Public Use Data File Documentation

2006 Linked Birth/Infant Death Birth Cohort Data Set

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

2006 Linked Birth/Infant Death Birth Cohort Data Set

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Introduction

This documentation is for the 2006 birth cohort linked birth/infant death data set (linked file). Previous birth cohort linked files were released for data years 1983-91. Beginning with 1995 data, the linked file was released in two different formats - period data and birth cohort data.

Period data - The numerator for the 2006 period linked file consists of all infant deaths occurring in 2006 linked to their corresponding birth certificates, whether the birth occurred in 2005 or 2006. The denominator for this data set is all births occurring in 2006.

Birth cohort data - The numerator of the 2006 birth cohort linked file consists of deaths to infants born in 2006 linked to their corresponding birth certificates, whether the death occurred in 2006 or 2007. The denominator for this data set is all births occurring in 2006.

For most purposes, differences between the birth cohort and period linked files are negligible. However, birth cohort files are preferred for multivariate and some other types of detailed analysis because they follow a given cohort of births for an entire year to ascertain their mortality experience. This is generally considered to be a more robust methodology than the period file, which is essentially cross-sectional in nature.

The 2006 birth cohort linked file includes several data files. The first file includes linked birth and death certificate data for all US infants born in 2006 who died before their first birthday - 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 file. The third file is the 2006 NCHS natality file for the US with a few minor modifications - referred to as the denominator-plus file. These same three data files are also available for Puerto Rico, the Virgin Islands, and Guam. In addition, NCHS accepted a small number of late-filed birth records needed to link to infant deaths. This reduced the number of unlinked records and slightly increased the number of births in the denominator file.

For the denominator-plus file, selected variables from the numerator file have been added to the denominator file to facilitate processing. These variables include age at death (and recodes), underlying cause of death (and the 130-cause recode), manner of death, method of disposition, place of injury, autopsy, and record weight. These variables are the most widely used variables from the numerator file. When the number of variables required from the numerator file is limited, the denominator-plus file may be used by itself for ease of programming. Infant death identification numbers are also included, so that the same infant can be uniquely identified and matched between the numerator and denominator-plus files.

1989 and 2003 Revisions of the U.S. Standard Certificate of Live Birth and Certificate of Death

This data file includes birth data based on both the 1989 Revision of the U.S. Standard Certificate of Live Birth (unrevised) and the 2003 revision of the U.S. Standard Certificate of Live Birth (revised). The 2003 revision is described in detail elsewhere. (See the 2003 Revision website at: http://www.cdc.gov/nchs/nvss/vital_certificate_revisions.htm). Nineteen states (California (partial revision), Delaware, Florida, Idaho, Kansas, Kentucky, Nebraska, New Hampshire, New York (excluding New York City), North Dakota, Ohio, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, Washington and Wyoming) and Puerto Rico, implemented the 2003 revision on or before January 1, 2006. Where comparable, revised data are combined with data from the remaining reporting areas. (Revised data are denoted by "R;" unrevised data are denoted by "U" in the "Rev" column of the documentation.) Where data for the 1989 and 2003 certificate revisions are not comparable (e.g., educational attainment of the mother), unrevised and revised data are given in separate fields in the data file.

This file includes data for twenty-one states (California, Connecticut, Florida, Idaho, Kansas, Michigan, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, Oklahoma, Oregon, Rhode Island, South Carolina, South Dakota, Texas, Utah, Washington, and Wyoming) and the District of Columbia, which implemented the 2003 revision of the U.S. Standard Certificate of Death as of January 1, 2006. Data from all other areas are based on the 1989 revision. Most of the variables from the death certificate in this file are comparable despite changes to item wording and format in the 2003 revision. See more about the 2003 Revision at:

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

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 2006 cohort 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 2006 Natality User Guide). Although many data items are comparable across certificate revisions and are available for the entire United States, many items have more limited reporting areas. 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. 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 flags are available for most items on the file. 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 not reported), and "1" (item reported). 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 2006 cohort 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 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. Accordingly, use of the reporting flag for this item will produce 2006 cohort data for the month prenatal care began for the states that implemented the revised birth certificate by January 1st 2006.

Sample SAS program

01	DATA work;
02	INFILE 'C:VS06LKBC.USNUMPUB' LRECL=1259;
03	INPUT
04	restatus 138
05	precare 245-246
06	f_mpcb 668;
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 relatively quick, accurate 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. See Table B in the "Natality Technical Appendix" for state-specific information on reporting areas. This approach may also be used to limit the reporting area to only states reporting multiple or single race data (see multiple race section below).

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

01	DATA work;
02	INFILE 'C:VS06LKBC.USNUMPUB ' LRECL=1259;
03	INPUT
04	restatus 138
05	xmrstate \$ 107-108
06	precare 245-246;
07	
80	/*Exclude foreign residents*/
09	IF restatus NE 4;
10	/*Select reporting area*/
11	IF xmrstate in ('ID','KY','NY','PA','SC','TN','WA');
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 2006 data, twenty-three areas reported multiple race data: California, Delaware, Florida, Hawaii, Idaho, Kansas, Kentucky, Michigan (for selected facilities only), Minnesota, Nebraska, New Hampshire, New York State (excluding New York City), North Dakota, Ohio, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, and Wyoming. 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. See the "Technical Notes" of <u>Births: Final Data for 2006</u> and <u>Deaths: Final Data for 2006</u>.

Weighting

Beginning with the 1995 linked file, a weight was added to the linked numerator file to correct in part for biases in percent of records linked by major characteristics (see section

below on Percent of records linked). 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:

<u>number of linked infant deaths + number of unlinked infant deaths</u> 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, Virgin Islands, and Guam file.

Birthweight

Beginning with the 1995 linked file, an imputation for not-stated birthweight was added to the data set, to reduce potential bias in the computation of birthweight-specific infant mortality rates. Basically, 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 3.57 to 0.55 in the numerator file, and from 0.11 to 0.03 in the denominator file, thus greatly reducing the potential for underestimation when computing birthweight-specific infant mortality rates.

Methodology

The methodology used to create the national file of linked birth and infant death records takes advantage of two existing 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 rigid 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 used 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.

After the initial linkage NCHS provides computer lists of unlinked records to the states where the death occurred, to facilitate follow-up linking. If the birth occurred in a state different from the state of death, the state of birth identified on the death certificate was contacted to obtain the linking birth certificate. State additions and corrections were incorporated, and a final, national linked file was produced. Characteristics of the natality and mortality data from which the linked file is constructed are described in detail in the User Guide and Final Reports linked in this document.

Characteristics of Unlinked File

For the 2006 cohort linked file 1.3% 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 (see section on Race and Hispanic origin in Deaths: Final Data for 2006). 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. Documentation table 6 shows counts of unlinked records by race and age at death for each state of residence. The user is cautioned in using table 6 that the race and residence items are based on information reported on the death certificate, whereas tables 1-5 present data from the linked file in which the race and residence items are based on information reported on the birth certificate.

Percent of Records Linked

The 2006 cohort linked file for the 50 States and D.C. includes 28,306 linked infant death records and 370 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 28,676. While the overall percent linked for infant deaths in the 2006 cohort file is 98.7%, there are differences in percent linked by certain variables. These differences have important implications for how the data is analyzed.

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. Note in particular the percent linked for California (96.4), Louisiana (95.6), New Mexico (95.1) and Texas (96.9). 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 were 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, 2006 cohort linked file

United States	98.7	Nebraska	100.0
Alabama	100.0	Nevada	98.9
Alaska	97.4	New Hampshire	100.0
Arizona	99.2	New Jersey	99.0
Arkansas	99.1	New Mexico	95.1
California	96.4	New York State	97.8
Colorado	99.5	New York City	100.0
Connecticut	99.6	North Carolina	99.5
Delaware	100.0	North Dakota	100.0
District of Columbia	100.0	Ohio	97.9
Florida	99.5	Oklahoma	98.4
Georgia	99.8	Oregon	99.6
Hawaii	99.1	Pennsylvania	98.6
Idaho	98.8	Rhode Island	100.0
Illinois	99.3	South Carolina	99.6
Indiana	99.4	South Dakota	100.0
lowa	98.5	Tennessee	99.9
Kansas	99.0	Texas	96.9
Kentucky	98.9	Utah	100.0
Louisiana	95.6	Vermont	100.0
Maine	98.9	Virginia	100.0
Maryland	99.7	Washington	99.5
Massachusetts	99.7	West Virginia	100.0
Michigan	99.8	Wisconsin	99.8
Minnesota	99.5	Wyoming	100.0
Mississippi	98.9	Puerto Rico	99.8
Missouri	99.5	Virgin Islands	88.9
Montana	98.5	Guam	100.0

While the weighting protocol has been designed to correct for possible bias due to variations in match rates by characteristics, no statistical method can correct perfectly for data limitations. Therefore, slight variations in the percent of records linked should be taken into consideration when comparing infant mortality rates by detailed characteristics.

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.

Resources

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 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. The User Guide for natality and the mortality final report for 2006 linked in this document also provide information on the source of data, coding procedures, quality of the data, etc.

- A. National Center for Health Statistics. Vital statistics, Instructions for Classifying the Underlying Cause-of-Death, 2006. 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, 2006. 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, 2006. 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.
- E. National Center for Health Statistics. Specifications for U.S. Standard Certificate of Death – 2003 Revision.
- 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 2006. NCHS Instruction Manual Part 11. Hyattsville, Maryland: Public Health Service.

Instruction manuals are available at: http://www.cdc.gov/nchs/nvss/instruction_manuals.htm

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

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-ofdeath 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/mort990doc.pdf.

In addition to changes due to the implementation of a new ICD revision, rules for coding a cause of death may occasionally require modification at other times, when evidence suggests that such modifications will improve the quality of cause-of-death data. These changes may affect comparability of data between years for select causes of death.

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.

<u>2. Edit</u>. 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.

<u>3. Entity Axis Applications</u>. 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 on 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.

<u>1. Format</u>. 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.

<u>2. Edit</u>. 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.

<u>3. Record Axis Applications</u>. 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.

I. Numerator File:

<u>United States</u> A. Record count: B. Record length: C. Data counts:	28,306 1,259 a. By occurrence: 28,306 b. By residence: 28,278 c. To foreign residents: 28
<u>Territories</u> A. Record count: B. Record length:	474 1,259
II. Denominator File:	
<u>United States</u> A. Record count: B. Record length: C. Data counts:	4,273,264 900 a. By occurrence: 4,273,264 b. By residence: 4,265,593 c. To foreign residents: 7,671
<u>Territories</u> A. Record count: B. Record length:	53,920 900
III. Unlinked File:	
<u>United States</u> A. Record count: B. Record length: C. Data counts:	370 1,259 a. By occurrence: 370 b. By residence: 368 c. To foreign residents: 2
<u>Territories</u> A. Record count: B. Record length:	2 1,259

2006 Cohort Linked File: Selected Data Elements and Locations

Data Items	Denominator Plus File	<u>Numerator F</u> Birth	<u>-ile</u> Death	Unlinked File
General Infant death number Year of birth Year of death Resident status Record weight Flag indicating records included in both numerator	10-14 15-18 138 893-900	10-14 15-18 138 893-900	 1188-91 1151 	 15-18* 1188-91 1151
and denominator	868	868		
Infant Age at death Race Sex Gestation Birthweight Plurality Apgar score Birth place Day of week, birth/death Month, birth/death	 436 451-57 467-73 423 415-17 42, 59 29 19-20	 436 451-57 467-73 423 415-17 42,59 29 19-20	872-77 1187 1258-59	872-77 ⁺ 139-44* 436* 1187 1258-59
Mother Age Race Education Marital status Hispanic origin	89-93 139-44 155-58 153 148-49	89-93 139-44 155-58 153 148-49	 	
Father Age Race Hispanic origin	182-87 188-91, 199-200 195-96	182-87 188-91, 199-200 195-96	 	

Pregnancy items				
Total birth order	217	217		
Live birth order	212	212		
Month prenatal care				
began	245-7, 256-9	245-7, 256-9		
Number of prenatal	070 0	070 0		
visits	270-3	270-3		
Medical and health data				
Method of delivery	395-401	395-401		
Medical risk factors	313-19	313-19		
	328-44	328-44		
Tobacco	284-94	284-94		
Alcohol	295-98	295-98		
Weight gain during preg	276-78	276-78		
Obstetric procedures	351-61	351-61		
Complications and				
Characteristics of L/D	365-89	365-89		
Abnormal conditions	476-91	476-91		
Congenital anomalies	492-525	492-525		
Underlying cause of				
death			884-87	884-87
130 infant cause recode			889-91	889-91
Multiple conditions			903-1148	903-1148
Other items				
Residence reporting				
Flags	569-773	569-773		
Late record flag	9	9		
Attendant at birth	9 410	9 410		
Place of death and	+10	410		
decedent's status			1186	1186
Place of injury			882	882
Manner of death			878	878
Method of disposition			879	879
Autopsy			880	880

* For the unlinked file, these items are from the death certificate.

+ For the unlinked file, date of birth as reported on the death certificate is used to generate age at death.

