to year and ICD revision to ICD revision. The user is cautioned that coding of specific ICD-10 categories should be checked in the appropriate instruction manual. What may appear on the surface to be the correct code by ICD-10 may in fact not be correct as given in the instruction manuals.

If on the surface it is not obvious whether entity axis or record axis data should be employed in a given application, detailed examination of NCHS Instruction Manual Part 2f and its attachments will probably provide the necessary information to make a decision. It allows the user to determine the extent of the trade-offs between the two sets of data in terms of specific categories and the assumption of axis translation. In certain situations, a combination of entity and record axis data may be the more appropriate alternative.

2015 Period Linked Birth/Infant Death Data Set

Numerator Files:

United States

A. Record count:	23,347
B. Record length:	1,743

Territories

A. Record count:	268
B. Record length:	1,743

Denominator Files:

United States

A. Record count:	3,988,733
B. Record length:	1346

Territories

A. Record count:	34,602
B. Record length:	1346

Unlinked Files:

United States

A. Record count:	143
B. Record length:	1,743

Territories

A. Record count:	N/A
B. Record length:	N/A

(N/A: There were no unlinked records in the territories file for 2015.)

2015 Linked Public Use File Layout

Position	Len	File*	Field	Description	Flag Position	Values	Definition
1-7	1		FILLER01	FILLER		Blank	
8	1		LATEREC	Late Record Flag		0, blank 1	Not late record Late record
9-12	4	P,G	DOB_YY	Birth Year		2014 2015	2014 2015
13-14	2	P,G	DOB_MM	Birth Month		01 02 03 04 05 06 07 08 09 10 11 12	January February March April May June July August September October November December
15-18	4		FILLER02	FILLER		Blank	
19-22	4	P,G	DOB_TT	Time of Birth	126	0000-2359 9999	Time of Birth Not Stated
23	1	P,G	DOB_WK	Birth Day of Week		1 2 3 4 5 6 7	Sunday Monday Tuesday Wednesday Thursday Friday Saturday
24-31	8		FILLER03	FILLER		Blank	
32	1	P,G	BFACIL	Birth Place (Revised) Revised data only. See field 1330 for national data.	33	1 2 3 4 5 6 7 9	Hospital Freestanding Birth Center Home (intended) Home (not intended) Home (unknown if intended) Clinic / Doctor's Office Other Unknown
33	1	P,G	F_FACILITY	Reporting Flag for Birth Place			See footnote

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
34-49	16		FILLER04	FILLER		Blank	
50	1	P,G	BFACIL3	Facility Recode		1 2 3	In Hospital Not in Hospital Unknown or Not Stated
51-72	22		FILLER05	FILLER		Blank	
73	1	P,G	MAGEIMP	Mother's Age Imputed Due to missing data, age imputed.		Blank 1	Age not imputed Age imputed
74	1	P,G	MAGEREP	Reported Age of Mother Used Flag Due to missing date of birth, reported age used.		Blank 1	Reported age not used Reported age used
75-76	2	P,G	MAGER	Mother's Age Recode 41			12 10 – 12 years, 13 13 years, 14 14 years, 15 15 years, 16 16 years, 17 17 years, 18 18 years, 19 19 years, 20 20 years, 21 21 years, 22 22 years, 23 23 years, 24 24 years, 25 25 years, 26 26 years, 27 27 years, 28 28 years, 29 29 years, 30 30 years, 31 31 years, 32 32 years, 33 33 years, 34 34 years, 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
77-78	2	P,G	MAGER14	Mother's Age Recode 14		01 03 04 05 06 07 08 09 10 11 12 13 14	Under 15 Years 15 years 16 years 17 years 18 years 19 years 20-24 years 25-29 years 30-34 years 35-39 years 40-44 years 45-49 years 50-54 years
79	1	P,G	MAGER9	Mother's Age Recode 9		1 2 3 4 5 6 7	Under 15 years 15-19 years 20-24 years 25-29 years 30-34 years 35-39 years 40-44 years

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
						8	45-49 years
						9	50-54 years
80-83	4		FILLER06	FILLER		Blank	
84	1	P,G	MBSTATE_REC	Mother's Nativity		1	Born in the U.S. (50 US States)
						2	Born outside the U.S. (includes possessions)
						3	Unknown or Not Stated
85-103	19		FILLER07	FILLER		Blank	
104	1	P,G	RESTATUS	Residence Status			
				<u>United States</u>		1	RESIDENT: State and county of occurrence and residence are the same.
						2	INTRASTATE NONRESIDENT: State of occurrence and residence are the same but county is different.
						3	INTERSTATE NONRESIDENT: State of occurrence and residence are different but both are one of the 50 US states or District of Columbia.
						4	FOREIGN RESIDENT: The state of residence is not one of the 50 US states or District of Columbia.
				<u>U.S. Territories</u>		1	RESIDENT: State and county of occurrence and residence residence are the same. (Unique to Guam, all US residents are considered residents of Guam and thus are assigned 1.)
						2	INTRATERRITORY NONRESIDENT: Territory of occurrence and residence are the same but county is different.
						2	INTERTERRITORY RESIDENT: Territory of occurrence and residence are different but both are US Territories.
						3	FOREIGN RESIDENT: The residence is not a US Territory.
105-106	2	P,G	MRACE31	Mother's Race Recode 31			
				<u>United States and all Outlying Areas of the United States except Puerto Rico</u>		01	White (only) [only one race reported]
						02	Black (only)
						03	AIAN (American Indian or Alaskan Native) (only)
						04	Asian (only)
						05	NHOPI (Native Hawaiian or Other Pacific Islander) (only)
						06	Black and White
						07	Black and AIAN
						08	Black and Asian
						09	Black and NHOPI
						10	AIAN and White
						11	AIAN and Asian
						12	AIAN and NHOPI
						13	Asian and White

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
						14	Asian and NHOPI
						15	NHOPI and White
						16	Black, AIAN, and White
						17	Black, AIAN, and Asian
						18	Black, AIAN, and NHOPI
						19	Black, Asian, and White
						20	Black, Asian, and NHOPI
						21	Black, NHOPI, and White
						22	AIAN, Asian, and White
						23	AIAN, NHOPI, and White
						24	AIAN, Asian, and NHOPI
						25	Asian, NHOPI, and White
						26	Black, AIAN, Asian, and White
						27	Black, AIAN, Asian, and NHOPI
						28	Black, AIAN, NHOPI, and White
						29	Black, Asian, NHOPI, and White
						30	AIAN, Asian, NHOPI, and White
						31	Black, AIAN, Asian, NHOPI, and White
107	1	P,G	MRACE6	Mother's Race Recode 6			
				<u>United States and all Outlying Areas</u>		1	White (only)
				<u>of the United States except Puerto</u>		2	Black (only)
				<u>Rico</u>		3	AIAN (only)
						4	Asian (only)
						5	NHOPI (only)
						6	More than one race
108-109	2	P,G	MRACE15	Mother's Race Recode 15			
				<u>United States and all Outlying Areas</u>		01	White (only)
				<u>of the United States except Puerto</u>		02	Black (only)
				<u>Rico</u>		03	AIAN (only)
						04	Asian Indian (only)
						05	Chinese (only)
						06	Filipino (only)
						07	Japanese (only)
						08	Korean (only)
						09	Vietnamese (only)
						10	Other Asian (only)
						11	Hawaiian (only)
						12	Guamanian (only)
						13	Samoaan (only)
						14	Other Pacific Islander (only)
						15	More than one race
110	1	P,G	MBRACE	Bridged Race Mother			
				Includes individuals reporting only one race and			

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
				individuals reporting more than one race bridged to a single race.			
				<u>United States and all Outlying Areas of the United States except Puerto Rico</u>		1 2 3 4	White Black American Indian or Alaskan Native Asian or Pacific Islander
				<u>Puerto Rico</u>		1 2 0	White Black Other (not classified as White or Black)
111	1	P,G	MRACEIMP	Mother's Race Imputed		Blank 1 2	Mother's race not imputed Unknown race imputed All other races, formerly coded 09, imputed.
112-114	3		FILLER08	FILLER		Blank	
115	1	P,G	MHISP_R	Mother's Hispanic Origin Recode	116	0 1 2 3 4 5 9	Non-Hispanic Mexican Puerto Rican Cuban Central and South American Other and Unknown Hispanic origin Hispanic origin not stated
116	1	P,G	F_MHISP	Reporting Flag for Mother's Origin			See footnote
117	1	P,G	MRACEHISP	Mother's Race/Hispanic Origin Based on single/multiple-race (fields 105-106, 107, and 108-109); for coding to create bridged-race categories (field 110) see "Coding for bridge-race and Hispanic origin categories" in the Detailed Technical Notes.		1 2 3 4 5 6 7 8	Non-Hispanic White (only) Non-Hispanic Black (only) Non-Hispanic AIAN (only) Non-Hispanic Asian (only) Non-Hispanic NHOPI (only) Non-Hispanic more than one race Hispanic Origin unknown or not stated
118	1		FILLER09	FILLER		Blank	
119	1	P,G	MAR_P	Paternity Acknowledged	123	Y N U X	Yes No Unknown Not Applicable
120	1	P,G	DMAR	Marital Status			
				<u>United States and all Outlying Areas of the United States except Puerto</u>		1 2	Married Unmarried

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
				<u>Rico</u>		9	Unknown, NS
				<u>Puerto Rico</u>		1	Yes
						2	Unmarried parents living together
						3	Unmarried parents not living together
						9	Unknown or not stated
121	1	P,G	MAR_IMP	Mother's Marital Status Imputed		Blank	Marital Status not imputed
						1	Marital Status imputed
122	1		FILLER10	FILLER		Blank	
123	1	P,G	F_MAR_P	Reporting Flag for Paternity Acknowledged			See footnote
124	1	P,G	MEDUC	Mother's Education	126	1	8 th grade or less
						2	9 th through 12 th 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)
						7	Master's degree (MA, MS, MEng, MEd, MSW, MBA)
						8	Doctorate (PhD, EdD) or Professional Degree (MD, DDS, DVM, LLB, JD)
						9	Unknown
125	1		MEDUC_BYP	Mother's Education Bypass		0	Edit Passed
						1	Edit failed, data queried and verified
						2	Edit failed, data queried but not verified
						Blank	Bypass not used
126	1	P,G	F_MEDUC	Reporting Flag for Education of Mother			See footnote
127-141	15		FILLER11	FILLER		Blank	
142	1	P,G	FAGERPT_FLG	Father's Reported Age Used		Blank	Father's reported age not used
						1	Father's reported age used
143-146	4		FILLER12	FILLER		Blank	
147-148	2	P,G	FAGECOMB	Father's Combined Age (Revised)		09-98	Father's combined age in years
						99	Unknown or not stated
149-150	2	P,G	FAGE11	Father's Age Recode 11		01	Under 15 years
						02	15-19 years
						03	20-24 years
						04	25-29 years

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
						05	30-34 years
						06	35-39 years
						07	40-44 years
						08	45-49 years
						09	50-54 years
						10	55-98 years
						11	Not stated
151-152	2	P,G	FRACE31	Father's Race Recode 31		01	White (only) [only one race reported]
						02	Black (only)
						03	AIAN (American Indian or Alaskan Native) (only)
						04	Asian (only)
						05	NHOPI (Native Hawaiian or Other Pacific Islander) (only)
						06	Black and White
						07	Black and AIAN
						08	Black and Asian
						09	Black and NHOPI
						10	AIAN and White
						11	AIAN and Asian
						12	AIAN and NHOPI
						13	Asian and White
						14	Asian and NHOPI
						15	NHOPI and White
						16	Black, AIAN, and White
						17	Black, AIAN, and Asian
						18	Black, AIAN, and NHOPI
						19	Black, Asian, and White
						20	Black, Asian, and NHOPI
						21	Black, NHOPI, and White
						22	AIAN, Asian, and White
						23	AIAN, NHOPI, and White
						24	AIAN, Asian, and NHOPI
						25	Asian, NHOPI, and White
						26	Black, AIAN, Asian, and White
						27	Black, AIAN, Asian, and NHOPI
						28	Black, AIAN, NHOPI, and White
						29	Black, Asian, NHOPI, and White
						30	AIAN, Asian, NHOPI, and White
						31	Black, AIAN, Asian, NHOPI, and White
						99	Unknown or Not Stated
153	1	P,G	FRACE6	Father's Race Recode 6		1	White (only)
						2	Black (only)
						3	AIAN (only)
						4	Asian (only)
						5	NHOPI (only)

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
						6	More than one race
						9	Unknown or Not Stated
154-155	2	P,G	FRACE15	Father's Race Recode 15		01	White (only)
						02	Black (only)
						03	AIAN (only)
						04	Asian Indian (only)
						05	Chinese (only)
						06	Filipino (only)
						07	Japanese (only)
						08	Korean (only)
						09	Vietnamese (only)
						10	Other Asian (only)
						11	Hawaiian (only)
						12	Guamanian (only)
						13	Samoan (only)
						14	Other Pacific Islander (only)
						15	More than one race
						99	Unknown or Not Stated
156	1	P,G	FBRACE	Bridged Race Father Includes individuals reporting only one race and individuals reporting more than one race bridged to a single race.			
				<u>United States and all Outlying Areas of the United States except Puerto Rico</u>		1	White
						2	Black
						3	American Indian or Alaskan Native
						4	Asian or Pacific Islander
				<u>Puerto Rico</u>		1	White
						2	Black
						0	Other (not classified as White or Black)
157-159	3		FILLER13	FILLER		Blank	
160	1	P,G	FHISP_R	Father's Hispanic Origin Recode		0	Non-Hispanic
					161	1	Mexican
						2	Puerto Rican
						3	Cuban
						4	Central and South American
						5	Other and Unknown Hispanic origin
						9	Hispanic origin not stated
161	1	P,G	F_FHISP	Reporting Flag for Father's Origin			See footnote
162	1	P,G	FRACEHISP	Father's Race/Hispanic Origin		1	Non-Hispanic White (only)

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
				Based on single/multiple-race (fields 151-152, 153, and 154-155); for coding to create bridged-race categories (field 156) see "Coding for bridge-race and Hispanic origin categories" in the Detailed Technical Notes		2 3 4 5 6 7 8 9	Non-Hispanic Black (only) Non-Hispanic AIAN (only) Non-Hispanic Asian (only) Non-Hispanic NHOPI (only) Non-Hispanic more than one race Hispanic Origin unknown or not stated Race unknown or not stated (Non-Hispanic)
163	1	P,G	FEDUC	Father's Education	165	1 2 3 4 5 6 7 8 9	8 th grade or less 9 th through 12 th grade with no diploma High school graduate or GED completed Some college credit, but not a degree. Associate degree (AA,AS) Bachelor's degree (BA, AB, BS) Master's degree (MA, MS, MEng, MEd, MSW, MBA) Doctorate (PhD, EdD) or Professional Degree (MD, DDS, DVM, LLB, JD) Unknown
164	1		FILLER14	FILLER			Blank
165	1	P,G	F_FEDUC	Reporting Flag for Education of Father			See footnote
166-170	5		FILLER15	FILLER			Blank
171-172	2	P,G	PRIORLIVE	Prior Births Now Living		00-30 99	Number of children still living from previous live births. Unknown or not stated
173-174	2	P,G	PRIORDEAD	Prior Births Now Dead		00-30 99	Number of children dead from previous live births. Unknown or not stated
175-176	2	P,G	PRIORTERM	Prior Other Terminations		00-30 99	Number other terminations Unknown or not stated
177-178	2		FILLER16	FILLER			Blank
179	1	P,G	LBO_REC	Live Birth Order Recode		1-7 8 9	Number of live birth order. 8 or more live births Unknown or not stated
180-181	2		FILLER17	FILLER			Blank
182	1	P,G	TBO_REC	Total Birth Order Recode		1-7 8 9	Number of total birth order. 8 or more total births Unknown or not stated

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
183-197	15		FILLER18	FILLER		Blank	
198-200	3	P,G	ILLB_R	Interval of Last Live Birth Recode	126	000-003 004-300 888 999	Plural delivery Months since last live birth Not applicable / 1 st live birth Unknown or not stated
201-202	2	P,G	ILLB_R11	Interval of Last Live Birth Recode 11	126	00 01 02 03 04 05 06 07 08 88 99	Zero to 3 months (plural delivery) 4 to 11 months 12 to 17 months 18 to 23 months 24 to 35 months 36 to 47 months 48 to 59 months 60 to 71 months 72 months and over Not applicable (1 st live birth) Unknown or not stated
203-205	3		FILLER19	FILLER		Blank	
206-208	3	P,G	ILOP_R	Interval of Last Other Pregnancy Recode	126	000-003 004-300 888 999	Plural delivery Months since last live birth Not applicable / 1 st natality event Unknown or not stated
209-210	2	P,G	ILOP_R11	Interval of Last Other Pregnancy Recode 11	126	00 01 02 03 04 05 06 07 08 88 99	Zero to 3 months (plural delivery) 4 to 11 months 12 to 17 months 18 to 23 months 24 to 35 months 36 to 47 months 48 to 59 months 60 to 71 months 72 months and over Not applicable (1 st natality event) Unknown or not stated
211-213	3		FILLER20	FILLER		Blank	
214-216	3	P,G	ILP_R	Interval of Last Pregnancy Recode	126	000-003 004-300 888 999	Plural delivery Months since last live birth Not applicable / no previous pregnancy Unknown or not stated

