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Data obtained through Sentinel are intended to complement other types of evidence such as preclinical studies, clinical trials, postmarket studies, and adverse event reports, all of which are used by FDA to inform regulatory decisions regarding medical product safety. The information contained in this report is provided as part of FDA's commitment to place knowledge acquired from Sentinel in the public domain as soon as possible. Any public health actions taken by FDA regarding products involved in Sentinel queries will continue to be communicated through existing channels.

FDA wants to emphasize that the fact that FDA has initiated a query involving a medical product and is reporting findings related to that query does not mean that FDA is suggesting health care practitioners should change their prescribing practices for the medical product or that patients taking the medical product should stop using it. Patients who have questions about the use of an identified medical product should contact their health care practitioners.

The following report contains a description of the request, request specifications, and results from the modular program run(s).

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## Overview for Request: cder\_mpl1r\_wp103

**Request ID:** cder\_mpl1r\_wp103\_nsdp\_v01

**Request Description:** This request estimated use of dolutegravir among women of reproductive age and those with a prior human immunodeficiency virus (HIV) diagnosis in the Sentinel Distributed Database (SDD). This request also examined dolutegravir use during pregnancy among women with live-birth deliveries in the SDD.

**Sentinel Modular Program Tool Used:** Cohort Identification and Descriptive Analysis (CIDA) tool, version 5.4.4

**Data Source:** Data from August 1, 2013 to March 31, 2018 were included in the report. This request was distributed to 16 Data Partners contributing to the SDD on August 21, 2018. These 16 Data Partners are a subset of the SDD and do not include patients with Medicare coverage. Please see Appendix A for a list of dates of available data for each Data Partner.

**Study Design:** This study used a retrospective cohort design describing prevalence of dolutegravir use in women of reproductive age (15-49 years). Dolutegravir dispensings were estimated for all women, women with prior HIV diagnosis, and women with pregnancy episodes. The number of qualifying patients and episodes with the exposure of interest were stratified by study period.

**Exposure of Interest:** The exposure of interest, dolutegravir, was defined using National Drug Codes (NDC). All valid dispensings of dolutegravir were identified for women of reproductive age, and women of reproductive age with an HIV diagnosis; cohort re-entry was allowed. For women with pregnancy episodes ending in a live-birth delivery, all valid episodes were identified during pregnancy and in the 180 days prior to pregnancy start. See Appendix B for a list of generic and brand drug names used to define exposures in this request.

**Cohort Eligibility Criteria for Women of Reproductive Age:** Women ages 15-49 years were included in both the all women of reproductive age cohort and women of reproductive age with a previous HIV diagnosis cohort. Those included in the cohorts were required to be continuously enrolled in plans with medical and drug coverage for at least 180 days prior to their index dispensing date, during which gaps in coverage of up to 45 days were allowed. To be included in the cohort of women of reproductive age with an HIV diagnosis, women were required to have at least one HIV diagnosis in the inpatient care setting or at least two HIV diagnoses in the outpatient care setting in the 180 days prior to their index dispensing date. See Appendix C for a list of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis codes, and Current Procedural Terminology (CPT) procedure codes used to define inclusion criteria in this request.

**Cohort Eligibility Criteria for Women with a Pregnancy Episode:** Women ages 15-49 years were included in the cohort. Those included in the cohort were required to be continuously enrolled in plans with medical and drug coverage for at least 481 days before their delivery date, during which gaps in coverage of up to 45 days were allowed.

**Pregnancy Episode Creation:** A claims-based algorithm previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP) was used to identify pregnancies ending in a live birth<sup>1</sup>. This algorithm used ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, to calculate the length of the pregnancy episode. Codes needed to occur within seven days of a delivery date in the inpatient care setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days. Pregnancies were excluded from the cohort if there was evidence of a prior delivery in the 301 days before the delivery date of interest. Please see Appendix D for more details about this algorithm and for a list of codes used to define gestational age. Please see Appendix E for a list of CPT, ICD-9-CM and ICD-10-CM diagnosis and procedure codes used to define live-born delivery in this request.

Overview for Request: cder\_mpl1r\_wp103, continued

**Exposure Assessment Windows during Pregnancy Episodes:** Use of dolutegravir was assessed during the following time periods during pregnancy:

- Exposed at the Last Menstrual Period (LMP) and continuing into pregnancy;
- Exposed in the first month of pregnancy\* and not in the pre-pregnancy period;
- Exposed at the LMP or first exposed in the first month of pregnancy\*;
- Exposed after the first month from the LMP;
- Exposed after the first month from the LMP and not in the first month of pregnancy\*;
- Exposed during the first trimester;
- Exposed during the first trimester only;
- Exposed during the second or third trimesters;
- Exposed during the second trimester only;
- Exposed during the third trimester only;
- Exposed anytime during pregnancy

\*The first month of pregnancy was defined as the 30 days starting from the LMP.

**Please see Appendices F and G for the specifications of parameters used in the analyses for this request.**

**Limitations:** Algorithms used to define pregnancy start and exposure use are imperfect; thus, it is possible that there may be misclassification. Therefore, data should be interpreted with this limitation in mind.

**Notes:** Please contact the Sentinel Operations Center Query Fulfillment Team ([qf@sentinelssystem.org](mailto:qf@sentinelssystem.org)) for questions and to provide comments/suggestions for future enhancements to this document.

<sup>1</sup>Andrade, S. E., et al. (2012). "Medication Exposure in Pregnancy Risk Evaluation Program." *Matern Child Health J* 16(7):1349-1354.

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**Glossary of Terms for Analyses Using  
Cohort Identification and Descriptive Analysis (CIDA) Tool\* for Pregnancy Analyses**

**Any Use During Pregnancy** - pregnancy episodes with product use during any trimester.

**Any Use, First Trimester** - pregnancy episodes with product use during the 1st trimester. The 1st trimester is 0-90 days following pregnancy start.

**Any Use, Second Trimester** - pregnancy episodes with product use during the 2nd trimester. The 2nd trimester is 91-180 days following pregnancy start.

**Any Use, Third Trimester** - pregnancy episodes with product use during the 3rd trimester. The 3rd trimester is 180+ days following pregnancy start until delivery.

**Care Setting** - type of medical encounter or facility where the exposure, event, or condition code was recorded. Possible care settings include: Inpatient Hospital Stay (IP), Non-Acute Institutional Stay (IS), Emergency Department (ED), Ambulatory Visit (AV), and Other Ambulatory Visit (OA). For laboratory results, possible care settings include: Emergency department (E), Home (H), Inpatient (I), Outpatient (O), or Unknown or Missing (U). Along with the Principal Diagnosis Indicator, forms the Care Setting/PDX parameter.

**Ambulatory Visit (AV)** - includes visits at outpatient clinics, same-day surgeries, urgent care visits, and other same-day ambulatory hospital encounters, but excludes emergency department encounters.

**Emergency Department (ED)** - includes ED encounters that become inpatient stays (in which case inpatient stays would be a separate encounter). Excludes urgent care visits.

**Inpatient Hospital Stay (IP)** - includes all inpatient stays, same-day hospital discharges, hospital transfers, and acute hospital care where the discharge is after the admission date.

**Non-Acute Institutional Stay (IS)** - includes hospice, skilled nursing facility (SNF), rehab center, nursing home, residential, overnight non-hospital dialysis and other non-hospital stays.

**Other Ambulatory Visit (OA)** - includes other non overnight AV encounters such as hospice visits, home health visits, skilled nursing facility visits, other non-hospital visits, as well as telemedicine, telephone and email consultations.

**Coverage requirement** - indicates medical and/or drug coverage type requirements for the cohort.

**Days Supplied** - number of days supplied for all dispensings in qualifying treatment episodes.

**Delivery washout period** - number of days before a delivery during which an individual cannot have evidence of a prior delivery.

**Drug Episodes in the 90 Days Before Pregnancy** - number of medical product use episodes in 90-days before pregnancy.

**Drug Episodes During Pregnancy** - number of medical product use episodes in any trimester.

**Drug Episodes, First Trimester** - number of medical product use episodes in the 1st trimester.

**Drug Episodes, Second Trimester** - number of medical product use episodes in the 2nd trimester.

**Drug Episodes, Third Trimester** - number of medical product use episodes in the 3rd trimester.

**Eligible Members** - number of members eligible for an incident treatment episode (defined by the drug/exposure and event washout periods) with drug and medical coverage during the query period.

**Enrollment Gap** - number of days allowed between two consecutive enrollment periods without breaking a “continuously enrolled” sequence.

**Episode Gap** - number of days allowed between two (or more) consecutive exposures (dispensings/procedures) to be considered the same treatment episode.

**Episodes** - treatment episodes; length of episode is determined by days supplied in one dispensing or consecutive dispensings bridged by the episode gap.

**Exposure** - defines the medical product(s) of interest. Medical product use is characterized 90 days prior to the start of pregnancy and during each trimester.

**Exposure Washout** - number of days before the start of medical product episode during which an individual cannot have evidence of a prior episode.

**Minimum pre-delivery enrollment** - number of days of continuous enrollment in the requester-defined coverage type required before the delivery date.

**Pre/Post-Term Evaluation Window** - number of days around the delivery date where preterm/postterm codes to calculate the length of the pregnancy episode are assessed.