Field

Len

Reporting

Flag Position

Rev* Values Definition

2006 COHORT LINKED PUBLIC-USE RECORD LAYOUT

1-6		6	FILLER	Filler			
7		1	REVISION	Revision	U,R	R	State used the 2003 version of the US Standard Birth Certificate (Revised)
						U	State used the 1989 version of the US Standard Birth Certificate (Unrevised)
8		1	FILLER	Filler			
9		1	LATEREC	Late Record Flag	U,R	0 1	Not late record Late record
10-14		5	SEQNUM	Infant Death Number This number uniquely identifies the same infant in the numerator and denominator-plus	files.	00001- nnnnn	
15-18		4	DOB_YY	Birth Year	U,R	2006	2006
19-20		2	DOB_MM	Birth Month	U,R	01 02 03 04 05 06 07 08 09 10 11 12	January February March April May June July August September October November December
21-28		8	FILLER	Filler			
29		1	DOB_WK	Weekday	U,R	1 2 3 4 5 6 7	Sunday Monday Tuesday Wednesday Thursday Friday Saturday
	* U,R	Include (revise	d).	h the 1989 Revision of the U.S. Certificate of Live			nd the 2003 Revision of the U.S. Certificate of Live Birth

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
30-31	2	OSTATE	Occurrence Territory (This item is available in only, geographic codes a available in the U.S.file)		U,R		
			Outlying Areas	of the U.S.		GU PR VI	Guam Puerto Rico Virgin Islands
32-36	5	FILLER	Filler				
37-39	3	OCNTYFIPS	Occurrence County (This item is available in only, geographic codes a available in the U.S.file)		U,R		
			Puerto Rico			127 999	San Juan County less than 250,000
			Other Outlying	Areas of the U.S.		000 999	No county level geography County less than 250,000
40	1	OCNTYPOP	Occurrence County Pop (This item is available in only, geographic codes a available in the U.S.file)	the territory file	U,R	0 1 2 9	County of 1,000,000 or more County of 500,000 to 1,000,000 County of 250,000 to 500,000 County less than 250,000
41	1	BFACIL	Birth Place (Revised)	676	R	1 2 3 4 5 6 7 9 Blank	Hospital Freestanding Birthing Center Home (intended) Home (not intended) Home (unknown if intended) Clinic / Doctor's Office Other Unknown Not on certificate
42	1	UBFACIL	Birth Place		U,R	1 2 3 4	Hospital Freestanding Birthing Center Clinic / Doctor's Office Residence

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
						5 9	Other Unknown
43-58	16	FILLER	Filler				
59	1	BFACIL3	Birth Place Recode		U,R	1 2 3	In Hospital Not in Hospital Unknown or Not Stated
60-86	27	FILLER	Filler				
87	1	MAGE_IMPFLG	Mother's Age Imputed		U,R	Blank 1	Age not imputed Age imputed
88	1	MAGE_REPFLG	Reported Age of Mother F	ag	U,R	Blank 1	Reported age not used Reported age used
89-90	2	MAGER	Mother's Age Recode 41		U,R	12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	10 – 12 years 13 years 14 years 15 years 15 years 16 years 17 years 18 years 19 years 20 years 21 years 22 years 23 years 24 years 25 years 26 years 27 years 28 years 29 years 30 years 31 years 32 years 33 years 34 years

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
						36 37 38 39 40 41 42 43 44 45 46 47 48	 36 years 37 years 38 years 39 years 40 years 41 years 42 years 43 years 44 years 45 years 46 years 47 years 48 years
						49 50	49 years 50 -54 years
91-92	2	MAGER14	Mother's Age Recode 14		U,R	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
93	1	MAGER9	Mother's Age Recode 9		U,R	1 2 3 4 5 6 7 8 9	Under 15 years 15-19 years 20-24 years 25-29 years 30-34 years 35-39 years 40-44 years 45-49 years 50-54 years

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	n	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
94-95		2	MBCNTRY	Mother's Birth Country (This item is available in th only, geographic codes are available in the U.S.file)		R**	AA-ZZ	A complete list is shown in the Geographic Code Outline.
		** Also	o includes unrevised	territories/possessions that use	e new geographic co	oding.		
96-108		13	FILLER	Filler				
109-110		2	MRTERR	Mother's Residence (This item is available in th only, geographic codes are available in the U.S.file)		U,R	GU PR VI CC CU MX US XX ZZ	Guam Puerto Rico Virgin Islands Canada Cuba Mexico United States Not Applicable Not Classifiable
111-113		3	FILLER	Filler				
114-116		3	MRCNTY	Mother's County of reside (This item is available in th only, geographic codes are available in the U.S.file) <u>Puerto Rico</u>	e territory file		127 999	San Juan County of less than 250,000 or foreign resident
				<u>Other Outlying A</u>	reas of the US		000 999	No county level geography County of less than 250,000 or foreign resident
117-131		15	FILLER	Filler				
132		1	RCNTY_POP	Population of Residence C (This item is available in th		U,R		
	 * U,R Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth (unrevised), and the 2003 Revision of the U.S. Certificate of Live Birth (revised). U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision. R Includes data based on both the 2003 Revision of the U.S. Certificate of Live Birth; excludes data based on the 1989 Revision. 5 							

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition		
			only, geographic codes are available in the U.S.file)	e not		0 1 2 9 Z	County of 1,000,000 or more County of 500,000 to 1,000,000 County of 250,000 to 500,000 County less than 250,000 Foreign resident		
133-136	4	FILLER	Filler						
137	1	RECTYPE	Record Type (This item is available in th only, geographic codes are available in the U.S.file)		U,R	1 2	RESIDENT: State and county of occurrence and residence are the same. NONRESIDENT: State and county of occurrence and residence are different.		
138	1	RESTATUS	Residence Status <u>United States</u>		U,R	1 2 3 4	RESIDENT: State and county of occurrence and residence are the same. INTRASTATE NONRESIDENT: State of occurrence and residence are the same but county is different. INTERSTATE NONRESIDENT: State of occurrence and residence are different but both are one of the 50 US states or District of Columbia. FOREIGN RESIDENT: The state of residence is not one of the 50 US states or District of Columbia.		
			<u>Outlying areas of</u>	<u>f the US</u>		1 2 2 3	RESIDENT: State and county of occurrence and residence are the same. (Unique to Guam, all US residents are considered residents of Guam and thus are assigned 1.) INTRATERRITORY NONRESIDENT: Territory of occurrence and residence are the same but county is different. INTERTERRITORY RESIDENT: Territory of occurrence and residence are different but both are US Territories. FOREIGN RESIDENT: The residence is not a US Territory.		
139-140	2	MBRACE	Mother's Bridged Race Includes only states reporti 01-14 used for individuals Codes 21-24 used for indiv one race that have been bri	reporting only one ra viduals reporting mor	ace. e than	01 02 03 04 05	White – single race Black – single race American Indian/Alaska Native – single race Asian Indian – single race Chinese – single race		
* U,R	Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth (unrevised), and the 2003 Revision of the U.S. Certificate of Live Birth								

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position		Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
				Code 24 also used for in more than one Asian/Pac see "Technical Appendi:	cific Islander group; x."		06 07 08 09 10 11 12 13 14 21 22 23	Filipino – single race Japanese – single race Korean – single race Vietnamese – single race Other Asian – single race Hawaiian – single race Guamanian – single race Samoan – single race Other Pacific Islander – single race White – bridged multiple race Black – bridged multiple race American Indian / Alaska Native – bridged multiple race
				** Also includes unrevis multiple race.	sed states that report		24 Blank	Asian / Pacific Islander – bridged multiple race Not on certificate
141-142		2	MRACE	Mother's Race Includes only states excl race. Some areas report a Pacific Islander (API) co 18-68 replace former co Code 78 replaces former areas.	additional Asian or odes for race. Codes de 08 for these areas.	U		
				United States			01	White
							02	Black
							03	American Indian / Alaskan Native
							04	Chinese
							05	Japanese
							06	Hawaiian (includes part Hawaiian)
							07	Filipino
							18	Asian Indian
							28	Korean
							38	Samoan
							48	Vietnamese
							58	Guamanian
							68	Other Asian or Pacific Islander in areas reporting codes 18-58.
							78	Combined other Asian or Pacific Islander, includes 18-68 for areas that do not report them separately.
							Blank	Not on certificate
	* U,R	Include		oth the 1989 Revision of the U	J.S. Certificate of Live	Birth (unr		d the 2003 Revision of the U.S. Certificate of Live Birth

- (revised).U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.
- U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.
 R Includes data based on both the 2003 Revision of the U.S. Certificate of Live Birth; excludes data based on the 1989 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
			Puerto Rico			01 02 00 Blank	White Black Other races Not on certificate
			<u>Guam</u>			01 02 03 04 05 06 07 08 58 Blank	White Black American Indian / Alaska Native Chinese Japanese Hawaiian (includes part Hawaiian) Filipino Other Asian or Pacific Islander Guamanian Not on certificate
			<u>All other Outlyin</u>	g Areas of the US		01 02 03 04 05 06 07 08 Blank	White Black American Indian / Alaska Native Chinese Japanese Hawaiian (includes part Hawaiian) Filipino Other Asian or Pacific Islander Not on certificate
143	1	MRACEREC	Mother's Race Recode Includes individuals reporti individuals reporting more to a single race.				
			United States and the United States	all Outlying Areas of except Puerto Rico	<u>of</u>	1 2 3 4	White Black American Indian / Alaskan Native Asian / Pacific Islander
			Puerto Rico			1 2 0	White Black Other (not classified as White or Black)

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Positior	1	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
144		1	MRACEIMP	Mother's Race Imputed F	lag	U,R	Blank 1 2	Mother's race not imputed Unknown race imputed All other races, formerly coded 09, imputed.
145-147		3	FILLER	Filler				
148		1	UMHISP	Mother's Hispanic Origin Mother's Race/Hispanic O	569	U,R U,R	0 1 2 3 4 5 9 1 2 3 4 5	Non-Hispanic Mexican Puerto Rican Cuban Central American Other and Unknown Hispanic Origin unknown or not stated Mexican Puerto Rican Cuban Central or South American Other and Unknown Hispanic
150-152		3	FILLER	Filler			6 7 8 9	Non-Hispanic White Non-Hispanic Black Non-Hispanic Other Races Origin unknown or not stated
153		1	MAR	Mother's Marital Status <u>United States and</u> <u>the US except Pue</u>	all Outlying Areas of erto Rico	U,R <u>of</u>	1 2 9	Yes No Unknown or not Stated
				Puerto Rico			1 2 3 9	Yes Unmarried parents living together Unmarried parents not living together Unknown or not stated
154		1	MAR_IMP	Mother's Marital Status I	mputed Flag	U,R	Blank 1	Marital Status not imputed Marital Status imputed
	* U.R	Include	s data based on both	h the 1989 Revision of the U.S.	. Certificate of Live	Birth (unr	evised), an	d the 2003 Revision of the U.S. Certificate of Live

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
155	1	MEDUC	Mother's Educ –Revised	571	R	1 2 3 4 5 6 7 8 9 Blank	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 Not on certificate
156-157	2	UMEDUC	Mother's Educ –Unrevise	d 647	U	00 01-08 09 10 11 12 13 14 15 16 17 99 Blank	No formal education Years of elementary school 1 year of high school 2 years of high school 3 years of high school 4 years of high school 1 year of college 2 years of college 3 years of college 4 years of college 5 or more years of college Not stated Not on certificate
158	1	MEDUC_REC	Mother's Education Reco	de 647	U	1 2 3 4 5 6 Blank	0 – 8 years 9 – 11 years 12 years 13 – 15 years 16 years and over Not stated Not on certificate
159-174	16	FILLER	Filler				
175	1	FAGERPT_FLG	Father's Reported Age Us	sed	U,R	Blank 1	Father's reported age not used Father's reported age used
176-181	6	FILLER	Filler				

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
182-183	2	FAGECOMB	Father's Combined Age (l	Revised)	R	09-98 99 Blank	Father's combined age in years Unknown or not stated Not on certificate
184-185	2	UFAGECOMB	Father's Combined Age (Unrevised)	U	10-98 99	Father's combined age in years Unknown or not stated
186-187	2	FAGEREC11	Father's Age Recode 11		U,R	01 02 03 04 05 06 07 08 09 10 11	Under 15 years 15-19 years 20-24 years 25-29 years 30-34 years 35-39 years 40-44 years 45-49 years 50-54 years 55-98 years Not stated
188-189	2	FBRACE	Father's Bridged Race Includes only states reportin 01-14 used for individuals r Codes 21-24 used for indivi one race that have been brid Code 24 also used for indiv more than one Asian/Pacifik see "Technical Appendix."	reporting only one ra iduals reporting more dged to a single race. iduals reporting c Islander group;	ce. e than	$\begin{array}{c} 01\\ 02\\ 03\\ 04\\ 05\\ 06\\ 07\\ 08\\ 09\\ 10\\ 11\\ 12\\ 13\\ 14\\ 21\\ 22\\ 23\\ 24\\ 99 \end{array}$	White – single race Black – single race American Indian/Alaska Native – single race Asian Indian – single race Chinese – single race Filipino – single race Japanese – single race Japanese – single race Vietnamese – single race Other Asian – single race Hawaiian – single race Guamanian – single race Samoan – single race Other Pacific Islander – single race White – bridged multiple race Black – bridged multiple race American Indian / Alaska Native – bridged multiple race Unknown or not stated, also includes states not reporting
			** Also includes unrevised multiple race.	states that report		Blank	multiple race. Not on certificate

^{*} U,R Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth (unrevised), and the 2003 Revision of the U.S. Certificate of Live Birth (revised).

- U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.
- R Includes data based on both the 2003 Revision of the U.S. Certificate of Live Birth; excludes data based on the 1989 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
190	1	FILLER	Filler				
191	1	FRACEREC	Father's Race Recode Includes individuals repo individuals reporting mon to a single race.				
			United States a the US except l	nd all Outlying Areas of Puerto Rico	<u>of</u>	1 2 3 4 9	White Black American Indian / Alaskan Native Asian / Pacific Islander Unknown or not stated
			<u>Puerto Rico</u>			1 2 9 0	White Black Unknown or not stated Other (not classified as White or Black)
192-194	3	FILLER	Filler				
195	1	UFHISP	Father's Hispanic Origi	n-Unrevised			
				570	U,R	0 1 2 3 4 5 9	Non-Hispanic Mexican Puerto Rican Cuban Central American Other and Unknown Hispanic Origin unknown or not stated
196	1	FRACEHISP	Father's Race/Hisp Ori	gin 570	U,R	1 2 3 4 5 6 7 8 9	Mexican Puerto Rican Cuban Central or South American Other and Unknown Hispanic Non-Hispanic White Non-Hispanic Black Non-Hispanic Other Races Origin unknown or not stated
197-198	2	FILLER	Filler				
* U.R	Include	es data based on bot	h the 1989 Revision of the U	.S. Certificate of Live	Birth (unr	evised), an	d the 2003 Revision of the U.S. Certificate of

^{*} U,R Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth (unrevised), and the 2003 Revision of the U.S. Certificate of Live Birth (revised).