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
217-218	2	P,G	ILP_R11	Interval of Last Pregnancy Recode 11	126	00 01 02 03 04 05 06 07 08 88 99	Zero to 3 months (plural delivery) 4 to 11 months 12 to 17 months 18 to 23 months 24 to 35 months 36 to 47 months 48 to 59 months 60 to 71 months 72 months and over Not applicable (no previous pregnancy) Unknown or not stated
219-223	5		FILLER21	FILLER		Blank	
224-225	2	P,G	PRECARE	Month Prenatal Care	226	00 01-10 99	No prenatal care Month prenatal care began Unknown or not stated
226	1	P,G	F_MPCB	Reporting Flag for Month Prenatal Care Began			See footnote
227	1	P,G	PRECARE5	Month Prenatal Care Began Recode	226	1 2 3 4 5	1 st to 3 rd month 4 th to 6 th month 7 th to final month No prenatal care Unknown or not stated
228-237	10		FILLER22	FILLER		Blank	
238-239	2	P,G	PREVIS	Number of Prenatal Visits (Revised)		00-98 99	Number of prenatal visits Unknown or not stated
240-241	2		FILLER23	FILLER		Blank	
242-243	2	P,G	PREVIS_REC	Number of Prenatal Visits Recode	244	01 02 03 04 05 06 07 08 09 10 11 12	No visits 1 to 2 visits 3 to 4 visits 5 to 6 visits 7 to 8 visits 9 to 10 visits 11 to 12 visits 13 to 14 visits 15 to 16 visits 17 to 18 visits 19 or more visits Unknown or not stated

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
244	1	P,G	F_TPCV	Reporting Flag for Total Prenatal Care Visits			See footnote
245-250	6		FILLER24	FILLER		Blank	
251	1	P,G	WIC	WIC	252	Y N U	Yes No Unknown or not stated
252	1	P,G	F_WIC	Reporting Flag for WIC			See footnote
253-254	2	P,G	CIG_0	Cigarettes Before Pregnancy	265	00-97 98 99	Number of cigarettes daily 98 or more cigarettes daily Unknown or not stated
255-256	2	P,G	CIG_1	Cigarettes 1st Trimester	266	00-97 98 99	Number of cigarettes daily 98 or more cigarettes daily Unknown or not stated
257-258	2	P,G	CIG_2	Cigarettes 2nd Trimester	267	00-97 98 99	Number of cigarettes daily 98 or more cigarettes daily Unknown or not stated
259-260	2	P,G	CIG_3	Cigarettes 3rd Trimester	268	00-97 98 99	Number of cigarettes daily 98 or more cigarettes daily Unknown or not stated
261	1	P,G	CIG0_R	Cigarettes Before Pregnancy Recode	265	0 1 2 3 4 5 6	Nonsmoker 1-5 6-10 11-20 21-40 41 or more Unknown or not stated
262	1	P,G	CIG1_R	Cigarettes 1st Trimester Recode	266	0 1 2 3 4 5 6	Nonsmoker 1-5 6-10 11-20 21-40 41 or more Unknown or not stated
263	1	P,G	CIG2_R	Cigarettes 2nd Trimester Recode	267	0 1 2	Nonsmoker 1-5 6-10

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
						3	11-20
						4	21-40
						5	41 or more
						6	Unknown or not stated
264	1	P,G	CIG3_R	Cigarettes 3rd Trimester Recode	268	0	Nonsmoker
						1	1-5
						2	6-10
						3	11-20
						4	21-40
						5	41 or more
						6	Not stated / Not on certificate
265	1	P,G	F_CIGS_0	Reporting Flag for Cigarettes before Pregnancy			See footnote
266	1	P,G	F_CIGS_1	Reporting Flag for Cigarettes 1st Trimester			See footnote
267	1	P,G	F_CIGS_2	Reporting Flag for Cigarettes 2nd Trimester			See footnote
268	1	P,G	F_CIGS_3	Reporting Flag for Cigarettes 3rd Trimester			See footnote
269	1	P,G	CIG_REC	Cigarette Recode (Revised)	270	Y	Yes
						N	No
						U	Unknown or not stated
270	1	P,G	F_TOBACO	Reporting Flag for Tobacco use			See footnote
271-279	9	P,G	FILLER25	FILLER		Blank	
280-281	2	P,G	MHTR	Mother's Height in Inches (Recode)	282	30-78	Height in inches
						99	Unknown or not stated
282	1	P,G	F_M_HT	Reporting Flag for Mother's Height			See footnote
283-286	4	P,G	BMI	BMI	282	13.0-69.9	Body Mass Index
						99.9	Unknown or not stated
287	1	P,G	BMI_R	Body Mass Index Recode	282	1	Underweight <18.5
						2	Normal 18.5-24.9
						3	Overweight 25.0-29.9
						4	Obesity I 35.0-39.9
						5	Obesity II 35.0-39.9
						6	Extreme Obesity III ≥ 40.0
						9	Unknown or not stated

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
288-291	4		FILLER26	FILLER		Blank	
292-294	3	P,G	PWGT_R	Pre-pregnancy Weight Recode		075-375 999	Weight in pounds Unknown or not stated
295	1	P,G	F_PWGT	Reporting Flag for Pre-pregnancy Weight			See footnote
296-298	3		FILLER27	FILLER		Blank	
299-301	3	P,G	DWGT_R	Delivery Weight Recode	303	100-400 999	Weight in pounds Unknown or not stated
302	1		FILLER28	FILLER		Blank	
303	1	P,G	F_DWGT	Reporting Flag for Delivery Weight			See footnote
304-305	2	P,G	WTGAIN	Weight Gain	307	00-97 98 99	Weight gain in pounds 98 pounds and over Unknown or not stated
306	1	P,G	WTGAIN_REC	Weight Gain Recode	307	1 2 3 4 5 9	Less than 11 pounds 11 to 20 pounds 21 to 30 pounds 31 to 40 pounds 41 to 98 pounds Unknown or not stated
307	1	P,G	F_WTGAIN	Reporting Flag for Weight Gain			See footnote
308-312	5		FILLER29	FILLER		Blank	

The following checkbox fields 313-432 include data for revised states only. For national data for items that are comparable across revisions see fields 1330-1345.

313-337	25		<u>Risk Factors</u>				
313	1	P,G	RF_PDIAB	Pre-pregnancy Diabetes	319	Y	Yes
314	1	P,G	RF_GDIAB	Gestational Diabetes	320	N	No
315	1	P,G	RF_PHYPE	Pre-pregnancy Hypertension	321	U	Unknown or not stated
316	1	P,G	RF_GHYPE	Gestational Hypertension	322		
317	1	P,G	RF_EHYPE	Hypertension Eclampsia	323		
318	1	P,G	RF_PPB	Previous Preterm Birth	324		
319	1	P,G	F_RF_PDIAB	Reporting Flag for Pre-pregnancy Diabetes			See footnote
320	1	P,G	F_RF_GDIAB	Reporting Flag for Gestational Diabetes			
321	1	P,G	F_RF_PHYPE	Reporting Flag for Pre-pregnancy Hypertension			

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
322	1	P,G	F_RF_GHYPE	Reporting Flag for Gestational Hypertension			
323	1	P,G	F_RF_EHYPE	Reporting Flag for Hypertension Eclampsia			
324	1	P,G	F_RF_PPB	Reporting Flag for Previous Preterm Birth			
325	1	P,G	RF_INFT	Infertility Treatment	328	Y N U	Yes No Unknown or not stated
				Use reporting flag in field 319 for 2015			
326	1	P,G	RF_DRG	Fertility Enhancing Drugs	329	Y N X U	Yes No Not applicable Unknown or not stated
327	1	P,G	RF_ART	Asst. Reproductive Technology	330	Y N X U	Yes No Not applicable Unknown or not stated
328	1		FILLER30	FILLER		Blank	
329	1	P,G	F_RF_DRG	Reporting Flag for Fertility Enhance Drugs			See footnote
330	1	P,G	F_RF_ART	Reporting Flag for Reproductive Technology			See footnote
331	1	P,G	RF_CESAR	Previous Cesareans	335	Y N U	Yes No Unknown or not stated
332-333	2	P,G	RF_CESARN	Number of Previous Cesareans	336	00 01-30 99	None Number of previous cesareans Unknown or not stated
334	1		RF_CES_BYP	Cesarean Bypass		0 1 2 Blank	Edit passed Edit failed, verified Invalid response Bypass not used
335	1	P,G	F_RF_CESAR	Reporting Flag for Previous Cesarean			See footnote
336	1	P,G	F_RF_NCESAR	Reporting Flag for Number of Previous Cesareans			See footnote
337	1	P,G	NO_RISKS	No Risk Factors Checked	126	1 0 9	True False Not Reported

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
338-342	5		FILLER31	FILLER			Blank
343-353	11		<u>Infections Present</u>				
343	1	P,G	IP_GON	Gonorrhea	348	Y	Yes
344	1	P,G	IP_SYPH	Syphilis	349	N	No
345	1	P,G	IP_CHLAM	Chlamydia	350	U	Unknown or not stated
346	1	P,G	IP_HEPB	Hepatitis B	351		
347	1	P,G	IP_HEPC	Hepatitis C	352		
348	1	P,G	F_IP_GON	Reporting Flag for Gonorrhea			See footnote
349	1	P,G	F_IP_SYPH	Reporting Flag for Syphilis			
350	1	P,G	F_IP_CHLAM	Reporting Flag for Chlamydia			
351	1	P,G	F_IP_HEPB	Reporting Flag for Hepatitis B			
352	1	P,G	F_IP_HEPC	Reporting Flag for Hepatitis C			
353	1	P,G	NO_INFEC	No Infections Checked	126	1 0 9	True False Not Reported
354-359	6		FILLER32	FILLER			Blank
360-364	5		<u>Obstetric Procedures</u>				
360	1	P,G	OB_SUCC	Successful External Cephalic Version	363	Y N U	Yes No Unknown or not stated
361	1	P,G	OB_FAIL	Failed External Cephalic Version	364	Y N U	Yes No Unknown or not stated
362	1		FILLER33	FILLER			Blank
363	1	P,G	F_OB_SUCC	Reporting Flag for Successful External Cephalic Version			See footnote
364	1	P,G	F_OB_FAIL	Reporting Flag for Failed External Cephalic Version			See footnote
365-382	18		FILLER34	FILLER			Blank
383-395	13		<u>Characteristics of Labor and Delivery</u>				
383	1	P,G	LD_INDL	Induction of Labor	389	Y	Yes
384	1	P,G	LD_AUGM	Augmentation of Labor	390	N	No

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
385	1	P,G	LD_STER	Steroids	391	U	Unknown or not stated
386	1	P,G	LD_ANTB	Antibiotics	392		
387	1	P,G	LD_CHOR	Chorioamnionitis	393		
388	1	P,G	LD_ANES	Anesthesia	394		
389	1	P,G	F_LD_INDL	Reporting Flag for Induction of Labor			See footnote
390	1	P,G	F_LD_AUGM	Reporting Flag for Augmentation of Labor			
391	1	P,G	F_LD_STER	Reporting Flag for Steroids			
392	1	P,G	F_LD_ANTB	Reporting Flag for Antibiotics			
393	1	P,G	F_LD_CHOR	Reporting Flag for Chorioamnionitis			
394	1	P,G	F_LD_ANES	Reporting Flag for Anesthesia			
395	1	P,G	NO_LBRDLV	No Characteristics of Labor Checked		1 0 9	True False Not Reported
396-400	5		FILLER35	FILLER			Blank
401-409	9			<u>Method of Delivery</u>			
401	1	P,G	ME_PRES	Fetal Presentation	404	1 2 3 9	Cephalic Breech Other Unknown or not stated
402	1	P,G	ME_ROUT	Final Route & Method of Delivery	405	1 2 3 4 9	Spontaneous Forceps Vacuum Cesarean Unknown or not stated
403	1	P,G	ME_TRIAL	Trial of Labor Attempted	406	Y N X U	Yes No Not applicable Unknown or not stated
404	1	P,G	F_ME_PRES	Reporting Flag for Fetal Presentation			See footnote
405	1	P,G	F_ME_ROUT	Reporting Flag for Final Route and Method of Delivery			See footnote
406	1	P,G	F_ME_TRIAL	Reporting Flag for Trial of Labor Attempted			See footnote
407	1	P,G	RDMETH_REC	Delivery Method Recode	409	1 2 3	Vaginal (excludes vaginal after previous C-section) Vaginal after previous c-section Primary C-section

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
						4	Repeat C-section
						5	Vaginal (unknown if previous c-section)
						6	C-section (unknown if previous c-section)
						9	Not stated
408	1	P,G	DMETH_REC	Delivery Method Recode Combined		1	Vaginal
						2	C-Section
						9	Unknown
409	1	P,G	F_DMETH_REC	Reporting Flag for Method of Delivery Recode			See footnote
410-414	5		FILLER36	FILLER			Blank
415-427	13		<u>Maternal Morbidity</u>				
415	1	P,G	MM_MTR	Maternal Transfusion	421	Y	Yes
416	1	P,G	MM_PLAC	Perineal Laceration	422	N	No
417	1	P,G	MM_RUPT	Ruptured Uterus	423	U	Unknown or not stated
418	1	P,G	MM_UHYST	Unplanned Hysterectomy	424		
419	1	P,G	MM_AICU	Admit to Intensive Care	425		
420	1		FILLER37	FILLER			Blank
421	1	P,G	F_MM_MTR	Reporting Flag for Maternal Transfusion			See footnote
422	1	P,G	F_MM_PLAC	Reporting Flag for Perineal Laceration			
423	1	P,G	F_MM_RUPT	Reporting Flag for Ruptured Uterus			
424	1	P,G	F_MM_UHYST	Reporting Flag for Unplanned Hysterectomy			
425	1	P,G	F_MM_AICU	Reporting Flag for Admission to Intensive Care			
426	1		FILLER38	FILLER			Blank
427	1	P,G	NO_MMORB	No Maternal Morbidity Checked	126	1	True
						0	False
						9	Not Reported
428-432	5		FILLER39	FILLER			Blank
433	1	P,G	ATTEND	Attendant		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
434	1	P,G	MTRAN	Mother Transferred	126	Y	Yes
						N	No

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
						U	Unknown
435	1	P,G	PAY	Payment Source	437	1 2 3 4 5 6 8 9	Unknown Medicaid Private Insurance Self-Pay Indian Health Service CHAMPUS/TRICARE Other Government (Federal, State, Local) Other Unknown
436	1	P,G	PAY_REC	Payment Recode	438	1 2 3 4 9	Medicaid Private Insurance Self Pay Other Unknown
437	1	P,G	F_PAY	Reporting Flag for Source of Payment			See footnote
438	1	P,G	F_PAY_REC	Reporting Flag for Payment Recode			See footnote
439-443	5		FILLER40	FILLER		Blank	
444-445	2	P,G	APGAR5	Five Minute APGAR Score 447		00-10 99	A score of 0-10 Unknown or not stated
446	1	P,G	APGAR5R	Five Minute APGAR Recode 447		1 2 3 4 5	A score of 0-3 A score of 4-6 A score of 7-8 A score of 9-10 Unknown or not stated
447	1	P,G	F_APGAR5	Reporting Flag for Five minute APGAR		0 1	Non-Reporting Reporting
448-449	2	P,G	APGAR10	Ten Minute APGAR Score Use reporting flag in field 126 for 2015		00-10 88 99	A score of 0-10 Not applicable Unknown or not stated
450	1	P,G	APGAR10R	Ten Minute APGAR Recode Use reporting flag in field 126 for 2015		1 2 3 4 5	A score of 0-3 A score of 4-6 A score of 7-8 A score of 9-10 Not stated/not applicable
451-453	3		FILLER41	FILLER		Blank	

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
454	1	P,G	DPLURAL	Plurality Recode		1 2 3 4 5	Single Twin Triplet Quadruplet Quintuplet or higher
455	1		FILLER42	FILLER		Blank	
456	1	P,G	IMP_PLUR	Plurality Imputed		Blank 1	Plurality is imputed Plurality is not imputed
457-458	2		FILLER43	FILLER		Blank	
459	1	P,G	SETORDER_R	Set Order Recode	126	1 1 st , 2 2 nd , 3 3 rd , 4 4 th , 5 5 th to 16 th 9	Unknown or not stated
460-474	15		FILLER44	FILLER		Blank	
475	1	P,G	SEX	Sex of Infant		M F	Male Female
476	1	P,G	IMP_SEX	Imputed Sex		Blank 1	Infant Sex not Imputed Infant Sex is Imputed
477-478	2	P,G	DLMP_MM	Last Normal Menses Month		01 02 03 04 05 06 07 08 09 10 11 12 99	January February March April May June July August September October November December Unknown or not stated
479-480	2		FILLER45	FILLER		Blank	
481-484	4	P,G	DLMP_YY	Last Normal Menses Year		nnnn 9999	Year of last normal menses Unknown or not stated
485-487	3		FILLER46	FILLER		Blank	