**Pregnancy Duration in Absence of Pre/PostTerm Codes** - number of days for pregnancy episode length in the absence of preterm/postterm codes.

**Principal Diagnosis (PDX)** - diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. 'P' = principal diagnosis, 'S' = secondary diagnosis, 'X' = unspecified diagnosis, '.' = blank. Along with the Care Setting values, forms the Caresetting/PDX parameter.

**Query Period** - period in which the modular program looks for exposures and outcomes of interest.

**Use in the 90 Days Before Pregnancy** - pregnancy episodes with product use 90-days before pregnancy start.

**Users** - number of members with exposure during the query period. Member must have no evidence of exposure(s) of interest (defined by incidence criteria) in the prior washout period. A user may only be counted once in a query period.

**Table 1. Summary of Dolutegravir Use among Women of Reproductive Age in the Sentinel Distributed Database (SDD) from August 1, 2013 to March 31, 2018, by Study Period**

|  |                                 | Women with a<br>Dolutegravir<br>Dispensing | Eligible Women <sup>1</sup> | Women with a<br>Dolutegravir Dispensing<br>per 1,000 Eligible Women <sup>1</sup> |
|--|---------------------------------|--|-----------------------------|--|
| <b>All Women</b>   |                                 |  |                             |  |
| Study Period of<br>Exposure                                      | August 1, 2013 - July 31, 2014  | 248  | 13,088,140                  | 0.02   |
|  | August 1, 2014 - July 31, 2015  | 792  | 13,318,029                  | 0.06   |
|  | August 1, 2015 - July 31, 2016  | 1,702                                      | 13,867,726                  | 0.12   |
|  | August 1, 2016 - July 31, 2017  | 2,263                                      | 14,058,488                  | 0.16   |
|  | August 1, 2017 - March 31, 2018 | 1,050                                      | 7,131,771                   | 0.15   |
| <b>Women with a Human Immunodeficiency Virus (HIV) Diagnosis</b> |                                 |  |                             |  |
| Study Period of<br>Exposure                                      | August 1, 2013 - July 31, 2014  | 229  | 7,530                       | 30.41  |
|  | August 1, 2014 - July 31, 2015  | 671  | 8,065                       | 83.20  |
|  | August 1, 2015 - July 31, 2016  | 1,345                                      | 8,272                       | 162.60   |
|  | August 1, 2016 - July 31, 2017  | 1,672                                      | 7,920                       | 211.11   |
|  | August 1, 2017 - March 31, 2018 | 719  | 3,370                       | 213.35   |

<sup>1</sup>Eligible women includes women who met the enrollment, age, and inclusion criteria for at least one day during the study period

**Table 2. Summary of Women with a Live-Birth Delivery and Pregnancy Episodes<sup>1</sup> in the Sentinel Distributed Database (SDD) from August 1, 2013 to March 31, 2018, by Study Period**

| <b>Study Period of Exposure</b> | <b>Women with a Live-Birth Delivery</b> | <b>Pregnancy Episodes</b> |
|---------------------------------|---|---------------------------|
| August 1, 2013 - July 31, 2014  | 267,943                                 | 268,001                   |
| August 1, 2014 - July 31, 2015  | 274,631                                 | 274,707                   |
| August 1, 2015 - July 31, 2016  | 289,311                                 | 289,409                   |
| August 1, 2016 - July 31, 2017  | 264,181                                 | 264,212                   |
| August 1, 2017 - March 31, 2018 | 77,227                                  | 77,227                    |

<sup>1</sup>Delivery date was required to occur during the study period



**Table 3. Summary of Dolutegravir Use among Women with a Live-Birth Delivery in the Sentinel Distributed Database (SDD) from August 1, 2013 to March 31, 2018, by Study Period and Exposure Assessment Window**

|   | Study Period of Exposure       |                                      |                                |                                      |                                |                                      |                                |                                      |                                 |                                      |
|---|--------------------------------|--------------------------------------|--------------------------------|--------------------------------------|--------------------------------|--------------------------------------|--------------------------------|--------------------------------------|---------------------------------|--------------------------------------|
|   | August 1, 2013 - July 31, 2014 |                                      | August 1, 2014 - July 31, 2015 |                                      | August 1, 2015 - July 31, 2016 |                                      | August 1, 2016 - July 31, 2017 |                                      | August 1, 2017 - March 31, 2018 |                                      |
| <b>Summary</b>  |                                |                                      |                                |                                      |                                |                                      |                                |                                      |                                 |                                      |
| Pregnancy Episodes  | 268,001                        |                                      | 274,707                        |                                      | 289,409                        |                                      | 264,212                        |                                      | 77,227                          |                                      |
| <b>Patient Characteristics</b>  |                                |                                      |                                |                                      |                                |                                      |                                |                                      |                                 |                                      |
| Mean Age <sup>2</sup> (Standard Deviation)  | 30.9 (5.4)                     |                                      | 30.9 (5.4)                     |                                      | 30.9 (5.4)                     |                                      | 31.3 (5.3)                     |                                      | 31.6 (5.3)                      |                                      |
| <b>Dolutegravir Use:</b>  | <b>Number of Episodes</b>      | <b>Per 10,000 Pregnancy Episodes</b> | <b>Number of Episodes</b>      | <b>Per 10,000 Pregnancy Episodes</b> | <b>Number of Episodes</b>      | <b>Per 10,000 Pregnancy Episodes</b> | <b>Number of Episodes</b>      | <b>Per 10,000 Pregnancy Episodes</b> | <b>Number of Episodes</b>       | <b>Per 10,000 Pregnancy Episodes</b> |
| Exposed at LMP <sup>3</sup> and continuing into pregnancy                                     | 0                              | 0.00                                 | 1                              | 0.04                                 | 6                              | 0.21                                 | 7                              | 0.26                                 | 4                               | 0.52                                 |
| Exposed in first month of pregnancy and not in the pre-pregnancy period                       | 0                              | 0.00                                 | 0                              | 0.00                                 | 0                              | 0.00                                 | 1                              | 0.04                                 | 0                               | 0.00                                 |
| Exposed at LMP <sup>3</sup> or first exposed in the first month of pregnancy                  | 0                              | 0.00                                 | 1                              | 0.04                                 | 7                              | 0.24                                 | 9                              | 0.34                                 | 4                               | 0.52                                 |
| Exposed after the first month from LMP <sup>3,4</sup>   | 1                              | 0.04                                 | 8                              | 0.29                                 | 14                             | 0.48                                 | 12                             | 0.45                                 | 7                               | 0.91                                 |
| Exposed after the first month from LMP <sup>3,4</sup> and not in the first month of pregnancy | 1                              | 0.04                                 | 7                              | 0.25                                 | 7                              | 0.24                                 | 3                              | 0.11                                 | 3                               | 0.39                                 |

**Table 3. Summary of Dolutegravir Use among Women with a Live-Birth Delivery in the Sentinel Distributed Database (SDD) from August 1, 2013 to March 31, 2018, by Study Period and Exposure Assessment Window**

| Dolutegravir Use:                         | Study Period of Exposure       |                               |                                |                               |                                |                               |                                |                               |                                 |                               |
|---|--------------------------------|-------------------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------|---------------------------------|-------------------------------|
|   | August 1, 2013 - July 31, 2014 |                               | August 1, 2014 - July 31, 2015 |                               | August 1, 2015 - July 31, 2016 |                               | August 1, 2016 - July 31, 2017 |                               | August 1, 2017 - March 31, 2018 |                               |
|   | Number of Episodes             | Per 10,000 Pregnancy Episodes | Number of Episodes             | Per 10,000 Pregnancy Episodes | Number of Episodes             | Per 10,000 Pregnancy Episodes | Number of Episodes             | Per 10,000 Pregnancy Episodes | Number of Episodes              | Per 10,000 Pregnancy Episodes |
| Exposed in the first trimester            | 0                              | 0.00                          | 2                              | 0.07                          | 9                              | 0.31                          | 9                              | 0.34                          | 5                               | 0.65                          |
| Exposed in the first trimester only       | 0                              | 0.00                          | 0                              | 0.00                          | 2                              | 0.07                          | 1                              | 0.04                          | 1                               | 0.13                          |
| Exposed in the second or third trimesters | 1                              | 0.04                          | 5                              | 0.18                          | 12                             | 0.41                          | 11                             | 0.42                          | 5                               | 0.65                          |
| Exposed in the second trimester only      | 0                              | 0.00                          | 0                              | 0.00                          | 0                              | 0.00                          | 1                              | 0.04                          | 0                               | 0.00                          |
| Exposed in the third trimester only       | 0                              | 0.00                          | 1                              | 0.04                          | 3                              | 0.10                          | 0                              | 0.00                          | 1                               | 0.13                          |
| Exposed anytime during pregnancy          | 1                              | 0.04                          | 5                              | 0.18                          | 14                             | 0.48                          | 12                             | 0.45                          | 6                               | 0.78                          |

<sup>1</sup>Delivery date was required to occur during the study period

<sup>2</sup>Age is assessed relative to the delivery date

<sup>3</sup>LMP = Last Menstrual Period

<sup>4</sup>Counts for "Exposure after the first month from LMP" could be overestimated compared to "Exposed anytime during pregnancy" since the 30-301 days evaluation period that was used could be longer than the estimated pregnancy duration.