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

R Includes data based on both the 2003 Revision of the U.S. Certificate of Live Birth; excludes data based on the 1989 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
199-200	2	UFRACE	Father's Race (Unrevised) <u>United States</u>)	U	01 02 03 04 05 06 07 18 28 38 48 58 68 78 99 Blank	White Black American Indian / Alaska Native Chinese Japanese Hawaiian (includes part Hawaiian) Filipino Asian Indian Korean Samoan Vietnamese Guamanian Other Asian or Pacific Islander in areas reporting codes 18-58. Combined other Asian or Pacific Islander, includes 18-68 for areas that do not report them separately. Unknown or not stated Not on certificate
			Puerto Rico			01 03 00 99 Blank	White Black Other races not classified white or black Unknown or not stated Not on certificate
			<u>Guam</u>			01 02 03 04 05 06 07 08 58 99 Blank	White Black American Indian / Alaska Native Chinese Japanese Hawaiian (includes part Hawaiian) Filipino Other Asian or Pacific Islander Guamanian Unknown or not stated Not on certificate
* 11 5	T- 1 1	- dete has 1 - 1 - 1	All other Outlying		Direth (01 02 03	White Black American Indian / Alaska Native

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
						04 05 06 07 08 99 Blank	Chinese Japanese Hawaiian (includes part Hawaiian) Filipino Other Asian or Pacific Islander Unknown or not stated Not on certificate
201-211	11	FILLER	Filler				
212	1	LBO_REC	Live Birth Order Recode		U,R	1-7 8 9	Number of live birth order. 8 or more live births Unknown or not stated
213-216	4	FILLER	Filler				
217	1	TBO_REC	Total Birth Order Recode	2	U,R	1-7 8 9	Number of total birth order. Total birth order of 8 or more Unknown or not stated
218-219	2	FILLER	Filler				
220-221	2	DLLB_MM	Date of Last Live Birth M	lonth	R	01 02 03 04 05 06 07 08 09 10 11 12 88 99	January February March April May June July August September October November December Not applicable Unknown or not stated
222-225	4	DLLB_YY	Date of Last Live Birth Y	ear	R	nnnn 8888 9999	Year of last live birth Not applicable Unknown or not stated

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
226-244	19	FILLER	Filler				
245-246	2	PRECARE	Month Prenatal Care Beg		_		
				668	R	00 01-10 99 Blank	No prenatal care Month prenatal care began Unknown or not stated Not on certificate
247	1	PRECARE_REC	Month Prenatal Care Beg	an Recode (Revised 668	l) R	1	1 st to 3 rd month
				000	ĸ	2 3 4 5 Blank	4 th to 6 th month 7 th to final month No prenatal care Unknown or not stated Not on certificate
248-255	8	FILLER	Filler				
256-257	2	MPCB	Month Prenatal Care Beg				
				669	U	00 01-10 99 Blank	No prenatal care Month prenatal care began Unknown or not stated Not on ceritificate
258	1	MPCB_REC6	Month Prenatal Care Beg				
				669	U	1 2 3 4 5 6 Blank	1 st to 2 nd month 3 rd month 4 th to 6 th month 7 th to final month No prenatal care Unknown or not stated Not on certificate
259	1	MPCB_REC5	Month Prenatal Care Beg	an Recode 5 (Unrev	vised)		
				669	U	1 2 3 4 5 Blank	1 st trimester (1 st to 3 rd month) 2 nd trimester (4 th to 6 th month) 3 rd trimester (7 th to final month) No prenatal care Unknown or not stated Not on certificate
260-269	10	FILLER	Filler				
* U,R	Include		the 1989 Revision of the U.S	. Certificate of Live	Birth (unr	evised), an	d the 2003 Revision of the U.S. Certificate of Live Birth

(revised).U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
270-271	2	UPREVIS	Number of Prenatal Visits		U,R	00-49 99	Number of prenatal visits Unknown or not stated
272-273	2	PREVIS_REC	Number of Prenatal Visits	Recode	U,R	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
274	1	FILLER	Filler				
275	1	APNCU	Adequacy of Prenatal Car	e Utilization Index 668	(Revised) R	1 2 3 4 9 Blank	Inadequate Intermediate Adequate Adequate + Unknown Not on certificate
276-277	2	WTGAIN	Weight Gain	648	U,R	00-97 98 99	Weight gain in pounds 98 pounds and over Unknown or not stated
278	1	WTGAIN_REC	Weight Gain Recode	648	U,R	1 2 3 4 5 6 7 8 9	Less than 16 pounds 16 to 20 pounds 21 to 25 pounds 26 to 30 pounds 31 to 35 pounds 36 to 40 pounds 41 to 45 pounds 46 or more pounds Unknown or not stated

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
279	1	U_APNCU	Adequacy of Prenatal Ca	re Utilization Index 669	t (Unrevise U	ed) 1 2 3 4 9 Blank	Inadequate Intermediate Adequate Adequate + Unknown Not on certificate
280	1	DFPC_IMP	Day of Date First Prenata	l Care Imputed	R	Blank 1	Day of date first prenatal care not imputed Day of date first prenatal care imputed
281-283	3	FILLER	Filler				
284-285	2	CIG_1	Cigarettes 1 st Trimester	575	R	00-97 98 99 Blank	Number of cigarettes daily 98 or more cigarettes daily Unknown or not stated Not on certificate
286-287	2	CIG_2	Cigarettes 2 nd Trimester	575	R	00-97 98 99 Blank	Number of cigarettes daily 98 or more cigarettes daily Unknown or not stated Not on certificate
288-289	2	CIG_3	Cigarettes 3 rd Trimester	575	R	00-97 98 99 Blank	Number of cigarettes daily 98 or more cigarettes daily Unknown or not stated Not on certificate
290	1	TOBUSE	Tobacco Use	667	U	1 2 9 Blank	Yes No Unknown or not stated Not on certificate
291-292	2	CIGS	Cigarettes per Day	667	U	00-97 98 99 Blank	Number of cigarettes daily 98 or more cigarettes daily Unknown or not stated Not on certificate
293 * U.D.	1	UCIG_REC6	Cigarette Recode	667	U	0 1 2	Non-smoker 1 to 5 cigarettes daily 6 to 10 cigarettes daily

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	1	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
							3 4 5 6 Blank	11 to 20 cigarettes daily21 to 40 cigarettes daily41 or more cigarettes dailyUnknown or not statedNot on certificate
294		1	CIG_REC	Cigarette Recode	575	R	Y N U Blank	Yes No Unknown or not stated Not on certificate
295		1	ALCOHOL	Alcohol Use	649	U	1 2 9 Blank	Yes No Unknown or not stated Not on certificate
296-297		2	DRINKS	Drinks per Week	649	U	00-97 98 99 Blank	Number of drinks weekly 98 or more drinks weekly Unknown or not stated Not on certificate
298		1	DRINKS_REC	Drinks Recode	649	U	0 1 2 3 4 5 Blank	Non drinker 1 drink per week 2 drinks per week 3-4 drinks per week 5 or more drinks per week Unknown or not stated Not on certificate
299-312		14	FILLER	Filler				
313-319		9	Risk Factors (Re The checkbox iter	vised) ns below follow this code struc	cture:		Y N U Blank	Yes No Unknown or not stated Not on certificate
	313 314 315 316 317 * U,R	1 1 1 1 Include (revised		Prepregnancy Diabetes Gestational Diabetes Prepregnancy Hypertesion Gestational Hypertension Eclampsia the 1989 Revision of the U.S.	585 586	R R R R R Birth (unr		d the 2003 Revision of the U.S. Certificate of Live Birth
	U		,	the 1989 Revision of the U.S.	Certificate of Live	Birth; exc	ludes data	based on the 2003 Revision.

Position	l	Len	Field	Description	Reporti Flag Po		Rev*	Values	Definition
	318 319	1 1	RF_PPTERM RF_PPOUTC	Previous Preterm Birth Poor Pregnancy Outcome	587 588		R R		
320-323		4	FILLER	Filler					
324		1	RF_CESAR	Previous Cesarean Deliver	ies 593		R	Y N U Blank	Yes No Unknown or not stated Not on certificate
325-326		2	RF_CESARN	Number of Previous Cesar	ean Deliv 594	eries	R	00 01-30 99 Blank	None Number of previous cesareans Unknown or not stated Not on certificate
327		1	FILLER	Filler					
328-344		17		ns indented below follow this s 1989 Standard unless otherwis			U	1 2 9 Blank	Yes No Unknown Not on certificate
	328	1	URF_ANEMIA	Anemia		681		Dialik	Not on certificate
	329	1	URF_CARDC	Cardiac		682			
	330 331	1 1	URF_LUNG URF_DIAB	Acute or Chronic Lung Dis Diabetes	sease	683 684	U.R		
	332	1	URF_GEN	Genital Herpes		685	0,10		
	333	1	URF_HYDR	Hydramnios / Oligohydram	nnios	686			
	334	1	URF_HEMO	Hemoglobinopathy		687			
	335	1	URF_CHYPER	Chronic Hypertension	_	688	U,R		
	336	1	URF_PHYPER	Prepregnancy Associated H	Iypertens		U,R		
	337 338	1 1	URF_ECLAM URF_INCERV	Eclampsia Incompetent Cervix		690 691	U,R		
	338 339	1	URF_INCERV URF_PRE4000	Previous Infant 4000+ Gra	ms	691 692			
	340	1	URF_PRETERM	Previous Preterm/Small for					
	341	1	URF_RENAL	Renal Disease		694			
	342	1	URF_RH	Rh Sensitization		695			
	343	1	URF_UTERINE	Uterine Bleeding		696			
	344	1	URF_OTHER	Other medical risk factors		697			

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position		Len	Field	Description	Repor Flag P	ting Position	Rev*	Values	Definition
345-350		6	FILLER	Filler					
351-354		4	Obstetric Proceed The checkbox ite	dures (Revised) ems indented below follow thi	is structure	:		Y N U Blank	Yes No Unknown or not stated Not on certificate
	351	1	OP_CERV	Cervical Cerclage		601	R	DIAIIK	Not on certificate
	352	1	OP_TOCOL	Tocolysis		601	R		
	353	1	OP_ECVS	Successful External Cepl	halic Versi		R		
	354	1	OP_ECVF	Failed External Cephalic		604	R		
355-361		7	The checkbox ite	dures (Unrevised) ems indented below follow thi l 1989 Standard unless otherw		::		1 2 9 Blank	Yes No Unknown or not stated Not on certificate
	355	1	UOP_AMNIO	Amniocentesis	701				
	356	1	UOP_MONIT	Electronic Fetal Monitor					
	357	1	UOP_INDUC	Induction of Labor	703		U,R		
	358	1	UOP_STIML	Stimulation of Labor	704		- ,		
	359	1	UOP_TOCOL	Tocolysis	705		U,R		
	360	1	UOP_ULTRA	Ultrasound	706				
	361	1	UOP_OTHER	Other Obstetric Procedu	ires 707				
362-364		3	Onset of Labor The checkbox ite	ems below follow this structur	re:			Y N U Blank	Yes No Unknown or not stated Not on certificate
	362	1	ON_RUPTR	Premature Rupture of M	lembrane	605	R	Diam	
	363	1	ON_PRECIP	Precipitous Labor		606	R		
	364	1	ON_PROL	Prolonged Labor		607	R		
365-373		9		of Labor and Delivery (Rev ems below follow this structur				Y N U Blank	Yes No Unknown or not stated Not on certificate
	365	1	LD_INDL	Induction of Labor	608		R	210111	
	* U,R	Include (revise		h the 1989 Revision of the U.	S. Certifica	ate of Live	Birth (unr	evised), an	d the 2003 Revision of the U.S. Certificate of Live Birth

(revised).U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Positi	Rev*	Values	Definition
366 367 368 369 370 371 372 373	1 1 1 1 1 1 1	LD_AUGM LD_NVPR LD_STER LD_ANTI LD_CHOR LD_MECS LD_FINT LD_ANES	Augmentation of Labor Non-Vertex Presentation Steriods Antibiotics Chorioamnionitis Meconium Staining Fetal Intolerance Anesthesia	609 610 611 612 613 614 615 616	R R R R R R R		
374-389	16	The checkbox iter	Labor and Delivery (Unrevi ns indented below follow this 1989 Standard unless otherwis	structure:		1 2 9 Blank	Yes No Unknown or not stated Not on certificate
374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ULD_FEBR ULD_MECO ULD_RUPTR ULD_ABRUP ULD_PREPLA ULD_EXCBL ULD_SEIZ ULD_PRECIP ULD_PROLG ULD_DYSFN ULD_BREECH ULD_CEPHAL ULD_CORD ULD_ANEST ULD_DISTR ULD_OTHER	Febrile Meconium Premature Rupture of Me Abruptio Placenta Placenta Previa Other Excessive Bleeding Seizures During Labor Precipitous Labor Prolonged Labor Dysfunctional Labor Breech Cephalopelvic Disproporti Cord Prolapse Anesthetic Comlications Fetal Distress Other Complications	71 71 71 71 71 71 71 72 72	2 U,R 3 4 5 6 7 8 U,R 9 20 21 U,R 22 23 24 25	Blank	Not on certificate
390-394 390	5 1	<u>Method of Delive</u> ME_ATTF	ery (Revised) Attempted Forceps	617	R	Y	Yes
590	I	WE_ATT	мистриси гогсеря	017	К	r N U Blank	No Unknown Not on certificate
391	1	ME_ATTV	Attempted Vacuum	618	R	Y N	Yes No

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Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
						U Blank	Unknown Not on certificate
392	1	ME_PRES	Fetal Presentation	619	R	1 2 3 9 Blank	Cephalic Breech Other Unknown Not on certificate
393	1	ME_ROUT	Route & Method of Delive	ry 620	R	1 2 3 4 9 Blank	Spontaneous Forceps Vacuum Cesarean Unknown Not on certificate
394	1	ME_TRIAL	Trial of Labor Attempted	621	R	Y N X U Blank	Yes No Not applicable Unknown Not on certificate
395-400	6	Method of Delive The checkbox iter	ery (Unrevised) ns indented below follow this	structure:		1 2 9	Yes No Unknown or not stated
395 396 397 398 399 400	1 1 1 1 1	UME_VAG UME_VBAC UME_PRIMC UME_REPEC UME_FORCP UME_VAC	Vaginal Vaginal after C-Section Primary C-Section Repeat C-Section Forceps Vacuum	730 731 732 733 734 735	U U U U,R U,R	9	Unknown or not stated
401 * U.R	l	RDMETH_REC	Delivery Method Recode (the 1989 Revision of the U.S.	679	R Birth (unr	1 2 3 4 5 6 evised), an	Vaginal (excludes vaginal after previous C-section) Vaginal after previous c-section Primary C-section Repeat C-section Vaginal (unknown if previous c-section) (2003 Standard only) C-section (unknown if previous c-section) (2003 Standard d the 2003 Revision of the U.S. Certificate of Live Birth

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
						9	only) Not stated
402	1	UDMETH_REC	Delivery Method Recode	(Unrevised) 680	U	1 2 3	Vaginal (excludes vaginal after previous C-section) Vaginal after previous c-section Primary C-section
						4 9	Repeat C-section Not stated
403	1	DMETH_REC			U,R	1 2 9	Vaginal C-Section Unknown
404-409	6	FILLER	Filler				
410	1	ATTEND	Attendant		U,R	1 2 3 4 5 9	Doctor of Medicine (MD) Doctor of Osteopathy (DO) Certified Nurse Midwife (CNM) Other Midwife Other Unknown or not stated
411-414	4	FILLER	Filler				
415	2	APGAR5	Five Minute APGAR Score	re 574	U,R	00-10 99	A score of 0-10 Unknown or not stated
417	1	APGAR5R	Five Minute APGAR Rec	ode 574	U,R	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
418-422	5	FILLER	Filler				
423	1	DPLURAL	Plurality Recode		U,R	1 2 3 4	Single Twin Triplet Quadruplet
* U.R	Include	es data based on both	the 1989 Revision of the U.S	. Certificate of Live	Birth (unr	evised), ar	nd the 2003 Revision of the U.S. Certi