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
488	1	P,G	COMBGST_IMP	Combined Gestation Imputed		Blank 1	Combined Gestation is not imputed Combined Gestation is imputed
489	1	P,G	OBGEST_FLG	Obstetric Estimate of Gestation Used Flag		Blank 1	Clinical Estimate is not used Clinical Estimate is used
490-491	2	P,G	COMBGEST	Combined Gestation – Detail in Weeks		17-47 99	17 th through 47 th week of Gestation Unknown
492-493	2	P,G	GESTREC10	Combined Gestation Recode 10		01 02 03 04 05 06 07 08 09 10 99	Under 20 weeks 20-27 weeks 28-31 weeks 32-33 weeks 34-36 weeks 37-38 weeks 39 weeks 40 weeks 41 weeks 42 weeks and over Unknown
494	1	P,G	GESTREC3	Combined Gestation Recode 3		1 2 3	Under 37 weeks 37 weeks and over Not stated
495-497	3		FILLER47	FILLER		Blank	
498	1	P,G	LMPUSED	Computed (LMP) Gestation Used Flag		Blank 1	LMP not used for gestation LMP used for gestation
499-500	2	P,G	OEGest_Comb	Obstetric Estimate Edited (NCHS Standard item)		17-47 99	Weeks of gestation Not stated
501-502	2	P,G	OEGest_R10	Obstetric Estimate Recode10 (NCHS Standard item)		01 02 03 04 05 06 07 08 09 10 99	Under 20 weeks 20-27 weeks 28-31 weeks 32-33 weeks 34-36 weeks 37-38 weeks 39 weeks 40 weeks 41 weeks 42 weeks and over Unknown
503	1	P,G	OEGest_R3	Obstetric Estimate Recode 3		1	Under 37 weeks

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
				(NCHS Standard Item)		2 3	37 weeks and over Not stated
504-508	5		FILLER48	FILLER		Blank	
509-510	2	P,G	BWTR14	Birth Weight Recode 14		01 02 03 04 05 06 07 08 09 10 11 12 13 14	227 - 499 grams 500 – 749 grams 750 – 999 grams 1000 - 1249 grams 1250 – 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 Not Stated
511	1	P,G	BWTR4	Birth Weight Recode 4		1 2 3 4	227 - 1499 grams 1500 – 2499 grams 2500 - 8165 grams Unknown or not stated
512-515	4	P,G	BRTHWGT	Imputed Birth Weight		0227-8165 9999	Number of grams Not stated birth weight
516	1		FILLER49	FILLER		Blank	

The following checkbox fields 517-566 include data for revised states only. For national data for items that are comparable across revisions see fields 1340-1345.

517-531	15	<u>Abnormal Conditions of the Newborn</u>					
517	1	P,G	AB_AVEN1	Assisted Ventilation	524	Y	Yes
518	1	P,G	AB_AVEN6	Assisted Ventilation > 6 hrs	525	N	No
519	1	P,G	AB_NICU	Admission to NICU	526	U	Unknown or not stated
520	1	P,G	AB_SURF	Surfactant	527		
521	1	P,G	AB_ANTI	Antibiotics	528		
522	1	P,G	AB_SEIZ	Seizures	529		
523	1		FILLER50	FILLER		Blank	
524	1	P,G	F_AB_AVEN1	Reporting Flag for Assisted Ventilation			See footnote
525	1	P,G	F_AB_AVEN6	Reporting Flag for Assisted Ventilation >6 hrs			

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition	
526	1	P,G	F_AB_NICU	Reporting Flag for Admission to NICU				
527	1	P,G	F_AB_SURF	Reporting Flag for Surfactant				
528	1	P,G	F_AB_ANTI	Reporting Flag for Antibiotics				
529	1	P,G	F_AB_SEIZ	Reporting Flag for Seizures				
530	1	P,G	FILLER51	FILLER		Blank		
531	1	P,G	NO_ABNORM	No Abnormal Conditions Checked	126	1 0 9	True False Not Reported	
532-536	5	P,G	FILLER52	FILLER		Blank		
537-561	25		<u>Congenital Anomalies of the Newborn</u>					
537	1	P,G	CA_ANEN	Anencephaly	543	Y	Yes	
538	1	P,G	CA_MNSB	Meningomyelocele / Spina Bifida	544	N	No	
539	1	P,G	CA_CCHD	Cyanotic Congenital Heart Disease	545	U	Unknown or not stated	
540	1	P,G	CA_CDH	Congenital Diaphragmatic Hernia	546			
541	1	P,G	CA_OMP	Omphalocele	547			
542	1	P,G	CA_GAST	Gastroschisis	548			
543	1	P,G	F_CA_ANEN	Reporting Flag for Anencephaly			See footnote	
544	1	P,G	F_CA_MNSB	Flag for Meningomyelocele/Spina Bifida				
545	1	P,G	F_CA_CCHD	Reporting Flag for Cyanotic Congenital Heart Disease				
546	1	P,G	F_CA_CDH	Reporting Flag for Congenital Diaphragmatic Hernia				
547	1	P,G	F_CA_OMP	Reporting Flag for Omphalocele				
548	1	P,G	F_CA_GAST	Reporting Flag for Gastroschisis				
549	1	P,G	CA_LIMB	Limb Reduction Defect	555	Y	Yes	
550	1	P,G	CA_CLEFT	Cleft Lip w/ or w/o Cleft Palate	556	N	No	
551	1	P,G	CA_CLPAL	Cleft Palate alone	557	U	Unknown or not stated	
552	1	P,G	CA_DOWN	Down Syndrome	558	C P N U	Confirmed Pending No Unknown	
553	1	P,G	CA_DISOR	Suspected Chromosomal Disorder	559	C P N U	Confirmed Pending No Unknown	
554	1	P,G	CA_HYPO	Hypospadias	560	Y N U	Yes, anomaly reported No, anomaly not reported Unknown	

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
555	1	P,G	F_CA_LIMB	Reporting Flag for Limb Reduction Defect			See footnote
556	1	P,G	F_CA_CLEFT	Flag for Cleft Lip with or without Cleft Palate			
557	1	P,G	F_CA_CLPAL	Reporting Flag for Cleft Plate Alone			
558	1	P,G	F_CA_DOWN	Reporting Flag for Down Syndrome			
559	1	P,G	F_CA_DISOR	Reporting Flag for Suspected Chromosomal Disorder			
560	1	P,G	F_CA_HYPO	Reporting Flag for Hypospadias			
561	1	P,G	NO_CONGEN	No Congenital Anomalies Checked	126	1 0 9	True False Not Reported
562-566	5	P,G	FILLER53	FILLER		Blank	
567	1	P,G	ITRAN	Infant Transferred	126	Y N U	Yes No Unknown or not stated
568	1	P,G	ILIVE	Infant Living at Time of Report	126	Y N U	Yes No Unknown or not stated
569	1	P,G	BFED	Infant Being Breastfed	570	Y N U	Yes No Unknown or not stated
570	1	P,G	F_BFED	Reporting Flag for Breastfed at Discharge		0 1	Non-Reporting Reporting
571-1329	759		FILLER54	FILLER		Blank	

The following items (fields 1330-1338 and 1340-1345) are comparable across revisions and include data for revised and unrevised reporting areas.

1330	1	P,G	uBFacil	Place of birth		1 2 3 4 5 9	Hospital Freestanding Birthing Center Clinic / Doctor's Office Residence Other Unknown
1331-1345	Unrevised Check Boxes			All checkbox items below follow this coding structure:		1 2 9	Yes No Unknown

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
1331	1	P,G	uRF_Diab	Diabetes			
1332	1	P,G	uRF_Chype	Chronic Hypertension			
1333	1	P,G	uRF_Phype	Prepregnancy Associated Hypertension			
1334	1	P,G	uRf_Ehype	Eclampsia	338		
1335	1	P,G	uME_Forc	Forceps			
1336	1	P,G	uME_Vacu	Vacuum			
1337	1	P,G	uOB_Indu	Induction of Labor			
1338	1	P,G	uLD_Bree	Breech			
1339	1	P,G	FILLER55	FILLER		Blank	
1340	1	P,G	uCA_Anen	Anencephaly			
1341	1	P,G	uCA_Spina	Spina Bifida / Meningocele			
1342	1	P,G	uCA_Omph	Omphalocele / Gastroschisis			
1343	1	P,G	uCA_Clip	Cleft Lip / Palate			
1344	1	P,G	uCA_Hern	Diaphragmatic Hernia			
1345	1	P,G	uCA_Down	Down Syndrome			
1346	1	P,G	FLGND	Match Status		1 Blank	Record in both files Record not in both files
Here ends the Denominator file. Documentation of the Mortality Section of the Numerator (Linked) file begins below.							
1347-1355	9	FILLER56	FILLER			Blank	
1356-1358	3	AGED	Age at Death in Days			000-365	Number of days
1359	1	AGER5	Infant age recode 5			1 2 3 4 5	Under 1 hour 1 – 23 hours 1 – 6 days 7 – 27 days (late neonatal) 28 days and over (postneonatal)
1360-1361	2	AGER22	Infant age recode 22			Blank 01 02 03 04 05 06 07 08 09 10 11	Age 1 year and over or not stated Under 1 hour (includes not stated hours and minutes) 1 – 23 hours 1 day (includes not stated days) 2 days 3 days 4 days 5 days 6 days 7 days (includes not stated weeks) 14 – 20 days 21 – 27 days

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
						12	1 month (includes not stated months)
						13	2 months
						14	3 months
						15	4 months
						16	5 months
						17	6 months
						18	7 months
						19	8 months
						20	9 months
						21	10 months
						22	11 months
1362	1	MANNER		Manner of Death		1	Accident
						2	Suicide
						3	Homicide
						4	Pending investigation
						5	Could not determine
						6	Self-inflicted
						7	Natural
						Blank	Not specified
1363	1	DISPO		Method of Disposition		B	Burial
						C	Cremation
						O	Other
						U	Unknown
1364	1	AUTOPSY		Autopsy		Y	Yes
						N	No
						U	Unknown
1365	1	FILLER57		FILLER		Blank	
1366	1	PLACE		Place of injury for causes W00-Y34, except Y06.- and Y07.-		0	Home
						1	Residential institution
						2	School, other institution and public administrative area
						1	Sports and athletics area
						2	Street and highway
						3	Trade and service area
						4	Industrial and construction area
						5	Farm
						6	Other Specified Places
						7	Unspecified place
						Blank	Cause other than W00-Y34, except Y06.- and Y07.-
1367	1	FILLER58		FILLER		Blank	

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
<u>UNDERLYING CAUSE OF DEATH</u>							
1368-1371	4	UC0D		ICD Code (10th Revision) See the <u>International Classification of Diseases, 1992 Revision, Volume 1.</u>			
1372	1	FILLER59		FILLER		Blank	
1373-1375	3	UCODR130		130 Infant Cause Recode			
1376	1	FILLER60		FILLER		Blank	
1377-1384	8	RECWT		Record Weight (no weights computed for possessions file)		1.XXXXXXX	
1385-1386	2	FILLER61		FILLER		Blank	
<u>MULTIPLE CONDITIONS</u>							
1387-1388	2	EANUM		Number of Entity-Axis Conditions	00-20	Code range	
1389-1528	140	ENTITY		Entity-Axis Conditions Space has been provided for a maximum of 20 conditions. Each condition takes 7 positions in the record. The 7 th position will be blank. Records that do not have 20 conditions are blank in the unused area.			
				Position 1:	Part/line number on certificate		
				1	...	Part I, line 1 (a)	
				2	...	Part I, line 2 (b)	
				3	...	Part I, line 3 (c)	
				4	...	Part I, line 4 (d)	
				5	...	Part I, line 5 (e)	
				6	...	Part II,	
				Position 2:	Sequence of condition within part/line		
				1-7	...	Code range	
				Position 3 – 6: Condition code			
1389-1395	7			1 st Condition			
1396-1402	7			2 nd Condition			
1403-1409	7			3 rd Condition			
1410-1416	7			4 th Condition			
1417-1423	7			5 th Condition			
1424-1430	7			6 th Condition			
1431-1437	7			7 th Condition			
1438-1444	7			8 th Condition			
1445-1451	7			9 th Condition			

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
1452-1458	7			10 th Condition			
1459-1465	7			11 th Condition			
1466-1472	7			12 th Condition			
1473-1479	7			13 th Condition			
1480-1486	7			14 th Condition			
1487-1493	7			15 th Condition			
1494-1500	7			16 th Condition			
1501-1507	7			17 th Condition			
1508-1514	7			18 th Condition			
1515-1521	7			19 th Condition			
1522-1528	7			20 th Condition			
1529-1530	2	FILLER62		FILLER		Blank	
1531-1532	2	RANUM		Number of Record-Axis Conditions		00-20	Code range
1533-1632	100	RECORD		Record-Axis Conditions Space has been provided for a maximum of 20 conditions. Each condition takes 5 positions in the record. The 5 th position will be blank. Records that do not have 20 conditions are blank in the unused area.			
Positions 1 – 4: Condition Code							
1533-1537	5			1 st Condition			
1538-1542	5			2 nd Condition			
1543-1547	5			3 rd Condition			
1548-1552	5			4 th Condition			
1553-1557	5			5 th Condition			
1558-1562	5			6 th Condition			
1563-1567	5			7 th Condition			
1568-1572	5			8 th Condition			
1573-1577	5			9 th Condition			
1578-1582	5			10 th Condition			
1583-1587	5			11 th Condition			
1588-1592	5			12 th Condition			
1593-1597	5			13 th Condition			
1598-1602	5			14 th Condition			
1603-1607	5			15 th Condition			
1608-1612	5			16 th Condition			
1613-1617	5			17 th Condition			
1618-1622	5			18 th Condition			
1623-1627	5			19 th Condition			
1628-1632	5			20 th Condition			
1633-1669	37	FILLER63		FILLER		Blank	
1670	1	HOSPD		Place of Death and Decedent's Status		1	Hospital, clinic or Medical Center – Inpatient

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
						2	Hospital, clinic or Medical Center – Outpatient or admitted to Emergency Room
						8	Hospital, clinic or Medical Center – Dead on Arrival
						9	Decedent's home
						10	Hospice facility
						11	Nursing home/long term care
						12	Other
						9	Place of death unknown
1671	1	DWEEKDAY		Day of Week of Death		1	Sunday
						2	Monday
						3	Tuesday
						4	Wednesday
						5	Thursday
						6	Friday
						7	Saturday
						9	Unknown
1672-1675	4	DOD_YY		Data Year		2015	2015
1676-1741	66	FILLER64		FILLER		Blank	
1742-1743	2	DOD_MM		Month of Death		01	January
						02	February
						03	March
						04	April
						05	May
						06	June
						07	July
						08	August
						09	September
						10	October
						11	November
						12	December

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
ADDENDUM							
Detailed geographic information for the territories.							
24-25	2	T,G	OSTATE	Occurrence Postal State <u>U.S. Territories</u>			GU Guam, PR Puerto Rico, VI Virgin Islands
28-30	3	T,G	OCNTYFIPS	Occurrence FIPS County		000-999	County of Occurrence
31	1	T,G	OCNTYPOP	Occurrence County Population		0 1 2 3 4 5 6 9	County of 1,000,000 or more County of 500,000 to 1,000,000 County of 250,000 to 500,000 County of 100,000 to 250,000 County of 50,000 to 100,000 County of 25,000 to 50,000 County of 10,000 to 25,000 County less than 10,000
80-81	2	T,G	MBCNTRY	Mother's Birth Country		AA-ZZ	See Geographic Documentation
85-86	2	G	MRCNTRY	Mother's Residence Country		AA-ZZ	See Geographic Documentation
89-90	2	T,G	MRSTATEPSTL	Mother's Residence Postal State <u>U.S. Territories</u> <u>Foreign</u>			GU Guam, PR Puerto Rico, VI Virgin Islands CC Canada, CU Cuba, MX Mexico, XX Not Applicable, ZZ Not Classifiable
91-93	3	T,G	MRCNTYFIPS	Mother's FIPS County		000-998 999	See Geographic Tables Foreign
99	1	T,G	RCNTY_POP	Population of Residence County		0 1 2 3 4 5 6 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 of 100,000 to 250,000 County of 50,000 to 100,000 County of 25,000 to 50,000 County of 10,000 to 25,000 County less than 10,000 Foreign resident
100	1	G	RCITY_POP	Population of Residence City		0 1 2 3 4 5 6	County of 1,000,000 or more County of 500,000 to 1,000,000 County of 250,000 to 500,000 County of 100,000 to 250,000 County of 50,000 to 100,000 County of 25,000 to 50,000 County of 10,000 to 25,000

