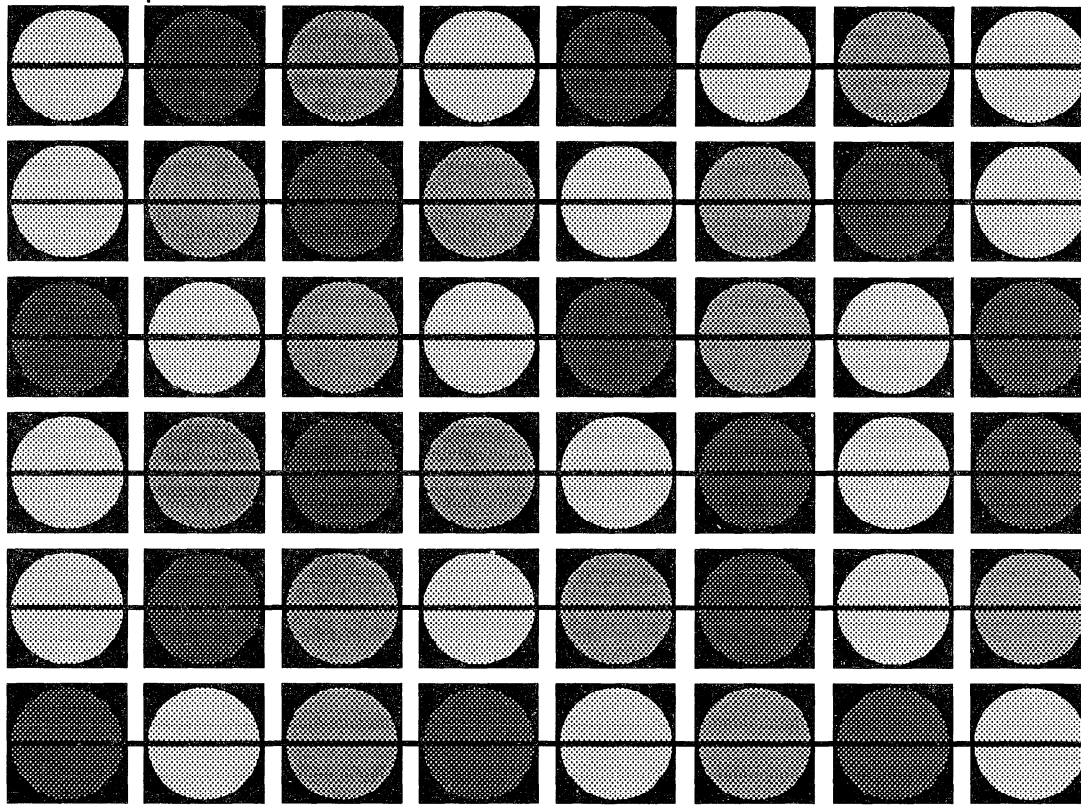

Instruction Manual

Part 12

Computer Edits for Natality Data, Effective 1993

Vital Statistics

Data Preparation



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

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This instruction manual was prepared by the Division of Vital Statistics. Questions should be referred to the Natality, Marriage and Divorce Statistics Branch, National Center for Health Statistics, 6525 Belcrest Road, Hyattsville, Maryland 20782.

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VITAL STATISTICS COMPUTER EDITS

FOR

NATALITY DATA, EFFECTIVE 1993

Introduction

This manual presents a comprehensive description of the computer edits used by NCHS in processing natality data. The items are shown in the order in which they appear on the 1989 revision of the U.S. Standard Certificate of Live Birth (figure A); the item number is from the Standard Certificate except for "Date of Receipt." The "output positions" referred to are the tape output positions from the Instruction Manual, Part 3a, "Classification and Coding Instructions for Live Birth Records."

For each item, section A shows the code outline as specified in the Instruction Manual, Part 3a. Section B describes the computer processing that is performed on the item. This includes checking for valid codes, computation of data items where necessary (e.g., age, live-birth order, interval, and gestation), consistency checks between data items, and imputation. Section C is used for place of birth, attendant at birth, and race of mother and father, and shows recodes to provide consistency with the previous categories available for these items.

The edits contained in this manual are the final edits performed by NCHS for natality data. All imputation procedures described in this manual will be performed by NCHS as data are edited for final tabulation. Therefore, data submitted to NCHS under VSCP contracts **should not** include any imputed values.

2. Date of Birth (Output pos. 9-14)A. Code Outline

1. Month (Output pos. 9-10)

January	01	July	07
February	02	August	08
March	03	September	09
April	04	October	10
May	05	November	11
June	06	December	12
Not classifiable			99

2. Day 01-31 (Output pos. 11-12)

Enter as stated.....	01-31
Not Classifiable	99

3. Year (Output pos. 13-14)

Enter last two digits	
Not classifiable.....	99

B. Processing

1. Month of Birth

If the natality detail record is not coded 01-12, the code from the preceding record is inserted.

2. Day of Birth

2.1 If day is not within the range of 01-31 or is 99, change to 15.

2.2. The day of birth must fall within the correct range for the month (e.g. month 04, days 01-30). If not change code for day to last permissible day of month. For example, if month is 04 and day is 31, change day code to 30.

3. Geographic Place of Birth (Output pos. 16-20)

State (Output pos. 16-17)

A. Code Outline

Standard code for States and Possessions01-54
New York City.....55

B. Processing

Processed in conjunction with county of birth - see Item 6.

County (Output pos. 18-20)

A. Code Outline

See Vital Statistics Instruction Manual, Part 8, Vital Records Geographic Classification, 1982. Beginning with 1994 data, see Vital Statistics Instruction Manual, Part 8, Vital Records Geographic Classification, 1994.

B. Processing

All natality detail records are matched against a master geographic file which contains one record for each State and county in the United States. For matched occurrence data, the FIPS State and county codes are also inserted. All unmatched detail records (errors) are rejected for correction.

4. Sex (Output pos. 15)

A. Code Outline

Male1
Female2
Not classifiable9

B. Processing

If the natality detail record is not coded 1 or 2, the code from the preceding record is inserted.

7. Type of Place of Birth (Output pos. 21)

A. Code Outline

Hospital1
Free standing birthing center2
Clinic/Doctor's office3
Residence4
Other5
Not classifiable9

B. Processing

If the record is not coded 1-5 or 9, change code to 9.