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Positic	on	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
							5	Quintuplet or higher
424		1	FILLER	Filler				
425		1	IMP_PLUR	Plurality Imputed		U,R	Blank 1	Plurality is imputed Plurality is not imputed
426-43	5	10	FILLER	Filler				
436		1	SEX	Sex of Infant		U,R	M F	Male Female
437		1	IMP_SEX	Imputed Sex		U,R	Blank 1	Infant Sex not Imputed Infant Sex is Imputed
438-43	9	2	DLMP_MM	Last Normal Menses Mon	th	U,R	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
440-44	1	2	DLMP_DD	Last Normal Menses Day		U,R	01-31 99	As applicable to month of LMP Unknown or not stated
442-44	5	4	DLMP_YY	Last Normal Menses Year	r	U,R	nnnn 9999	Year of last normal menses Unknown or not stated
446-44	7	2	ESTGEST	Obstetric/Clinical Gestation	on Est. 573	U,R	0-98 99	0 through 98 th week of gestation Unknown or not stated
448-45	0	3	FILLER	Filler				
451-45	2	2	COMBGEST	Gestation – Detail in Weel	ks	U,R	17-47 99	17 th through 47 th week of gestation Unknown
	* U,R U	(revised	ł).	h the 1989 Revision of the U.S h the 1989 Revision of the U.S				d the 2003 Revision of the U.S. Certificate of Live Birth based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
453-454	2	GESTREC10	Gestation Recode 10		U,R	01 02 03 04 05 06 07 08 09 10	Under 20 weeks 20-27 weeks 28-31 weeks 32-35 weeks 36 weeks 37-39 weeks 40 weeks 41 weeks 42 weeks and over Unknown
455	1	GESTREC3	Gestation Recode 3		U,R	1 2 3	Under 37 weeks 37 weeks and over Not stated
456	1	OBGEST_FLG	Clinical Estimate of Gesta	tion Used Flag	U,R	Blank 1	Clinical Estimate is not used Clinical Estimate is used
457	1	GEST_IMP	Gestation Imputed Flag		U,R	Blank 1	Gestation is not imputed Gestation is imputed
458-466	9	FILLER	Filler				
467-470	4	BRTHWGT	Imputed Birthweight		U,R	0227-81 9999	65 Number of grams Not stated birthweight
471-472	2	BWTR14	Birthweight Recode 14		U,R	01 02 03 04 05 06 07 08 09 10 11 12 13 14	499 grams or less 500 – 749 grams 750 - 999 grams 1000 - 1249 grams 1250 – 1499 grams 1500 – 1999 grams 2000 – 2499 grams 2500 – 2999 grams 3000 – 3400 grams 3500 – 3999 grams 4000 – 4499 grams 5000 – 8165 grams Not Stated

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Positior	1	Len	Field	Description	Repor Flag P	ting Position	Rev*	Values	Definition
473		1	BWTR4	Birthweight Recode 4			U,R	1 2 3 4	1499 grams or less 1500 – 2499 grams 2500 grams or more Unknown or not stated
474		1	FILLER	Filler					
475		1	BWTIMP	Imputed Birth Weight Flag	g		U,R	Blank 1	Birth Weight is not imputed Birth Weight is imputed
476-482		7		tions of the Newborn (Revise ns below follow this structure:				Y N U Plank	Yes, Complication reported No Complication reported Unknown or not stated
	476	1	AB_AVEN1	Assisted Ventilation	628	R		Blank	Not on certificate
	477	1	AB_AVEN6	Assisted Ventilation >6 hrs		R			
	478	1	AB_NICU	Admission to NICU	630	R			
	479	1	AB_SURF	Surfactant	631	R			
	480	1	AB_ANTI	Antibiotics	632	R			
	481	1	AB_SEIZ	Seizures	633	R			
	482	1	AB_BINJ	Birth Injury	634	R			
483-491		9		tions of the Newborn (Unrev					
			The checkbox iter	ns indented below follow this	structure	:		1 2 9 Blank	Complication reported Complication not reported Complication not classifiable Not on certificate
	483	1	UAB_ANEM	Anemia		740	U		
	484	1	UAB_INJURY	Birth Injury		741	U		
	485	1	UAB_ALCOH	Fetal Alcohol Syndrome		742	U		
	486	1	UAB_HYAL	Hyaline Membrane Diseas		743	U		
	487	1	UAB_MECON	Meconium Aspiration Syn		744	U		
	488	1	UAB_VENL30	Assisted Ventilation < 30 n		745	U		
	489	1	UAB_VEN30M	Assisted Ventilation $>= 30$	min	746	U		
	490	1	UAB_NSEIZ	Seizures		747	U		
	491	1	UAB_OTHER	Other Abnormal Condition	ns	748	U		
492-503		12	Congenital Anon	nalies of the Newborn (Revis	ed)				
				ns below follow this structure:				Y	Yes, anomaly reported
	* U,R U	(revised	l).	the 1989 Revision of the U.S. the 1989 Revision of the U.S.					d the 2003 Revision of the U.S. Certificate of Live Birth based on the 2003 Revision.
	R	Include	s data based on both	the 2003 Revision of the U.S.	Certifica	ate of Live	Birth; exc	ludes data	based on the 1989 Revision.

Position	1	Len	Field	Description	Reporti Flag Po		Rev*	Values	Definition
								N U Blank	No, anomaly not reported Unknown Not on certificate
	492	1	CA_ANEN	Anencephaly		635	R	Dialik	Not on certificate
	493	1	CA_MNSB	Meningomyelocele/Spina I	Rifida	636	R		
	494	1	CA_CCHD	Cyanotic Congenital Hear		637	R		
	495	1	CA_CDH	Congenital Diaphragmatic		638	R		
	496	1	CA_OMPH	Omphalocele		639	R		
	497	1	CA_GAST	Gastroschisis		640	R		
	498	1	CA_LIMB	Limb Reduction Defect		641	R		
	499	1	CA_CLEFT	Cleft Lip w/ or w/o Cleft P	Palate	642	R		
	500	1	CA_CLPAL	Cleft Palate alone		643	R		
	501	1	CA_DOWN	Downs Syndrome		644	R	С	Confirmed
								Р	Pending
								Ν	No
								U	Unknown
								Blank	Not on certificate
	502	1	CA_DISOR	Suspected Chromosomal I	Disorder	645	R	С	Confirmed
								Р	Pending
								Ν	No
								U	Unknown
								Blank	Not on certificate
	503	1	CA_HYPO	Hypospadias		646	R	Y	Yes, Anomaly reported
								Ν	No, Anomaly not reported
								U	Unknown
								Blank	Not on certificate
504-525		22	Congonital Anon	nalies of the Newborn (Unrev	vicod)				
504-525		22		ns indented below follow this				1	Anomaly reported
				1989 Standard unless otherwis				2	Anomaly not reported
			The version is an	1767 Standard unless other with	se noted.			9	Anomaly not classifiable
								Blank	Not on certificate
	504	1	UCA_ANEN	Anencephalus		752	U,R	Dimin	
	505	1	UCA_SPINA	Spina Bifida / Meningocele	e	753	U,R		
	506	1	UCA_HYDRO	Hydrocephalus		754	- ,		
	507	1	UCA_MICRO	Microcephalus		755			
	508	1	UCA_NERV	Other Central Nervous Sy	stem Anor	ns. 756			
	509	1	UCA_HEART	Heart Malformations		757			
	510	1	UCA_CIRC	Other Circulatory/Respira	ation Anor	ns. 758			
	* U,R	Includes (revised		the 1989 Revision of the U.S.	Certificate	e of Live I	Birth (unr	evised), an	d the 2003 Revision of the U.S. Certificate of Live Birth
	U		/	the 1989 Revision of the U.S.	Certificate	e of Live I	Birth: exc	ludes data	based on the 2003 Revision.
	R			the 2003 Revision of the U.S.					
			sin sin so on sour		27		, ene	and and	

Position	Len	Field	Description	Reporting Flag Posi		Rev*	Values	Definition
511	1		Dentel Aturnia / Stangain		750			
511 512	1 1	UCA_RECTAL UCA_TRACH	Rectal Atresia / Stenosis Tracheo-Esophageal Fistul		759 760			
512	1	UCA_OMPHA	Omphalocele / Gastroschisi			U,R		
514	1	UCA_GASTRO	Other Gastrointestinal And		762	<i></i>		
515	1	UCA_GENITAL	Malformed Genitalia		763			
516	1	UCA_RENAL	Renal Agenesis		764			
517	1	UCA_UROGEN	Other Urogenital Anoms.		765			
518	1	UCA_CELFTLP	Cleft Lip / Palate		766 U	U,R		
519	1	UCA_ADACTY	Polydactyly / Syndactyly / A	Adactyly	767			
520	1	UCA_CLUBFT	Club Foot		768			
521	1	UCA_HERNIA	Diaphragmatic Hernia		769			
522	1	UCA_MUSCU	Other Musculoskeletal And	ms.	770			
523	1	UCA_DOWNS	Downs Syndrome			U,R		
524	1	UCA_CHROM	Other Chromosomal Anom		772			
525	1	UCA_OTHER	Other Congenital Anoms.		773			
526-568	43	FILLER	Filler					
569-773	205	Flag File for Repo	orting Flags					
		The reporting flags	indented below follow this co	oding struct	ure:		0 1	Not reporting Reporting
569	1	F_MORIGIN	Origin of Mother		τ	U,R		1 0
570	1	F_FORIGIN	Origin of Father		τ	U,R		
571	1	F_MEDUC	Education of Mother		I	R		
572	1	FILLER	Filler					
573	1	F_CLINEST	Clinical Estimate of Gestat	on		U,R		
574	1	F_APGAR5	Five minute APGAR			U ,R		
575	1	F_TOBACO	Tobacco use		I	R		
576-581		FILLER	Filler			_		
582	1	F_RF_PDIAB	Prepregnancy Diabetes			R		
583	1	F_RF_GDIAB	Gestational Diabetes			R		
584	1	F_RF_PHYPER	Prepregnancy Hypertension	n		R		
585	1	F_RF_GHYPER	Gestational Hypertension			R R		
586 587	1	F_RF_ECLAMP	Eclampsia Provious Protorm Birth			x R		
588	1 1	F_RF_PPB F_RF_PPO	Previous Preterm Birth Poor Pregnancy Outcome			x R		
589-592		FILLER	Filler		1	x		
593	4	FILLER F_RF_CESAR	Previous Cesarean		T	R		
594	1	F_RF_NCESAR	Number of Previous Cesarcan	ans		R		
595-600		FILLER	Filler	·u115	1			
601	1	F_OB_CERVIC	Cervical Cerclage		I	R		

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

g Position	
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602	1	F_OB_TOCO	Tocolysis	R
603	1	F_OB_SUCC	Successful External Cephalic Version	R
604	1	F_OB_FAIL	Failed External Cephalic Version	R
605	1		Premature Rupture of Membranes	R
606	1	F_OL_PRECIP	Precipitous Labor	R
607	1	F_OL_PROLONG		R
608	1	F_LD_INDUCT	Induction of Labor	R
609	1		Augmentation of Labor	R
610	1	F_LD_NVRTX	Non-Vertex Presentation	R
611	1	F_LD_STEROIDS		R
612	1	F_LD_ANTIBIO	Antibiotics	R
613	1	F_LD_CHORIO	Chorioamnionitis	R
614	1	F_LD_MECON	Meconium Staining	R
615	1	F_LD_FINTOL	Fetal Intolerance	R
616	1	F_LD_ANESTH	Anesthesia	R
617	1	F_MD_ATTFOR	Attempted Forceps	R
618	1	F_MD_ATTVAC	Attempted Vacuum	R
619	1		Fetal Presentation	R
620	1	F_MD_ROUTE	Final Route and Method of Delivery	R
621	1	F_MD_TRIAL	Trial of Labor Attempted	R
622-627	6	FILLER	Filler	_
628	1	F_AB_VENT	Assisted Ventilation	R
629	1	F_AB_VENT6	Assisted Ventilation >6 hrs	R
630	1	F_AB_NICU	Admission to NICU	R
631	1	F_AB_SURFAC	Surfactant	R
632	1	F_AB_ANTIBIO	Antibiotics	R
633	1	F_AB_SEIZ	Seizures	R
634	1	F_AB_INJ	Birth Injury	R
635	1	F_CA_ANEN	Anencephaly	R
636	1	F_CA_MENIN	Meningomyelocele/Spina Bifida	R
637	1	F_CA_HEART	Cyanotic Congenital Heart Disease	R
638	1	F_CA_HERNIA	Congenital Diaphragmatic Hernia	R
639	1	F_CA_OMPHA	Omphalocele	R
640	1	F_CA_GASTRO	Gastroschisis	R
641	1	F_CA_LIMB	Limb Reduction Defect	R
642	1	F_CA_CLEFTLP	Cleft Lip w/ or w/o Cleft Palate	R
643	1	F_CA_CLEFT	Cleft Palate Alone	R
644	1	F_CA_DOWNS	Downs Syndrome	R
645	1	F_CA_CHROM	Suspected Chromosomal Disorder	R
646	1	F_CA_HYPOS	Hypospadias	R
647	1	F_MED	Mother's Education	U

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Field

Len

Flag	Position	
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6 40		E WZGADI		
648	1	F_WTGAIN	Weight Gain	U,R
649	1	F_ALCOL	Alcohol use	U
650	1	F_API	API Codes	U
651-666		FILLER	Filler	TT
667	1	F_TOBAC	Tobacco Use	U
668	1	F_MPCB	Month Prenatal Care Began	R
669	1	F_MPCB_U	Month Prenatal Care Began	U
670-678	9	FILLER	Filler	D
679	1		Revised Method of Delivery	R
680	1		Unrevised Method of Delivery	U
681	1	F_URF_ANEMIA		U
682	1	F_URF_CARDIAC		U
683	1	F_URF_LUNG	Acute or Chronic Lung Disease	U
684	1	F_URF_DIABETES		U
685	1	F_URF_HERPES		U
686	1		Hydramnios / Oligohydramnios	U
687	1	F_URF_HEMO	Hemoglobinopathy	U
688	1		Chronic Hypertension	U
689	1		Pregnancy Associated Hypertension	U
690	1	F_URF_ECLAMP	-	U
691	1		Incompetent Cervix	U
692	1		Previous Infant 4000+ Grams	U
693	1		Previous Preterm/Small for Gestation	U
694	1	F_URF_RENAL	Renal Disease	U
695	1	F_URF_RH	Rh Sensitization	U
696	1	F_URF_UTERINE		U
697	1		Other Medical Risk Factors	U
698-700	3	FILLER	Filler	
701	1	F_UOB_AMNIO		U
702	1		Electronic Fetal Monitoring	U
703	1		Induction of Labor	U
704	1		Stimulation of Labor	U
705	1	F_UOB_TOCOL		U
706	1	F_UOB_ULTRAS		U
707	1		Other Obstetric Procedures	U
708-710	3	FILLER	Filler	
711	1	F_ULD_FEBRILE		U
712	1	F_ULD_MECONIUN		U
713	1		Premature Rupture of Membrane	U
714	1		Abruption Placenta	U
715	1	F_ULD_PREPLACE	Placenta Previa	U

* U,R Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth (unrevised), and the 2003 Revision of the U.S. Certificate of Live Birth (revised).