**Appendix A. Dates of Available Data for Each Data Partner (DP) as of Request Distribution Date (August 21, 2018)**

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| <b>DP ID</b> | <b>DP Start Date</b> | <b>DP End Date</b> |
|--------------|----------------------|--------------------|
| DP01         | 01/01/2000           | 10/31/2017         |
| DP02         | 01/01/2000           | 03/31/2018         |
| DP03         | 01/01/2004           | 01/31/2018         |
| DP04         | 01/01/2008           | 11/30/2017         |
| DP05         | 01/01/2000           | 06/30/2017         |
| DP06         | 01/01/2006           | 12/31/2017         |
| DP07         | 01/01/2000           | 12/31/2017         |
| DP08         | 06/01/2007           | 10/31/2017         |
| DP09         | 01/01/2000           | 03/31/2016         |
| DP10         | 01/01/2005           | 09/30/2017         |
| DP11         | 01/01/2000           | 08/31/2017         |
| DP12         | 01/01/2000           | 01/31/2017         |
| DP13         | 01/01/2008           | 06/30/2017         |
| DP14         | 01/01/2000           | 05/31/2015         |
| DP15         | 01/01/2012           | 06/30/2017         |
| DP16         | 01/01/2000           | 12/31/2016         |

<sup>1</sup>The start and end dates are based on the minimum and maximum dates within each DP. The month with the maximum date must have at least 80% of the number of records in the previous month.

**Appendix B. List of Generic and Brand Drug Names Used to Define Exposures in this Request**

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| <b>Generic Name</b>                             | <b>Brand Name</b> |
|---|-------------------|
| abacavir sulfate/dolutegravir sodium/lamivudine | Triumeq           |
| dolutegravir sodium                             | Tivicay           |
| dolutegravir sodium/rilpivirine HCl             | Juluca            |

**Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion Criteria in this Request**

| <b>Code</b> | <b>Description</b>   | <b>Code Type</b> | <b>Code Category</b> |
|-------------|--|------------------|----------------------|
| 042         | Human immunodeficiency virus [HIV]   | ICD-9-CM         | Diagnosis            |
| 079.53      | Human immunodeficiency virus, type 2 (HIV 2), in conditions classified elsewhere and of unspecified site | ICD-9-CM         | Diagnosis            |
| 795.71      | Nonspecific serologic evidence of human immunodeficiency virus (HIV)                                     | ICD-9-CM         | Diagnosis            |
| V08         | Asymptomatic human immunodeficiency virus (hiv) infection status   | ICD-9-CM         | Diagnosis            |
| 3490F       | History of AIDS-defining condition (HIV)   | CPT-4            | Procedure            |
| B20         | Human immunodeficiency virus [HIV] disease   | ICD-10-CM        | Diagnosis            |
| B97.35      | Human immunodeficiency virus, type 2 [HIV 2] as the cause of diseases classified elsewhere               | ICD-10-CM        | Diagnosis            |
| Z21         | Asymptomatic human immunodeficiency virus [HIV] infection status   | ICD-10-CM        | Diagnosis            |

**Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define the Gestational Age Algorithm in this Request**

| Code   | Code Type | Duration (Days) | Description   | Priority Group 1 | Priority Group 2 | Priority |
|--------|-----------|-----------------|---|------------------|------------------|----------|
| O48.1  | ICD-10-CM | 294             | Prolonged pregnancy   | 0                | 1                | 1        |
| P08.22 | ICD-10-CM | 294             | Prolonged gestation of newborn                                    | 0                | 1                | 1        |
| Z3A.49 | ICD-10-CM | 301             | Greater than 42 weeks gestation of pregnancy                      | 1                | 0                | 1        |
| O48.0  | ICD-10-CM | 287             | Post-term pregnancy   | 0                | 1                | 2        |
| P08.21 | ICD-10-CM | 287             | Post-term newborn   | 0                | 1                | 2        |
| Z3A.42 | ICD-10-CM | 298             | 42 weeks gestation of pregnancy                                   | 1                | 0                | 2        |
| Z3A.41 | ICD-10-CM | 291             | 41 weeks gestation of pregnancy                                   | 1                | 0                | 3        |
| Z3A.40 | ICD-10-CM | 284             | 40 weeks gestation of pregnancy                                   | 1                | 0                | 4        |
| Z3A.39 | ICD-10-CM | 277             | 39 weeks gestation of pregnancy                                   | 1                | 0                | 5        |
| Z3A.38 | ICD-10-CM | 270             | 38 weeks gestation of pregnancy                                   | 1                | 0                | 6        |
| Z3A.37 | ICD-10-CM | 263             | 37 weeks gestation of pregnancy                                   | 1                | 0                | 7        |
| P07.39 | ICD-10-CM | 256             | Preterm newborn, gestational age 36 completed weeks               | 1                | 0                | 8        |
| Z3A.36 | ICD-10-CM | 256             | 36 weeks gestation of pregnancy                                   | 1                | 0                | 8        |
| P07.38 | ICD-10-CM | 249             | Preterm newborn, gestational age 35 completed weeks               | 1                | 0                | 9        |
| Z3A.35 | ICD-10-CM | 249             | 35 weeks gestation of pregnancy                                   | 1                | 0                | 9        |
| P07.37 | ICD-10-CM | 242             | Preterm newborn, gestational age 34 completed weeks               | 1                | 0                | 10       |
| Z3A.34 | ICD-10-CM | 242             | 34 weeks gestation of pregnancy                                   | 1                | 0                | 10       |
| P07.36 | ICD-10-CM | 235             | Preterm newborn, gestational age 33 completed weeks               | 1                | 0                | 11       |
| Z3A.33 | ICD-10-CM | 235             | 33 weeks gestation of pregnancy                                   | 1                | 0                | 11       |
| P07.35 | ICD-10-CM | 228             | Preterm newborn, gestational age 32 completed weeks               | 1                | 0                | 12       |
| Z3A.32 | ICD-10-CM | 228             | 32 weeks gestation of pregnancy                                   | 1                | 0                | 12       |
| P07.34 | ICD-10-CM | 221             | Preterm newborn, gestational age 31 completed weeks               | 1                | 0                | 13       |
| Z3A.31 | ICD-10-CM | 221             | 31 weeks gestation of pregnancy                                   | 1                | 0                | 13       |
| P07.33 | ICD-10-CM | 214             | Preterm newborn, gestational age 30 completed weeks               | 1                | 0                | 14       |
| Z3A.30 | ICD-10-CM | 214             | 30 weeks gestation of pregnancy                                   | 1                | 0                | 14       |
| P07.32 | ICD-10-CM | 207             | Preterm newborn, gestational age 29 completed weeks               | 1                | 0                | 15       |
| Z3A.29 | ICD-10-CM | 207             | 29 weeks gestation of pregnancy                                   | 1                | 0                | 15       |
| P07.31 | ICD-10-CM | 200             | Preterm newborn, gestational age 28 completed weeks               | 1                | 0                | 16       |
| Z3A.28 | ICD-10-CM | 200             | 28 weeks gestation of pregnancy                                   | 1                | 0                | 16       |
| P07.26 | ICD-10-CM | 193             | Extreme immaturity of newborn, gestational age 27 completed weeks | 1                | 0                | 17       |
| Z3A.27 | ICD-10-CM | 193             | 27 weeks gestation of pregnancy                                   | 1                | 0                | 17       |
| P07.25 | ICD-10-CM | 186             | Extreme immaturity of newborn, gestational age 26 completed weeks | 1                | 0                | 18       |
| Z3A.26 | ICD-10-CM | 186             | 26 weeks gestation of pregnancy                                   | 1                | 0                | 18       |
| P07.24 | ICD-10-CM | 179             | Extreme immaturity of newborn, gestational age 25 completed weeks | 1                | 0                | 19       |
| Z3A.25 | ICD-10-CM | 179             | 25 weeks gestation of pregnancy                                   | 1                | 0                | 19       |

**Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define the Gestational Age Algorithm in this Request**

| Code     | Code Type | Duration (Days) | Description   | Priority Group 1 | Priority Group 2 | Priority |
|----------|-----------|-----------------|---|------------------|------------------|----------|
| P07.23   | ICD-10-CM | 172             | Extreme immaturity of newborn, gestational age 24 completed weeks           | 1                | 0                | 20       |
| Z3A.24   | ICD-10-CM | 172             | 24 weeks gestation of pregnancy   | 1                | 0                | 20       |
| P07.22   | ICD-10-CM | 165             | Extreme immaturity of newborn, gestational age 23 completed weeks           | 1                | 0                | 21       |
| Z3A.23   | ICD-10-CM | 165             | 23 weeks gestation of pregnancy   | 1                | 0                | 21       |
| P07.21   | ICD-10-CM | 158             | Extreme immaturity of newborn, gestational age less than 23 completed weeks | 1                | 0                | 22       |
| Z3A.22   | ICD-10-CM | 158             | 22 weeks gestation of pregnancy   | 1                | 0                | 22       |
| Z3A.21   | ICD-10-CM | 151             | 21 weeks gestation of pregnancy   | 1                | 0                | 23       |
| Z3A.20   | ICD-10-CM | 144             | 20 weeks gestation of pregnancy   | 1                | 0                | 24       |
| P07.20   | ICD-10-CM | 196             | Extreme immaturity of newborn, unspecified weeks of gestation               | 1                | 0                | 25       |
| O60.13X0 | ICD-10-CM | 245             | Preterm labor second trimester with preterm delivery third trimester        | 1                | 0                | 26       |
| O60.13X1 | ICD-10-CM | 245             | Preterm labor second trimester with preterm delivery third trimester        | 1                | 0                | 26       |
| O60.13X2 | ICD-10-CM | 245             | Preterm labor second trimester with preterm delivery third trimester        | 1                | 0                | 26       |
| O60.13X3 | ICD-10-CM | 245             | Preterm labor second trimester with preterm delivery third trimester        | 1                | 0                | 26       |
| O60.13X4 | ICD-10-CM | 245             | Preterm labor second trimester with preterm delivery third trimester        | 1                | 0                | 26       |
| O60.13X5 | ICD-10-CM | 245             | Preterm labor second trimester with preterm delivery third trimester        | 1                | 0                | 26       |
| O60.13X9 | ICD-10-CM | 245             | Preterm labor second trimester with preterm delivery third trimester        | 1                | 0                | 26       |
| O60.14X0 | ICD-10-CM | 245             | Preterm labor third trimester with preterm delivery third trimester         | 1                | 0                | 26       |
| O60.14X1 | ICD-10-CM | 245             | Preterm labor third trimester with preterm delivery third trimester         | 1                | 0                | 26       |
| O60.14X2 | ICD-10-CM | 245             | Preterm labor third trimester with preterm delivery third trimester         | 1                | 0                | 26       |
| O60.14X3 | ICD-10-CM | 245             | Preterm labor third trimester with preterm delivery third trimester         | 1                | 0                | 26       |
| O60.14X4 | ICD-10-CM | 245             | Preterm labor third trimester with preterm delivery third trimester         | 1                | 0                | 26       |
| O60.14X5 | ICD-10-CM | 245             | Preterm labor third trimester with preterm delivery third trimester         | 1                | 0                | 26       |

**Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define the Gestational Age Algorithm in this Request**

| Code     | Code Type | Duration (Days) | Description   | Priority Group 1 | Priority Group 2 | Priority |
|----------|-----------|-----------------|---|------------------|------------------|----------|
| O60.14X9 | ICD-10-CM | 245             | Preterm labor third trimester with preterm delivery third trimester   | 1                | 0                | 26       |
| P07.30   | ICD-10-CM | 245             | Preterm newborn, unspecified weeks of gestation                       | 1                | 0                | 26       |
| O60.12X0 | ICD-10-CM | 168             | Preterm labor second trimester with preterm delivery second trimester | 1                | 0                | 27       |
| O60.12X1 | ICD-10-CM | 168             | Preterm labor second trimester with preterm delivery second trimester | 1                | 0                | 27       |
| O60.12X2 | ICD-10-CM | 168             | Preterm labor second trimester with preterm delivery second trimester | 1                | 0                | 27       |
| O60.12X3 | ICD-10-CM | 168             | Preterm labor second trimester with preterm delivery second trimester | 1                | 0                | 27       |
| O60.12X4 | ICD-10-CM | 168             | Preterm labor second trimester with preterm delivery second trimester | 1                | 0                | 27       |
| O60.12X5 | ICD-10-CM | 168             | Preterm labor second trimester with preterm delivery second trimester | 1                | 0                | 27       |
| O60.12X9 | ICD-10-CM | 168             | Preterm labor second trimester with preterm delivery second trimester | 1                | 0                | 27       |
| 645.2    | ICD-9-CM  | 294             | Prolonged pregnancy   | 0                | 1                | 28       |
| 645.21   | ICD-9-CM  | 294             | Prolonged pregnancy   | 0                | 1                | 28       |
| 645.23   | ICD-9-CM  | 294             | Prolonged pregnancy   | 0                | 1                | 28       |
| 765.28   | ICD-9-CM  | 252             | 35-36 completed weeks of gestation                                    | 1                | 0                | 28       |
| 766.22   | ICD-9-CM  | 294             | Prolonged gestation of infant   | 0                | 1                | 28       |
| 645.1    | ICD-9-CM  | 287             | Post term pregnancy   | 0                | 1                | 29       |
| 645.11   | ICD-9-CM  | 287             | Post term pregnancy   | 0                | 1                | 29       |
| 645.13   | ICD-9-CM  | 287             | Post term pregnancy   | 0                | 1                | 29       |
| 765.27   | ICD-9-CM  | 238             | 33-34 completed weeks of gestation                                    | 1                | 0                | 29       |
| 766.21   | ICD-9-CM  | 287             | Post-term infant  | 0                | 1                | 29       |
| 765.26   | ICD-9-CM  | 224             | 31-32 completed weeks of gestation                                    | 1                | 0                | 30       |
| 765.25   | ICD-9-CM  | 210             | 29-30 completed weeks of gestation                                    | 1                | 0                | 31       |
| 765.24   | ICD-9-CM  | 196             | 27-28 completed weeks of gestation                                    | 1                | 0                | 32       |
| 765.23   | ICD-9-CM  | 182             | 25-26 completed weeks of gestation                                    | 1                | 0                | 33       |
| 765.21   | ICD-9-CM  | 168             | Less than 24 completed weeks of gestation                             | 1                | 0                | 34       |
| 765.22   | ICD-9-CM  | 168             | 24 completed weeks of gestation                                       | 1                | 0                | 34       |
| 765.00   | ICD-9-CM  | 196             | Extreme immaturity, by weight   | 1                | 0                | 35       |
| 765.01   | ICD-9-CM  | 196             | Extreme immaturity, by weight   | 1                | 0                | 35       |
| 765.02   | ICD-9-CM  | 196             | Extreme immaturity, by weight   | 1                | 0                | 35       |
| 765.03   | ICD-9-CM  | 196             | Extreme immaturity, by weight   | 1                | 0                | 35       |
| 765.04   | ICD-9-CM  | 196             | Extreme immaturity, by weight   | 1                | 0                | 35       |
| 765.05   | ICD-9-CM  | 196             | Extreme immaturity, by weight   | 1                | 0                | 35       |



**Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define the Gestational Age Algorithm in this Request**

| Code   | Code Type | Duration (Days) | Description   | Priority Group 1 | Priority Group 2 | Priority |
|--------|-----------|-----------------|---|------------------|------------------|----------|
| 765.06 | ICD-9-CM  | 196             | Extreme immaturity, by weight   | 1                | 0                | 35       |
| 765.07 | ICD-9-CM  | 196             | Extreme immaturity, by weight   | 1                | 0                | 35       |
| 765.08 | ICD-9-CM  | 196             | Extreme immaturity, by weight   | 1                | 0                | 35       |
| 765.09 | ICD-9-CM  | 196             | Extreme immaturity, by weight   | 1                | 0                | 35       |
| 644.21 | ICD-9-CM  | 245             | Early onset of delivery, delivered, with or without mention of antepartum condition | 1                | 0                | 36       |
| 765.1  | ICD-9-CM  | 245             | Other preterm infants, by weight  | 1                | 0                | 36       |
| 765.11 | ICD-9-CM  | 245             | Other preterm infants, by weight  | 1                | 0                | 36       |
| 765.12 | ICD-9-CM  | 245             | Other preterm infants, by weight  | 1                | 0                | 36       |
| 765.13 | ICD-9-CM  | 245             | Other preterm infants, by weight  | 1                | 0                | 36       |
| 765.14 | ICD-9-CM  | 245             | Other preterm infants, by weight  | 1                | 0                | 36       |
| 765.15 | ICD-9-CM  | 245             | Other preterm infants, by weight  | 1                | 0                | 36       |
| 765.16 | ICD-9-CM  | 245             | Other preterm infants, by weight  | 1                | 0                | 36       |
| 765.17 | ICD-9-CM  | 245             | Other preterm infants, by weight  | 1                | 0                | 36       |
| 765.18 | ICD-9-CM  | 245             | Other preterm infants, by weight  | 1                | 0                | 36       |
| 765.19 | ICD-9-CM  | 245             | Other preterm infants, by weight  | 1                | 0                | 36       |
| 765.2  | ICD-9-CM  | 245             | Unspecified weeks of gestation  | 1                | 0                | 36       |

If multiple codes for specific weeks of gestation (Z codes), preterm delivery, and/or postterm delivery are available, the ICD-10 algorithm for gestational age prioritizes the following codes:

- (1) **Codes that specify weeks of gestation, including all Z codes ranging from 20 weeks through  $\geq 42$  weeks of gestation in one week increments, and codes that indicate preterm delivery with weeks of gestation specified in one week increments (other than Z codes).** If multiple codes are observed, codes indicating longer gestational age are prioritized over those indicating shorter gestational age. We assumed the approximate mid-point of the specified gestational age [e.g., assumption of 263 days (37 weeks and 4 days) for 37 weeks gestation].
- (2) **Codes that indicate preterm delivery without specifying weeks of gestation.** If multiple codes are observed, codes with more specificity (e.g., preterm delivery, 2<sup>nd</sup> trimester of pregnancy or 'extreme immaturity') are prioritized over those with less specificity (e.g., preterm newborn, unspecified weeks of gestation). Further, codes indicating longer gestational age are prioritized over those indicating shorter gestational age.
- (3) **Codes that indicate postterm delivery without specifying weeks of gestation.** If multiple codes are observed, codes indicating longer gestational age are prioritized over those indicating shorter gestational age.