C. Recode Outline

Code for Place of Birth

Recode

1=In hospital
2=Not in hospital

1
2
3
4
5
9

1
2
2
2
2
2

11. Attendant at Birth (Output pos. 22)A. Code Outline

M.D.1
 D.O.2
 C.N.M.....3
 Other midwife4
 Other5
 Not classifiable9

B. Processing

If the record is not coded 1-5 or 9, change code to 9.

C. Recode Outline

Code for Attendant

Recode

1=Physician 2=Midwife 3=Other

1
2
3
4
5
9

1
1
2
2
3
9

17. Date of Birth of Mother (Output pos. 23-28)

22. Date of Birth of Father (Output pos. 36-41)

A. Code Outline

1. Month (Mother - Output pos. 23-24)
(Father - Output pos. 36-37)

January.....01	July.....07
February.....02	August.....08
March.....03	September.....09
April.....04	October.....10
May.....05	November.....11
June.....06	December.....12
Not classifiable.....99	

2. Day (Mother - Output pos. 25-26)
(Father - Output pos. 38-39)

Enter as stated.....01-31
Not classifiable.....99

3. Year (Mother - Output pos. 27-28)
(Father - Output pos. 40-41)

Last two digits.
Not classifiable....99

4. Reported Age in Years (Mother - Output pos. 245-246)
(Father - Output pos. 247-248)

Enter as stated.....00-98
Not classifiable.....99

B. Processing

1. If year is coded 99, assign 99 as computed age.
2. If day is not 01-31 or 99, change to 99.
3. If day is valid and month is coded 99, or if day and month are both coded 99 but there is a valid year code for mother/father, compute age: Last 2 digits of year of infant's birth - last 2 digits of year of mother's/father's birth.

17. Date of Birth of Mother (con.)

22. Date of Birth of Father (con.)

B. Processing (con.)

4. If day only is coded 99, change day code to 15.
5. Check to see that the day of the month falls within the correct range for month (e.g. month 04, day 1-30). If not, change code for day to last permissible day of month. For example, if month is 04 and day is 31, change day code to 30.
6. Convert dates of birth of infant and of mother/father to century months. Century months = year of birth x 12 + month of birth.
 - 6.1. Compute age in years:
(Century months of infant - Century months of mother/father) / 12. Truncate result.
 - 6.2. If month of birth of infant is the same as month of birth of mother/father and infant's day of birth precedes mother's/father's day of birth, subtract 1 from age computed in 6.1.
7. If age of mother, as determined from date of birth or as entered on record in years, (Output pos. 245-246) is 00-09 or 50-98, assign a new age as outlined in step 7.1.2.

17. Date of Birth of Mother (con.)

22. Date of Birth of Father (con.)

B. Processing (con.)

7.1. Processing for this item should follow processing for race of mother and total-birth order. For each record, identify the race of mother and total-birth order according to the matrix grouping shown below. The age of mother is imputed if unknown or placed in the matrix when known.

7.1.1. If age is 10-49, replace the entry in the appropriate cell of the matrix with the age of the mother from the current record.

7.1.2. If age of mother is 00-09, 50-98, or 99, assign the age code according to the matrix entry for the same total-birth order and race of mother.

<u>Race of mother</u>	<u>Total-birth Order</u>								
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8+</u>	<u>Not stated</u>
White	24	27	29	30	32	34	35	37	28
Black	21	25	27	28	30	32	33	36	27
Other races	24	27	29	30	32	34	35	37	29

8. If father's age as determined from date of birth or entered on the record (Output pos. 247-248) is 00-09, change code to 99. Age of father is not edited for upper limits.

17. Date of Birth of Mother (con.)

22. Date of Birth of Father (con.)

B. Processing (con.)

9. Generate a combined age field.

9.1. For States reporting only date of birth or only age in years (not both).

9.1.1. Combined age of mother is computed or reported age if age is 10-49. Otherwise combined age is imputed age.

9.1.2. Combined age of father is computed or reported age.

9.2. For States reporting both date of birth and age in years.

9.2.1. Combined age of mother is computed age if computed age is 10-49.

9.2.2. Combined age of mother is reported age if reported age is 10-49 and computed age is less than 10 or greater than 49 or not stated.

9.2.3. Otherwise, combined age of mother is imputed age.

9.2.4. Combined age of father is computed age if computed age is 10-98. Otherwise combined age of father is reported age.

9.3. If both the computed and reported ages for mother/father are valid, assign age as computed from date of birth.

18. **Birthplace of Mother** (Output pos. 29-30)

A. Code Outline

Standard code for States and Possessions	01-54
Canada	55
Cuba	56
Mexico	57
Remainder of World	59
Not classifiable	99

B. Processing

If coded other than 01 - 57, 59, or 99, change to code 99.

19. Residence of Mother (Output pos. 31-35)

State (Output pos. 31-32)

County or City (Output pos. 33-35)

A. Code Outline

See Vital Statistics Instruction Manual, Part, 8, Vital Records Geographic Classification, 1982. Beginning with 1994 data, see Vital Statistics Instruction Manual, Part 8, Vital Records Geographic Classification, 1994.

B. Processing

1. If State code (pos. 31-32) is 54-57 or 59, blank county (pos. 33-35).
2. Further editing of this item is done by matching all detail records against a master geographic file containing one record for each geographic area (State and city or county). Unmatched detail records (errors) are rejected for correction.
3. For matched detail records, the entry for usual residence of mother is converted into State, county, and city (or balance of county) codes, plus recodes for population size, MSA, and metropolitan/nonmetropolitan county. The FIPS State, county, and MSA codes are also added to the record.

25 a. Hispanic Origin of Mother (Output pos. 42)

25 b. Hispanic Origin of Father (Output pos. 43)

A. Code Outline

Non-Hispanic	0
Mexican	1
Puerto Rican	2
Cuban	3
Central or South American	4
Other and unknown Hispanic ...	5
Not classifiable	9

B. Processing

If the record is not coded 0-5 or 9, change code to 9.

26 a. Race of Mother (Output pos. 44)

26 b. Race of Father (Output pos. 45)

A. Code Outline

White.....	1
Black	2
Indian (North, Central, and South American Indian, and Eskimo and Aleut)	3
Asian or Pacific Islander:	
Chinese	4
Japanese	5
Hawaiian	6
Filipino	7
Other Asian or Pacific Islander.....	8
Asian Indian (Expanded coding states).....	A
Korean....."....."	B
Samoan....."....."	C
Vietnamese....."....."	D
Guamian....."....."	E
Other....."....."	8
Other races	0
Not classifiable	9

B. Processing

1. If record is not coded 0, 1-9, or A,B,C,D,E, change code to 9.
2. If race of mother code is 9 or 0, impute mother's race as that of father's, if known. Otherwise, impute mother's race as race of mother of the preceding record with known race of mother.
3. If father's race is coded 0, change code to 9.