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Len

716	1	F_ULD_EXCEBLD Other Excessive Bleeding	U
717	1		U
718	1		U
719	1		U
720	1		U
720	1		U
721	1		U
723	1		U
724	1		U
725	1		U
726	1		U
727-729	-	FILLER Filler	0
730	1		U
731	1	· · · · · · · · · · · · · · · · · ·	U
732	1		U
733	1		U
734	1		U
735	1		U
736-739		FILLER Filler	0
740	1		U
741	1		U
742	1		U
743	1		U
744	1		U
745	1		Ŭ
746	1		Ŭ
747	1		Ŭ
748	1		Ŭ
749-751		FILLER Filler	0
752	1		U
753	1	=	Ū
754	1		Ū
755	1		Ū
756	1		U
757	1		U
758	1		Ū
759	1		Ū
760	1		Ū
761	1	• •	U
762	1		U
763	1		U

Description

* U,R Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth (unrevised), and the 2003 Revision of the U.S. Certificate of Live Birth (revised).

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Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
764 765 766 767 768 769 770 771 772 773	1 1 1 1 1 1 1 1 1 1	F_UCA_CLEFTLP F_UCA_ADACTYL F_UCA_CLUB F_UCA_HERNIA F_UCA_MUSCULC F_UCA_DOWNS F_UCA_CHROMO	 G Renal Agenesis N Other Urogenital Anomal Cleft Lip / Palate Polydactyly / Syndactyly / Club Foot Diaphragmatic Hernia Other Musculoskeletal Ar Downs Syndrome Other Chromosomal Anomal 	/ Adactyly nomalies malies	U U U U U U U U U U U U		
774-867	94	FILLER	Filler				
868	1	FLGND	Flag indicating records in b	oth numerator and c	lenominato	or file 1 Blank	Record in both files Record not in numerator file
869-871	3	FILLER	Filler				
872-874	3	AGED	Age at Death in Days			000-365	Number of days
875	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)
876-877	2	AGER22	Infant age recode 22			Blank 01 02 03 04 05 06 07 08 09 10 11 12 13	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 7-13 days 14 – 20 days 21 – 27 days 1 month (includes not stated months) 2 months

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Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
						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
878	1	MANNER	Manner of Death			1	Accident
0/0	-					2	Suicide
						3	Homicide
						4	Pending investigation
						5	Could not determine
						6	Self-inflicted
						7	Natural
						Blank	Not specified
879	1	DISPO	Method of Disposition			В	Burial
077	1	DISTO	Method of Disposition			C	Cremation
						D	Donation
						E	Entombment
						0	Other
						R	Removal from state
						U	Unknown
880	1	AUTOPSY	Autopsy			Y	Yes
880	1	AUTOFST	Autopsy			N I	No
						U	Unknown
881	1	FILLER	Filler				
882	1	PLACE	Place of injury for causes	W00-Y34. except Y()6	0	Home
			and Y07	, , , , , , , , , , , , , , , , , , ,		1	Residential institution
						2	School, other institution and public administrative area
						3	Sports and athletics area
						4	Street and highway
						5	Trade and service area
						6	Industrial and construction area
						7	Farm
* T	ID Include				·		d the 2002 Devicing of the U.C. Contificants of Line Digth

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
						8 9 Blank	Other Specified Places Unspecified place Cause other than W00-Y34, except Y06 and Y07
883	1	FILLER	Filler				
884-887	4	UCOD	Underlying Cause of Deat See the <u>International Classi</u> <u>Revision, Volume 1</u> .		<u>10th</u>		
888	1	FILLER	Filler				
889-891	3	UCODR130	130 Infant Cause Recode			001-158	Code Range
892	1	FILLER	Filler				
893-900	8	RECWT	Record Weight (no weight	s computed for poss	essions fil	e) 1.XXXX	XXX

Here ends the Denominator file. Documentation of the Mortality Section of the Numerator (Linked) file begins at position 901.

901-902	2	FILLER	Filler				
903-904	2	EANUM	Number of Entit	00-20	Code range		
905-1044	140	ENTITY	Each condition tal	ovided for kes 7 positi lank. Reco	r a maximum of 20 conditions. tions in the record. The 7 th ords that do not have 20 condit.		
			Position 1: 1 2	Part/line	e number on certificate Part I, line 1 (a) Part I, line 2 (b)		
			3		Part I, line 3 (c)		
			4 5		Part I, line 4 (d) Part I, line 5 (e)		
			6		Part II		

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Position		Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
				Position 2: Sequenc 1-7	e of condition within Code range	n part/line		
				Position 3 – 6: Condition coo See Table 1 for a c	de complete list of codes	s		
9 9 9 9 9 9 9 9 9 9 9 9 9 1 1 1 1 1	05-911 12-918 19-925 26-932 33-939 40-946 47-953 54-960 61-967 68-974 75-981 82-988 89-995 96-1002 003-100 010-101 017-102 024-103 031-103 038-104	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		1^{st} Condition 2^{nd} Condition 3^{rd} Condition 4^{th} Condition 5^{th} Condition 6^{th} Condition 7^{th} Condition 9^{th} Condition 10^{th} Condition 10^{th} Condition 11^{th} Condition 12^{th} Condition 13^{th} Condition 14^{th} Condition 15^{th} Condition 16^{th} Condition 17^{th} Condition 18^{th} Condition 19^{th} Condition 20^{th} Condition				
1045-1046		2	FILLER	Filler				
1047-1048		2	RANUM	Number of Record-Axis Co	onditions		00-20	Code range
1049-1148		100	RECORD	Record-Axis Conditions Space has been provided for conditions. Each condition ta record. The 5 th position will do not have 20 conditions ar	akes 5 positions in th be blank. Records th	at		
				Positions 1 – 4: Condition C See Table 1 for a c	ode complete list of codes	s		
1	049-105	3 5		1 st Condition				
* U R	J	(revised Include). s data based on both	the 1989 Revision of the U.S. the 1989 Revision of the U.S. the 2003 Revision of the U.S.	Certificate of Live B	Birth; excl	udes data	

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition

$\begin{array}{c} 1054-105\\ 1059-106\\ 1064-106\\ 1069-107\\ 1074-107\\ 1079-108\\ 1084-108\\ 1089-109\\ 1094-109\\ 1099-110\\ 1104-110\\ 1109-111\\ 1114-111\\ 1119-112\\ 1124-112\\ 1124-112\\ 1129-113\\ 1134-113\\ 1139-114\\ 1144-114\end{array}$	63 5 68 5 73 5 78 5 83 5 93 5 98 5 98 5 98 5 03 5 98 5 13 5 18 5 23 5 28 5 33 5 38 5 43 5		2^{nd} Condition 3^{rd} Condition 4^{th} Condition 5^{th} Condition 6^{th} Condition 7^{th} Condition 8^{th} Condition 10^{th} Condition 10^{th} Condition 11^{th} Condition 13^{th} Condition 14^{th} Condition 15^{th} Condition 16^{th} Condition 17^{th} Condition 18^{th} Condition 19^{th} Condition 19^{th} Condition 19^{th} Condition 19^{th} Condition 19^{th} Condition 19^{th} Condition 19^{th} Condition		
1149-1150	2	FILLER	Filler		
1149-1150 1151	2	FILLER D_RESTATUS	Filler Death Resident Status (This item is available in the territory file only, geographic codes are not available in the U.S.file)		
			Death Resident Status (This item is available in the territory file only, geographic codes are not	1 2 3 4	RESIDENTS Territory and County-equivalent of Occurrence and Residence are the same. INTRASTATE NONRESIDENTS Territory of Occurrence and Residence are the same, but County-equivalent is different. INTERTERRITORY NONRESIDENTS Territory of occurrence and residence are different, but both are a Territory. FOREIGN RESIDENTS Occurred in Puerto Rico to a resident of any other place.

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Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
						2 3 4	Territory and County-equivalent of Occurrence and Residence are the same. INTRASTATE NONRESIDENTS Territory of Occurrence and Residence are the same, but County-equivalent is different. INTERTERRITORY NONRESIDENTS Territory of occurrence and residence are different, but both are a Territory. FOREIGN RESIDENTS Occurred in Virgin Islands to a resident of any other place.
			Guam Occurrence			1 3 4	RESIDENTS Occurred in Guam to a resident of Guam or to a resident of the U.S. INTERTERRITORY NONRESIDENTS Territory of occurrence and residence are different, but both are a Territory. FOREIGN RESIDENTS Occurred in Guam to a resident of any place other than Guam or the U.S.
1152-1153	2	STOCCFIPD	State of Occurrence (FIPS (This item is available in th only, geographic codes are available in the U.S.file)	e territory file			
						PR VI GU	Puerto Rico Virgin Islands Guam
1154-1156	3	CNTOCFIPD	County of Occurrence (FI Counties and county equiva coextensive cities) are num State and identify each coun a county, both the state and complete list of counties is Outline further back in this	alents (independent a bered alphabetically nty. (Note: To uniqu l county codes must b shown in the Geogra	within each ely identif be used.)	ý A	
			(This item is available in th only, geographic codes are available in the U.S.file)				
* U,R U R	(revised) Include	d). es data based on both	a the 1989 Revision of the U.S a the 1989 Revision of the U.S a the 2003 Revision of the U.S	. Certificate of Live	Birth; excl	udes data	

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
						001-nnn 999	Code range County of less than 250,000
1157-1159	3	FILLER	Filler				
1160-1161	2	STRESFIPD	State of Residence (FIPS) (This item is available in th only, geographic codes are available in the U.S.file)	e territory file			
			Territories			PR VI GU	Puerto Rico Virgin Islands Guam
			Puerto Rico Occurrence			PR US,ZZ	Puerto Rico Foreign residents
			Virgin Islands Occurrence			VI US, ZZ	Virgin Islands Foreign residents
			Guam Occurrence			GU US ZZ	Guam U.S. resident. Also considered a resident of Guam. Foreign residents
1162-1163	2	FILLER	Filler				
1164-1165	2	DRCNTY	State/Country of Residence (This item is available in th only, geographic codes are available in the U.S.file)	e territory file			
			Territorial residents			PR VI GU	Puerto Rico Virgin Islands Guam
			Foreign residents			CC MX CU YY	Canada Mexico Cuba Remainder of the world

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Position	L	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
				Puerto Rico Occurrence			PR US,ZZ	Puerto Rico Foreign residents
				Virgin Islands Occurrence			VI US, ZZ	Virgin Islands Foreign residents
				Guam Occurrence			GU US ZZ	Guam U.S. resident. Also considered a resident of Guam Foreign residents
1166-116	57 3	3	CNTYRFPD	County of Residence (FIPS) Counties and county equivale coextensive cities) are number each State and identify each d identify a county, both the sta be used.) A complete list of a Geographic Code Outline fur (This item is available in the codes are not available in the	ents (independent an ered alphabetically v county. (Note: To u ate and county codes counties is shown in ther back in this doc territory file only, g	vithin niquely s must the cument.	000	Foreign residents Code range County of less than 250,000
1169-118	31	13	FILLER	Filler				
1182	1		CNTRSPPD	Population Size of County of Based on the results of the 20 (This item is available in the only, geographic codes are n available in the U.S.file)	000 Census territory file	th		
							0 1 2 9 Z	County of 1,000,000 or more County of 500,000 to 1,000,000 County of 250,000 to 500,000 County of less than 250,000 Foreign residents
1183-118	35	3	FILLER	Filler				
1186		1	HOSPD	Place of Death and Decendo	ent's Status		1 2	Hospital, clinic or Medical Center – Inpatient Hospital, clinic or Medical Center – Outpatient or admitted to Emergency Room
	* U,R			he 1989 Revision of the U.S. (Certificate of Live B	irth (unrev	vised), and	the 2003 Revision of the U.S. Certificate of Live Birth
	U	(revised) Includes		he 1989 Revision of the U.S. (Certificate of Live B	irth; exclu	ides data b	based on the 2003 Revision.

U Includes data based on both the 1989 Revision of the U.S. Certificate of Live Birth; excludes data based on the 2003 Revision.

Position	Len	Field	Description	Reporting Flag Position	Rev*	Values	Definition
						3 4 5 6 7 9	Hospital, clinic or Medical Center – Dead on Arrival Decedent's home Hospice facility Nursing home/long term care Other Place of death unknown
1187	1	WEEKDAYD	Day of Week of Death			1 2 3 4 5 6 7 9	Sunday Monday Tuesday Wednesday Thursday Friday Saturday Unknown
1188-1191	4	DTHYR	Death Year			2006 2007	2006 2007
1192-1257	66	FILLER	Filler				
1258-1259	2	DOD_MM	Month of Death			01 02 03 04 05 06 07 08 09 10 11 12	January February March April May June July August September October November December

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Tenth Revision 130 Selected Causes of Infant Death Adapted for use by DVS Page 1 ST: 1 = SubtotalLimited: 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 T Sex Age Cause Title and ICD-10 Codes Included Recode 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) Septicemia (A40-A41) 009 3 010 Congenital syphilis (A50) Gonococcal infection (A54) 011 012 1 Viral diseases (A80-B34) 013 Acute poliomyelitis (A80) Varicella (chickenpox) (B01) 014 015 Measles (B05) 016 Human immunodeficiency virus (HIV) disease (B20-B24) 017 Mumps (B26) Other and unspecified viral diseases (A81-B00, B02-B04, B06-B19, B25, B27-B34) 018 019 Candidiasis (B37) 020 Malaria (B50-B54) 021 Pneumocystosis (B59) All other and unspecified infectious and parasitic diseases 022 (A20-A32, A38, A42-A49, A51-A53, A55-A79, B35-B36, B38-B49, B55-B58, B60-B99) 023 Neoplasms (C00-D48) 1 024 1 Malignant neoplasms (C00-C97) Hodgkin's disease and non-Hodgkin's lymphomas (C81-C85) 025 026 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) Hemorrhagic conditions and other diseases of blood and blood-forming organs 031 (D65-D76) 032 Certain disorders involving the immune mechanism (D80-D89) Endocrine, nutritional and metabolic diseases (E00-E88) 033 1 034 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) Meningitis (G00,G03) 040 041 Infantile spinal muscular atrophy, type I (Werdnig-Hoffman) (G12.0) 042 Infantile cerebral palsy (G80) Anoxic brain damage, not elsewhere classified (G93.1) 043 044 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) Cerebrovascular diseases (I60-I69) 051 052 All other diseases of circulatory system (I00-I25, I31, I34-I38, I44-I45, I47-I51, I70-I99) 053 Diseases of the respiratory system (J00-J98) 1 Acute upper respiratory infections (J00-J06) 054 055 1 Influenza and pneumonia (J10-J18)