If no codes for preterm or postterm delivery are observed, then the default assumption for gestational age is 273 days. However, this assumption is user specified and can be modified.

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code   | Description   | Code Type | Code Category |
|--------|---|-----------|---------------|
| 594    | Routine obstetric care including antepartum care, vaginal delivery (with or without episiotomy, and/or forceps) and postpartum care                                   | CPT-4     | Procedure     |
| 59409  | Vaginal delivery only (with or without episiotomy and/or forceps)   | CPT-4     | Procedure     |
| 5941   | Vaginal delivery only (with or without episiotomy and/or forceps); including postpartum   | CPT-4     | Procedure     |
| 5951   | Routine obstetric care including antepartum care, cesarean delivery, and postpartum care  | CPT-4     | Procedure     |
| 59514  | Cesarean delivery only  | CPT-4     | Procedure     |
| 59515  | Cesarean delivery only; including postpartum care   | CPT-4     | Procedure     |
| 5961   | Routine obstetric care including antepartum care, vaginal delivery (with or without episiotomy, and/or forceps) and postpartum care, after previous cesarean delivery | CPT-4     | Procedure     |
| 59612  | Vaginal delivery only, after previous cesarean delivery (with or without episiotomy and/or forceps)   | CPT-4     | Procedure     |
| 59614  | Vaginal delivery only, after previous cesarean delivery (with or without episiotomy and/or forceps); including postpartum care  | CPT-4     | Procedure     |
| 59618  | Routine obstetric care including antepartum care, cesarean delivery, and postpartum care, following attempted vaginal delivery after previous cesarean delivery       | CPT-4     | Procedure     |
| 5962   | Cesarean delivery only, following attempted vaginal delivery after previous cesarean  | CPT-4     | Procedure     |
| 59622  | Cesarean delivery only, following attempted vaginal delivery after previous cesarean delivery; including postpartum care  | CPT-4     | Procedure     |
| 650    | Normal delivery   | ICD-9-CM  | Diagnosis     |
| 763    | Fetus or newborn affected by breech delivery and extraction   | ICD-9-CM  | Diagnosis     |
| 763.2  | Fetus or newborn affected by forceps delivery   | ICD-9-CM  | Diagnosis     |
| 763.3  | Fetus or newborn affected by delivery by vacuum extractor   | ICD-9-CM  | Diagnosis     |
| 763.4  | Fetus or newborn affected by cesarean delivery  | ICD-9-CM  | Diagnosis     |
| 763.6  | Fetus or newborn affected by precipitate delivery   | ICD-9-CM  | Diagnosis     |
| 768    | Fetal death from asphyxia or anoxia before onset of labor or at unspecified time  | ICD-9-CM  | Diagnosis     |
| 768.1  | Fetal death from asphyxia or anoxia during labor  | ICD-9-CM  | Diagnosis     |
| 641.01 | Placenta previa without hemorrhage, with delivery   | ICD-9-CM  | Diagnosis     |
| 641.11 | Hemorrhage from placenta previa, with delivery  | ICD-9-CM  | Diagnosis     |
| 641.21 | Premature separation of placenta, with delivery   | ICD-9-CM  | Diagnosis     |
| 641.31 | Antepartum hemorrhage associated with coagulation defects, with delivery  | ICD-9-CM  | Diagnosis     |
| 641.81 | Other antepartum hemorrhage, with delivery  | ICD-9-CM  | Diagnosis     |
| 641.91 | Unspecified antepartum hemorrhage, with delivery  | ICD-9-CM  | Diagnosis     |
| 642.01 | Benign essential hypertension with delivery   | ICD-9-CM  | Diagnosis     |
| 642.02 | Benign essential hypertension, with delivery, with current postpartum complication  | ICD-9-CM  | Diagnosis     |
| 642.11 | Hypertension secondary to renal disease, with delivery  | ICD-9-CM  | Diagnosis     |

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| <b>Code</b> | <b>Description</b>  | <b>Code Type</b> | <b>Code Category</b> |
|-------------|---|------------------|----------------------|
| 642.12      | Hypertension secondary to renal disease, with delivery, with current postpartum complication                              | ICD-9-CM         | Diagnosis            |
| 642.21      | Other pre-existing hypertension, with delivery  | ICD-9-CM         | Diagnosis            |
| 642.22      | Other pre-existing hypertension, with delivery, with current postpartum complication                                      | ICD-9-CM         | Diagnosis            |
| 642.31      | Transient hypertension of pregnancy, with delivery  | ICD-9-CM         | Diagnosis            |
| 642.32      | Transient hypertension of pregnancy, with delivery, with current postpartum complication                                  | ICD-9-CM         | Diagnosis            |
| 642.41      | Mild or unspecified pre-eclampsia, with delivery  | ICD-9-CM         | Diagnosis            |
| 642.42      | Mild or unspecified pre-eclampsia, with delivery, with current postpartum complication                                    | ICD-9-CM         | Diagnosis            |
| 642.51      | Severe pre-eclampsia, with delivery   | ICD-9-CM         | Diagnosis            |
| 642.52      | Severe pre-eclampsia, with delivery, with current postpartum complication   | ICD-9-CM         | Diagnosis            |
| 642.61      | Eclampsia, with delivery  | ICD-9-CM         | Diagnosis            |
| 642.62      | Eclampsia, with delivery, with current postpartum complication  | ICD-9-CM         | Diagnosis            |
| 642.71      | Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, with delivery                                       | ICD-9-CM         | Diagnosis            |
| 642.72      | Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, with delivery, with current postpartum complication | ICD-9-CM         | Diagnosis            |
| 642.91      | Unspecified hypertension, with delivery   | ICD-9-CM         | Diagnosis            |
| 642.92      | Unspecified hypertension, with delivery, with current postpartum complication   | ICD-9-CM         | Diagnosis            |
| 643.01      | Mild hyperemesis gravidarum, delivered  | ICD-9-CM         | Diagnosis            |
| 643.11      | Hyperemesis gravidarum with metabolic disturbance, delivered  | ICD-9-CM         | Diagnosis            |
| 643.21      | Late vomiting of pregnancy, delivered   | ICD-9-CM         | Diagnosis            |
| 643.81      | Other vomiting complicating pregnancy, delivered  | ICD-9-CM         | Diagnosis            |
| 643.91      | Unspecified vomiting of pregnancy, delivered  | ICD-9-CM         | Diagnosis            |
| 644.21      | Early onset of delivery, delivered, with or without mention of antepartum condition                                       | ICD-9-CM         | Diagnosis            |
| 645.01      | Prolonged pregnancy, with delivery  | ICD-9-CM         | Diagnosis            |
| 645.11      | Post term pregnancy, delivered, with or without mention of antepartum condition   | ICD-9-CM         | Diagnosis            |
| 645.21      | Prolonged pregnancy, delivered, with or without mention of antepartum condition   | ICD-9-CM         | Diagnosis            |
| 645.22      |   | ICD-9-CM         | Diagnosis            |
| 646.01      | Papyraceous fetus, delivered, with or without mention of antepartum condition   | ICD-9-CM         | Diagnosis            |
| 646.11      | Edema or excessive weight gain in pregnancy, with delivery, with or without mention of antepartum complication            | ICD-9-CM         | Diagnosis            |
| 646.12      | Edema or excessive weight gain in pregnancy, with delivery, with current postpartum complication                          | ICD-9-CM         | Diagnosis            |
| 646.21      | Unspecified renal disease in pregnancy, with delivery   | ICD-9-CM         | Diagnosis            |