26 a. Race of Mother (con.)

26 b. Race of Father (con.)

C. Recode Outline

White	01
Black	02
American Indian	03
Asian or Pacific Islander:	
Chinese	04
Japanese	05
Hawaiian	06
Filipino	07
Asian Indian (Expanded coding states).....	18
Korean....."....."	28
Samoan....."....."	38
Vietnamese....."....."	48
Guamian....."....."	58
Other....."....."	68
Combined "Other" (all other states).....	78
Not classifiable (father only).....	99

27 a. Education of Mother (Output pos. 46-47)

27 b. Education of Father (Output pos. 48-49)

A. Code Outline

Elementary or Secondary	00-12
College	
1 year	13
2 years	14
3 years	15
4 years	16
5+ years.....	17
Not classifiable.....	99

B. Processing

1. If the code is other than 00-17 or 99, change code to 99.
2. Check for consistency between education and age. Mother's consistency check is done following imputation of mother's age. If age of mother/father minus the years of school completed is less than 4, change years of school completed to 99.

28 a/b/d/ Pregnancy History (Output pos. 50-55)A. Code Outline

1. Number of live births now living (Output pos. 50-51)

Enter as stated	00-30
None	00
Blank	77
Not classifiable	99

2. Number of live births now dead (Output pos. 52-53)

Enter as stated	00-30
None	00
Blank	77
Not classifiable	99

3. Number of other terminations (Output pos. 54-55)

Enter as stated	00-30
None	00
Blank	77
Not classifiable	99

B. Processing

1. If record is not coded 00-30, 77, or 99 for each of these items, change code to 99.
2. If the three pregnancy history items are all coded 77, change the 77's to 99's.
3. Change all other 77's to 00's.

28 a/b/d Pregnancy History (con.)B. Processing (con.)

4. Determine live-birth order from following chart:

Code for number of live births now living (a)	Code for number of live births now dead (b)	
	00-30	99
00-30	sum of (a)+(b)+1	
99	99	99

5. If live-birth order is greater than 31, recode to 99.

6. Determine total-birth order from following chart.

Code for live-birth order from step 4 (c)	Code for number of other terminations (d)	
	00-30	99
01 to 31	sum of (c)+(d)	
99	99	99

7. If total-birth order is greater than 40, recode to 99.

8. Check for consistency between live-birth order and age of mother, and total-birth order and age of mother. If age of mother minus live-birth order (when known) is less than 9, change live-birth order to 99; if age of mother minus total-birth order (when known) is less than 9, change total birth to 99.

28 c. Date of Last Live Birth (Output pos. 56-59)A. Code Outline

1. Month (Output pos. 56-57)

January	01	July	07
February.....	02	August.....	08
March	03	September.....	09
April	04	October	10
May	05	November.....	11
June	06	December.....	12
Not classifiable.....	99		

2. Year (Output pos. 58-59)

Enter last two digits
Not classifiable99

B. Processing

1. If month of last live birth is other than 01-12 or 99, change code to 99.
2. Interval since last live birth is computed from month and year of birth (output pos. 9-10, 13-14), and date of last live birth (output pos. 56-59).
3. Date of last live birth must be edited for impossible codes before interval can be computed.
 - 3.1. If month of last live birth (Output pos. 56-57) is coded 99, code interval 999.
 - 3.2. If year of last live birth (Output pos. 58-59) is not less than or equal to the current year (Output pos.13-14) or is coded 99, code interval 999.
 - 3.3. If this is a first live birth, code interval 777.

28 c. Date of Last Live Birth (con.)B. Processing (con.)

4. For records passing the above edits, compute the interval since last live birth in months as follows:
 - 4.1. Convert date of this birth and date of last live birth to century months. Century months=year of event times 12 plus month of event.
 - 4.2. Interval=Date of this birth in century months minus date of last live birth in century months.
5. If calculated interval is negative, change interval code to 999.
6. Once plurality is edited, if calculated interval is less than 4 months and the present birth is a single birth (output pos. 78=1), change interval code to 999.
7. Check for consistency between interval and age of mother once age of mother has been imputed. If calculated interval based on combined age of mother is greater than (age of mother - 10) x 12, change interval code to 999.

29. Mother Married? (Output pos. 60)A. Code Outline

1. All areas except Puerto Rico

Married	1
Unmarried	2
Not classifiable	9

2. Puerto Rico only

Married	1
Unmarried and living together	2
Unmarried and not living together ...	3
Not classifiable	9

B. Processing

1. All areas except Puerto Rico:

If the natality detail record is not coded 1 or 2,
change the code to 1.

2. Puerto Rico only:

If the natality detail record is not coded 1, 2, or
3, change the code to 1.

30. Date Last Normal Menses Began (LMP) (Output pos. 61-65)A. Code Outline

1. Month (Output pos. 61-62)

January	01	July	07
February	02	August	08
March	03	September	09
April	04	October	10
May	05	November	11
June	06	December	12
Not classifiable			99

2. Day (Output pos. 63-64)

Enter as stated.....	01-31
Not classifiable	99

3. Year (Output pos. 65)

Enter last digit	
Not classifiable	X

B. Processing

1. If month of last normal menses (Output pos 61-62) is other than 01-12 or 99, change code to 99.
2. If day of last normal menses (Output pos 63-64) is other than 01-31 or 99, change code to 99. If day of month is known, day must fall within the correct range for month (e.g., month 04, days 1-30). If not, change code for day to last allowable day for month.
3. If year of last normal menses (Output pos. 65) is not the same as or one less than year of birth, change code to X.

30. Date Last Normal Menses Began (LMP) (con.)B. Processing (con.)

4. Period of gestation is computed from date of birth (Output pos. 9-14) and date of LMP (Output pos. 61-65). Each item must be edited for impossible codes before gestation can be computed.
 - 4.1. If month of last normal menses (Output pos. 61-62) is coded 99, code gestation 99.
 - 4.2. If year of last normal menses (Output pos. 65) is coded X, code gestation 99.
5. For records with complete date of LMP, compute period of gestation as follows:
 - 5.1. Determine interval in days between date of LMP and date of birth.
 - 5.1.1. Determine day of year of birth and day of year of LMP. Day of year of the event = starting day factor of month of event (see chart) plus day of month. For example, the day of year of an event occurring on August 9 = 221 (212+9).