Tenth Revision 130 Selected Causes of Infant Death Adapted for use by DVS Page 2 ST: 1 = SubtotalLimited: 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 T Sex Age Cause Title and ICD-10 Codes Included Recode 056 Influenza (J10-J11) 057 Pneumonia (J12-J18) 058 Acute bronchitis and acute bronchiolitis (J20-J21) 059 Bronchitis, chronic and unspecified (J40-J42) 060 Asthma (J45-J46) 061 Pneumonitis due to solids and liquids (J69) 062 Other and unspecified diseases of respiratory system (J22,J30-J39,J43-J44,J47-J68,J70-J98) 063 1 Diseases of the digestive system (K00-K92) Gastritis, duodenitis, and noninfective enteritis and colitis (K29,K50-K55) 064 065 Hernia of abdominal cavity and intestinal obstruction without hernia (K40-K46,K56) 066 All other and unspecified diseases of digestive system (K00-K28,K30-K38,K57-K92) Diseases of the genitourinary system (N00-N95) 067 1 068 Renal failure and other disorders of kidney (N17-N19, N25, N27) 069 Other and unspecified diseases of genitourinary system (N00-N15, N20-N23, N26, N28-N95) 070 Certain conditions originating in the perinatal period (POO-P96) 1 071 Newborn affected by maternal factors and by complications of pregnancy, labor and 1 delivery (P00-P04) Newborn affected by maternal hypertensive disorders (P00.0) 072 Newborn affected by other maternal conditions which may be unrelated to present 073 pregnancy (P00.1-P00.9) 074 Newborn affected by maternal complications of pregnancy (P01) 1 Newborn affected by incompetent cervix (P01.0) 075 076 Newborn affected by premature rupture of membranes (P01.1) 077 Newborn affected by multiple pregnancy (P01.5) 078 Newborn affected by other maternal complications of pregnancy (P01.2-P01.4,P01.6-P01.9) 079 Newborn affected by complications of placenta, cord and membranes (P02) 1 080 Newborn affected by complications involving placenta (P02.0-P02.3) 081 Newborn affected by complications involving cord (P02.4-P02.6) 082 Newborn affected by chorioamnionitis (P02.7) 083 Newborn affected by other and unspecified abnormalities of membranes (P02.8-P02.9) 084 Newborn affected by other complications of labor and delivery (PO3) Newborn affected by noxious influences transmitted via placenta or breast milk 085 (P04) 086 1 Disorders related to length of gestation and fetal malnutrition (P05-P08) 087 Slow fetal growth and fetal malnutrition (P05) Disorders related to short gestation and low birthweight, not elsewhere 088 1 classified (P07) 089 Extremely low birthweight or extreme immaturity (P07.0,P07.2) 090 Other low birthweight or preterm (P07.1,P07.3) 091 Disorders related to long gestation and high birthweight (PO8) 092 Birth trauma (P10-P15) Intrauterine hypoxia and birth asphyxia (P20-P21) 093 1 094 Intrauterine hypoxia (P20) 095 Birth asphyxia (P21) 096 Respiratory distress of newborn (P22) 097 1 Other respiratory conditions originating in the perinatal period (P23-P28) 098 Congenital pneumonia (P23) 099 Neonatal aspiration syndromes (P24) Interstitial emphysema and related conditions originating in the perinatal period 100 (P25) 101 Pulmonary hemorrhage originating in the perinatal period (P26) 102 Chronic respiratory disease originating in the perinatal period (P27) 103 Atelectasis (P28.0-P28.1) 104 All other respiratory conditions originating in the perinatal period (P28.2-P28.9) 105 Infections specific to the perinatal period (P35-P39) 1 106 Bacterial sepsis of newborn (P36) 107 Omphalitis of newborn with or without mild hemorrhage (P38)

Tenth Revision 130 Selected Causes of Infant Death Adapted for use by DVS Page 3 ST: 1 = SubtotalLimited: 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 T Sex Age Cause Title and ICD-10 Codes Included Recode 108 All other infections specific to the perinatal period (P35,P37,P39) 109 Hemorrhagic and hematological disorders of newborn (P50-P61) 1 110 Neonatal hemorrhage (P50-P52, P54) 111 Hemorrhagic disease of newborn (P53) 112 Hemolytic disease of newborn due to isoimmunization and other perinatal jaundice (P55-P59) 113 Hematological disorders (P60-P61) 114 Syndrome of infant of a diabetic mother and neonatal diabetes mellitus (P70.0-P70.2) 115 Necrotizing enterocolitis of newborn (P77) Hydrops fetalis not due to hemolytic disease (P83.2) 116 117 Other perinatal conditions (P29, P70.3-P70.9, P71-P76, P78-P81, P83.0-P83.1, P83.3-P83.9,P90-P96) Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99) 118 1 119 Anencephaly and similar malformations (Q00) 120 Congenital hydrocephalus (Q03) 121 Spina bifida (Q05) Other congenital malformations of nervous system (Q01-Q02,Q04,Q06-Q07) 122 123 Congenital malformations of heart (Q20-Q24) 124 Other congenital malformations of circulatory system (Q25-Q28) 125 Congenital malformations of respiratory system (Q30-Q34) Congenital malformations of digestive system (Q35-Q45) 126 127 Congenital malformations of genitourinary system (Q50-Q64) 128 Congenital malformations and deformations of musculoskeletal system, limbs and integument (Q65-Q85) 129 Down's syndrome (Q90) Edward's syndrome (Q91.0-Q91.3) 130 131 Patau's syndrome (Q91.4-Q91.7) 132 Other congenital malformations and deformations (Q10-Q18,Q86-Q89) Other chromosomal abnormalities, not elsewhere classified (Q92-Q99) 133 134 1 Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99) 135 Sudden infant death syndrome (R95) Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere 136 classified (R00-R53, R55-R94, R96-R99) 137 All other diseases (Residual) (F01-F99,H00-H57,L00-M99) External causes of mortality (*U01,V01-Y84) 138 1 139 Accidents (unintentional injuries) (V01-X59) 1 140 1 Transport accidents (V01-V99) Motor vehicle accidents(V02-V04,V09.0,V09.2,V12-V14,V19.0-V19.2, 141 V19.4-V19.6,V20-V79,V80.3-V80.5,V81.0-V81.1,V82.0-V82.1,V83-V86, V87.0-V87.8,V88.0-V88.8,V89.0,V89.2) 142 Other and unspecified transport accidents (V01, V05-V06, V09.1, V09.3-V09.9, V10-V11, V15-V18, V19.3, V19.8-V19.9,V80.0-V80.2,V80.6-V80.9,V81.2-V81.9,V82.2-V82.9, V87.9,V88.9,V89.1,V89.3,V89.9,V90-V99) Falls (W00-W19) 143 144 Accidental discharge of firearms (W32-W34) 145 Accidental drowning and submersion (W65-W74) 146 Accidental suffocation and strangulation in bed (W75) Other accidental suffocation and strangulation (W76-W77,W81-W84) 147 148 Accidental inhalation and ingestion of food or other objects causing obstruction of respiratory tract (W78-W80) 149 Accidents caused by exposure to smoke, fire and flames (X00-X09) 150 Accidental poisoning and exposure to noxious substances (X40-X49) 151 Other and unspecified accidents (W20-W31,W35-W64,W85-W99,X10-X39,X50-X59) 152 Assault (homicide) (*U01,X85-Y09) 1 Assault (homicide) by hanging, strangulation and suffocation (X91) 153 Assault (homicide) by discharge of firearms (*U01.4,X93-X95) 154 Neglect, abandonment and other maltreatment syndromes (Y06-Y07) 155 156 Assault (homicide) by other and unspecified means (*U01.0-*U01.3,*U01.5-*U01.9,X85-X90,X92,X96-X99,Y00-Y05,Y08-Y09) 157 Complications of medical and surgical care (Y40-Y84)

Tenth Revision 130 Selected Causes of Infant Death Adapted for use by DVS 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

158 Other external causes (X60-X84, Y10-Y36)

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Documentation Table 1. Live births and infant deaths by state of occurrence of birth and by state of residence at birth United States, Puerto Rico, Virgin Islands, and Guam, 2006 Link Birth Cohort Data.

(Residence of birth is of the mother)

	Live births		Infant deaths						
State	Occurrence	Residence	Unweigh Occurrence	ted Residence	Weighted Occurrence	1/ Residence			
United States /2	4273264	4265593	28306	28278	28676	28647			
Alabama	62100	63232	567	571	567	571			
Alaska	10899	10996	74	77	76	79			
Arizona	103143	102430	642	644	647	649			
Arkansas	39746	40961	318	340	321	343			
California	563522	562440	2741	2734	2842	2834			
Colorado	71157	70751	429	408	431	410			
Connecticut	42187	41820	247	251	248	252			
Delaware	12418	11989	96	96	96	96			
Dist of Columbia	14592	8523	152	99	152	99			
florida	237499	236802	1718	1708	1726	1716			
Jeorgia	149920	148633	1211	1198	1214	1201			
Iawaii	18987	18983	114	114	115	115			
Idaho	23719	24184	162	174	164	176			
Illinois	177235	180573	1223	1296	1232	1305			
Indiana	89179	88632	673	670	677	674			
Lowa	40620	40607	202	214	205	217			
Kansas	41946	40968	298	291	301	294			
Kentucky	56646	58250	361	423	365	428			
Louisiana	63481	63378	636	630	665	658			
Maine	14010	14151	91	94	92	95			
Maryland	74082	77494	586	610	588	612			
lassachusetts	78509	77677	387	383	388	384			
Aichigan	126393	127483	913	918	915	920			
linnesota	73474	73525	384	375	386	377			
Aississippi	44863	46056	438	474	443	479			
Aissouri	82461	81388	661	617	664	620			
Instana	12490	12508	67	64	68	65			
					••				
Jebraska	26892	26727	147	149	147	149			
Nevada	39690	40027	269	268	272	271			
New Hampshire	14070	14378	88	90	88	90			
New Jersey	111930	115021	587	617	593	623			
New Mexico	29337	29936	154	172	162	180			
New York	126445	130218	696	723	712	738			
New York City	125503	119885	709	667	709	667			
North Carolina	128999	127859	1048	1038	1053	1043			
Jorth Dakota	9875	8621	58	54	58	54			
Dhio	151347	150599	1197	1154	1223	1178			
Oklahoma	53042	54019	442	446	449	453			
Dregon	49092	48691	283	270	284	271			
Pennsylvania	148522	149094	1166	1127	1182	1142			
Rhode Island	13180	12373	90	80	90	80			
South Carolina	59573	62173	507	535	509	537			
South Dakota	12386	11919	82	75	82	75			
'ennessee	89429	84355	834	740	835	741			
'exas	405879	399613	2439	2422	2518	2500			
Itah	54528	53504	294	276	294	276			
ermont	6114	6511	27	37	27	37			
'irginia	105890	107817	741	775	741	775			
Jashington	86800	86876	408	417	410	419			
Vest Virginia	21134	20931	146	142	146	142			
lisconsin	71236	72340	470	477	471	478			
Vyoming	7093	7672	33	54	33	54			
Yyoming Foreign Residents		7671	-	28	-	29			
Puerto Rico	48604	48597	415	414	415	414			
			415	414 9		414 9			
/irgin Islands	1680	1687			8				
Juam	3391	3387	43	43	43	43			

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.

Live births, infant deaths, and infant mortality rates by race of mother, sex and birthweight of child: United States, 2006 birth cohort data

[Infant deaths weighted. Rates are per 1000 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 ¹										
Both sexes										
Live births Infant deaths Infant mortality rate	4,265,593 28,647 6.72	7,294 6,163 844.94	11,782 5,505 467.24	12,737 1,908 149.80	14,910 1,040 69.75	17,733 834 47.03	69,555 1,828 26.28	219,449 2,272 10.35	3,911,038 8,941 2.29	1,095 157 143.38
Male										
Live births Infant deaths Infant mortality rate	2,184,260 16,055 7.35	3,664 3,165 863.81	5,970 3,188 534.00	6,583 1,223 185.78	7,573 607 80.15	8,871 427 48.13	33,734 939 27.84	100,996 1,191 11.79	2,016,267 5,203 2.58	602 111 184.39
Female										
Live births Infant deaths Infant mortality rate	2,081,333 12,593 6.05	3,630 2,997 825.62	5,812 2,318 398.83	6,154 685 111.31	7,337 432 58.88	8,862 407 45.93	35,821 889 24.82	118,453 1,081 9.13	1,894,771 3,738 1.97	493 46 93.31
White										
Both sexes										
Live births Infant deaths Infant mortality rate	3,310,331 18,519 5.59	4,020 3,429 852.99	6,874 3,312 481.82	7,898 1,227 155.36	9,691 670 69.14	11,883 547 46.03	47,385 1,271 26.82	151,559 1,544 10.19	3,070,169 6,415 2.09	852 105 123.24
Male										
Live births Infant deaths Infant mortality rate	1,695,886 10,420 6.14	1,996 1,751 877.25	3,487 1,921 550.90	4,091 798 195.06	4,974 386 77.60	5,986 279 46.61	23,124 657 28.41	70,144 820 11.69	1,581,629 3,739 2.36	455 70 153.85
Female										
Live births Infant deaths Infant mortality rate	1,614,445 8,098 5.02	2,024 1,679 829.55	3,387 1,391 410.69	3,807 429 112.69	4,717 284 60.21	5,897 268 45.45	24,261 614 25.31	81,415 724 8.89	1,488,540 2,676 1.80	397 35 88.16
Black										
Both sexes										
Live births Infant deaths Infant mortality rate	666,494 8,630 12.95	2,948 2,472 838.53	4,364 1,951 447.07	4,177 582 139.33	4,409 323 73.26	4,812 228 47.38	17,825 440 24.68	52,405 595 11.35	575,385 1,996 3.47	169 44 260.36
Male										
Live births Infant deaths Infant mortality rate	339,844 4,767 14.03	1,492 1,267 849.20	2,196 1,128 513.66	2,139 360 168.30	2,158 192 88.97	2,347 116 49.42	8,426 222 26.35	23,510 296 12.59	297,468 1,152 3.87	108 35 324.07
Female										
Live births Infant deaths Infant mortality rate	326,650 3,863 11.83	1,456 1,205 827.61	2,168 824 380.07	2,038 221 108.44	2,251 131 58.20	2,465 111 45.03	9,399 219 23.30	28,895 299 10.35	277,917 844 3.04	61 9 *

1/ Includes races other than white and black.

Live births, infant deaths, and infant mortality rates by birthweight, race of mother, and age at death: United states, 2006 birth cohort data

[Infant deaths are weighted. Infant deaths are under 1 year.Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days; and postneonatal, 28 days through 11 months. Rates are per 1000 live births]

Birthweight and race of mother	Live Births	Infant	Total Neonatal	Early Neonatal	Late Neonatal	Post- Neonatal
All races ¹						
Total (all birthweights) Rate	4,265,593	28,647 6.72	19,041 4.46	15,153 3.55	3,888 0.91	9,606 2.25
Less than 2,500 grams Rate	353,460	19,550 55.31	15,874 44.91	13,311 37.66	2,563 7.25	3,676 10.40
Less than 500 grams Rate	7,294	6,163 844.94	6,012 824.24	5,825 798.60	188 25.77	150 20.56
500-749 grams Rate	11,782	5,505 467.24	4,649 394.58	3,770 319.98	879 74.61	856 72.65
750-999 gramsRate	12,737	1,908 149.80	1,398 109.76	947 74.35	451 35.41	510 40.04
1,000-1,249 grams Rate	14,910	1,040 69.75	754 50.57	530 35.55	224 15.02	286 19.18
1,250-1,499 gramsRate	17,733	834 47.03	622 35.08	471 26.56	151 8.52	212 11.96
1,500-1,999 gramsRate	69,555	1,828 26.28	1,212 17.43	925 13.30	287 4.13	616 8.86
2,000-2,499 gramsRate	219,449	2,272 10.35	1,226 5.59	844 3.85	383 1.75	1,046 4.77
2,500-2,999 grams Rate	786,117	3,225 4.10	1,241 1.58	714 0.91	527 0.67	1,985 2.53
3,000-3,499 gramsRate	1,657,170	3,542 2.14	1,102 0.66	587 0.35	515 0.31	2,441 1.47
3,500-3,999 grams Rate	1,134,511	1,676 1.48	483 0.43	268 0.24	215 0.19	1,193 1.05
4,000-4,499 gramsRate	287,710	393 1.37	143 0.50	93 0.32	50 0.17	250 0.87
4,500-4,999 gramsRate	40,972	77 1.88	31 0.76	19 *	12	45 1.10
5,000 grams or moreRate	4,558	28 6.14	19 *	15 *	4 *	8 *
Not statedRate	1,095	157 143.38	148 135.16	147 134.25	1 *	8 *

See footnotes at end of table.