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
						9	County less than 10,000
						Z	Foreign resident
103	1	T,G	RECTYPE	Record Type		1	RESIDENT: State and county of occurrence and residence are the same.
						2	NONRESIDENT: State and county of occurrence and residence are different.
1635	1		D_RESTATUS	Death Resident Status			
				Puerto Rico Occurrence		1	RESIDENTS Territory and County-equivalent of Occurrence and Residence are the same.
						2	INTRASTATE NONRESIDENTS Territory of Occurrence and Residence are the same, but County-equivalent is different.
						3	INTERTERRITORY NONRESIDENTS Territory of occurrence and residence are different, but both are a Territory.
						4	FOREIGN RESIDENTS Occurred in Puerto Rico to a resident of any other place.
				Virgin Islands Occurrence		1	RESIDENTS Territory and County-equivalent of Occurrence and Residence are the same.
						2	INTRASTATE NONRESIDENTS Territory of Occurrence and Residence are the same, but County-equivalent is different.
						3	INTERTERRITORY NONRESIDENTS Territory of occurrence and residence are different, but both are a Territory.
						4	FOREIGN RESIDENTS Occurred in Virgin Islands to a resident of any other place.
				Guam Occurrence		1	RESIDENTS Occurred in Guam to a resident of Guam or to a resident of the U.S.
						3	INTERTERRITORY NONRESIDENTS Territory of occurrence and residence are different, but both are a Territory.
						4	FOREIGN RESIDENTS Occurred in Guam to a resident of any place other than Guam or the U.S.
1636-1637	2		DOSTATE	State of Occurrence (FIPS) of Death		PR	Puerto Rico
						VI	Virgin Islands
						GU	Guam

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
1638-1640	3		DOCNTY	County of Occurrence (FIPS) of Death Counties and county equivalents (independent and coextensive cities) are numbered alphabetically within each State and identify each county. (Note: To uniquely identify a county, both the state and county codes must be used.) A complete list of counties is shown in the Geographic Code Outline further back in this document.		001-nnn	Code range
1641-1643	3		FILLER65	FILLER			Blank
1644-1645	2		DRSTATE	State of Residence (FIPS)		PR VI GU	Puerto Rico Virgin Islands Guam
				Puerto Rico Occurrence		PR	Puerto Rico AL-WY, VI,AS,GU, MP,ZZ Foreign residents: refer to U.S. for specific code structure.
				Virgin Islands Occurrence		VI	Virgin Islands AL-WY, PR,AS,GU, MP, ZZ Foreign residents: refer to U.S. for specific code structure.
				Guam Occurrence		GU	Guam AL-WY U.S. resident. Also considered a resident of Guam. PR, AS, VI, MP, ZZ Foreign residents: refer to U.S. for specific code structure.
1646-1647	2		FILLER66	FILLER			Blank
1648-1649	2		DRSTCNTRY	State/Country of Residence of Death Recode			
				Territorial resident		PR VI GU	Puerto Rico Virgin Islands Guam
				Foreign residents		CC MX CU YY	Canada Mexico Cuba Remainder of the world
				Puerto Rico Occurrence		PR	Puerto Rico AL-ZZ Foreign residents: refer to U.S. for specific code structure.
				Virgin Islands Occurrence		VI	Virgin Islands AL-ZZ Foreign residents: refer to U.S. for specific code structure.
				Guam Occurrence		GU	Guam

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

Position	Len	File*	Field	Description	Flag Position	Values	Definition
							AL-WY U.S. resident. Also considered a resident of Guam PR,VI,AS, MP,ZZ Foreign residents: refer to U.S. for specific code structure.
1650-1652	3		DRCNTY	County of Residence (FIPS) of Death (To uniquely identify a county, both the state and county codes must be used.)		000 001-nnn	Foreign residents Code range
1653-1665	13		FILLER67	FILLER			Blank
1666	1		DRCNTYPOP	Population Size of County of Residence of Death County of 1,000,000 or more			
Based on the results of the 2010 Census			0				
						1 2 3 4 5 6 9 Z	County of 500,000 to 1,000,000 County of 250,000 to 500,000 County of 100,000 to 250,000 County of 50,000 to 100,000 County of 25,000 to 50,000 County of 10,000 to 25,000 County less than 10,000 Foreign residents

1/ Flag Definitions: 0 Not reported either year, or not reported in either the previous or the current year, 1 Reported both years

ST: 1 = Subtotal Limited: Sex: 1 = Males; 2 = Females
 Age: 1 = 5 and over; 2 = 10-54; 3 = 28 days and over
 4 = Under 1 year; 5 = 1-4 years; 6 = 1 year and over
 7 = 10 years and over

***** Cause Subtotals are not identified in this file *****

130 S Limited

Recode T Sex Age Cause Title and ICD-10 Codes Included

001	1	Certain infectious and parasitic diseases (A00-B99)
002		Certain intestinal infectious diseases (A00-A08)
003		Diarrhea and gastroenteritis of infectious origin (A09)
004		Tuberculosis (A16-A19)
005		Tetanus (A33,A35)
006		Diphtheria (A36)
007		Whooping cough (A37)
008		Meningococcal infection (A39)
009	3	Septicemia (A40-A41)
010		Congenital syphilis (A50)
011		Gonococcal infection (A54)
012	1	Viral diseases (A80-B34)
013		Acute poliomyelitis (A80)
014		Varicella (chickenpox) (B01)
015		Measles (B05)
016		Human immunodeficiency virus (HIV) disease (B20-B24)
017		Mumps (B26)
018		Other and unspecified viral diseases (A81-B00,B02-B04,B06-B19,B25,B27-B34)
019		Candidiasis (B37)
020		Malaria (B50-B54)
021		Pneumocystosis (B59)
022		All other and unspecified infectious and parasitic diseases (A20-A32,A38,A42-A49,A51-A53,A55-A79,B35-B36,B38-B49,B55-B58,B60-B99)
023	1	Neoplasms (C00-D48)
024	1	Malignant neoplasms (C00-C97)
025		Hodgkin's disease and non-Hodgkin's lymphomas (C81-C85)
026		Leukemia (C91-C95)
027		Other and unspecified malignant neoplasms (C00-C80,C88,C90,C96-C97)
028		In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00-D48)
029	1	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50-D89)
030		Anemias (D50-D64)
031		Hemorrhagic conditions and other diseases of blood and blood-forming organs (D65-D76)
032		Certain disorders involving the immune mechanism (D80-D89)
033	1	Endocrine, nutritional and metabolic diseases (E00-E88)
034		Short stature, not elsewhere classified (E34.3)
035		Nutritional deficiencies (E40-E64)
036		Cystic fibrosis (E84)
037	3	Volume depletion, disorders of fluid, electrolyte and acid-base balance (E86-E87)
038		All other endocrine, nutritional and metabolic diseases (E00-E32,E34.0-E34.2,E34.4-E34.9,E65-E83,E85,E88)
039	1	Diseases of the nervous system (G00-G98)
040		Meningitis (G00,G03)
041		Infantile spinal muscular atrophy, type I (Werdnig-Hoffman) (G12.0)
042		Infantile cerebral palsy (G80)
043		Anoxic brain damage, not elsewhere classified (G93.1)
044		Other diseases of nervous system (G04,G06-G11,G12.1-G12.9,G20-G72,G81-G92,G93.0,G93.2-G93.9,G95-G98)
045		Diseases of the ear and mastoid process (H60-H93)
046	1	Diseases of the circulatory system (I00-I99)
047		Pulmonary heart disease and diseases of pulmonary circulation (I26-I28)
048		Pericarditis, endocarditis and myocarditis (I30,I33,I40)
049		Cardiomyopathy (I42)
050		Cardiac arrest (I46)
051		Cerebrovascular diseases (I60-I69)
052		All other diseases of circulatory system (I00-I25,I31,I34-I38,I44-I45,I47-I51, I70-I99)
053	1	Diseases of the respiratory system (J00-J98)
054		Acute upper respiratory infections (J00-J06)
055	1	Influenza and pneumonia (J10-J18)

Documentation Table 1. Live births and infant death by state of occurrence of birth and by state of residence at birth and the infant mortality rate: United States, Puerto Rico, Virgin Islands, and Guam, 2015 Period Data.

(Residence of birth is of the Mother)

State	Live Births		Infant Deaths				Infant Mortality Rate
	Occurrence	Residence	Unweighted		Weighted 1/		
			Occurrence	Residence	Occurrence	Residence	
United States /2	3,988,733	3,978,497	23,348	23,320	23,490	23,458	5.90
Alabama	58,034	59,657	471	496	471	496	8.31
Alaska	11,176	11,282	74	78	74	78	6.91
Arizona	86,399	85,351	455	463	459	467	5.47
Arkansas	37,571	38,886	264	292	265	293	7.53
California	492,759	491,748	2,141	2,139	2,180	2,178	4.43
Colorado	67,162	66,581	337	310	337	310	4.66
Connecticut	37,242	35,746	200	201	201	202	5.65
Delaware	11,511	11,166	99	102	99	102	9.13
Dist of Columbia	14,615	9,578	124	84	124	84	8.77
Florida	224,530	224,269	1,406	1,399	1,406	1,399	6.24
Georgia	132,678	131,404	1,041	1,024	1,041	1,024	7.79
Hawaii	18,453	18,420	106	105	105	104	5.65
Idaho	22,474	22,827	97	107	97	107	4.69
Illinois	154,193	158,116	884	946	886	948	6.00
Indiana	84,995	84,040	599	608	605	614	7.31
Iowa	39,491	39,482	150	167	150	167	4.23
Kansas	40,238	39,154	212	233	212	233	5.95
Kentucky	53,515	55,971	342	370	347	375	6.70
Louisiana	64,774	64,692	489	489	489	489	7.56
Maine	12,385	12,607	79	82	80	83	6.58
Maryland	70,314	73,616	471	485	471	485	6.59
Massachusetts	71,993	71,492	314	308	315	309	4.32
Michigan	112,309	113,312	742	739	742	739	6.52
Minnesota	69,092	69,834	372	361	372	361	5.17
Mississippi	37,589	38,394	341	363	341	363	9.45
Missouri	76,170	75,061	547	486	548	487	6.49
Montana	12,523	12,583	69	73	69	73	5.80
Nebraska	27,120	26,679	157	151	158	152	5.70
Nevada	35,951	36,298	187	188	187	188	5.18
New Hampshire	12,494	12,433	62	51	62	51	4.10
New Jersey	100,883	103,127	454	474	463	483	4.68
New Mexico	24,296	25,816	115	131	115	131	5.07
New York	116,319	120,224	582	613	588	619	5.15
New York City	121,674	117,050	508	479	508	479	4.09
North Carolina	122,670	120,843	894	887	895	888	7.35
North Dakota	12,839	11,314	80	81	80	81	7.16
Ohio	140,050	139,264	1,019	995	1,024	1,000	7.18
Oklahoma	51,900	53,122	383	388	384	389	7.32
Oregon	46,101	45,655	243	235	243	235	5.15
Pennsylvania	140,130	141,047	890	863	894	867	6.15
Rhode Island	11,552	10,993	74	65	74	65	5.91
South Carolina	54,754	58,139	379	402	379	402	6.91
South Dakota	12,969	12,336	97	90	97	90	7.30
Tennessee	87,432	81,685	634	564	638	568	6.95

Documentation Table 1. Live births and infant death by state of occurrence of birth and by state of residence at birth and the infant mortality rate: United States, Puerto Rico, Virgin Islands, and Guam, 2015 Period Data -Con.

(Residence of birth is of the Mother)

State	Live Births		Infant Deaths				Infant Mortality Rate
	Occurrence	Residence	Unweighted		Weighted 1/		
			Occurrence	Residence	Occurrence	Residence	
Texas	412,672	403,618	2,301	2,257	2,350	2,305	5.71
Utah	51,723	50,778	271	255	271	255	5.02
Vermont	5,720	5,903	13	27	13	27	4.57
Virginia	102,182	103,303	588	610	588	610	5.90
Washington	88,905	88,990	434	434	434	434	4.88
West Virginia	20,422	19,805	153	139	155	141	7.12
Wisconsin	66,677	67,041	380	389	380	389	5.80
Wyoming	7,113	7,765	23	38	23	38	4.89
Foreign Residents	-	10,236	-	31	-	31	3.03
Puerto Rico	31,235	31,157	220	217	219	216	6.93
Guam	3,367	3,358	48	48	47	47	14.00

1/ Figures are based on weighted data rounded to the nearest infant, so categories may not add to totals

2/ Excludes data for Puerto Rico and Guam.

Documentation Table 2. Live births, infant deaths and infant mortality rates by race of mother, sex and birthweight of child: United States, 2015 Period Data.

[Rates are per 1,000 live births]

Race of mother and sex	Total	<500 grams	500-749 grams	750-999 grams	1000-1249 grams	1250-1499 grams	1500-1999 grams	2000-2499 grams	2500 grams or more	Not Stated
All races										
Both sexes										
Live births.....	3,978,497	6,647	9,700	11,185	12,947	16,213	62,972	202,601	3,655,556	676
Infant deaths.....	23,458	5,623	3,729	1,354	812	671	1,558	2,060	7,511	137
Infant Mortality Rate.....	5.90	845.95	384.43	121.05	62.72	41.39	24.74	10.17	2.05	202.66
Male										
Live births.....	2,036,161	3,346	4,869	5,629	6,462	8,261	30,738	92,392	1,884,092	372
Infant deaths.....	12,998	2,921	2,143	794	434	387	819	1,056	4,345	100
Infant Mortality Rate.....	6.38	872.98	440.13	141.06	67.16	46.85	26.64	11.43	2.31	268.82
Female										
Live births.....	1,942,336	3,301	4,831	5,556	6,485	7,952	32,234	110,209	1,771,464	304
Infant deaths.....	10,459	2,702	1,587	561	378	284	739	1,005	3,166	37
Infant Mortality Rate.....	5.38	818.54	328.5	100.97	58.29	35.71	22.93	9.12	1.79	121.71
Non-Hispanic White										
Both sexes										
Live births.....	2,130,279	2,273	3,531	4,605	5,664	7,459	29,775	94,771	1,982,030	171
Infant deaths.....	10,444	1,967	1,465	588	398	300	743	965	3,972	47
Infant Mortality Rate.....	4.90	865.38	414.9	127.69	70.27	40.22	24.95	10.18	2.00	274.85
Male										
Live births.....	1,092,789	1,108	1,745	2,353	2,829	3,842	14,416	43,039	1,023,371	86
Infant deaths.....	5,837	986	840	344	206	176	390	504	2,358	32
Infant Mortality Rate.....	5.34	889.89	481.38	146.2	72.82	45.81	27.05	11.71	2.30	372.09
Female										
Live births.....	1,037,490	1,165	1,786	2,252	2,835	3,617	15,359	51,732	958,659	85
Infant deaths.....	4,607	980	625	244	192	124	353	461	1,614	15
Infant Mortality Rate.....	4.44	841.2	349.94	108.35	67.72	34.28	22.98	8.91	1.68	*
Non-Hispanic Black										
Both sexes										
Live births.....	589,047	2,527	3,471	3,469	3,700	4,215	15,382	46,188	510,014	81
Infant deaths.....	6,624	2,073	1,183	389	185	176	375	513	1,680	49
Infant Mortality Rate.....	11.25	820.34	340.82	112.14	50.00	41.76	24.38	11.11	3.29	604.94
Male										
Live births.....	299,319	1,261	1,750	1,721	1,806	2,028	7,229	20,599	262,870	55
Infant deaths.....	3,642	1,067	674	230	99	99	218	258	959	37
Infant Mortality Rate.....	12.17	846.15	385.14	133.64	54.82	48.82	30.16	12.52	3.65	672.73

Documentation Table 2. Live births, infant deaths and infant mortality rates by race of mother, sex and birthweight of child: United States, 2015 Period Data -Con.
 [Rates are per 1,000 live births]

Race of mother and sex	Total	<500 grams	500-749 grams	750-999 grams	1000-1249 grams	1250-1499 grams	1500-1999 grams	2000-2499 grams	2500 grams or more	Not Stated
Female										
Live births.....	289,728	1,266	1,721	1,748	1,894	2,187	8,153	25,589	247,144	26
Infant deaths.....	2,982	1,006	509	160	85	77	158	255	721	12
Infant Mortality Rate.....	10.29	794.63	295.76	91.53	44.88	35.21	19.38	9.97	2.92	*
American Indian or Alaskan Native /1										
Both sexes										
Live births.....	44,299	59	91	101	144	185	658	2,116	40,939	6
Infant deaths.....	366	48	43	16	15	12	22	31	178	1
Infant Mortality Rate.....	8.26	813.56	472.53	*	*	*	33.43	14.65	4.35	*
Male										
Live births.....	22,706	31	46	54	75	105	337	1,022	21,032	4
Infant deaths.....	200	27	24	10	10	7	8	12	100	1
Infant Mortality Rate.....	8.81	870.97	521.74	*	*	*	*	*	4.75	*
Female										
Live births.....	21,593	28	45	47	69	80	321	1,094	19,907	2
Infant deaths.....	166	21	19	6	5	5	14	19	77	-
Infant Mortality Rate.....	7.69	750.00	*	*	*	*	*	*	3.87	-
Asian or Pacific Islander										
Both sexes										
Live births.....	281,264	337	532	661	779	952	4,126	16,314	257,528	35
Infant deaths.....	1,179	301	206	77	32	38	70	126	325	4
Infant Mortality Rate.....	4.19	893.18	387.22	116.49	41.08	39.92	16.97	7.72	1.26	*
Male										
Live births.....	144,867	177	290	330	414	489	2,139	7,614	133,393	21
Infant deaths.....	667	164	130	46	19	21	29	70	183	4
Infant Mortality Rate.....	4.60	926.55	448.28	139.39	*	42.94	13.56	9.19	1.37	*
Female										
Live births.....	136,397	160	242	331	365	463	1,987	8,700	124,135	14
Infant deaths.....	512	137	76	30	13	17	41	55	142	-
Infant Mortality Rate.....	3.75	856.25	314.05	90.63	*	*	20.63	6.32	1.14	*
Hispanic										
Both sexes										
Live births.....	924,048	1,324	2,008	2,288	2,601	3,334	12,739	42,548	857,151	55
Infant deaths.....	4,583	1,120	778	270	177	140	339	415	1,321	22
Infant Mortality Rate.....	4.96	845.92	387.45	118.01	68.05	41.99	26.61	9.75	1.54	400.00