30. Date Last Normal Menses Began (LMP) (con.)B. Processing (con.)

<u>MONTH NAME</u>	<u>MONTH CODE</u>	<u>STARTING DAY FACTOR</u>
January	01	000
February	02	031
March	03	059
April	04	090
May	05	120
June	06	151
July	07	181
August	08	212
September	09	243
October	10	273
November	11	304
December	12	334

5.1.2. Interval in days = Day of year of birth minus day of year of LMP.

5.1.3. If the data year is a Leap Year (Last 2 digits evenly divisible by 4) and month code of birth (see chart) is greater than 02, add 1 to calculated interval in days.

30. Date Last Normal Menses Began (LMP) (con.)B. Processing (con.)

- 5.2. If computed interval in days is negative, add 365 days. A negative interval can occur if:
 - 1) Year of LMP is incorrectly given as the same as the year of birth and month code of LMP is greater than month code of birth. For example, date of birth is 1/1/89 and date of LMP is 4/1/89 when date of LMP is actually 4/1/88 or
 - 2) Year of LMP precedes year of birth and month code of LMP is greater than month code of birth. For example, date of birth is 2/20/89 and date of LMP is 5/10/88.
- 5.3. Convert number of days to number of completed weeks (divide number of days by 7 and do not round to next higher number) and edit for a range of 17-47 weeks. If the number of weeks is outside this range, code gestation 99.
6. For records missing only day of LMP and with valid birth weight, compute period of gestation as follows:
 - 6.1. Convert month and year of birth and month and year of LMP into century months. (Century month = year of event times 12 plus month of event).

30. Date Last Normal Menses Began (LMP) (con.)B. Processing (con.)

6.2. Compute Month Difference.

Month Difference = Century month of birth date minus century month of LMP. If computed month difference is 12 or higher or less than 4, assign code 99 for weeks of gestation. If computed month difference is negative, add 12.

6.3. Impute single weeks of gestation (17 to 47) for each racial group of mother (White, Black, Other) using the following matrix. The initial matrix is created for each racial group based on previous year cases with complete reporting of date of LMP. The matrix will change as processing proceeds to reflect the last record with complete reporting of date of LMP, birth weight, and race.

 Month Difference

 Birth weight
 (grams)

 Less than 6 6 7 8 9 10 or 11

 Less than 500
 500 - 999
 1,000 - 1,499
 1,500 - 1,999
 2,000 - 2,499
 2,500 - 2,999
 3,000 - 3,499
 3,500 - 3,999
 4,000 - 4,499
 4,500 - 4,999
 5,000 or more

Each cell indicates single weeks of gestation.

30. Date Last Normal Menses Began (LMP) (con.)B. Processing (con.)

6.4. Check to insure that imputed weeks of gestation is not impossible, given the day of birth.

6.4.1. Compute the longest theoretical number of weeks of gestation from the actual day of birth with the assumption that the day of LMP is the first day of the month of LMP. Similarly, compute the shortest theoretical number of weeks of gestation by assuming that the day of LMP is the last day of the month of LMP. To compute these two theoretical periods of gestation, follow the same procedure as outlined for records with complete LMP date (See B.5.) If the imputed weeks of gestation is fewer than the lowest theoretical number, substitute the lowest theoretical number. Similarly if the imputed weeks of gestation is greater than the highest theoretical number, substitute the highest theoretical number. Check to see that the substitution falls within the range of 17 to 47 weeks. If outside this range, change imputed value to 99.

31. Month of Pregnancy Prenatal Care BeganA. Code Outline

1. Month of Pregnancy (Output pos. 66)

1st month	1	6th month	6
2nd month	2	7th month	7
3rd month	3	8th month	8
4th month	4	9th month or later .	9
5th month	5	None	0
Month named	Blank		
Not classifiable			X

2. Month Named (Output pos. 67-68) If output pos. 66 is blank

(month of pregnancy), code month named as follows:

January	01	July.....	07
February	02	August	08
March.....	03	September	09
April	04	October	10
May	05	November	11
June	06	December	12

Output pos. 67-68 are blank if there is no month name code.

B. Processing

1. If month of pregnancy prenatal care began is coded X and number of prenatal visits is 00, change month care began to 0.
2. If output pos. 66 is not "blank" and is coded other than 0-9 or X, change code to X.

31. Month of Pregnancy Prenatal Care Began (con.)B. Processing (con.)

3. If the month is named (Output pos. 66 is blank), edit for impossible codes:

3.1. If month of LMP (Output pos. 61-62) is coded 99, code month of pregnancy prenatal care began X.

3.2. If named month (Output pos. 67-68) is coded other than 01-12, code month of pregnancy prenatal care began X.

3.3. For detail records passing the above edits, compute month of pregnancy prenatal care began as follows:

3.3.1. Subtract the month of LMP from the named month of prenatal care:

Month of pregnancy prenatal care began = Named month code minus Month of LMP code.

3.3.2. If the computed month is positive, edit for a range of 0-10. If outside this range, change code to X.

3.3.3. If the computed month is negative, add 12 and edit for a range of 1-10. If outside this range change code to X.

3.3.4. If the computed month is 10, change code to 9.

3.3.5. If the computed month is zero, change code to 1.

32. Prenatal Visits (Output pos. 69-70)

A. Code Outline

Enter as stated..... 00-48
49 and greater 49
Not classifiable 99

B. Processing

1. If not coded 00-49 or 99, change code to 99.
2. For areas reporting both month of pregnancy prenatal care began and total prenatal visits, compare total prenatal visits with month of pregnancy prenatal care began.
 - 2.1. If month care began is coded 0 and visits is coded other than 00, change visit code to 00.
 - 2.2. If month care began is coded 1-9 and visits is coded 00, change visit code to 99.

33. Birth Weight (Output pos. 71-75)A. Code Outline

Weight may be reported and coded in either grams or pounds and ounces.

1. Units code (Output pos. 71) - Indicates form of reporting

Grams 1
 Pounds and ounces 2
 Not classifiable 9

2. Weight

Grams (Output pos. 72-75)

Enter as stated
 Not classifiable9999

Pounds (Output pos. 72-73)

Enter as stated
 Less than one pound .. 00
 Not classifiable 99

Ounces (Output pos. 74-75)

Enter as stated
 No ounces 00
 Not classifiable 99

B. Processing

1. If units code is 9, then code output pos. 72-75 9999.
2. Coded in grams--edit detail entry for a range of 0227-8165 and if entry is outside this range, change code to 9999.