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code   | Description   | Code Type | Code Category |
|--------|---|-----------|---------------|
| 646.22 | Unspecified renal disease in pregnancy, with delivery, with current postpartum complication                   | ICD-9-CM  | Diagnosis     |
| 646.31 | Pregnancy complication, recurrent pregnancy loss, with or without mention of antepartum condition             | ICD-9-CM  | Diagnosis     |
| 646.41 | Peripheral neuritis in pregnancy, with delivery   | ICD-9-CM  | Diagnosis     |
| 646.42 | Peripheral neuritis in pregnancy, with delivery, with current postpartum complication                         | ICD-9-CM  | Diagnosis     |
| 646.51 | Asymptomatic bacteriuria in pregnancy, with delivery  | ICD-9-CM  | Diagnosis     |
| 646.52 | Asymptomatic bacteriuria in pregnancy, with delivery, with current postpartum complication                    | ICD-9-CM  | Diagnosis     |
| 646.61 | Infections of genitourinary tract in pregnancy, with delivery   | ICD-9-CM  | Diagnosis     |
| 646.62 | Infections of genitourinary tract in pregnancy, with delivery, with current postpartum complication           | ICD-9-CM  | Diagnosis     |
| 646.71 | Liver and biliary tract disorders in pregnancy, delivered, with or without mention of antepartum condition    | ICD-9-CM  | Diagnosis     |
| 646.81 | Other specified complication of pregnancy, with delivery  | ICD-9-CM  | Diagnosis     |
| 646.82 | Other specified complications of pregnancy, with delivery, with current postpartum complication               | ICD-9-CM  | Diagnosis     |
| 646.91 | Unspecified complication of pregnancy, with delivery  | ICD-9-CM  | Diagnosis     |
| 647.01 | Maternal syphilis, complicating pregnancy, with delivery  | ICD-9-CM  | Diagnosis     |
| 647.02 | Maternal syphilis, complicating pregnancy, with delivery, with current postpartum complication                | ICD-9-CM  | Diagnosis     |
| 647.11 | Maternal gonorrhea with delivery  | ICD-9-CM  | Diagnosis     |
| 647.12 | Maternal gonorrhea, with delivery, with current postpartum complication                                       | ICD-9-CM  | Diagnosis     |
| 647.21 | Other maternal venereal diseases with delivery  | ICD-9-CM  | Diagnosis     |
| 647.22 | Other maternal venereal diseases with delivery, with current postpartum complication                          | ICD-9-CM  | Diagnosis     |
| 647.31 | Maternal tuberculosis with delivery   | ICD-9-CM  | Diagnosis     |
| 647.32 | Maternal tuberculosis with delivery, with current postpartum complication                                     | ICD-9-CM  | Diagnosis     |
| 647.41 | Maternal malaria with delivery  | ICD-9-CM  | Diagnosis     |
| 647.42 | Maternal malaria with delivery, with current postpartum complication  | ICD-9-CM  | Diagnosis     |
| 647.51 | Maternal rubella with delivery  | ICD-9-CM  | Diagnosis     |
| 647.52 | Maternal rubella with delivery, with current postpartum complication  | ICD-9-CM  | Diagnosis     |
| 647.61 | Other maternal viral disease with delivery  | ICD-9-CM  | Diagnosis     |
| 647.62 | Other maternal viral disease with delivery, with current postpartum complication                              | ICD-9-CM  | Diagnosis     |
| 647.81 | Other specified maternal infectious and parasitic disease with delivery                                       | ICD-9-CM  | Diagnosis     |
| 647.82 | Other specified maternal infectious and parasitic disease with delivery, with current postpartum complication | ICD-9-CM  | Diagnosis     |
| 647.91 | Unspecified maternal infection or infestation with delivery   | ICD-9-CM  | Diagnosis     |

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code   | Description  | Code Type | Code Category |
|--------|--|-----------|---------------|
| 647.92 | Unspecified maternal infection or infestation with delivery, with current postpartum complication  | ICD-9-CM  | Diagnosis     |
| 648.01 | Maternal diabetes mellitus with delivery   | ICD-9-CM  | Diagnosis     |
| 648.02 | Maternal diabetes mellitus with delivery, with current postpartum complication   | ICD-9-CM  | Diagnosis     |
| 648.11 | Maternal thyroid dysfunction with delivery, with or without mention of antepartum condition  | ICD-9-CM  | Diagnosis     |
| 648.12 | Maternal thyroid dysfunction with delivery, with current postpartum complication   | ICD-9-CM  | Diagnosis     |
| 648.21 | Maternal anemia, with delivery   | ICD-9-CM  | Diagnosis     |
| 648.22 | Maternal anemia with delivery, with current postpartum complication  | ICD-9-CM  | Diagnosis     |
| 648.31 | Maternal drug dependence, with delivery  | ICD-9-CM  | Diagnosis     |
| 648.32 | Maternal drug dependence, with delivery, with current postpartum complication  | ICD-9-CM  | Diagnosis     |
| 648.41 | Maternal mental disorders, with delivery   | ICD-9-CM  | Diagnosis     |
| 648.42 | Maternal mental disorders, with delivery, with current postpartum complication   | ICD-9-CM  | Diagnosis     |
| 648.51 | Maternal congenital cardiovascular disorders, with delivery  | ICD-9-CM  | Diagnosis     |
| 648.52 | Maternal congenital cardiovascular disorders, with delivery, with current postpartum complication  | ICD-9-CM  | Diagnosis     |
| 648.61 | Other maternal cardiovascular diseases, with delivery  | ICD-9-CM  | Diagnosis     |
| 648.62 | Other maternal cardiovascular diseases, with delivery, with current postpartum complication  | ICD-9-CM  | Diagnosis     |
| 648.71 | Bone and joint disorders of maternal back, pelvis, and lower limbs, with delivery  | ICD-9-CM  | Diagnosis     |
| 648.72 | Bone and joint disorders of maternal back, pelvis, and lower limbs, with delivery, with current postpartum complication                    | ICD-9-CM  | Diagnosis     |
| 648.81 | Abnormal maternal glucose tolerance, with delivery   | ICD-9-CM  | Diagnosis     |
| 648.82 | Abnormal maternal glucose tolerance, with delivery, with current postpartum complication   | ICD-9-CM  | Diagnosis     |
| 648.91 | Other current maternal conditions classifiable elsewhere, with delivery  | ICD-9-CM  | Diagnosis     |
| 648.92 | Other current maternal conditions classifiable elsewhere, with delivery, with current postpartum complication                              | ICD-9-CM  | Diagnosis     |
| 649.01 | Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition     | ICD-9-CM  | Diagnosis     |
| 649.02 | Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication             | ICD-9-CM  | Diagnosis     |
| 649.11 | Obesity complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition                  | ICD-9-CM  | Diagnosis     |
| 649.12 | Obesity complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication                          | ICD-9-CM  | Diagnosis     |
| 649.21 | Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition | ICD-9-CM  | Diagnosis     |

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code   | Description   | Code Type | Code Category |
|--------|---|-----------|---------------|
| 649.22 | Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 649.31 | Coagulation defects complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition   | ICD-9-CM  | Diagnosis     |
| 649.32 | Coagulation defects complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication   | ICD-9-CM  | Diagnosis     |
| 649.41 | Epilepsy complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition  | ICD-9-CM  | Diagnosis     |
| 649.42 | Epilepsy complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 649.51 | Spotting complicating pregnancy, delivered, with or without mention of antepartum condition   | ICD-9-CM  | Diagnosis     |
| 649.61 | Uterine size date discrepancy, delivered, with or without mention of antepartum condition   | ICD-9-CM  | Diagnosis     |
| 649.62 | Uterine size date discrepancy, delivered, with mention of postpartum complication   | ICD-9-CM  | Diagnosis     |
| 649.71 | Cervical shortening, delivered, with or without mention of antepartum condition   | ICD-9-CM  | Diagnosis     |
| 649.81 | Onset (spontaneous) of labor after 37 completed weeks of gestation but before 39 completed weeks gestation, with delivery by (planned) cesarean section, delivered, with or without mention of antepartum condition | ICD-9-CM  | Diagnosis     |
| 649.82 | Onset (spontaneous) of labor after 37 completed weeks of gestation but before 39 completed weeks gestation, with delivery by (planned) cesarean section, delivered, with mention of postpartum complication         | ICD-9-CM  | Diagnosis     |
| 651.01 | Twin pregnancy, delivered   | ICD-9-CM  | Diagnosis     |
| 651.11 | Triplet pregnancy, delivered  | ICD-9-CM  | Diagnosis     |
| 651.21 | Quadruplet pregnancy, delivered   | ICD-9-CM  | Diagnosis     |
| 651.31 | Twin pregnancy with fetal loss and retention of one fetus, delivered  | ICD-9-CM  | Diagnosis     |
| 651.41 | Triplet pregnancy with fetal loss and retention of one or more, delivered   | ICD-9-CM  | Diagnosis     |
| 651.51 | Quadruplet pregnancy with fetal loss and retention of one or more, delivered  | ICD-9-CM  | Diagnosis     |
| 651.61 | Other multiple pregnancy with fetal loss and retention of one or more fetus(es), delivered  | ICD-9-CM  | Diagnosis     |
| 651.71 | Multiple gestation following (elective) fetal reduction, delivered, with or without mention of antepartum condition   | ICD-9-CM  | Diagnosis     |
| 651.81 | Other specified multiple gestation, delivered   | ICD-9-CM  | Diagnosis     |
| 651.91 | Unspecified multiple gestation, delivered   | ICD-9-CM  | Diagnosis     |
| 652.01 | Unstable lie of fetus, delivered  | ICD-9-CM  | Diagnosis     |
| 652.11 | Breech or other malpresentation successfully converted to cephalic presentation, delivered  | ICD-9-CM  | Diagnosis     |
| 652.21 | Breech presentation without mention of version, delivered   | ICD-9-CM  | Diagnosis     |
| 652.31 | Transverse or oblique fetal presentation, delivered   | ICD-9-CM  | Diagnosis     |