Documentation Table 2. Live births, infant deaths and infant mortality rates by race of mother, sex and birthweight of child: United States, 2015 Period Data -Con.
 [Rates are per 1,000 live births]

Race of mother and sex	Total	Birthweight								Not Stated
		<500 grams	500-749 grams	750-999 grams	1000-1249 grams	1250-1499 grams	1500-1999 grams	2000-2499 grams	2500 grams or more	
Male										
Live births.....	471,456	706	1,000	1,144	1,307	1,761	6,479	19,840	439,186	33
Infant deaths.....	2,518	620	443	155	97	83	167	209	729	15
Infant Mortality Rate.....	5.34	878.19	443	135.49	74.22	47.13	25.78	10.53	1.66	*
Female										
Live births.....	452,592	618	1,008	1,144	1,294	1,573	6,260	22,708	417,965	22
Infant deaths.....	2,065	501	335	115	80	57	172	206	592	7
Infant Mortality Rate.....	4.56	810.68	332.34	100.52	61.82	36.24	27.48	9.07	1.42	*

* Figure does not meet standard of reliability or precision: based on fewer than 20 deaths in the numerator

- Quantity zero

1/ Includes Aleut and Eskimos

Documentation Table 3. Live births, infant deaths, and infant mortality rates by birthweight, race of mother, and gestational age: United States, 2015 period data
 [Rates are per 1,000 live births]

Birthweight	Gestation									
	Total	<28 Weeks	28-31 Weeks	32-33 Weeks	34-36 Weeks	37-39 Weeks	40 Weeks	41 Weeks	42 Weeks or more	Not Stated
All Races										
Total										
Live births.....	3,978,497	26,996	36,149	46,515	273,126	2,477,819	840,254	258,999	15,713	2,926
Infant deaths.....	23,458	10,570	1,651	967	2,392	5,925	1,280	404	66	203
Infant Mortality Rate.....	5.90	391.54	45.67	20.79	8.76	2.39	1.52	1.56	4.20	69.38
Less than 2,500 grams										
Live births.....	322,265	26,895	35,151	42,865	117,895	93,234	4,907	854	119	345
Infant deaths.....	15,809	10,564	1,614	864	1,462	1,104	100	33	16	52
Infant Mortality Rate.....	49.06	392.79	45.92	20.16	12.4	11.84	20.38	38.64	*	150.72
Less than 500 grams										
Live births.....	6,647	6,505	80	3	4	3	-	-	-	52
Infant deaths.....	5,623	5,563	37	1	1	-	-	-	-	21
Infant Mortality Rate.....	845.95	855.19	462.5	*	*	-	-	-	-	403.85
500-749 grams										
Live births.....	9,700	8,957	673	29	18	1	-	-	-	22
Infant deaths.....	3,729	3,579	135	7	2	-	-	-	-	7
Infant Mortality Rate.....	384.43	399.58	200.59	*	*	-	-	-	-	*
750-999 grams										
Live births.....	11,185	7,587	3,206	215	70	60	26	4	2	15
Infant deaths.....	1,354	1,033	269	25	17	4	1	-	-	5
Infant Mortality Rate.....	121.05	136.15	83.91	116.28	*	*	*	-	-	*
1,000-1,999 grams										
Live births.....	92,132	3,749	29,655	26,627	25,537	6,030	339	90	21	84
Infant deaths.....	3,042	380	1,066	586	646	317	17	12	5	12
Infant Mortality Rate.....	33.02	101.36	35.95	22.01	25.3	52.57	*	*	*	*
2,000-2,499 grams										
Live births.....	202,601.0	97.0	1,537.0	15,991.0	92,266.0	87,140.0	4,542.0	760	96	172
Infant deaths.....	2,060.0	10.0	107.0	244.0	796.0	783.0	81.0	21	11	6
Infant Mortality Rate.....	10.17	*	69.62	15.26	8.63	8.99	17.83	27.63	*	*
2,500 grams or more										
Live births.....	3,655,556	101	998	3,650	155,231	2,384,585	835,347	258,145	15,594	1,905
Infant deaths.....	7,511	6	37	103	930	4,821	1,181	371	49	14
Infant Mortality Rate.....	2.05	*	37.07	28.22	5.99	2.02	1.41	1.44	3.14	*

Documentation Table 3. Live births, infant deaths, and infant mortality rates by birthweight, race of mother, and gestational age: United States, 2015 period data -Con.
 [Rates are per 1,000 live births]

Birthweight	Gestation									
	Total	<28 Weeks	28-31 Weeks	32-33 Weeks	34-36 Weeks	37-39 Weeks	40 Weeks	41 Weeks	42 Weeks or more	Not Stated
Not Stated										
Live births.....	676	-	-	-	-	-	-	-	-	676
Infant deaths.....	137	-	-	-	-	-	-	-	-	137
Infant Mortality Rate.....	202.66	-	-	-	-	-	-	-	-	202.66
Non-Hispanic white										
Total										
Live births.....	2,130,279	10,162	16,905	22,750	139,329	1,303,981	469,152	156,719	10,085	1,196
Infant deaths.....	10,444	3,969	786	427	1,216	3,050	671	215	38	72
Infant Mortality Rate.....	4.90	390.57	46.5	18.77	8.73	2.34	1.43	1.37	3.77	60.20
Less than 2,500 grams										
Live births.....	148,078.0	10,114.0	16,447.0	20,952.0	56,598.0	41,232.0	2,127.0	395	59	154
Infant deaths.....	6,425.0	3,966.0	761.0	377.0	711.0	525.0	44.0	14	9	18
Infant Mortality Rate.....	43.39	392.13	46.27	17.99	12.56	12.73	20.69	*	*	*
Less than 500 grams										
Live births.....	2,273	2,212	37	1	4	1	-	-	-	18
Infant deaths.....	1,967	1,940	21	1	1	-	-	-	-	3
Infant Mortality Rate.....	865.38	877.03	567.57	*	*	-	-	-	-	*
500-749 grams										
Live births.....	3,531	3,195	309	11	13	-	-	-	-	3
Infant deaths.....	1,465	1,393	67	1	1	-	-	-	-	2
Infant Mortality Rate.....	414.9	435.99	216.83	*	*	-	-	-	-	*
750-999 grams										
Live births.....	4,605	3,021	1,366	113	37	36	19	2	1	10
Infant deaths.....	588	440	114	19	9	2	1	-	-	3
Infant Mortality Rate.....	127.69	145.65	83.46	*	*	*	*	-	-	*
1,000-1,999 grams										
Live births.....	42,898	1,640	13,993	12,496	11,746	2,763	163	44	9	44
Infant deaths.....	1,441	185	512	247	308	166	8	5	2	8
Infant Mortality Rate.....	33.59	112.8	36.59	19.77	26.22	60.08	*	*	*	*
2,000-2,499 grams										
Live births.....	94,771	46	742	8,331	44,798	38,432	1,945	349	49	79
Infant deaths.....	965	7	47	108	392	357	35	9	7	2
Infant Mortality Rate.....	10.18	*	63.34	12.96	8.75	9.29	17.99	*	*	*

Documentation Table 3. Live births, infant deaths, and infant mortality rates by birthweight, race of mother, and gestational age: United States, 2015 period data -Con.
 [Rates are per 1,000 live births]

Birthweight	Gestation									
	Total	<28 Weeks	28-31 Weeks	32-33 Weeks	34-36 Weeks	37-39 Weeks	40 Weeks	41 Weeks	42 Weeks or more	Not Stated
2,500 grams or more										
Live births.....	1,982,030	48	458	1,798	82,731	1,262,749	467,025	156,324	10,026	871
Infant deaths.....	3,972	3	25	50	505	2,525	627	201	29	7
Infant Mortality Rate.....	2.00	*	54.59	27.81	6.10	2.00	1.34	1.29	2.89	*
Not Stated										
Live births.....	171	-	-	-	-	-	-	-	-	171
Infant deaths.....	47	-	-	-	-	-	-	-	-	47
Infant Mortality Rate.....	274.85	-	-	-	-	-	-	-	-	274.85
Non-Hispanic black										
Total										
Live births.....	589,047	9,118	9,060	10,260	50,473	367,887	109,003	30,847	1,948	451
Infant deaths.....	6,624	3,577	427	255	547	1,362	299	76	13	67
Infant Mortality Rate.....	11.25	392.3	47.13	24.85	10.84	3.70	2.74	2.46	*	148.56
Less than 2,500 grams										
Live births.....	78,952	9,097	8,848	9,645	26,514	23,352	1,204	185	28	79
Infant deaths.....	4,895	3,576	424	234	361	245	32	6	4	12
Infant Mortality Rate.....	62.00	393.1	47.92	24.26	13.62	10.49	26.58	*	*	*
Less than 500 grams										
Live births.....	2,527	2,486	26	-	-	2	-	-	-	13
Infant deaths.....	2,073	2,057	9	-	-	-	-	-	-	7
Infant Mortality Rate.....	820.34	827.43	*	-	-	-	-	-	-	*
500-749 grams										
Live births.....	3,471	3,245	207	10	2	1	-	-	-	6
Infant deaths.....	1,183	1,140	39	3	-	-	-	-	-	1
Infant Mortality Rate.....	340.82	351.31	188.41	*	-	-	-	-	-	*
750-999 grams										
Live births.....	3,469	2,387	1,011	41	13	9	3	2	1	2
Infant deaths.....	389	297	83	3	4	1	-	-	-	1
Infant Mortality Rate.....	112.14	124.42	82.10	*	*	*	-	-	-	*
1,000-1,999 grams										
Live births.....	23,297	954	7,317	6,773	6,596	1,532	70	27	7	21
Infant deaths.....	736	81	278	167	149	51	3	4	2	1
Infant Mortality Rate.....	31.59	84.91	37.99	24.66	22.59	33.29	*	*	*	*
2,000-2,499 grams										
Live births.....	46,188	25	287	2,821	19,903	21,808	1,131	156	20	37
Infant deaths.....	513	1	15	61	208	193	29	2	2	2
Infant Mortality Rate.....	11.11	*	*	21.62	10.45	8.85	25.64	*	*	*

Documentation Table 3. Live births, infant deaths, and infant mortality rates by birthweight, race of mother, and gestational age: United States, 2015 period data -Con.
 [Rates are per 1,000 live births]

Birthweight	Gestation									
	Total	<28 Weeks	28-31 Weeks	32-33 Weeks	34-36 Weeks	37-39 Weeks	40 Weeks	41 Weeks	42 Weeks or more	Not Stated
2,500 grams or more										
Live births.....	510,014	21	212	615	23,959	344,535	107,799	30,662	1,920	291
Infant deaths.....	1,680	1	3	21	186	1,117	267	70	9	6
Infant Mortality Rate.....	3.29	*	*	34.15	7.76	3.24	2.48	2.28	*	*
Not Stated										
Live births.....	81	-	-	-	-	-	-	-	-	81
Infant deaths.....	49	-	-	-	-	-	-	-	-	49
Infant Mortality Rate.....	604.94	-	-	-	-	-	-	-	-	604.94
American Indian or Alaskan Native/1										
Total										
Live births.....	44,299	281	414	550	3,415	27,744	8,900	2,741	177	77
Infant deaths.....	366	110	20	23	40	135	26	8	1	2
Infant Mortality Rate.....	8.26	391.46	48.31	41.82	11.71	4.87	2.92	*	*	*
Less than 2,500 grams										
Live births.....	3,354	280	393	482	1,224	908	43	11	2	11
Infant deaths.....	188	110	19	20	15	19	2	1	-	1
Infant Mortality Rate.....	56.05	392.86	*	41.49	*	*	*	*	-	*
Less than 500 grams										
Live births.....	59	56	1	-	-	-	-	-	-	2
Infant deaths.....	48	47	-	-	-	-	-	-	-	1
Infant Mortality Rate.....	813.56	839.29	-	-	-	-	-	-	-	*
500-749 grams										
Live births.....	91	87	3	1	-	-	-	-	-	-
Infant deaths.....	43	41	-	2	-	-	-	-	-	-
Infant Mortality Rate.....	472.53	471.26	-	*	-	-	-	-	-	-
750-999 grams										
Live births.....	101	77	21	1	1	1	-	-	-	-
Infant deaths.....	16	12	4	-	-	-	-	-	-	-
Infant Mortality Rate.....	*	*	*	-	-	-	-	-	-	-
1,000-1,999 grams										
Live births.....	987	59	342	269	242	68	3	1	-	3
Infant deaths.....	49	10	15	12	7	3	1	1	-	-
Infant Mortality Rate.....	49.65	*	*	*	*	*	*	*	-	-
2,000-2,499 grams										
Live births.....	2,116	1	26	211	981	839	40	10	2	6
Infant deaths.....	31	-	-	6	8	16	1	-	-	-
Infant Mortality Rate.....	14.65	-	-	*	*	*	*	-	-	-

Documentation Table 3. Live births, infant deaths, and infant mortality rates by birthweight, race of mother, and gestational age: United States, 2015 period data -Con.
 [Rates are per 1,000 live births]

Birthweight	Gestation									
	Total	<28 Weeks	28-31 Weeks	32-33 Weeks	34-36 Weeks	37-39 Weeks	40 Weeks	41 Weeks	42 Weeks or more	Not Stated
2,500 grams or more										
Live births.....	40,939	1	21	68	2,191	26,836	8,857	2,730	175	60
Infant deaths.....	178	-	1	3	25	116	24	7	1	-
Infant Mortality Rate.....	4.35	-	*	*	11.41	4.32	2.71	*	*	-
Not Stated										
Live births.....	6	-	-	-	-	-	-	-	-	6
Infant deaths.....	1	-	-	-	-	-	-	-	-	1
Infant Mortality Rate.....	*	-	-	-	-	-	-	-	-	*
Asian or Pacific Islander										
Total										
Live births.....	281,264	1,469	2,037	2,762	17,996	182,727	57,968	15,541	614	150
Infant deaths.....	1179	567	85	55	119	260	60	24	2	6
Infant Mortality Rate.....	4.19	385.98	41.73	19.91	6.61	1.42	1.04	1.54	*	*
Less than 2,500 grams										
Live births.....	23,701	1,461	1,974	2,567	8,643	8,561	401	69	3	22
Infant deaths.....	850	567	83	50	80	61	5	2	-	2
Infant Mortality Rate.....	35.86	388.09	42.05	19.48	9.26	7.13	*	*	-	*
Less than 500 grams										
Live births.....	337	331	3	-	-	-	-	-	-	3
Infant deaths.....	301	298	2	-	-	-	-	-	-	1
Infant Mortality Rate.....	893.18	900.3	*	-	-	-	-	-	-	*
500-749 grams										
Live births.....	532	481	47	1	1	-	-	-	-	2
Infant deaths.....	206	198	8	-	-	-	-	-	-	-
Infant Mortality Rate.....	387.22	411.64	*	-	-	-	-	-	-	-
750-999 grams										
Live births.....	661	441	195	19	1	1	3	-	-	1
Infant deaths.....	77	57	17	2	-	1	-	-	-	-
Infant Mortality Rate.....	116.49	129.25	*	*	-	*	-	-	-	-
1,000-1,999 grams										
Live births.....	5,857	204	1,649	1,604	1,882	486	21	7	1	3
Infant deaths.....	141	15	47	27	34	12	2	2	-	1
Infant Mortality Rate.....	24.07	*	28.5	16.83	18.07	*	*	*	-	*
2,000-2,499 grams										
Live births.....	16314	4	80	943	6759	8074	377	62	2	13
Infant deaths.....	126	-	8	21	45	48	3	-	-	-
Infant Mortality Rate.....	7.72	-	*	22.27	6.66	5.95	*	-	-	-

Documentation Table 3. Live births, infant deaths, and infant mortality rates by birthweight, race of mother, and gestational age: United States, 2015 period data -Con.
 [Rates are per 1,000 live births]