33. Birth Weight (con.)B. Processing (con.)

3. Coded in pounds and ounces--

- 3.1. If entry for pounds (Output pos. 72-73) is 00 and entry for ounces (Output pos. 74-75) is 01-98, convert ounces to grams (1 ounce=28.35 grams); round fractions of grams of 1/2 (.5) or more to the next whole gram. Go to step 3.4.
- 3.2. If entry for pounds (Output pos. 72-73) is 01-18 and entry for ounces (Output pos. 74-75) is 00-16 or 99, convert pounds to ounces and add to the entry for ounces (ounces entry of 99 is considered as 00). Convert total ounces to grams (1 ounce=28.35 grams); round fractions of grams of 1/2 (.5) or more to the next whole gram and go to step 3.4.
- 3.3. For all other combinations of entries of pounds and ounces, code birth weight 9999.
- 3.4. Edit grams for range of 0227-8165 and if it is outside this range, change code to 9999.

34. Clinical Estimate of Gestation (Output pos. 76-77)A. Code Outline

Enter as stated..... 17-47
 Not classifiable 99

B. Processing

1. If not coded 17-47 or 99, change code to 99.

2. Generate a combined gestation field.

2.1 Except as noted in 2.2, if LMP gestation is 17 to 47 weeks, enter LMP gestation in combined gestation field.

2.2 If LMP gestation is 17 to 47 weeks, check compatibility with birth weight as follows:

2.2.1. Once plurality is edited, compare weeks of gestation derived from LMP date with birth weight using following table:

If weeks of gestation based on LMP date are:	<u>And</u> Plurality is:	Then birth weight should be:
A) Less than 20 weeks	All	Less than 1,000 grams
B) 20-23 weeks	All	Less than 2,000 grams
C) 24-27 weeks	All	Less than 3,000 grams
D) 28-31 weeks	All	Less than 4,000 grams
E) 32-47 weeks	Singletons	1,000 grams or more

2.2.2. If records fail consistency checks A, B, C, or D, OR if LMP gestation is 32-35 weeks, plurality is single, and birth weight is less than 500 grams, OR if LMP gestation is 36 weeks or more, plurality is single, and birth weight is less than 750 grams, then compare clinical estimate of gestation with birth weight using these same parameters.

34. Clinical Estimate of Gestation (Output pos. 76-77) (con.)

B. Processing (con.)

- 2.2.2.1. If the clinical estimate is compatible with birth weight, enter clinical estimate in combined gestation field.
- 2.2.2.2. If clinical estimate is also not compatible with birth weight, but is within plus or minus 5 weeks of gestation based on LMP date, code birth weight 9999, and enter gestational period based on LMP date in combined gestation field.
- 2.2.2.3. If clinical estimate is also not compatible with birth weight, and is not within plus or minus 5 weeks of period of gestation based on LMP date, code birth weight 9999 and code combined gestation field 99.
- 2.2.2.4. If clinical estimate is unknown, code combined gestation field 99.

34. Clinical Estimate of Gestation (Output pos. 76-77) (con.)B. Processing (con.)

- 2.2.3. IF LMP gestation is 32-35 weeks, plurality is single and birth weight is 500-999 grams, OR if LMP gestation is 36 weeks or more, plurality is single, and birth weight is 750-999 grams, check for consistency between LMP gestation and the clinical estimate. If the clinical estimate is three weeks or more less than the LMP gestation, enter the clinical estimate in the combined gestation field. Otherwise, leave all variables as reported.
- 2.3. If LMP gestation is coded 99, use clinical estimate of gestation in combined gestation field.
- 2.3.1. Compare weeks of gestation based on clinical estimate with birth weight, using chart in B.2.2.
- 2.3.1.1. If records fail consistency checks A, B, C, or D, OR if clinical estimate is 32-35 weeks, plurality is single, and birth weight is less than 500 grams, OR if clinical estimate is 36 weeks or more, plurality is single, and birth weight is less than 750 grams, code combined gestation field 99.

34. Clinical Estimate of Gestation (Output pos. 76-77) (con.)

B. Processing (con.)

2.3.1.2. Otherwise, enter clinical estimate in
combined gestation field.

35 a. **Plurality** (Output pos. 78)A. Code Outline

Single	1
Twin	2
Triplet	3
Quadruplet	4
Quintuplet or higher	5
Not classifiable ..	9

B. Processing

If not coded 1-5, change code to 1.

36 a. 1-Minute Apgar Score (Output pos. 79-80)

36 b. 5-Minute Apgar Score (Output pos. 81-82)

A. Code Outline

0	.....	00	6	.....	06
1	.....	01	7	.....	07
2	.....	02	8	.....	08
3	.....	03	9	.....	09
4	.....	04	10	.....	10
5	.....	05			
Not classifiable		.....			99

B. Processing

1. If 1-minute score (Output pos. 79-80) is not coded 00-10 or 99, change code to 99.
2. If 5-minute score (Output pos. 81-82) is not coded 00-10 or 99, change code to 99.

38 a. Medical Risk Factors for This Pregnancy (Output pos. 83-116)A. Code Outline

1. Designated codes in Instruction Manual

Anemia (Hct.<30/Hgb<10)	01
Cardiac disease	02
Acute or chronic lung disease	03
Diabetes	04
Genital herpes	05
Hydramnios/Oligohydramnios	06
Hemoglobinopathy	07
Hypertension, chronic	08
Hypertension, pregnancy-assoc	09
Eclampsia	10
Incompetent cervix	11
Previous infant 4000+ grams	12
Previous preterm or small-for-gestational-age infant	13
Renal disease	14
Rh sensitization	15
Uterine bleeding	16
None	00
Other	17
Not Classifiable	99

2. Converted code outline

	<u>Output position</u>	<u>Code</u>
None reported/Not classifiable	83	1, 9, 0
Anemia	84	1, 0
Cardiac disease	85	1, 0
Lung disease	86	1, 0
Diabetes	87	1, 0
Genital herpes	88	1, 0
Hydraminos/Oligohydramnios	89	1, 0
Hemoglobinopathy	90	1, 0
Chronic hypertension	91	1, 0
Preg. assoc. hypertension	92	1, 0
Eclampsia	93	1, 0
Incompetent Cervix	94	1, 0
Prev. infant, 4000+ grams	95	1, 0
Prev. preterm infant	96	1, 0
Renal disease	97	1, 0
Rh sensitization	98	1, 0
Uterine bleeding	99	1, 0
Other	100	1, 0
Filler	101-116	Blank

38 a. Medical Risk Factors for This Pregnancy (con.)A. Code Outline (con.)