Live births, infant deaths, and infant mortality rates by birthweight, race of mother, and age at death: United states, 2006 birth cohort data -Cont

[Infant deaths are weighted. Infant deaths are under 1 year.Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days; and postneonatal, 28 days through 11 months. Rates are per 1000 live births]

Birthweight and race of mother	Live Births	Infant	Total Neonatal	Early Neonatal	Late Neonatal	Post- Neonatal
White						
Total (all birthweights)	3,310,331	18,519	12,291	9,765	2,526	6,228
Rate		5.59	3.71	2.95	0.76	1.88
Less than 2,500 gramsRate	239,310	11,999 50.14	9,887 41.31	8,332 34.82	1,555 6.50	2,113 8.83
Less than 500 grams	4,020	3,429	3,370	3,270	100	60
Rate		852.99	838.31	813.43	24.88	14.93
500-749 gramsRate	6,874	3,312 481.82	2,889 420.28	2,387 347.25	503 73.17	423 61.54
750-999 grams	7,898	1,227	927	657	269	300
Rate		155.36	117.37	83.19	34.06	37.98
1,000-1,249 grams	9,691	670	514	376	138	156
Rate		69.14	53.04	38.80	14.24	16.10
1,250-1,499 grams	11,883	547	425	329	96	121
Rate		46.03	35.77	27.69	8.08	10.18
1,500-1,999 grams	47,385	1,271	877	689	188	394
Rate		26.82	18.51	14.54	3.97	8.31
2,000-2,499 grams	151,559	1,544	885	624	261	659
Rate		10.19	5.84	4.12	1.72	4.35
2,500-2,999 grams	556,908	2,160	912	543	368	1,248
Rate		3.88	1.64	0.98	0.66	2.24
3,000-3,499 grams	1,282,104	2,541	850	469	381	1,691
Rate		1.98	0.66	0.37	0.30	1.32
3,500-3,999 grams	943,506	1,308	385	218	167	923
Rate		1.39	0.41	0.23	0.18	0.98
4,000-4,499 grams	248,421	331	123	81	41	208
Rate		1.33	0.50	0.33	0.17	0.84
4,500-4,999 grams	35,400	57	23	13	10	33
Rate		1.61	0.65	*	*	0.93
5,000 grams or moreRate	3,830	18 *	13	11 *	2 *	5
Not statedRate	852	105 123.24	99 116.20	98 115.02	1 *	6 *

See footnotes at end of table.

Live births, infant deaths, and infant mortality rates by birthweight, race of mother, and age at death: United states, 2006 birth cohort data -Cont

[Infant deaths are weighted. Infant deaths are under 1 year.Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days; and postneonatal, 28 days through 11 months. Rates are per 1000 live births]

Birthweight and race of mother	Live Births	Infant	Total Neonatal	Early Neonatal	Late Neonatal	Post- Neonatal
Black						
Total (all birthweights) Rate	666,494	8,630 12.95	5,779 8.67	4,615 6.92	1,164 1.75	2,851 4.28
Less than 2,500 gramsRate	90,940	6,590 72.47	5,199 57.17	4,317 47.47	883 9.71	1,391 15.30
Less than 500 gramsRate	2,948	2,472 838.53	2,385 809.02	2,303 781.21	83 28.15	87 29.51
500-749 gramsRate	4,364	1,951 447.07	1,544 353.80	1,199 274.75	345 79.06	407 93.26
750-999 gramsRate	4,177	582 139.33	398 95.28	248 59.37	150 35.91	183 43.81
1,000-1,249 grams Rate	4,409	323 73.26	202 45.82	124 28.12	78 17.69	121 27.44
1,250-1,499 grams Rate	4,812	228 47.38	149 30.96	107 22.24	42 8.73	79 16.42
1,500-1,999 grams Rate	17,825	440 24.68	258 14.47	177 9.93	81 4.54	183 10.27
2,000-2,499 grams Rate	52,405	595 11.35	263 5.02	159 3.03	104 1.98	332 6.34
2,500-2,999 grams Rate	165,410	886 5.36	261 1.58	132 0.80	129 0.78	625 3.78
3,000-3,499 grams Rate	255,831	785 3.07	188 0.73	78 0.30	110 0.43	597 2.33
3,500-3,999 grams Rate	125,072	264 2.11	66 0.53	31 0.25	34 0.27	199 1.59
4,000-4,499 grams Rate	25,101	38 1.51	11 *	6 *	5	27 1.08
4,500-4,999 grams Rate	3,499	15 *	7	5	2 *	8 *
5,000 grams or moreRate	472	7 *	5	4 *	1	2 *
Not statedRate	169	44 260.36	42 248.52	42 248.52	- -	2 *

See footnotes at end of table.

-/ Quantity zero. */Figure does not meet standard of reliability or precision; see Technical notes.

1/ Includes races other then white and black.

Page 1

Documentation Table 5

Live births by birthweight and race of mother and infant deaths and infant mortality rates by age of death, birthweight, and race of mother for 10 major causes of infant death: United States, 2006 birth cohort data

Cause of death, birthweight, and race of mother	Live		Total	Early	Late	Post-
	Births	Infant	Neonatal	Neonatal	Neonatal	Neonatal
All races ¹						
All birthweights						
All causes	4,265,593	28,647 671.58	19,041 446.39	15,153 355.24		
Congenital malformations (Q00-Q99)		5,888 138.03	4,247 99.56	3,227 75.65		
Short gestation and low birthweight nec (P07)		4,829 113.21	4,721 110.68	4,588 107.56		
Sudden infant death syndrome (R95)		2,376 55.70	208 4.88	34 0.80		
Maternal complications of pregnancy (P01)		1,675 39.27	1,655 38.80	1,622 38.03		
Accidents (unintentional injures) (V01-X59)		1,190 27.90	114 2.67	29 0.68	85 1.99	
Complications of placenta, cord, membranes (PO2)		1,130 26.49	1,120 26.26	1,081 25.34		
Respiratory distress of newborn (P22)		821 19.25	807 18.92	642 15.05		
Bacterial sepsis of newborn (P36)		797 18.68	755 17.70	336 7.88		
Deseases of the circulatory system (IOO-I99)		576 13.50	133 3.12	70 1.64		
Intrauterine hypoxia, birth asphyxia (P20-P21)		334 7.83	318 7.46	251 5.88		
All other causes		9,033 211.76	4,962 116.33	3,272 76.71		
Less then 2,500 grams						
All causes	353,460	19,550 5,531.04	15,874 4,491.03	13,311 3,765.91		3,676 1,040.00
Congenital malformations (Q00-Q99)		3,587 1,014.82	2,870 811.97	2,380 673.34		
Short gestation and low birthweight nec (P07)		4,724 1,336.50	4,618 1,306.51	4,486 1,269.17		
Sudden infant death syndrome (R95)		488 138.06	40 11.32	7	32 9.05	
Maternal complications of pregnancy (P01)		1,609 455.21	1,593 450.69	1,560 441.35		
Accidents (unintentional injures) (V01-X59)		203 57.43	23 6.51	12		
Complications of placenta, cord, membranes (PO2)		1,029 291.12	1,021 288.86	995 281.50		8
Respiratory distress of newborn (P22)		803 227.18	790 223.50	630 178.24	160	13
Bacterial sepsis of newborn (P36)		704 199.17	669 189.27	290 82.05	379	35
Deseases of the circulatory system (IOO-I99)		277 78.37	61 17.26	39 11.03	22	216
See footnotes at end of table.						

Live births by birthweight and race of mother and infant deaths and infant mortality rates by age of death, birthweight, and race of mother for 10 major causes of infant death: United States, 2006 birth cohort data -Cont

Cause of death, birthweight, and race of mother	Live		Total	Early	Late	Post-
	Births	Infant	Neonatal	Neonatal	Neonatal	Neonatal
All races ¹						
Intrauterine hypoxia, birth asphyxia (P20-P21)		204 57.72	197 55.73	160 45.27		
All other causes		5,921 1,675.15	3,992 1,129.41	2,753 778.87		
2,500 grams or more						
All causes	3,911,038	8,941 228.61	3,019 77.19	1,695 43.34		
Congenital malformations (Q00-Q99)		2,290 58.55	1,368 34.98	839 21.45		
Short gestation and low birthweight nec (P07)		48 1.23	46 1.18	45 1.15		
Sudden infant death syndrome (R95)		1,886 48.22	169 4.32	26 0.66		
Maternal complications of pregnancy (PO1)		35 0.89	32 0.82	32 0.82		- 3 - *
Accidents (unintentional injures) (V01-X59)		987 25.24	91 2.33	17 *	74 1.89	
Complications of placenta, cord, membranes (PO2)		85 2.17	83 2.12	71 1.82		
Respiratory distress of newborn (P22)		16 *	15 *	10	Ę	
Bacterial sepsis of newborn (P36)		93 2.38	86 2.20	47 1.20	39 1.00	
Deseases of the circulatory system (IOO-I99)		298 7.62	71 1.82	30 0.77		
Intrauterine hypoxia, birth asphyxia (P20-P21)		125 3.20	117 2.99	87 2.22		
All other causes		3,078 78.70	941 24.06	491 12.55		
Not stated birthweight						
All causes	1,095		148 13,515.98	147 13,424.66		
Congenital malformations (Q00-Q99)		11 *	9 *	9 *	-	- 2
Short gestation and low birthweight nec (P07)		57 5,205.48	57 5,205.48	57 5,205.48		
Sudden infant death syndrome (R95)		2 *	-	-	-	- 2
Maternal complications of pregnancy (PO1)		30 2,739.73	30 2,739.73	30 2,739.73		
Accidents (unintentional injures) (V01-X59)		-	-	-	-	
Complications of placenta, cord, membranes (PO2)		15 *	15 *	15 *		
Respiratory distress of newborn (P22)		2 *	2 *	2 *	-	
See footnotes at end of table.						

Live births by birthweight and race of mother and infant deaths and infant mortality rates by age of death, birthweight, and race of mother for 10 major causes of infant death: United States, 2006 birth cohort data -Cont

Cause of death, birthweight, and race of mother	Live		Total	Early	Late	Post-
	Births	Infant	Neonatal	Neonatal	Neonatal	Neonatal
All races ¹						
Bacterial sepsis of newborn (P36)		-	-	-	-	-
Deseases of the circulatory system (IOO-I99)		1 *	1 *	1	-	-
Intrauterine hypoxia, birth asphyxia (P20-P21)		4 *	4 *	4 *	-	-
All other causes		33 3,013.70	29 2,648.40	28 2,557.08		
White						
All birthweights						
All causes	3,310,331	18,519 559.43	12,291 371.29	9,765 294.99	2,526 76.31	
Congenital malformations (Q00-Q99)		4,406 133.10	3,238 97.81	2,499 75.49	739 22.32	
Short gestation and low birthweight nec (P07)		2,665 80.51	2,611 78.87	2,540 76.73	71 2.14	
Sudden infant death syndrome (R95)		1,593 48.12	144 4.35	30 0.91	114 3.44	
Maternal complications of pregnancy (PO1)		1,026 30.99	1,020 30.81	993 30.00	27 0.82	
Accidents (unintentional injures) (V01-X59)		756 22.84	83 2.51	22 0.66	61 1.84	
Complications of placenta, cord, membranes (PO2)		697 21.06	694 20.96	670 20.24	24 0.73	
Respiratory distress of newborn (P22)		509 15.38	500 15.10	403 12.17	97 2.93	
Bacterial sepsis of newborn (P36)		489 14.77	468 14.14	219 6.62	248 7.49	
Deseases of the circulatory system (IOO-I99)		367 11.09	94 2.84	51 1.54	43 1.30	
Intrauterine hypoxia, birth asphyxia (P20-P21)		230 6.95	221 6.68	176 5.32	45 1.36	
All other causes		5,781 174.64	3,218 97.21	2,162 65.31	1,056 31.90	
Less then 2,500 grams						
All causes	239,310	11,999 5,014.00	9,887 4,131.46	8,332 3,481.68	1,555 649.78	
Congenital malformations (Q00-Q99)		2,634 1,100.66	2,149 898.00	1,814 758.01		
Short gestation and low birthweight nec (P07)		2,606 1,088.96	2,552 1,066.40	2,481 1,036.73	71 29.67	
Sudden infant death syndrome (R95)		281 117.42	25 10.45	6 *	19	
Maternal complications of pregnancy (P01)		984 411.18	981 409.93	954 398.65	27 11.28	
See footnotes at end of table.						

Live births by birthweight and race of mother and infant deaths and infant mortality rates by age of death, birthweight, and race of mother for 10 major causes of infant death: United States, 2006 birth cohort data -Cont

Cause of death, birthweight, and race of mother	Live		Total	Early	Late	Post-
	Births	Infant	Neonatal	Neonatal	Neonatal	Neonatal
White						
Accidents (unintentional injures) (V01-X59)		109 45.55	12 *	7 *		5 97 40.53
Complications of placenta, cord, membranes (PO2)		623 260.33	620 259.08	601 251.14		
Respiratory distress of newborn (P22)		496 207.26	487 203.50	394 164.64		
Bacterial sepsis of newborn (P36)		420 175.50	402 167.98	184 76.89		
Deseases of the circulatory system (IOO-I99)		171 71.46	44 18.39	30 12.54		
Intrauterine hypoxia, birth asphyxia (P20-P21)		134 55.99	132 55.16	111 46.38		
All other causes		3,542 1,480.09	2,482 1,037.15	1,749 730.85		
2,500 grams or more						
All causes	,070,169	6,415 208.95	2,306 75.11	1,336 43.52		
Congenital malformations (Q00-Q99)		1,762 57.39	1,080 35.18	676 22.02		
Short gestation and low birthweight nec (P07)		24 0.78	24 0.78	24 0.78		
Sudden infant death syndrome (R95)		1,312 42.73	118 3.84	23 0.75		
Maternal complications of pregnancy (PO1)		25 0.81	22 0.72	22 0.72		5
Accidents (unintentional injures) (V01-X59)		646 21.04	71 2.31	15 *	50 1.82	
Complications of placenta, cord, membranes (PO2)		64 2.08	64 2.08	59 1.92		5 – * –
Respiratory distress of newborn (P22)		12 *	12 *	8 *	4	1 –
Bacterial sepsis of newborn (P36)		69 2.25	66 2.15	35 1.14		
Deseases of the circulatory system (IOO-I99)		195 6.35	49 1.60	20 0.65		
Intrauterine hypoxia, birth asphyxia (P20-P21)		94 3.06	88 2.87	64 2.08		
All other causes		2,212 72.05	711 23.16	389 12.67		
Not stated birthweight						
All causes	852		99 11,619.72	98 11,502.35		L б * *
Congenital malformations (Q00-Q99)		10 *	8 *	8 *	-	- 2
Short gestation and low birthweight nec (P07)		36 4,225.35	36 4,225.35	36 4,225.35		
See footnotes at end of table.						