Birthweight	Gestation									
	Total	<28 Weeks	28-31 Weeks	32-33 Weeks	34-36 Weeks	37-39 Weeks	40 Weeks	41 Weeks	42 Weeks or more	Not Stated
2,500 grams or more										
Live births.....	257,528	8	63	195	9,353	174,166	57,567	15,472	611	93
Infant deaths.....	325	-	2	5	39	199	55	22	2	-
Infant Mortality Rate.....	1.26	-	*	*	4.17	1.14	0.96	1.42	*	-
Not Stated										
Live births.....	35	-	-	-	-	-	-	-	-	35
Infant deaths.....	4	-	-	-	-	-	-	-	-	4
Infant Mortality Rate.....	*	-	-	-	-	-	-	-	-	*
Hispanic										
Total										
Live births.....	924,048	5,732	7,560	9,974	61,152	591,492	192,938	51,880	2,719	601
Infant deaths.....	4,583	2,172	314	195	454	1,099	218	85	10	36
Infant Mortality Rate.....	4.96	378.93	41.53	19.55	7.42	1.86	1.13	1.64	*	59.9
Less than 2,500 grams										
Live births.....	66,842	5,710	7,318	9,016	24,476	18,946	1,108	186	28	54
Infant deaths.....	3,239	2,171	308	175	288	254	17	10	3	12
Infant Mortality Rate.....	48.46	380.21	42.09	19.41	11.77	13.41	*	*	*	*
Less than 500 grams										
Live births.....	1,324	1,298	12	1	-	-	-	-	-	13
Infant deaths.....	1,120	1,109	5	-	-	-	-	-	-	6
Infant Mortality Rate.....	845.92	854.39	*	-	-	-	-	-	-	*
500-749 grams										
Live births.....	2,008	1,885	106	5	2	-	-	-	-	10
Infant deaths.....	778	756	17	1	1	-	-	-	-	3
Infant Mortality Rate.....	387.45	401.06	*	*	*	-	-	-	-	*
750-999 grams										
Live births.....	2,288	1,621	596	39	18	12	1	-	-	1
Infant deaths.....	270	217	47	-	4	-	-	-	-	1
Infant Mortality Rate.....	118.01	133.87	78.86	-	*	-	-	-	-	*
1,000-1,999 grams										
Live births.....	18,674	887	6,214	5,340	4,949	1,180	80	12	4	8
Infant deaths.....	655	87	204	128	147	85	3	-	1	1
Infant Mortality Rate.....	35.08	98.08	32.83	23.97	29.7	72.03	*	-	*	*
2,000-2,499 grams										
Live births.....	42,548	19	390	3,631	19,507	17,754	1,027	174	24	22
Infant deaths.....	415	2	35	46	136	169	14	10	2	1
Infant Mortality Rate.....	9.75	*	89.74	12.67	6.97	9.52	*	*	*	*

Documentation Table 3. Live births, infant deaths, and infant mortality rates by birthweight, race of mother, and gestational age: United States, 2015 period data -Con.
 [Rates are per 1,000 live births]

Birthweight	Gestation									
	Total	<28 Weeks	28-31 Weeks	32-33 Weeks	34-36 Weeks	37-39 Weeks	40 Weeks	41 Weeks	42 Weeks or more	Not Stated
2,500 grams or more										
Live births.....	857,151	22	242	958	36,676	572,546	191,830	51,694	2,691	492
Infant deaths.....	1321	1	6	20	166	845	200	75	7	1
Infant Mortality Rate.....	1.54	*	*	20.88	4.53	1.48	1.04	1.45	*	*
Not Stated										
Live births.....	55	-	-	-	-	-	-	-	-	55
Infant deaths.....	22	-	-	-	-	-	-	-	-	22
Infant Mortality Rate.....	400.00	-	-	-	-	-	-	-	-	400.00

-/ Quality Zero

*/ Figure does not meet standard of reliability or precision: based on fewer than 20 deaths in the numerator

1/ Includes Aleuts and Eskimos

Documentation Table 4. Live births, infant deaths and infant mortality rates by birthweight, race of mother, and age at death: United States, 2015 period data.

[Infant deaths are under 1 year. Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days. Postneonatal deaths are 28 days to less than 12 months. Rates are per 1,000 live births]

Birthweight and race of mother	Live Births	Infant	Total Neonatal	Early Neonatal	Late Neonatal	Post-Neonatal
All Races						
Total (all birthweights)	3,978,497	23,458	15,672	12,579	3,093	7,786
Rate		5.90	3.94	3.16	0.78	1.96
Less than 2,500 grams	322,265	15,809	12,886	10,880	2,007	2,923
Rate		49.06	39.99	33.76	6.23	9.07
Less than 500 grams	6,647	5,623	5,495	5,324	172	128
Rate		845.95	826.69	800.96	25.88	19.26
500-749 grams	9,700	3,729	3,144	2,437	707	585
Rate		384.43	324.12	251.24	72.89	60.31
750-999 grams	11,185	1,354	1,050	730	320	305
Rate		121.05	93.88	65.27	28.61	27.27
1,000-1,249 grams	12,947	812	607	449	158	206
Rate		62.72	46.88	34.68	12.20	15.91
1,250-1,499 grams	16,213	671	485	376	108	186
Rate		41.39	29.91	23.19	6.66	11.47
1,500-1,749 grams	24,069	789	541	419	122	248
Rate		32.78	22.48	17.41	5.07	10.30
1,750-1,999 grams	38,903	769	469	357	111	301
Rate		19.77	12.06	9.18	2.85	7.74
2,000-2,499 grams	202,601	2,060	1,096	788	309	964
Rate		10.17	5.41	3.89	1.53	4.76
2,500 grams or more	3,655,556	7,511	2,653	1,567	1,085	4,859
Rate		2.05	0.73	0.43	0.30	1.33
Not Stated	676	137	133	132	1	4
Rate		202.66	196.75	195.27	*	*
Non-Hispanic White						
Total (all birthweights)	2,130,279	10,444	6,724	5,306	1,417	3,721
Rate		4.90	3.16	2.49	0.67	1.75

Documentation Table 4. Live births, infant deaths and infant mortality rates by birthweight, race of mother, and age at death: United States, 2015 period data -Con.

[Infant deaths are under 1 year. Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days. Postneonatal deaths are 28 days to less than 12 months. Rates are per 1,000 live births]

Birthweight and race of mother	Live Births	Infant	Total Neonatal	Early Neonatal	Late Neonatal	Post-Neonatal
Less than 2,500 grams	148,078	6,425	5,235	4,415	820	1,190
Rate		43.39	35.35	29.82	5.54	8.04
Less than 500 grams	2,273	1,967	1,923	1,858	64	44
Rate		865.38	846.02	817.42	28.16	19.36
500-749 grams	3,531	1,465	1,256	1,002	254	208
Rate		414.90	355.71	283.77	71.93	58.91
750-999 grams	4,605	588	475	340	135	112
Rate		127.69	103.15	73.83	29.32	24.32
1,000-1,249 grams	5,664	398	306	231	75	92
Rate		70.27	54.03	40.78	13.24	16.24
1,250-1,499 grams	7,459	300	228	188	40	71
Rate		40.22	30.57	25.20	5.36	9.52
1,500-1,749 grams	11,225	381	271	213	58	110
Rate		33.94	24.14	18.98	5.17	9.80
1,750-1,999 grams	18,550	362	238	185	53	123
Rate		19.51	12.83	9.97	2.86	6.63
2,000-2,499 grams	94,771	965	536	397	140	429
Rate		10.18	5.66	4.19	1.48	4.53
2,500 grams or more	1,982,030	3,972	1,444	846	598	2528
Rate		2.00	0.73	0.43	0.30	1.28
Not Stated	171	47	45	45	-	2
Rate		274.85	263.16	263.16	-	*
Non-Hispanic Black						
Total (all birthweights)	589,047	6,624	4,348	3,529	819	2,276
Rate		11.25	7.38	5.99	1.39	3.86
Less than 2,500 grams	78,952	4,895	3,849	3,240	609	1,045
Rate		62.00	48.75	41.04	7.71	13.24
Less than 500 grams	2,527	2,073	2,016	1,941	75	57
Rate		820.34	797.78	768.10	29.68	22.56

Documentation Table 4. Live births, infant deaths and infant mortality rates by birthweight, race of mother, and age at death: United States, 2015 period data -Con.

[Infant deaths are under 1 year. Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days. Postneonatal deaths are 28 days to less than 12 months. Rates are per 1,000 live births]

Birthweight and race of mother	Live Births	Infant	Total Neonatal	Early Neonatal	Late Neonatal	Post-Neonatal
500-749 grams	3,471	1,183	943	688	255	240
Rate		340.82	271.68	198.21	73.47	69.14
750-999 grams	3,469	389	269	171	98	120
Rate		112.14	77.54	49.29	28.25	34.59
1,000-1,249 grams	3,700	185	126	93	33	59
Rate		50.00	34.05	25.14	8.92	15.95
1,250-1,499 grams	4,215	176	100	69	31	76
Rate		41.76	23.72	16.37	7.35	18.03
1,500-1,749 grams	6,061	182	101	80	21	81
Rate		30.03	16.66	13.20	3.46	13.36
1,750-1,999 grams	9,321	194	88	62	26	105
Rate		20.81	9.44	6.65	2.79	11.26
2,000-2,499 grams	46,188	513	206	136	70	306
Rate		11.11	4.46	2.94	1.52	6.63
2,500 grams or more	510,014	1,680	449	240	210	1,231
Rate		3.29	0.88	0.47	0.41	2.41
Not Stated	81	49	49	49	-	-
Rate		604.94	604.94	604.94	-	-
American Indian or Alaskan Native /1						
Total (all birthweights)	44,299	366	193	143	50	173
Rate		8.26	4.36	3.23	1.13	3.91
Less than 2,500 grams	3,354	188	136	115	21	51
Rate		56.05	40.55	34.29	6.26	15.21
Less than 500 grams	59	48	48	47	1	-
Rate		813.56	813.56	796.61	*	-
500-749 grams	91	43	37	33	4	6
Rate		472.53	406.59	362.64	*	*
750-999 grams	101	16	10	5	5	6
Rate		*	*	*	*	*
1,000-1,249 grams	144	15	10	6	4	5
Rate		*	*	*	*	*

Documentation Table 4. Live births, infant deaths and infant mortality rates by birthweight, race of mother, and age at death: United States, 2015 period data -Con.
 neonatal, 7-27 days. Postneonatal deaths are 28 days to less than 12 months. Rates are per 1,000 live births]

Birthweight and race of mother	Live Births	Infant	Total Neonatal	Early Neonatal	Late Neonatal	Post-Neonatal
1,250-1,499 grams Rate	185	12 *	9 *	8 *	1 *	3 *
1,500-1,749 grams Rate	263	13 *	7 *	5 *	2 *	6 *
1,750-1,999 grams Rate	395	9 *	3 *	3 *	- -	6 *
2,000-2,499 grams Rate	2,116	31 14.65	12 *	8 *	4 *	19 *
2,500 grams or more Rate	40,939	178 4.35	55 1.34	26 0.64	29 0.71	122 2.98
Not Stated Rate	6	1 *	1 *	1 *	- -	- -
Asian or Pacific Islander Total (all birthweights) Rate	281,264	1,179 4.19	854 3.04	691 2.46	163 0.58	325 1.16
Less than 2,500 grams Rate	23,701	850 35.86	719 30.34	603 25.44	115 4.85	131 5.53
Less than 500 grams Rate	337	301 893.18	293 869.44	285 845.70	8 *	8 *
500-749 grams Rate	532	206 387.22	183 343.98	149 280.08	34 63.91	23 43.23
750-999 grams Rate	661	77 116.49	65 98.34	51 77.16	14 *	12 *
1,000-1,249 grams Rate	779	32 41.08	26 33.38	16 *	10 *	6 *
1,250-1,499 grams Rate	952	38 39.92	29 30.46	22 23.11	7 *	9 *
1,500-1,749 grams Rate	1,516	35 23.09	27 17.81	17 *	10 *	8 *

Documentation Table 4. Live births, infant deaths and infant mortality rates by birthweight, race of mother, and age at death: United States, 2015 period data -Con.

[Infant deaths are under 1 year. Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days. Postneonatal deaths are 28 days to less than 12 months. Rates are per 1,000 live births]

Birthweight and race of mother	Live Births	Infant	Total Neonatal	Early Neonatal	Late Neonatal	Post-Neonatal
1,750-1,999 grams	2,610	35	18	10	8	17
Rate		13.41	*	*	*	*
2,000-2,499 grams	16,314	126	78	54	24	48
Rate		7.72	4.78	3.31	1.47	2.94
2,500 grams or more	257,528	325	131	84	47	194
Rate		1.26	0.51	0.33	0.18	0.75
Not Stated	35	4	4	4	-	-
Rate		*	*	*	-	-
Hispanic						
Total (all birthweights)	924,048	4,583	3,325	2,685	640	1,258
Rate		4.96	3.60	2.91	0.69	1.36
Less than 2,500 grams	66,842	3,239	2,748	2,308	440	491
Rate		48.46	41.11	34.53	6.58	7.35
Less than 500 grams	1,324	1,120	1,101	1,078	23	19
Rate		845.92	831.57	814.20	17.37 *	
500-749 grams	2,008	778	675	517	158	103
Rate		387.45	336.16	257.47	78.69	51.29
750-999 grams	2,288	270	214	147	67	55
Rate		118.01	93.53	64.25	29.28	24.04
1,000-1,249 grams	2,601	177	137	101	36	40
Rate		68.05	52.67	38.83	13.84	15.38
1,250-1,499 grams	3,334	140	114	85	28	26
Rate		41.99	34.19	25.49	8.40	7.80
1,500-1,749 grams	4,881	173	131	101	30	42
Rate		35.44	26.84	20.69	6.15	8.60
1,750-1,999 grams	7,858	166	119	93	25	47
Rate		21.12	15.14	11.84	3.18	5.98
2,000-2,499 grams	42,548	415	258	186	72	158
Rate		9.75	6.06	4.37	1.69	3.71
2,500 grams or more	857,151	1,321	555	356	199	767
Rate		1.54	0.65	0.42	0.23	0.89
Not Stated	55	22	22	21	1	-
Rate		400.00	400.00	381.82	*	-

* Figure does not meet standard of reliability or precision: based on fewer than 20 deaths in the numerator

- Quantity zero

1/ Includes Aleuts and Eskimos

Documentation Table 5. Infant deaths and infant mortality rates by age of death and birthweight for 10 major causes of infant death: United States, 2015 period data
 [Infant deaths are under 1 year. Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days. Postneonatal deaths are 28 days to less than 12 months. Rates are per 100,000 live births]

Cause of death and birthweight	Live Births	Total				
		Infant Deaths	Total Neonatal	Early Neonatal	Late Neonatal	Post-Neonatal
All birthweights						
All Causes	3978497	23458	15672	12579	3093	7786
		589.6	393.9	316.2	77.7	195.7
Congenital malformations (Q00-Q99).....		4847	3491	2678	813	1357
		121.8	87.7	67.3	20.4	34.1
Short gestation and low birthweight nec (P07).....		4087	3985	3865	119	102
		102.7	100.2	97.1	3	2.6
Maternal complications of pregnancy (P01).....		1527	1514	1504	10	13
		38.4	38.1	37.8 *	*	
Sudden infant death syndrome (R95).....		1567	151	23	127	1416
		39.4	3.8	0.6	3.2	35.6
Accidents (unintentional injures) (V01-X59).....		1289	120	27	93	1168
		32.4	3	0.7	2.3	29.4
Complications of placenta, cord, membranes (P02).....		909	897	868	29	12
		22.8	22.5	21.8	0.7 *	
Bacterial sepsis of newborn (P36).....		599	581	245	336	18
		15.1	14.6	6.2	8.4 *	
Respiratory distress of newborn (P22).....		462	452	347	105	10
		11.6	11.4	8.7	2.6 *	
Diseases of the circulatory system (I00-I99).....		425	96	55	41	330
		10.7	2.4	1.4	1	8.3
Neonatal hemorrhage (P50-P52, P54).....		408	402	295	106	6
		10.3	10.1	7.4	2.7 *	
All other causes.....		7338	3984	2672	1312	3354
		184.4	100.1	67.2	33	84.3
Less than 2,500 grams						
All Causes	322265	15809	12886	10880	2007	2923
		4905.6	3998.6	3376.1	622.8	907
Congenital malformations (Q00-Q99).....		3024	2346	1937	408	679
		938.4	728	601.1	126.6	210.7
Short gestation and low birthweight nec (P07).....		3989	3890	3771	119	99
		1237.8	1207.1	1170.2	36.9	30.7
Maternal complications of pregnancy (P01).....		1471	1458	1448	10	13
		456.5	452.4	449.3 *	*	
Sudden infant death syndrome (R95).....		314	30	5	25	284
		97.4	9.3 *		7.8	88.1
Accidents (unintentional injures) (V01-X59).....		213	16	6	10	197
		66.1 *	*	*		61.1
Complications of placenta, cord, membranes (P02).....		795	784	763	21	11
		246.7	243.3	236.8	6.5 *	
Bacterial sepsis of newborn (P36).....		546	530	220	310	16
		169.4	164.5	68.3	96.2 *	

Documentation Table 5. Infant deaths and infant mortality rates by age of death and birthweight for 10 major causes of infant death: United States, 2015 period data -Con.