3. Converted code structure

3.1. Output pos. 83

"None" box checked	1
At least one risk factor reported ...	0
No box checked/Not classifiable	9

3.2. Output pos. 84-100

Risk Factor reported	1
Risk Factor not reported	0
Code 9 in output position 83	0

B. Processing

1. Consistency checks for converted codes

- 1.1. If converted code in output pos. 95 is 1, and live-birth order is 1, change code in output pos. 95 to 0. If converted codes in output pos. 84-100 are all 0, change converted code in output pos. 83 to 1.
- 1.2. If converted code in output pos. 96 is 1, and live-birth order is 1, change code in output pos. 96 to 0. If converted codes in output pos. 84-100 are all 0, change converted code in output pos. 83 to 1.
- 1.3. If converted codes in both output pos. 95 and 96 are 1, and live-birth order is 2, change codes in both output pos. 95 and 96 to 0. If converted codes in output pos. 84-100 are all 0, change converted code in output pos. 83 to 1.

38 a. Medical Risk Factors for This Pregnancy (con.)B. Processing (con.)

2. Recode outline

2.1. Each risk factor is assigned a recode 1, 2, or 9.

Risk factor reported.....	1
Risk factor not reported	2
Not classifiable.....	9

2.2. If converted code is 1 in any output position 84-100, assign recode 1 to corresponding risk factor.

2.3. If converted code is 1 in output position 83, assign recode 2 to all risk factors.

2.4. If converted code is 9 in output pos. 83, assign recode 9 to all risk factors.

2.5. If converted code is 0 in any output pos. 84-100 and converted code in output pos. 83 is 0, assign recode 2 to corresponding risk factor.

38 b. Other Risk Factors for This Pregnancy (Output pos. 117-124)Tobacco UseA. Code Outline

1. Smoking status (Output pos. 117)
 - Yes1
 - No.....2
 - Not Classifiable.....9

2. Average number of cigarettes per day (Output pos. 118-119)
 - Enter as stated.....00-97
 - 98 and greater.....98
 - Not classifiable.....99

B. Processing

1. Smoking status
 - If not coded 1, 2, or 9, change code to 9.

2. Number of cigarettes
 - If not coded 00-98 or 99, change code to 99.

3. Check for consistency between smoking status and average number of cigarettes smoked.
 - 3.1. If smoking status is 1 and number of cigarettes is 00, change smoking status to 2.
 - 3.2. If smoking status is 2 or 9, and number of cigarettes is 01-98, change smoking status to 1.
 - 3.3. If smoking status is 2, and number of cigarettes is 99, change number of cigarettes to 00.
 - 3.4. If smoking status is 9, and number of cigarettes is 00, change smoking status to 2.

38 b. Other Risk Factors for This Pregnancy (con.)Alcohol UseA. Code Outline

1. Drinking status (Output pos. 120)

Yes1
 No.....2
 Not classifiable.....9

2. Average number of drinks per week (Output pos. 121-122)

Enter as stated....00-97
 98 and greater.....98
 Not classifiable.....99

B. Processing

1. Drinking status

If not coded 1, 2, or 9, change code to 9.

2. Number of drinks.

If not coded 00-98 or 99, change code to 99.

3. Check for consistency between drinking status and average number of drinks per week.

3.1. If drinking status is 1 and number of drinks is 00, change drinking status to 2.

3.2. If drinking status is 2 or 9, and number of drinks is 01-98, change drinking status to 1.

3.3. If drinking status is 2 and number of drinks is 99, change number of drinks to 00.

3.4. If drinking status is 9, and number of drinks is 00, change drinking status to 2.

3.5. If drinking status is 2 or 9, and the infant has fetal alcohol syndrome (code 1 in output position 186), change drinking status to 1 and number of drinks to 99.

38 b. Other Risk Factors For This Pregnancy (con.)

Weight Gained During Pregnancy (Output pos. 123-124)

A. Code Outline

Enter as stated.....00-97
98 and greater.....98
Not classifiable.....99

B. Processing

If record is not coded 00-98 or 99, change code to 99.

39. Obstetric Procedures (Output pos.125-138)A. Code Outline

1. Designated codes in Instruction Manual

Amniocentesis.....01
 Electronic fetal monitoring.....02
 Induction of labor.....03
 Stimulation of labor.....04
 Tocolysis.....05
 Ultrasound.....06
 None.....00
 Other.....07
 Not classifiable.....99

2. Converted code outline

	<u>Output Position</u>	<u>Code</u>
None reported/Not classifiable ...	125	1, 9, 0
Amniocentesis	126	1, 0
Electronic fetal monitoring	127	1, 0
Induction of labor	128	1, 0
Stimulation of labor	129	1, 0
Tocolysis	130	1, 0
Ultrasound	131	1, 0
Other	132	1, 0
Filler	133-138	Blank

3. Converted code structure

3.1. Output pos. 125

"None" box checked 1
 At least one procedure reported 0
 No boxes checked/Not classifiable... 9

3.2. Output pos. 126-132

Procedure reported 1
 Procedure not reported 0
 Code 9 in output position 125 0

39. Obstetric Procedures (con.)B. Processing

1. Recode outline

1.1. Each procedure is assigned a recode 1, 2, or 9.

Procedure reported	1
Procedure not reported	2
Not classifiable	9

1.2. If converted code is 1 in any output pos. 126-132, assign recode 1 to corresponding procedure.

1.3. If converted code is 1 in output pos. 125, assign recode 2 to all procedures.

1.4. If converted code is 9 in output pos. 125, assign recode 9 to all procedures.

1.5. If converted code is 0 in any output pos. 126-132 and converted code in output pos. 125 is 0, assign recode 2 to corresponding procedure.