Live births by birthweight and race of mother and infant deaths and infant mortality rates by age of death, birthweight, and race of mother for 10 major causes of infant death: United States, 2006 birth cohort data -Cont

[Infant deaths are weighted. Infant deaths are under 1 year.Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days; and postneonatal, 28 days through 11 months. Rates are per 100,000 live births]

Cause of death, birthweight, and race of mother	Live		Total	Early	Late	Post-
	Births	Infant	Neonatal	Neonatal	Neonatal	Neonatal
White						
Sudden infant death syndrome (R95)		1 *	-	-	-	· 1
Maternal complications of pregnancy (P01)		17 *	17 *	17 *	-	
Accidents (unintentional injures) (V01-X59)		-	-	-	-	
Complications of placenta, cord, membranes (P02)		10 *	10	10 *	-	
Respiratory distress of newborn (P22)		1 *	1 *	1 *	-	
Bacterial sepsis of newborn (P36)		-	-	-	-	
Deseases of the circulatory system (IOO-I99)		1 *	1	1	-	
Intrauterine hypoxia, birth asphyxia (P20-P21)		1 *	1	1	-	
All other causes		27 3,169.01	24 2,816.90	23 2,699.53	1	
Black						
All birthweights						
All causes	666,494	8,630 1,294.84	5,779 867.07	4,615 692.43	1,164 174.65	
Congenital malformations (Q00-Q99)		1,145 171.79	770 115.53	547 82.07	223 33.46	
Short gestation and low birthweight nec (P07)		1,932 289.88	1,881 282.22	1,825 273.82	56 8.40	
Sudden infant death syndrome (R95)		673 100.98	58 8.70	3 *	55 8.25	
Maternal complications of pregnancy (P01)		578 86.72	565 84.77	559 83.87	6 *	
Accidents (unintentional injures) (V01-X59)		372 55.81	28 4.20	7 *	21 3.15	
Complications of placenta, cord, membranes (PO2)		368 55.21	364 54.61	351 52.66	13	
Respiratory distress of newborn (P22)		281 42.16	276 41.41	212 31.81	64 9.60	
Bacterial sepsis of newborn (P36)		276 41.41	257 38.56	102 15.30	154 23.11	
Deseases of the circulatory system (IOO-I99)		169 25.36	25 3.75	13 *	12	
Intrauterine hypoxia, birth asphyxia (P20-P21)		82 12.30	77 11.55	59 8.85	18	
All other causes		2,753 413.06	1,477 221.61	937 140.59	541 81.17	
Less then 2,500 grams						
All causes	90,940	6,590 7,246.54	5,199 5,716.96	4,317 4,747.09	883 970.97	1,391 1,529.58
See footnotes at end of table						

See footnotes at end of table.

Live births by birthweight and race of mother and infant deaths and infant mortality rates by age of death, birthweight, and race of mother for 10 major causes of infant death: United States, 2006 birth cohort data -Cont

[Infant deaths are weighted. Infant deaths are under 1 year.Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days; and postneonatal, 28 days through 11 months. Rates are per 100,000 live births]

Cause of death, birthweight, and race of mother	Live		Total	Early	Late	Post-
	Births	Infant	Neonatal	Neonatal	Neonatal	Neonatal
Black						
Congenital malformations (Q00-Q99)		751 825.82	558 613.59	431 473.94		
Short gestation and low birthweight nec (P07)		1,891 2,079.39	1,842 2,025.51	1,787 1,965.03		
Sudden infant death syndrome (R95)		189 207.83	14 *	1	13	
Maternal complications of pregnancy (P01)		561 616.89	548 602.60	542 596.00	6	
Accidents (unintentional injures) (V01-X59)		88 96.77	11	5	6	
Complications of placenta, cord, membranes (P02)		349 383.77	346 380.47	339 372.77	7	
Respiratory distress of newborn (P22)		277 304.60	273 300.20	210 230.92	63 69.28	
Bacterial sepsis of newborn (P36)		255 280.40	239 262.81	92 101.17		
Deseases of the circulatory system (IOO-I99)		92 101.17	11	6 *	Ę	
Intrauterine hypoxia, birth asphyxia (P20-P21)		59 64.88	56 61.58	42 46.18	13	
All other causes		2,080 2,287.22	1,302 1,431.71	862 947.88		
2,500 grams or more						
All causes	575,385	1,996 346.90	538 93.50	256 44.49	281 48.84	
Congenital malformations (Q00-Q99)		395 68.65	212 36.84	117 20.33		
Short gestation and low birthweight nec (P07)		22 3.82	20 3.48	19 *	1	
Sudden infant death syndrome (R95)		483 83.94	43 7.47	2 *	41 7.13	
Maternal complications of pregnancy (P01)		8 *	8 *	8 *	-	
Accidents (unintentional injures) (V01-X59)		284 49.36	17 *	2 *	15	
Complications of placenta, cord, membranes (PO2)		14 *	13	7*	6	5 1
Respiratory distress of newborn (P22)		3	2	1	1	. 1
Bacterial sepsis of newborn (P36)		21 3.65	18	10	3	3 3
Deseases of the circulatory system (IOO-I99)		78 13.56	14	7		7 63 5 10.95
Intrauterine hypoxia, birth asphyxia (P20-P21)		20 3.48	18	13		5 2
All other causes		667 115.92	171 29.72	70 12.17	101	496
See footnotes at end of table.		110.02	22.12	/	11.50	50.20

See footnotes at end of table.

Live births by birthweight and race of mother and infant deaths and infant mortality rates by age of death, birthweight, and race of mother for 10 major causes of infant death: United States, 2006 birth cohort data -Cont

[Infant deaths are weighted. Infant deaths are under 1 year.Neonatal deaths are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days; and postneonatal, 28 days through 11 months. Rates are per 100,000 live births]

Cause of death, birthweight, and race of mother	Live		Total	Early	Late	Post-	
	Births	Infant	Neonatal	Neonatal	Neonatal	Neonatal	
Black							
Not stated birthweight							
All causes	169		42 24,852.07	42 24,852.07			2 *
Congenital malformations (Q00-Q99)		-	-	-		_ ·	-
Short gestation and low birthweight nec (P07)		18 *	18 *	18 *		_ ·	-
Sudden infant death syndrome (R95)		1 *	-	-			1 *
Maternal complications of pregnancy (PO1)		9 *	9 *	9		_ ·	-
Accidents (unintentional injures) (V01-X59)		-	-	-		_ ·	-
Complications of placenta, cord, membranes (PO2)		5	5 *	5		_ ·	-
Respiratory distress of newborn (P22)		1	1 *	1		_ ·	-
Bacterial sepsis of newborn (P36)		-	-	-		_ ·	-
Deseases of the circulatory system (IOO-I99)		-	-	-		_ ·	-
Intrauterine hypoxia, birth asphyxia (P20-P21)		3	3	3*		_ ·	-
All other causes		б *	5	5 *			1 *

-/ Quality zero.
*/Figure does not meet standard of reliability or precision; see Technical notes.
1/ Includes races other then white and black.

State and race of child 1/	Infant	Total neonatal	Early neonatal	Late neonatal	Postneonatal
United States /2					
Total	368	277	241	36	91
White	235	177	151	26	58
Black	113	89	79	10	24
Alabama					
Total	1	-	-	-	1
White	1	-	-	-	1
Black	-	-	-	-	-
Alaska					
Total	3	1	1	-	2
White	2	1	1	-	1
Black	-	-	-	-	-
Arizona					
Total	10	1	1	-	9
White	6	1	1	-	5
Black	1	-	-	-	1
Arkansas					
Total	3	3	3	-	-
White	1	1	1	-	-
Black	2	2	2	-	-
California					
Total	102	93	81	12	9
White	72	65	56	9	7
Black	22	20	17	3	2
Colorado					
Total	2	1	1	-	1
White	2	1	1	-	1
Black	-	-	-	-	-
Connecticut	_				
Total	1	-	-	-	1
White	- 1	-	-	-	- 1
Black	T	-	-	-	Ţ
Delaware	_				
Total	1	-	-	-	1
White Black	- 1	-	-	-	- 1
	Ŧ				Ť
Dist of Columbia					
Total	-	-	-	-	-
White Black	-	-	-	-	-
Florida	-	2	2		F
Total	7	2	2	-	5
White Black	6 1	1	1 1	-	5
Georgia	6	6	3	3	
Total White	6	6	3	3	-
Black	4	4	2	2	-
DIGCK	4	4	2	2	_
Hawaii					
Total	-	-	-	-	-
White	-	-	-	-	-
Black					

State and race of child 1/	Infant	Total neonatal	Early neonatal	Late neonatal	Postneonatal
Idaho					
Total	2	-	-	-	2
White Black	1	-	-	-	1
Black	-	-	-	-	-
Illinois					
Total	6	5	5	-	1
White	1	1	1	-	-
Black	5	4	4	-	1
Indiana					
Total	6	6	5	1	-
White	3	3	3	-	-
Black	3	3	2	1	-
Iowa					
Total	1	1	1	-	-
White	1	1	1	-	-
Black	-	-	-	-	-
Kansas					
Total	-	-	-	-	-
White	-	-	-	-	-
Black	-	-	-	-	-
Vontualty					
Kentucky Total	6	4	_	4	2
White	6	4	_	4	2
Black	-	-	-	-	_
Louisiana	27	19	19		8
Total White	27	19	5	-	8
Black	18	13	13	_	5
Maine	_	_	_		_
Total White	-	-	-	-	_
Black	_	_		-	_
bitten					
Maryland					
Total	2	-	-	-	2
White Black	1	-	-	-	1
Black					
Massachusetts					
Total	-	-	-	-	-
White	-	-	-	-	-
Black	-	-	-	-	-
Michigan					
Total	1	1	1	-	-
White	1	1	1	-	-
Black	-	-	-	-	-
Minnesota					
Total	-	-	-	-	-
White	-	-	-	-	-
Black	-	-	-	-	-
Miggiggippi					
Mississippi Total	7	4	_	4	3
White	4	3	-	3	1
Black	3	1	-	1	2

State and race of child 1/	Infant	Total neonatal	Early neonatal	Late neonatal	Postneonatal
Missouri					
Total	3	2	2	-	1
White	1	1	1	-	-
Black	2	1	1	-	1
Montana					
Total	-	-	-	-	-
White	-	-	-	-	-
Black	-	-	-	-	-
Nebraska					
Total	1	1	-	1	-
White	-	-	-	-	-
Black	1	1	-	1	-
Nevada					
Total	3	2	1	1	1
White	3	2	1	1	1
Black	-	-	-	-	-
New Hampshire					
Total	_	_	_	_	_
White	_	_	_	_	_
Black	_	_	_	_	_
New Jersey					
Total	8	8	8	-	-
White	6	6	6	-	-
Black	2	2	2	-	-
New Mexico					
Total	8	6	4	2	2
White	8	б	4	2	2
Black	-	-	-	-	-
New York					
Total	11	9	8	1	2
White	10	8	7	1	2
Black	1	1	1	-	-
New York City	2	1	1		1
Total White	2	1	1	-	1
Black	1	- 1	- 1	-	
	-	-	-		
North Carolina					
Total	4	1	1	-	3
White	1	1	1	-	-
Black	2	-	-	-	2
North Dakota					
Total	-	-	-	-	-
White	-	-	-	-	-
Black	-	-	-	-	-
Ohio					
Total	26	23	20	3	3
White	11	9	8	1	2
Black	15	14	12	2	1
	-				
Oklahoma					_
Total	6	1	1	-	5
White	6	1	1	-	5
Black	-	-	-	-	-

State and race of child 1/	Infant	Total neonatal	Early neonatal	Late neonatal	Postneonatal	
Oregon						
Total	1	-	-	-	1	
White	1	-	-	-	1	
Black	-	-	-	-	-	
Pennsylvania						
Total	11	7	7	-	4	
White	4	2	2	_	2	
Black	7	5	5	-	2	
Rhode Island						
Total	_	_	_	_	_	
	_			_	_	
White				=		
Black	-	-	-	-	-	
South Carolina						
Total	4	2	2	-	2	
White	2	1	1	-	1	
Black	2	1	1	-	1	
South Dakota						
Total	-	-	-	-	_	
White	_	_	_	_	_	
Black	_	_	_	_	_	
Tennessee	_	_	_	_		
Total	-				-	
White	-	-	-	-	-	
Black	-	-	-	-	-	
Texas						
Total	85	69	63	6	16	
White	61	50	46	4	11	
Black	21	17	15	2	4	
Utah Total	_	_	_	_	_	
White	_	_	_	_	_	
Black	_				_	
Black	-	-	-	-	_	
Vermont						
Total	-	-	-	-	-	
White	-	-	-	-	-	
Black	-	-	-	-	-	
Virginia						
Total	-	-	-	-	-	
White	-	_	_	_	-	
Black	-	-	-	-	-	
Washington						
Total	1	_	_	_	1	
		-		-		
White Black	1 -		-	-	1 -	
West Virginia	_					
Total		-	-	-	-	
White	-	-	-	-	-	
Black	-	-	-	-	-	
Wisconsin						
Total	3	1	-	1	2	
White	3	1	-	1	2	
Black	_	_	_	-	-	

[Infant deaths are under 1 year. Neonatal death are under 28 days; early neonatal, 0-6 days; late neonatal, 7-27 days; and postneonatal, 28 days through 11 months. Data in this table is for infant deaths in 2006 that are not included in the linked file because they were not linked with their corresponding birth certificates. See methodology section. Residence is of infant decedent; race is from death certificate]

State and race of child 1/	Infant	Total neonatal	Early neonatal	Late neonatal	Postneonatal
Wyoming					
Total	-	-	-	-	-
White	-	-	-	-	-
Black	-	-	-	-	-
Puerto Rico					
Total	-	-	-	-	-
White	-	-	-	-	-
Black	-	-	-	-	-
Virgin Islands					
Total	-	-	-	-	-
White	-	-	-	-	-
Black	-	-	-	-	-
Guam					
Total	-	-	-	-	-
White	-	-	_	_	-
Black	_	_	_	_	_

Totals for geographic areas include races other than white and black.
 Excludes data for foreign residents, Puerto Rico, Virgin Islands and Guam.