[Infant deaths are under 1 year. Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days. Postneonatal deaths are 28 days to less than 12 months. Rates are per 100,000 live births]

Cause of death and birthweight	Live Births	Total				
		Infant Deaths	Total Neonatal	Early Neonatal	Late Neonatal	Post-Neonatal
Respiratory distress of newborn (P22).....		457	447	342	105	10
		141.8	138.7	106.1	32.6 *	
Diseases of the circulatory system (I00-I99).....		218	46	30	16	171
		67.6	14.3	9.3 *		53.1
Neonatal hemorrhage (P50-P52, P54).....		363	357	270	87	6
		112.6	110.8	83.8	27 *	
All other causes.....		4418	2981	2086	895	1437
		1370.9	925	647.3	277.7	445.9
2,500 grams or more						
All Causes	3655556	7511	2653	1567	1085	4859
		205.5	72.6	42.9	29.7	132.9
Congenital malformations (Q00-Q99).....		1820	1142	738	405	678
		49.8	31.2	20.2	11.1	18.5
Short gestation and low birthweight nec (P07).....		27	24	24 -		3
		0.7	0.7	0.7 -	*	
Maternal complications of pregnancy (P01).....		30	30	30 -	-	
		0.8	0.8	0.8 -	-	
Sudden infant death syndrome (R95).....		1252	120	18	102	1132
		34.2	3.3 *		2.8	31
Accidents (unintentional injuries) (V01-X59).....		1074	104	21	83	970
		29.4	2.8	0.6	2.3	26.5
Complications of placenta, cord, membranes (P02).....		99	98	91	7	1
		2.7	2.7	2.5 *	*	
Bacterial sepsis of newborn (P36).....		52	50	24	26	2
		1.4	1.4	0.7	0.7 *	
Respiratory distress of newborn (P22).....		5	5	5 -	-	
		*	*	*	-	
Diseases of the circulatory system (I00-I99).....		208	49	24	25	158
		5.7	1.3	0.7	0.7	4.3
Neonatal hemorrhage (P50-P52, P54).....		44	44	25	19 -	
		1.2	1.2	0.7 *	-	
All other causes.....		2899	984	566	418	1915
		79.3	26.9	15.5	11.4	52.4
Not state birthweight						
All Causes	676	137	133	132	1	4
		20266.3	19674.6	19526.6 *	*	
Congenital malformations (Q00-Q99).....		3	3	3 -	-	
		*	*	*	-	
Short gestation and low birthweight nec (P07).....		70	70	70 -	-	
		10355	10355	10355 -	-	
Maternal complications of pregnancy (P01).....		25	25	25 -	-	
		3698.2	3698.2	3698.2 -	-	
Sudden infant death syndrome (R95).....		1 -	-	-	-	1
		*	-	-	-	*
Accidents (unintentional injuries) (V01-X59).....		1 -	-	-	-	1
		*	-	-	-	*
Complications of placenta, cord, membranes (P02).....		15	15	14	1 -	
		*	*	*	*	
Bacterial sepsis of newborn (P36).....		-	-	-	-	
		-	-	-	-	
Respiratory distress of newborn (P22).....		-	-	-	-	
		-	-	-	-	

Documentation Table 5. Infant deaths and infant mortality rates by age of death and birthweight for 10 major causes of infant death:
 [Infant deaths are under 1 year. Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days. Postneonatal

Cause of death and birthweight	Live Births	Total				
		Infant Deaths	Total Neonatal	Early Neonatal	Late Neonatal	Post-Neonatal
Diseases of the circulatory system (I00-I99).....	-	-	-	-	-	-
Neonatal hemorrhage (P50-P52, P54).....	-	-	-	-	-	-
All other causes.....	-	21	19	19	-	2
		3106.5 *	*	-	*	

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

/ Quantity zero.

Documentation Table 6. Unlinked infant deaths by age at death and state of residence: United States and each state, 2015.

[Infant deaths are under 1 year. Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days. Postneonatal deaths are 28 days to less than 12 months. Rates are per 1,000 live births]

State /1	Total		Early		Post-neonatal
	Infant	Total neonatal	neonatal	Late neonatal	
United States /2	142	125	113	12	17
Alabama	-	-	-	-	-
Alaska	-	-	-	-	-
Arizona	4	2	1	1	2
Arkansas	1	-	-	-	1
California	39	33	30	3	6
Colorado	-	-	-	-	-
Connecticut	1	1	1	-	-
Delaware	-	-	-	-	-
Dist of Columbia	-	-	-	-	-
Florida	-	-	-	-	-
Georgia	-	-	-	-	-
Hawaii	-	-	-	-	-
Idaho	-	-	-	-	-
Illinois	2	2	2	-	-
Indiana	6	6	6	-	-
Iowa	-	-	-	-	-
Kansas	-	-	-	-	-
Kentucky	5	5	4	1	-
Louisiana	-	-	-	-	-
Maine	1	1	1	-	-
Maryland	-	-	-	-	-
Massachusetts	1	1	1	-	-
Michigan	1	-	-	-	1
Minnesota	-	-	-	-	-
Mississippi	-	-	-	-	-
Missouri	1	1	1	-	-
Montana	-	-	-	-	-
Nebraska	1	1	1	-	-
Nevada	-	-	-	-	-
New Hampshire	-	-	-	-	-
New Jersey	9	9	9	-	-
New Mexico	1	-	-	-	1
New York	5	5	5	-	-
New York City	-	-	-	-	-
North Carolina	1	1	1	-	-
North Dakota	-	-	-	-	-
Ohio	6	4	3	1	2

Documentation Table 6. Unlinked infant deaths by age at death and state of residence: United States and each state, 2015 -Con.

[Infant deaths are under 1 year. Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days. Postneonatal deaths are 28 days to less than 12 months. Rates are per 1,000 live births]

State /1	Total		Early		
	Infant	Total neonatal	neonatal	Late neonatal	Post-neonatal
Oklahoma	2	1	-	1	1
Oregon	-	-	-	-	-
Pennsylvania	4	3	3	-	1
Rhode Island	-	-	-	-	-
South Carolina	-	-	-	-	-
South Dakota	-	-	-	-	-
Tennessee	3	3	3	-	-
Texas	47	45	40	5	2
Utah	-	-	-	-	-
Vermont	-	-	-	-	-
Virginia	-	-	-	-	-
Washington	-	-	-	-	-
West Virginia	1	1	1	-	-
Wisconsin	-	-	-	-	-
Wyoming	-	-	-	-	-
Foreign Residents	1	1	1	-	-
Puerto Rico	-	-	-	-	-
Virgin Islands	-	-	-	-	-
Guam	-	-	-	-	-

1/ Figures are based on weighted data rounded to the nearest infant, so categories may not add to totals

2/ Excludes data for Puerto Rico, Virgin Islands, and Guam.

Table 1. Infant mortality rates, live births, and infant deaths by selected characteristics and Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: United States, 2015 linked file

Characteristics	All origins ¹	Non-Hispanic				Hispanic				
		White	Black	American Indian or Alaska Native ²	Asian or Pacific Islander	Total	Mexican	Puerto Rican	Cuban	Central and South American
Infant mortality rates per 1,000 live births in specified group										
Total	5.90	4.90	11.25	8.26	4.19	4.96	4.87	6.42	4.22	4.03
Age at death										
Total neonatal	3.94	3.16	7.38	4.36	3.04	3.60	3.48	4.65	3.32	3.00
Early neonatal (< 7 days)	3.16	2.49	5.99	3.23	2.46	2.91	2.79	3.75	2.84	2.45
Late neonatal (7-27 days)	0.78	0.67	1.39	1.13	0.58	0.69	0.68	0.90	*	0.55
Postneonatal	1.96	1.75	3.86	3.91	1.16	1.36	1.39	1.77	*	1.02
Sex										
Male	6.38	5.34	12.17	8.81	4.60	5.34	5.24	6.85	4.63	4.39
Female	5.38	4.44	10.29	7.69	3.75	4.56	4.48	5.98	3.69	3.65
Plurality										
Single births	5.22	4.32	10.03	7.55	3.58	4.47	4.45	5.75	3.33	3.59
Twin births	23.87	18.99	39.52	34.17	22.26	23.64	21.61	26.49	30.03	21.69
Triplet and higher order births	51.90	50.82	63.41	*	*	37.64	*	*	*	*
Birthweight										
Less than 2,500 grams	49.06	43.39	62.00	56.05	35.86	48.46	48.73	48.89	47.56	44.40
Less than 1,500 grams	215.04	200.45	230.53	231.03	200.55	215.06	218.77	214.17	206.08	201.22
1,500-2,499 grams	13.63	13.71	14.42	19.11	9.59	13.64	14.34	10.82	*	12.28
2,500 grams or more	2.05	2.00	3.29	4.35	1.26	1.54	1.63	1.96	*	1.06
Period of gestation										
Less than 32 weeks	193.54	175.68	220.32	187.05	185.97	187.11	189.08	186.14	201.89	173.64
32-33 weeks	20.79	18.77	24.85	41.82	19.91	19.55	20.64	*	*	21.78
34-36 weeks	8.76	8.73	10.84	11.71	6.61	7.42	7.78	6.55	*	6.09
37-41 weeks	2.17	2.10	3.48	4.42	1.33	1.68	1.72	2.16	*	1.15
37-38 weeks	3.25	3.32	4.63	4.85	1.89	2.54	2.55	2.57	*	1.91
39-40 weeks	1.71	1.63	2.89	4.17	1.07	1.28	1.35	1.97	*	0.82
41 weeks	1.56	1.37	2.46	*	1.54	1.64	2.02	*	*	*
42 weeks or more	4.20	3.77	*	*	*	*	*	*	*	*
Age of mother										
Under 20 years	8.32	8.13	11.69	7.72	9.92	6.12	5.78	7.92	*	5.69
20-24 years	7.01	6.13	11.68	8.55	6.23	4.83	4.54	6.23	*	4.30
25-29 years	5.69	4.79	11.04	7.79	3.80	4.70	4.56	6.43	4.38	3.83
30-34 years	4.78	3.89	10.36	8.35	3.59	4.54	4.46	6.04	3.59	3.64
35-39 years	5.36	4.43	11.25	6.80	4.16	4.94	5.35	5.31	*	3.51
40-54 years	7.82	6.23	13.77	*	5.25	8.24	8.76	*	*	6.23
Marital status										
Married	4.48	3.94	9.20	7.38	3.77	4.55	4.80	4.84	3.94	3.49
Unmarried	8.00	7.25	12.10	8.75	6.31	5.32	4.93	7.32	4.39	4.55
Mother's place of birth										
Born in the 50 States and D.C	6.23	4.97	11.81	8.49	5.60	5.35	5.03	6.24	4.90	4.29
Born elsewhere	4.49	3.61	7.39	*	3.69	4.51	4.64	6.98	3.52	3.97

See footnotes at end of table.

Table 1. Infant mortality rates, live births, and infant deaths by selected characteristics and Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: United States, 2015 linked file--Con.

Characteristics	Non-Hispanic					Hispanic				
	All origins ¹	White	Black	American Indian or Alaska Native ²	Asian or Pacific Islander	Total	Mexican	Puerto Rican	Cuban	Central and South American
	Live births									
Total	3,978,497	2,130,279	589,047	44,299	281,264	924,048	546,169	70,987	21,107	142,249
Sex										
Male	2,036,161	1,092,789	299,319	22,706	144,867	471,456	278,503	36,369	10,807	72,583
Female	1,942,336	1,037,490	289,728	21,593	136,397	452,592	267,666	34,618	10,300	69,666
Plurality										
Single births	3,841,219	2,050,814	565,228	43,170	272,633	900,844	533,304	68,674	20,421	138,727
Twin births	133,155	76,848	23,204	1,112	8,402	22,593	12,539	2,265	666	3,411
Triplet and higher order births	4,123	2,617	615	17	229	611	326	48	20	111
Birthweight										
Less than 2,500 grams	322,265	148,078	78,952	3,354	23,701	66,842	37,304	6,709	1,514	9,617
Less than 1,500 grams	56,692	23,532	17,382	580	3,261	11,555	6,276	1,256	296	1,635
1,500-2,499 grams	265,573	124,546	61,570	2,774	20,440	55,287	31,028	5,453	1,218	7,982
2,500 grams or more	3,655,556	1,982,030	510,014	40,939	257,528	857,151	508,830	64,275	19,593	132,621
Not stated	676	171	81	6	35	55	35	3	*	11
Period of gestation										
Less than 32 weeks	63,145	27,067	18,178	695	3,506	13,292	7,272	1,472	317	1,889
32-33 weeks	46,515	22,750	10,260	550	2,762	9,974	5,619	980	265	1,423
34-36 weeks	273,126	139,329	50,473	3,415	17,996	61,152	35,594	5,340	1,372	9,034
37-41 weeks	3,318,073	1,773,133	476,890	36,644	240,695	784,430	465,383	58,722	18,162	120,651
37-38 weeks	993,599	494,807	162,705	12,156	77,183	245,306	145,277	18,654	5,088	37,238
39-40 weeks	2,324,474	1,278,326	314,185	24,488	163,512	539,124	320,106	40,068	13,074	83,413
41 weeks	258,999	156,719	30,847	2,741	15,541	51,880	30,196	4,296	954	8,648
42 weeks or more	15,713	10,085	1,948	177	614	2,719	1,683	143	32	548
Not stated	2,926	1,196	451	77	150	601	422	34	5	56
Age of mother										
Under 20 years	232,215	91,415	50,884	4,791	4,334	81,350	50,891	6,947	775	8,430
20-24 years	850,509	399,373	175,597	13,458	26,174	236,264	143,962	21,012	4,115	26,296
25-29 years	1,152,311	642,150	165,895	12,842	73,386	256,106	150,279	20,213	6,845	38,594
30-34 years	1,094,693	646,767	119,976	8,506	105,490	209,647	120,961	14,246	5,857	39,047
35-39 years	527,996	290,877	60,863	3,824	57,400	112,045	63,524	6,962	2,772	23,618
40-54 years	120,773	59,697	15,832	878	14,480	28,636	16,552	1,607	743	6,264
Marital status										
Married	2,376,970	1,508,965	173,493	15,169	235,016	434,690	264,775	25,388	10,404	69,684
Unmarried	1,601,527	621,314	415,554	29,130	46,248	489,358	281,394	45,599	10,703	72,565
Mother's place of birth										
Born in the 50 States and D.C.	3,070,685	1,987,686	496,926	41,821	65,150	469,158	280,679	52,902	10,003	24,221
Born elsewhere	899,131	139,579	89,597	2,406	214,976	453,798	265,040	17,776	11,095	117,925
Not stated	8,681	3,014	2,524	72	1,138	1,092	450	309	9	103

See footnotes at end of table.

Table 1. Infant mortality rates, live births, and infant deaths by selected characteristics and Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: United States, 2015 linked file--Con.

Characteristics	All origins ¹	Non-Hispanic				Hispanic				
		White	Black	American Indian or Alaska Native ²	Asian or Pacific Islander	Total	Mexican	Puerto Rican	Cuban	Central and South American
Total	23,458	10,444	6,624	366	Infant deaths 1,179	4,583	2,658	456	89	573
Age at death										
Total neonatal	15,672	6,724	4,348	193	854	3,325	1,898	330	70	427
Early neonatal (< 7 days)	12,579	5,306	3,529	143	691	2,685	1,524	266	60	349
Late neonatal (7-27 days)	3,093	1,417	819	50	163	640	374	64	10	78
Postneonatal	7,786	3,721	2,276	173	325	1,258	759	126	18	145
Sex										
Male	12,998	5,837	3,642	200	667	2,518	1,458	249	50	319
Female	10,459	4,607	2,982	166	512	2,065	1,200	207	38	254
Plurality										
Single births	20,066	8,852	5,668	326	976	4,025	2,375	395	68	498
Twin births	3,178	1,459	917	38	187	534	271	60	20	74
Triplet and higher order births	214	133	39	2	16	23	12	1	1	9
Birthweight										
Less than 2,500 grams	15,809	6,425	4,895	188	850	3,239	1,818	328	72	427
Less than 1,500 grams	12,191	4,717	4,007	134	654	2,485	1,373	269	61	329
1,500-2,499 grams	3,619	1,708	888	53	196	754	445	59	11	98
2,500 grams or more	7,511	3,972	1,680	178	325	1,321	829	126	16	141
Not stated	137	47	49	1	4	22	11	2	-	6
Period of gestation										
Less than 32 weeks	12,221	4,755	4,005	130	652	2,487	1,375	274	64	328
32-33 weeks	967	427	255	23	55	195	116	14	2	31
34-36 weeks	2,392	1,216	547	40	119	454	277	35	6	55
37-41 weeks	7,205	3,721	1,661	162	321	1,316	802	127	15	139
37-38 weeks	3,234	1,641	754	59	146	624	371	48	9	71
39-40 weeks	3,971	2,080	907	102	175	692	431	79	6	68
41 weeks	404	215	76	8	24	85	61	4	1	9
42 weeks or more	66	38	13	1	2	10	6	-	-	3
Not stated	203	72	67	2	6	36	21	2	-	7
Age of mother										
Under 20 years	1,932	743	595	37	43	498	294	55	3	48
20-24 years	5,959	2,447	2,051	115	163	1,141	653	131	18	113
25-29 years	6,560	3,078	1,832	100	279	1,203	686	130	30	148
30-34 years	5,230	2,515	1,243	71	379	952	539	86	21	142
35-39 years	2,830	1,290	685	26	239	553	340	37	7	83
40-54 years	945	372	218	16	76	236	145	17	9	39
Marital status										
Married	10,642	5,942	1,596	112	887	1,979	1,270	123	41	243
Unmarried	12,815	4,503	5,028	255	292	2,604	1,388	334	47	330
Mother's place of birth										
Born in the 50 States and D.C	19,135	9,874	5,869	355	365	2,508	1,411	330	49	104
Born elsewhere	4,039	504	662	11	794	2,047	1,230	124	39	468
Not stated	283	66	93	-	19	28	17	3	-	1

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

- Quantity zero.