40. Complications of Labor and/or Delivery (Output pos. 139-170)

A. Code Outline

1. Designated codes in Instruction Manual

Febrile (>100° F or 38° C).....	01
Meconium, moderate/heavy.....	02
Premature rupture of membrane(>12 hrs.).....	03
Abruptio placenta.....	04
Placenta previa.....	05
Other excessive bleeding.....	06
Seizures during labor.....	07
Precipitous labor (<3 hrs.).....	08
Prolonged labor (>20 hrs.).....	09
Dysfunctional labor.....	10
Breech/Malpresentation.....	11
Cephalopelvic disproportion.....	12
Cord prolapse.....	13
Anesthetic complications.....	14
Fetal distress.....	15
None.....	00
Other.....	16
Not classifiable.....	99

2. Converted code outline

	<u>Output Position</u>	<u>Code</u>
None reported/not classifiable	139	1, 9, 0
Febrile	140	1, 0
Meconium	141	1, 0
Premature rupture of membrane	142	1, 0
Abruptio placenta	143	1, 0
Placenta previa	144	1, 0
Other excessive bleeding	145	1, 0
Seizures during labor	146	1, 0
Precipitous labor	147	1, 0
Prolonged labor	148	1, 0
Dysfunctional labor	149	1, 0
Breech/Malpresentation	150	1, 0
Cephalopelvic disproportion	151	1, 0
Cord prolapse	152	1, 0
Anesthetic complications	153	1, 0
Fetal distress	154	1, 0
Other	155	1, 0
Filler	156-170	Blank

40. Complications of Labor and/or Delivery (con.)A. Code Outline (con.)

3. Converted code structure

3.1. Output pos. 139

```
"None"box checked ..... 1
  At least one complication reported ... 0
  No boxes checked/Not classifiable .....9
```

3.2. Output pos. 140-155

```
Complication reported ..... 1
Complication not reported ..... 0
Code 9 in output pos. 139..... 0
```

B. Processing

1. Consistency checks for converted codes

1.1. If there is code 1 in output pos. 147 and output pos. 148, check method of delivery (output pos. 171-177).

1.1.1. If method of delivery is C-Section (code 1 in output pos. 174 or 175) change code 1 to code 0 in output pos. 147.

1.1.2. If method of delivery is other than C-section (code 1 in output pos 172, 173, 176, or 177) change code 1 to code 0 in output pos. 148.

1.1.3. If method of delivery is unknown (code 9 in output pos. 171), change code 1 to code 0 in output pos. 147 and 148. If these were the only complications reported, change code in output pos. 139 to 1.

40. Complications of Labor and/or Delivery (con.)B. Processing (con.)

2. Recode outline

2.1. Each complication is assigned a recode 1, 2, or 9.

Complication reported	1
Complication not reported	2
Not classifiable	9

2.2. If converted code is 1 in any output pos. 140-155, assign recode 1 to corresponding complication.

2.3. If converted code is 1 in output pos. 139, assign recode 2 to all complications.

2.4. If converted code is 9 in output pos. 139, assign recode 9 to all complications.

2.5. If converted code is 0 in any output pos. 140-155, and converted code in output pos. 139 is 0, assign recode 2 to corresponding complication.

41. Method of Delivery (Output pos. 171-182)A. Code Outline

1. Designated codes in Instruction Manual

Vaginal.....	01
Vaginal birth after previous C-section.....	02
Primary C-section.....	03
Repeat C-section.....	04
Forceps.....	05
Vacuum.....	06
Not classifiable.....	99

2. Converted code outline

	<u>Output Position</u>	<u>Code</u>
Not classifiable	171	9, 0
Vaginal	172	1, 0
Vaginal after prev. C-section	173	1, 0
Primary C-section	174	1, 0
Repeat C-section	175	1, 0
Forceps	176	1, 0
Vacuum	177	1, 0
Filler	178-182	Blank

3. Converted code structure

3.1. Output pos. 171

At least one method reported	0
No boxes checked/Not classifiable	9

3.2. Output pos. 172-177

Method of delivery reported	1
Method of delivery not reported/ Not classifiable.....	0

41. Method of Delivery (con.)B. Processing

1. Consistency checks for converted codes

- 1.1. If converted codes in output pos. 176 and 177 are both 1, change code in output pos. 177 to 0.
- 1.2. If converted codes in output pos. 172 and 174 or output pos. 172 and 175 are both coded 1:
 - 1.2.1. And output pos. 173, 176, or 177 is also coded 1, retain code 1 in output pos. 172 and change code in output pos. 174 or 175 to 0.
 - 1.2.2. Otherwise change code in output pos. 171 to 9 and code all output pos. 172-177 to 0.
- 1.3. If converted code in output pos. 173 is coded 1, check that output pos. 172 is coded 1. If not, change code in output pos. 172 to 1.
- 1.4. If converted codes in output pos. 173 and 174 or output pos. 173 and 175 are both coded 1:
 - 1.4.1. And output pos. 172, 176, or 177 is coded 1, change code in output pos. 174 or 175. to 0.
 - 1.4.2. Otherwise change code in output pos. 171 to 9 and code all output pos. 172-177 to 0.

41. Method of Delivery (con.)B. Processing (con.)

- 1.5. If converted codes in output pos. 174 and 176 or 175 and 176 are both coded 1:
 - 1.5.1. If out pos. 172 or 173 is also coded 1, retain code 1 in output pos. 176 and change code in pos. 174 or 175 to 0.
 - 1.5.2. Otherwise, change code in pos. 171 to 9 and code all pos. 172-177 to 0.
- 1.6. If converted codes in output pos. 174 and 177 or 175 and 177 are both coded 1:
 - 1.6.1. If output pos. 172 or 173 is also coded 1, retain code 1 in pos. 177 and change code in pos. 174 or 175 to 0.
 - 1.6.2. Otherwise, change code in output pos. 171 to 9 and code all pos. 172-177 0.
- 1.7. If converted codes in output pos. 174 and 175 are both coded 1:
 - 1.7.1. If all other methods are coded 0:
 - 1.7.1.1. And total birth order is 1 or not stated, change code in pos. 175 to 0.
 - 1.7.1.2. And total birth order is greater than 1, change code in pos. 174 to 0.
 - 1.7.2. If any other method is also coded 1, change all output pos. 172 to 177 to 0, and change code in output pos. 171 to 9.

41. Method of Delivery (con.)B. Processing (con.)

- 1.8. If converted code in output pos. 173 is 1 and total-birth order is 1, change code in output pos. 173 to 0 and code in output pos. 172 to 1.
- 1.9. If converted code in output pos. 175 is 1 and total-birth order is 1, change code in output pos. 175 to 0 and code in output pos. 174 to 1.
- 1.10. If output pos. 176 or 177 is indicated, check that output pos. 172 is coded 1.

2. Recode outline

- 2.1. Each method is assigned a recode 1, 2, or 9.

Method reported	1
Method not reported	2
Not classifiable	9

- 2.2. If converted code is 1 in any output pos. 172-177, assign recode 1 to corresponding method.
- 2.3. If converted code is 9 in output pos. 171, assign recode 9 to all methods.
- 2.4. If converted code is 0 in any output pos. 172-177, and converted code in output pos. 171 is 0, assign recode 2 to corresponding method.