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code   | Description   | Code Type | Code Category |
|--------|---|-----------|---------------|
| 652.41 | Fetal face or brow presentation, delivered  | ICD-9-CM  | Diagnosis     |
| 652.51 | High fetal head at term, delivered  | ICD-9-CM  | Diagnosis     |
| 652.61 | Multiple gestation with malpresentation of one fetus or more, delivered   | ICD-9-CM  | Diagnosis     |
| 652.71 | Prolapsed arm of fetus, delivered   | ICD-9-CM  | Diagnosis     |
| 652.81 | Other specified malposition or malpresentation of fetus, delivered  | ICD-9-CM  | Diagnosis     |
| 652.91 | Unspecified malposition or malpresentation of fetus, delivered  | ICD-9-CM  | Diagnosis     |
| 653.01 | Major abnormality of bony pelvis, not further specified, delivered  | ICD-9-CM  | Diagnosis     |
| 653.11 | Generally contracted pelvis in pregnancy, delivered   | ICD-9-CM  | Diagnosis     |
| 653.21 | Inlet contraction of pelvis in pregnancy, delivered   | ICD-9-CM  | Diagnosis     |
| 653.31 | Outlet contraction of pelvis in pregnancy, delivered  | ICD-9-CM  | Diagnosis     |
| 653.41 | Fetopelvic disproportion, delivered   | ICD-9-CM  | Diagnosis     |
| 653.51 | Unusually large fetus causing disproportion, delivered  | ICD-9-CM  | Diagnosis     |
| 653.61 | Hydrocephalic fetus causing disproportion, delivered  | ICD-9-CM  | Diagnosis     |
| 653.71 | Other fetal abnormality causing disproportion, delivered  | ICD-9-CM  | Diagnosis     |
| 653.81 | Fetal disproportion of other origin, delivered  | ICD-9-CM  | Diagnosis     |
| 653.91 | Unspecified fetal disproportion, delivered  | ICD-9-CM  | Diagnosis     |
| 654.01 | Congenital abnormalities of pregnant uterus, delivered  | ICD-9-CM  | Diagnosis     |
| 654.02 | Congenital abnormalities of pregnant uterus, delivered, with mention of postpartum complication   | ICD-9-CM  | Diagnosis     |
| 654.11 | Tumors of body of uterus, delivered   | ICD-9-CM  | Diagnosis     |
| 654.12 | Tumors of body of uterus, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 654.21 | Previous cesarean delivery, delivered, with or without mention of antepartum condition  | ICD-9-CM  | Diagnosis     |
| 654.31 | Retroverted and incarcerated gravid uterus, delivered   | ICD-9-CM  | Diagnosis     |
| 654.32 | Retroverted and incarcerated gravid uterus, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 654.41 | Other abnormalities in shape or position of gravid uterus and of neighboring structures, delivered  | ICD-9-CM  | Diagnosis     |
| 654.42 | Other abnormalities in shape or position of gravid uterus and of neighboring structures, delivered, with mention of postpartum complication | ICD-9-CM  | Diagnosis     |
| 654.51 | Cervical incompetence, delivered  | ICD-9-CM  | Diagnosis     |
| 654.52 | Cervical incompetence, delivered, with mention of postpartum complication   | ICD-9-CM  | Diagnosis     |
| 654.61 | Other congenital or acquired abnormality of cervix, with delivery   | ICD-9-CM  | Diagnosis     |
| 654.62 | Other congenital or acquired abnormality of cervix, delivered, with mention of postpartum complication                                      | ICD-9-CM  | Diagnosis     |
| 654.71 | Congenital or acquired abnormality of vagina, with delivery   | ICD-9-CM  | Diagnosis     |
| 654.72 | Congenital or acquired abnormality of vagina, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 654.81 | Congenital or acquired abnormality of vulva, with delivery  | ICD-9-CM  | Diagnosis     |



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| Code   | Description  | Code Type | Code Category |
|--------|--|-----------|---------------|
| 654.82 | Congenital or acquired abnormality of vulva, delivered, with mention of postpartum complication                            | ICD-9-CM  | Diagnosis     |
| 654.91 | Other and unspecified abnormality of organs and soft tissues of pelvis, with delivery                                      | ICD-9-CM  | Diagnosis     |
| 654.92 | Other and unspecified abnormality of organs and soft tissues of pelvis, delivered, with mention of postpartum complication | ICD-9-CM  | Diagnosis     |
| 655.01 | Central nervous system malformation in fetus, with delivery  | ICD-9-CM  | Diagnosis     |
| 655.11 | Chromosomal abnormality in fetus, affecting management of mother, with delivery  | ICD-9-CM  | Diagnosis     |
| 655.21 | Hereditary disease in family possibly affecting fetus, affecting management of mother, with delivery                       | ICD-9-CM  | Diagnosis     |
| 655.31 | Suspected damage to fetus from viral disease in mother, affecting management of mother, with delivery                      | ICD-9-CM  | Diagnosis     |
| 655.41 | Suspected damage to fetus from other disease in mother, affecting management of mother, with delivery                      | ICD-9-CM  | Diagnosis     |
| 655.51 | Suspected damage to fetus from drugs, affecting management of mother, delivered  | ICD-9-CM  | Diagnosis     |
| 655.61 | Suspected damage to fetus from radiation, affecting management of mother, delivered  | ICD-9-CM  | Diagnosis     |
| 655.71 | Decreased fetal movements, affecting management of mother, delivered   | ICD-9-CM  | Diagnosis     |
| 655.81 | Other known or suspected fetal abnormality, not elsewhere classified, affecting management of mother, delivery             | ICD-9-CM  | Diagnosis     |
| 655.91 | Unspecified fetal abnormality affecting management of mother, delivery   | ICD-9-CM  | Diagnosis     |
| 656.01 | Fetal-maternal hemorrhage, with delivery   | ICD-9-CM  | Diagnosis     |
| 656.11 | Rhesus isoimmunization affecting management of mother, delivered   | ICD-9-CM  | Diagnosis     |
| 656.21 | Isoimmunization from other and unspecified blood-group incompatibility, affecting management of mother, delivered          | ICD-9-CM  | Diagnosis     |
| 656.31 | Fetal distress affecting management of mother, delivered   | ICD-9-CM  | Diagnosis     |
| 656.41 | Intrauterine death affecting management of mother, delivered   | ICD-9-CM  | Diagnosis     |
| 656.51 | Poor fetal growth, affecting management of mother, delivered   | ICD-9-CM  | Diagnosis     |
| 656.61 | Excessive fetal growth affecting management of mother, delivered   | ICD-9-CM  | Diagnosis     |
| 656.71 | Other placental conditions affecting management of mother, delivered   | ICD-9-CM  | Diagnosis     |
| 656.81 | Other specified fetal and placental problems affecting management of mother, delivered                                     | ICD-9-CM  | Diagnosis     |
| 656.91 | Unspecified fetal and placental problem affecting management of mother, delivered  | ICD-9-CM  | Diagnosis     |
| 657.01 | Polyhydramnios, with delivery  | ICD-9-CM  | Diagnosis     |
| 658.01 | Oligohydramnios, delivered   | ICD-9-CM  | Diagnosis     |
| 658.11 | Premature rupture of membranes in pregnancy, delivered   | ICD-9-CM  | Diagnosis     |



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| Code   | Description   | Code Type | Code Category |
|--------|---|-----------|---------------|
| 658.21 | Delayed delivery after spontaneous or unspecified rupture of membranes, delivered                     | ICD-9-CM  | Diagnosis     |
| 658.31 | Delayed delivery after artificial rupture of membranes, delivered                                     | ICD-9-CM  | Diagnosis     |
| 658.41 | Infection of amniotic cavity, delivered   | ICD-9-CM  | Diagnosis     |
| 658.81 | Other problem associated with amniotic cavity and membranes, delivered                                | ICD-9-CM  | Diagnosis     |
| 658.91 | Unspecified problem associated with amniotic cavity and membranes, delivered                          | ICD-9-CM  | Diagnosis     |
| 659.01 | Failed mechanical induction of labor, delivered   | ICD-9-CM  | Diagnosis     |
| 659.11 | Failed medical or unspecified induction of labor, delivered   | ICD-9-CM  | Diagnosis     |
| 659.21 | Unspecified maternal pyrexia during labor, delivered  | ICD-9-CM  | Diagnosis     |
| 659.31 | Generalized infection during labor, delivered   | ICD-9-CM  | Diagnosis     |
| 659.41 | Grand multiparity, delivered, with or without mention of antepartum condition                         | ICD-9-CM  | Diagnosis     |
| 659.51 | Elderly primigravida, delivered   | ICD-9-CM  | Diagnosis     |
| 659.61 | Elderly multigravida, delivered, with mention of antepartum condition                                 | ICD-9-CM  | Diagnosis     |
| 659.71 | Abnormality in fetal heart rate or rhythm, delivered, with or without mention of antepartum condition | ICD-9-CM  | Diagnosis     |
| 659.81 | Other specified indication for care or intervention related to labor and delivery, delivered          | ICD-9-CM  | Diagnosis     |
| 659.91 | Unspecified indication for care or intervention related to labor and delivery, delivered              | ICD-9-CM  | Diagnosis     |
| 660.01 | Obstruction caused by malposition of fetus at onset of labor, delivered                               | ICD-9-CM  | Diagnosis     |
| 660.11 | Obstruction by bony pelvis during labor and delivery, delivered                                       | ICD-9-CM  | Diagnosis     |
| 660.21 | Obstruction by abnormal pelvic soft tissues during labor and delivery, delivered                      | ICD-9-CM  | Diagnosis     |
| 660.31 | Deep transverse arrest and persistent occipitoposterior position during labor and delivery, delivered | ICD-9-CM  | Diagnosis     |
| 660.41 | Shoulder (girdle) dystocia during labor and delivery, delivered                                       | ICD-9-CM  | Diagnosis     |
| 660.51 | Locked twins, delivered   | ICD-9-CM  | Diagnosis     |
| 660.61 | Unspecified failed trial of labor, delivered  | ICD-9-CM  | Diagnosis     |
| 660.71 | Unspecified failed forceps or vacuum extractor, delivered   | ICD-9-CM  | Diagnosis     |
| 660.81 | Other causes of obstructed labor, delivered   | ICD-9-CM  | Diagnosis     |
| 660.91 | Unspecified obstructed labor, with delivery   | ICD-9-CM  | Diagnosis     |
| 661.01 | Primary uterine inertia, with delivery  | ICD-9-CM  | Diagnosis     |
| 661.11 | Secondary uterine inertia, with delivery  | ICD-9-CM  | Diagnosis     |
| 661.21 | Other and unspecified uterine inertia, with delivery  | ICD-9-CM  | Diagnosis     |
| 661.31 | Precipitate labor, with delivery  | ICD-9-CM  | Diagnosis     |
| 661.41 | Hypertonic, incoordinate, or prolonged uterine contractions, with delivery                            | ICD-9-CM  | Diagnosis     |
| 661.91 | Unspecified abnormality of labor, with delivery   | ICD-9-CM  | Diagnosis     |
| 662.01 | Prolonged first stage of labor, delivered   | ICD-9-CM  | Diagnosis     |
| 662.11 | Unspecified prolonged labor, delivered  | ICD-9-CM  | Diagnosis     |
| 662.21 | Prolonged second stage of labor, delivered  | ICD-9-CM  | Diagnosis     |