1 Includes other and unknown Hispanic origin not stated, not shown separately.

2 Includes Aleuts and Eskimos.

NOTES: Infant deaths are weighted so numbers may not exactly add to totals due to rounding. Race and Hispanic origin are reported separately on birth certificates.

Table 2. Infant mortality rates by race and Hispanic origin of mother: United States and each State, Puerto Rico, and Guam, 2013-2015 linked files

[By place of residence]

	Race and Hispanic origin of mother						Ratio of rate, non-Hispanic black and non-Hispanic white
	Total	Non-Hispanic White	Non-Hispanic Black	American Indian or Alaska Native ¹	Asian or Pacific Islander	Hispanic	
	Infant mortality rates per 1,000 live births in specified group						
United States ²	5.89	4.95	11.09	7.82	4.04	4.99	2.2
Alabama	8.53	6.44	13.39	*	*	6.50	2.1
Alaska	6.45	4.42	*	13.51	*	*	*
Arizona	5.61	4.91	10.97	7.98	4.77	5.43	2.2
Arkansas	7.63	7.04	11.06	*	6.84	5.43	1.6
California	4.50	3.75	9.55	5.74	3.46	4.43	2.5
Colorado	4.85	4.13	8.88	*	4.98	5.47	2.2
Connecticut	5.09	3.53	9.92	*	*	6.89	2.8
Delaware	7.43	5.67	11.94	*	*	6.56	2.1
District of Columbia	7.65	2.53	11.48	*	*	5.96	4.5
Florida	6.16	5.13	10.68	*	4.31	4.23	2.1
Georgia	7.44	5.10	11.56	*	3.87	5.60	2.3
Hawaii	5.51	4.24	13.10	*	5.86	4.33	3.1
Idaho	5.21	5.20	*	*	*	5.24	*
Illinois	6.18	4.82	12.11	*	4.34	5.18	2.5
Indiana	7.21	6.37	13.25	*	6.01	6.27	2.1
Iowa	4.42	4.15	8.47	*	5.59	3.94	2.0
Kansas	6.21	5.75	11.48	*	5.44	5.98	2.0
Kentucky	6.74	6.44	10.68	*	*	5.48	1.7
Louisiana	7.92	5.73	11.66	*	5.38	4.64	2.0
Maine	6.77	6.65	*	*	*	*	*
Maryland	6.57	4.17	10.77	*	4.75	5.21	2.6
Massachusetts	4.27	3.45	8.28	*	2.91	5.18	2.4
Michigan	6.68	5.22	12.10	*	4.49	7.29	2.3
Minnesota	5.09	4.09	10.28	9.53	5.81	5.14	2.5
Mississippi	9.08	6.91	11.95	*	*	6.87	1.7
Missouri	6.38	5.45	11.40	*	4.71	5.90	2.1
Montana	5.72	4.97	*	10.70	*	*	*
Nebraska	5.33	4.77	9.69	*	*	5.56	2.0
Nevada	5.34	4.69	9.90	*	4.49	4.57	2.1
New Hampshire	4.69	4.53	*	*	*	*	*
New Jersey	4.53	3.15	9.92	*	3.05	4.52	3.1
New Mexico	5.20	4.83	*	5.38	*	4.95	*
New York	4.73	3.81	8.77	*	3.14	4.62	2.3
North Carolina	7.16	5.51	12.25	8.61	4.73	5.55	2.2
North Dakota	6.10	5.35	*	11.52	*	*	*
Ohio	7.13	5.76	13.46	*	4.12	6.94	2.3
Oklahoma	7.42	6.86	12.93	7.11	6.31	6.05	1.9
Oregon	5.06	4.93	9.37	*	4.41	4.56	1.9
Pennsylvania	6.23	4.92	11.36	*	4.08	6.28	2.3
Rhode Island	5.61	3.98	10.59	*	*	6.01	2.7
South Carolina	6.74	4.97	10.52	*	*	5.00	2.1
South Dakota	6.48	5.35	*	11.71	*	*	*
Tennessee	6.87	5.69	11.35	*	6.56	5.24	2.0
Texas	5.79	5.00	10.53	*	4.14	5.30	2.1
Utah	5.04	4.67	11.26	*	5.99	5.53	2.4
Vermont	4.50	4.56	*	*	*	*	*
Virginia	5.91	4.70	10.64	*	3.53	4.81	2.3
Washington	4.63	4.21	8.56	8.35	4.01	4.62	2.0
West Virginia	7.22	7.03	11.90	*	*	*	1.7
Wisconsin	5.92	4.71	14.28	8.61	6.42	5.16	3.0
Wyoming	5.37	5.27	*	*	*	*	*
Puerto Rico	6.99	---	---	---	---	---	---
Guam	10.41	*	*	*	11.14	*	*

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

--- Data not available.

1 Includes Aleuts and Eskimos.

2 Excludes data for Puerto Rico and Guam.

NOTES: Race and Hispanic origin are reported separately on birth certificates.

Table 3. Percentage of live births with selected maternal and infant characteristics by race and Hispanic origin of mother: United States, 2015 linked file

Characteristic	All races and origins ¹	Non-Hispanic				Asian or Pacific Islander	Hispanic			
		White	Black	American Indian or Alaska Native	Total ¹		Mexican	Puerto Rican	Cuban	Central and South American
Birthweight:										
Less than 1,500 grams	1.43	1.10	2.99	1.30	1.20	1.25	1.15	1.77	1.40	1.15
Less than 2,500 grams	8.1	6.9	13.6	7.6	8.4	7.2	6.8	9.5	7.2	6.8
Preterm births ²	9.6	8.9	13.5	10.5	8.6	9.1	8.9	11.0	9.3	8.7
Births to mothers under 20 years	5.8	4.3	8.5	10.8	1.5	8.8	9.3	9.8	3.7	5.9
Fourth and higher order births	12.4	10.2	16.7	21.7	6.7	16.1	18.3	12.9	5.6	13.9
Births to unmarried mothers	40.3	28.9	70.7	65.8	16.4	53.0	51.5	64.2	50.7	51.0
Mothers born in the 50 States and D.C.	77.4	93.6	84.6	94.6	23.3	50.8	51.4	74.8	47.4	17.0

1 Includes other and unknown Hispanic and origin not stated not shown separately.

2 Born prior to 37 completed weeks of gestation.

NOTES: D.C. is District of Columbia. Race and Hispanic origin are reported separately on birth certificates.

Table 4. Live births, infant, neonatal, and postneonatal deaths and mortality rates by race and Hispanic origin of mother and birthweight: United States, 2015 linked file

Race and Birthweight	Number in 2015					Mortality rate per 1,000 live births in 2015		
	Live births	Infant deaths	Neonatal deaths	Postneonatal deaths	Infant	Neonatal	Postneonatal	
All races 1	3,978,497	23,458	15,672	7,786	5.90	3.94	1.96	
Less than 2,500 grams	322,265	15,809	12,886	2,923	49.06	39.99	9.07	
Less than 1,500 grams	56,692	12,191	10,781	1,410	215.04	190.17	24.87	
Less than 500 grams	6,647	5,623	5,495	128	845.95	826.69	19.26	
500-749 grams	9,700	3,729	3,144	585	384.43	324.12	60.31	
750-999 grams	11,185	1,354	1,050	305	121.05	93.88	27.27	
1,000-1,249 grams	12,947	812	607	206	62.72	46.88	15.91	
1,250-1,499 grams	16,213	671	485	186	41.39	29.91	11.47	
1,500-1,999 grams	62,972	1,558	1,009	549	24.74	16.02	8.72	
2,000-2,499 grams	202,601	2,060	1,096	964	10.17	5.41	4.76	
2,500 grams or more	3,655,556	7,511	2,653	4,859	2.05	0.73	1.33	
2,500-2,999 grams	730,025	2,677	1,059	1,619	3.67	1.45	2.22	
3,000-3,499 grams	1,544,610	2,892	930	1,961	1.87	0.60	1.27	
3,500-3,999 grams	1,062,916	1,462	474	987	1.38	0.45	0.93	
4,000-4,499 grams	274,528	378	136	243	1.38	0.50	0.89	
4,500-4,999 grams	38,819	78	34	44	2.01	0.88	1.13	
5,000 grams or more	4,658	24	19	5	5.15	*	*	
Not stated	676	137	133	4	...	...	...
Non-Hispanic White	2,130,279	10,444	6,724	3,721	4.90	3.16	1.75	
Less than 2,500 grams	148,078	6,425	5,235	1,190	43.39	35.35	8.04	
Less than 1,500 grams	23,532	4,717	4,189	528	200.45	178.01	22.44	
Less than 500 grams	2,273	1,967	1,923	44	865.38	846.02	19.36	
500-749 grams	3,531	1,465	1,256	208	414.90	355.71	58.91	
750-999 grams	4,605	588	475	112	127.69	103.15	24.32	
1,000-1,249 grams	5,664	398	306	92	70.27	54.03	16.24	
1,250-1,499 grams	7,459	300	228	71	40.22	30.57	9.52	
1,500-1,999 grams	29,775	743	509	233	24.95	17.09	7.83	
2,000-2,499 grams	94,771	965	536	429	10.18	5.66	4.53	
2,500 grams or more	1,982,030	3,972	1,444	2,528	2.00	0.73	1.28	
2,500-2,999 grams	336,545	1,293	536	758	3.84	1.59	2.25	
3,000-3,499 grams	802,159	1,568	526	1,042	1.95	0.66	1.30	
3,500-3,999 grams	635,739	813	276	537	1.28	0.43	0.84	
4,000-4,499 grams	179,262	241	80	160	1.34	0.45	0.89	
4,500-4,999 grams	25,588	48	20	28	1.88	0.78	1.09	
5,000 grams or more	2,737	9	6	3	*	*	*	
Not stated	171	47	45	2	...	...	...
Non-Hispanic Black	589,047	6,624	4,348	2,276	11.25	7.38	3.86	
Less than 2,500 grams	78,952	4,895	3,849	1,045	62.00	48.75	13.24	
Less than 1,500 grams	17,382	4,007	3,454	553	230.53	198.71	31.81	
Less than 500 grams	2,527	2,073	2,016	57	820.34	797.78	22.56	
500-749 grams	3,471	1,183	943	240	340.82	271.68	69.14	
750-999 grams	3,469	389	269	120	112.14	77.54	34.59	
1,000-1,249 grams	3,700	185	126	59	50.00	34.05	15.95	
1,250-1,499 grams	4,215	176	100	76	41.76	23.72	18.03	
1,500-1,999 grams	15,382	375	189	186	24.38	12.29	12.09	
2,000-2,499 grams	46,188	513	206	306	11.11	4.46	6.63	
2,500 grams or more	510,014	1,680	449	1,231	3.29	0.88	2.41	
2,500-2,999 grams	146,600	717	205	512	4.89	1.40	3.49	
3,000-3,499 grams	226,372	628	154	475	2.77	0.68	2.10	
3,500-3,999 grams	110,750	258	54	203	2.33	0.49	1.83	
4,000-4,499 grams	22,676	60	26	34	2.65	1.15	1.50	
4,500-4,999 grams	3,137	13	7	6	*	*	*	
5,000 grams or more	479	4	3	1	*	*	*	
Not stated	81	49	49	-	...	...	...

See footnotes at end of table.

Table 4. Live births, infant, neonatal, and postneonatal deaths and mortality rates by race and Hispanic origin of mother and birthweight: United States, 2015 linked file--Con

Race and Birthweight	Number in 2015					Mortality rate per 1,000 live births in 2015		
	Live births	Infant deaths	Neonatal deaths	Postneonatal deaths	Infant	Neonatal	Postneonatal	
American Indian 2	44,299	366	193	173	8.26	4.36	3.91	
Less than 2,500 grams	3,354	188	136	51	56.05	40.55	15.21	
Less than 1,500 grams	580	134	114	20	231.03	196.55	34.48	
Less than 500 grams	59	48	48	-	813.56	813.56	*	
500-749 grams	91	43	37	6	472.53	406.59	*	
750-999 grams	101	16	10	6	*	*	*	
1,000-1,249 grams	144	15	10	5	*	*	*	
1,250-1,499 grams	185	12	9	3	*	*	*	
1,500-1,999 grams	658	22	10	12	33.43	*	*	
2,000-2,499 grams	2,116	31	12	19	14.65	*	*	
2,500 grams or more	40,939	178	55	122	4.35	1.34	2.98	
2,500-2,999 grams	7,388	64	25	39	8.66	3.38	5.28	
3,000-3,499 grams	16,548	67	19	48	4.05	*	2.90	
3,500-3,999 grams	12,545	34	9	25	2.71	*	1.99	
4,000-4,499 grams	3,686	12	2	10	*	*	*	
4,500-4,999 grams	652	-	-	-	*	*	*	
5,000 grams or more	120	-	-	-	*	*	*	
Not stated	6	1	1	-	...	...	...
Asian/Pacific Islander	281,264	1,179	854	325	4.19	3.04	1.16	
Less than 2,500 grams	23,701	850	719	131	35.86	30.34	5.53	
Less than 1,500 grams	3,261	654	596	58	200.55	182.77	17.79	
Less than 500 grams	337	301	293	8	893.18	869.44	*	
500-749 grams	532	206	183	23	387.22	343.98	43.23	
750-999 grams	661	77	65	12	116.49	98.34	*	
1,000-1,249 grams	779	32	26	6	41.08	33.38	*	
1,250-1,499 grams	952	38	29	9	39.92	30.46	*	
1,500-1,999 grams	4,126	70	45	25	16.97	10.91	6.06	
2,000-2,499 grams	16,314	126	78	48	7.72	4.78	2.94	
2,500 grams or more	257,528	325	131	194	1.26	0.51	0.75	
2,500-2,999 grams	66,438	118	56	61	1.78	0.84	0.92	
3,000-3,499 grams	118,295	117	39	77	0.99	0.33	0.65	
3,500-3,999 grams	59,400	69	26	43	1.16	0.44	0.72	
4,000-4,499 grams	11,827	17	7	10	*	*	*	
4,500-4,999 grams	1,384	3	1	2	*	*	*	
5,000 grams or more	184	1	1	-	*	*	*	
Not stated	35	4	4	-	...	...	...
Hispanic	924,048	4,583	3,325	1,258	4.96	3.60	1.36	
Less than 2,500 grams	66,842	3,239	2,748	491	48.46	41.11	7.35	
Less than 1,500 grams	11,555	2,485	2,241	244	215.06	193.94	21.12	
Less than 500 grams	1,324	1,120	1,101	19	845.92	831.57	*	
500-749 grams	2,008	778	675	103	387.45	336.16	51.29	
750-999 grams	2,288	270	214	55	118.01	93.53	24.04	
1,000-1,249 grams	2,601	177	137	40	68.05	52.67	15.38	
1,250-1,499 grams	3,334	140	114	26	41.99	34.19	7.80	
1,500-1,999 grams	12,739	339	249	89	26.61	19.55	6.99	
2,000-2,499 grams	42,548	415	258	158	9.75	6.06	3.71	
2,500 grams or more	857,151	1,321	555	767	1.54	0.65	0.89	
2,500-2,999 grams	171,446	461	225	236	2.69	1.31	1.38	
3,000-3,499 grams	378,254	502	188	314	1.33	0.50	0.83	
3,500-3,999 grams	242,073	286	108	178	1.18	0.45	0.74	
4,000-4,499 grams	56,327	47	18	29	0.83	*	0.51	
4,500-4,999 grams	7,937	15	6	9	*	*	*	
5,000 grams or more	1,114	10	9	1	*	*	*	
Not stated	55	22	22	-	...	...	...

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

... Category not applicable.

- Quantity zero

1 Includes races other than white or black.

2 Includes Aleuts and Eskimos.

NOTES: Infant deaths are weighted so numbers may not exactly add to totals due to rounding. Neonatal is less than 28 days and postneonatal is 28 days to under 1 year. Race and Hispanic origin are reported separately on birth certificates.