42. Abnormal Conditions of the Newborn (Output pos. 183-200)A. Code Outline

1. Designated codes in Instruction Manual

Anemia (Hct.<39/Hgb.<13).....	01
Birth injury.....	02
Fetal alcohol syndrome.....	03
Hyaline membrane disease/RDS.....	04
Meconium aspiration syndrome.....	05
Assisted ventilation <30 min.....	06
Assisted ventilation ≥ 30 min.....	07
Seizures.....	08
None.....	00
Other.....	09
Not classifiable.....	99

2. Converted code outline

	<u>Output Position</u>	<u>Code</u>
None reported/Not classifiable	183	1, 9, 0
Anemia.....	184	1, 0
Birth injury.....	185	1, 0
Fetal alcohol syndrome.....	186	1, 0
Hyaline membrane disease/RDS.....	187	1, 0
Meconium aspiration syn.....	188	1, 0
Assisted ventilation < 30 Min.....	189	1, 0
Assisted ventilation ≥ 30 Min.....	190	1, 0
Seizures.....	191	1, 0
Other.....	192	1, 0
Filler.....	193-200	Blank

3. Converted code structure

3.1. Output pos. 183

"None" box checked.....	1
At least one abnormal condition reported...	0
No boxes checked/Not classifiable.....	9

3.2. Output pos. 184-192

Condition reported.....	1
Condition not reported.....	0
Code 9 in output pos. 183.....	0

42. Abnormal Conditions of the Newborn (con.)B. Processing

1. Consistency check for converted codes - If both output pos. 189 and 190 are coded 1, change code in output pos. 189 to 0.
2. Recode outline
 - 2.1. Each condition is assigned a recode 1, 2, or 9.

Condition reported.....	1
Condition not reported.....	2
Not classifiable.....	9
 - 2.2. If converted code is 1 in any output pos. 184-192, assign recode 1 to corresponding condition.
 - 2.3. If converted code is 1 in output pos. 183, assign recode 2 to all conditions.
 - 2.4. If converted code is 9 in output pos. 183 assign recode 9 to all conditions.
 - 2.5. If converted code is 0 in any output pos. 184-192 and converted code in output pos. 183 is 0, assign recode 2 to corresponding condition.

43. Congenital Anomalies (Output pos. 201-223)A. Code Outline

1. Designated codes in Instruction Manual

Anencephalus.....	01
Spina bifida/Meningocele.....	02
Hydrocephalus.....	03
Microcephalus.....	04
Other central nervous system anomalies.....	05
Heart malformations.....	06
Other circulatory/respiratory anomalies.....	07
Rectal atresia/Stenosis.....	08
Tracheo-esophageal fistula/Esophageal atresia..	09
Omphalocele/Gastroschisis.....	10
Other gastrointestinal anomalies.....	11
Malformed genitalia.....	12
Renal agenesis.....	13
Other urogenital anomalies.....	14
Cleft lip/palate.....	15
Polydactyly/Syndactyly/Adactyly.....	16
Club foot.....	17
Diaphragmatic hernia.....	18
Other musculoskeletal/Integumental anomalies...	19
Down's syndrome.....	20
Other chromosomal anomalies.....	21
None.....	00
Other.....	22
Not classifiable.....	99

43. Congenital Anomalies (con.)A. Code Outline (con.)

2. Converted code outline	<u>Output Position</u>	<u>Code</u>
None reported/Not classifiable....	201	1, 9, 0
Anencephalus.....	202	1, 0
Spina Bifida/Meningocele.....	203	1, 0
Hydrocephalus.....	204	1, 0
Microcephalus.....	205	1, 0
Other central nervous system anomalies.....	206	1, 0
Heart malformations.....	207	1, 0
Other circulatory/ respiratory anomalies.....	208	1, 0
Rectal atresia/Stenosis.....	209	1, 0
Tracheo-esophageal atresia.....	210	1, 0
Omphalocele/Gastroschisis.....	211	1, 0
Other Gastrointestinal Anomalies.....	212	1, 0
Malformed genitalia.....	213	1, 0
Renal agenesis.....	214	1, 0
Other Urogenital anomalies.....	215	1, 0
Cleft lip/Palate.....	216	1, 0
Polydactyly/Syndactyly/Adactyly...	217	1, 0
Club foot.....	218	1, 0
Diaphragmatic hernia.....	219	1, 0
Other Musculoskeletal/ Integumental anomalies.....	220	1, 0
Down's syndrome.....	221	1, 0
Other chromosomal anomalies.....	222	1, 0
Other.....	223	1, 0

3. Converted code structure

3.1. Output pos. 201

"None" box checked.....	1
At least one anomaly reported.....	0
No boxes checked/Not classifiable..	9

3.2. Output pos. 202-223

Anomaly reported.....	1
Anomaly not reported	0
Code 9 in output pos. 201.....	0

43. Congenital Anomalies (con.)B. Processing

1. Recode outline

1.1. Each anomaly is assigned a recode 1, 2, or 9.

Anomaly reported	1
Anomaly not reported.....	2
Not classifiable.....	9

1.2. If converted code is 1 in any output pos. 202-223, assign recode 1 to corresponding anomaly.

1.3. If converted code is 1 in output pos. 201 assign recode 2 to all anomalies.

1.4. If converted code is 9 in output pos. 201, assign recode 9 to all anomalies.

1.5. If converted code is 0 in any output pos. 202-223 and converted code in output pos. 201 is 0, assign recode 2 to corresponding anomaly.

Blanks (Output pos. 224-239)

Date of Receipt (Output pos. 240-244)

A. Code Outline

1. Month (Output pos. 240-241)

January	01	July	07
February	02	August	08
March	03	September	09
April	04	October	10
May	05	November	11
June	06	December	12
Not classifiable			99

2. Day 01-31 (Output pos. 242-243)

Enter as stated.....	01-31
Not Classifiable	99

3. Year (Output pos. 244)

Enter last digit	
Not classifiable.....	9

B. Processing

1. Month of Receipt

If the natality detail record is not coded 01-12, the code from the preceding record is inserted.

2. Day of Receipt

2.1. If day is not within the range of 01-31 or 99, impute day from previous record.

2.2. The day must fall within the correct range for the month (e.g., month 04, days 1-30). If not, change code for day to last permissible day of month. For example, if month is 04 and day is 31, change day code to 30.