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| Code   | Description   | Code Type | Code Category |
|--------|---|-----------|---------------|
| 662.31 | Delayed delivery of second twin, triplet, etc., delivered   | ICD-9-CM  | Diagnosis     |
| 663.01 | Prolapse of cord, complicating labor and delivery, delivered  | ICD-9-CM  | Diagnosis     |
| 663.11 | Cord around neck, with compression, complicating labor and delivery, delivered  | ICD-9-CM  | Diagnosis     |
| 663.21 | Other and unspecified cord entanglement, with compression, complicating labor and delivery, delivered   | ICD-9-CM  | Diagnosis     |
| 663.31 | Other and unspecified cord entanglement, without mention of compression, complicating labor and delivery, delivered   | ICD-9-CM  | Diagnosis     |
| 663.41 | Short cord complicating labor and delivery, delivered   | ICD-9-CM  | Diagnosis     |
| 663.51 | Vasa previa complicating labor and delivery, delivered  | ICD-9-CM  | Diagnosis     |
| 663.61 | Vascular lesions of cord complicating labor and delivery, delivered   | ICD-9-CM  | Diagnosis     |
| 663.81 | Other umbilical cord complications during labor and delivery, delivered   | ICD-9-CM  | Diagnosis     |
| 663.91 | Unspecified umbilical cord complication during labor and delivery, delivered  | ICD-9-CM  | Diagnosis     |
| 664.01 | First-degree perineal laceration, with delivery   | ICD-9-CM  | Diagnosis     |
| 664.11 | Second-degree perineal laceration, with delivery  | ICD-9-CM  | Diagnosis     |
| 664.21 | Third-degree perineal laceration, with delivery   | ICD-9-CM  | Diagnosis     |
| 664.31 | Fourth-degree perineal laceration, with delivery  | ICD-9-CM  | Diagnosis     |
| 664.41 | Unspecified perineal laceration, with delivery  | ICD-9-CM  | Diagnosis     |
| 664.51 | Vulvar and perineal hematoma, with delivery   | ICD-9-CM  | Diagnosis     |
| 664.61 | Anal sphincter tear complicating delivery, not associated with third-degree perineal laceration, delivered, with or without mention of antepartum condition | ICD-9-CM  | Diagnosis     |
| 664.81 | Other specified trauma to perineum and vulva, with delivery   | ICD-9-CM  | Diagnosis     |
| 664.91 | Unspecified trauma to perineum and vulva, with delivery   | ICD-9-CM  | Diagnosis     |
| 665.01 | Rupture of uterus before onset of labor, with delivery  | ICD-9-CM  | Diagnosis     |
| 665.11 | Rupture of uterus during labor, with delivery   | ICD-9-CM  | Diagnosis     |
| 665.22 | Inversion of uterus, delivered with postpartum complication   | ICD-9-CM  | Diagnosis     |
| 665.31 | Laceration of cervix, with delivery   | ICD-9-CM  | Diagnosis     |
| 665.41 | High vaginal laceration, with delivery  | ICD-9-CM  | Diagnosis     |
| 665.51 | Other injury to pelvic organs, with delivery  | ICD-9-CM  | Diagnosis     |
| 665.61 | Damage to pelvic joints and ligaments, with delivery  | ICD-9-CM  | Diagnosis     |
| 665.71 | Pelvic hematoma, with delivery  | ICD-9-CM  | Diagnosis     |
| 665.72 | Pelvic hematoma, delivered with postpartum complication   | ICD-9-CM  | Diagnosis     |
| 665.81 | Other specified obstetrical trauma, with delivery   | ICD-9-CM  | Diagnosis     |
| 665.82 | Other specified obstetrical trauma, delivered, with postpartum  | ICD-9-CM  | Diagnosis     |
| 665.91 | Unspecified obstetrical trauma, with delivery   | ICD-9-CM  | Diagnosis     |
| 665.92 | Unspecified obstetrical trauma, delivered, with postpartum complication   | ICD-9-CM  | Diagnosis     |
| 666.02 | Third-stage postpartum hemorrhage, with delivery  | ICD-9-CM  | Diagnosis     |
| 666.12 | Other immediate postpartum hemorrhage, with delivery  | ICD-9-CM  | Diagnosis     |
| 666.22 | Delayed and secondary postpartum hemorrhage, with delivery  | ICD-9-CM  | Diagnosis     |
| 666.32 | Postpartum coagulation defects, with delivery   | ICD-9-CM  | Diagnosis     |

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| <b>Code</b> | <b>Description</b>   | <b>Code Type</b> | <b>Code Category</b> |
|-------------|--|------------------|----------------------|
| 667.02      | Retained placenta without hemorrhage, with delivery, with mention of postpartum complication   | ICD-9-CM         | Diagnosis            |
| 667.1.2     | Retained portions of placenta or membranes, without hemorrhage, delivered, with mention of postpartum complication   | ICD-9-CM         | Diagnosis            |
| 668.01      | Pulmonary complications of the administration of anesthesia or other sedation in labor and delivery, delivered   | ICD-9-CM         | Diagnosis            |
| 668.02      | Pulmonary complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication              | ICD-9-CM         | Diagnosis            |
| 668.11      | Cardiac complications of the administration of anesthesia or other sedation in labor and delivery, delivered   | ICD-9-CM         | Diagnosis            |
| 668.12      | Cardiac complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication                | ICD-9-CM         | Diagnosis            |
| 668.21      | Central nervous system complications of the administration of anesthesia or other sedation in labor and delivery, delivered  | ICD-9-CM         | Diagnosis            |
| 668.22      | Central nervous system complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication | ICD-9-CM         | Diagnosis            |
| 668.81      | Other complications of the administration of anesthesia or other sedation in labor and delivery, delivered   | ICD-9-CM         | Diagnosis            |
| 668.82      | Other complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication                  | ICD-9-CM         | Diagnosis            |
| 668.91      | Unspecified complication of the administration of anesthesia or other sedation in labor and delivery, delivered  | ICD-9-CM         | Diagnosis            |
| 668.92      | Unspecified complication of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication             | ICD-9-CM         | Diagnosis            |
| 669.01      | Maternal distress, with delivery, with or without mention of antepartum condition  | ICD-9-CM         | Diagnosis            |
| 669.02      | Maternal distress, with delivery, with mention of postpartum complication  | ICD-9-CM         | Diagnosis            |
| 669.11      | Shock during or following labor and delivery, with delivery, with or without mention of antepartum condition   | ICD-9-CM         | Diagnosis            |
| 669.12      | Shock during or following labor and delivery, with delivery, with mention of postpartum complication   | ICD-9-CM         | Diagnosis            |
| 669.21      | Maternal hypotension syndrome, with delivery, with or without mention of antepartum condition  | ICD-9-CM         | Diagnosis            |
| 669.22      | Maternal hypotension syndrome, with delivery, with mention of postpartum complication  | ICD-9-CM         | Diagnosis            |
| 669.32      | Acute kidney failure following labor and delivery, delivered, with mention of postpartum complication  | ICD-9-CM         | Diagnosis            |
| 669.41      | Other complications of obstetrical surgery and procedures, with delivery, with or without mention of antepartum condition  | ICD-9-CM         | Diagnosis            |

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| Code   | Description  | Code Type | Code Category |
|--------|--|-----------|---------------|
| 669.42 | Other complications of obstetrical surgery and procedures, with delivery, with mention of postpartum complication              | ICD-9-CM  | Diagnosis     |
| 669.51 | Forceps or vacuum extractor delivery without mention of indication, delivered, with or without mention of antepartum condition | ICD-9-CM  | Diagnosis     |
| 669.61 | Breech extraction, without mention of indication, delivered, with or without mention of antepartum condition                   | ICD-9-CM  | Diagnosis     |
| 669.71 | Cesarean delivery, without mention of indication, delivered, with or without mention of antepartum condition                   | ICD-9-CM  | Diagnosis     |
| 669.81 | Other complication of labor and delivery, delivered, with or without mention of antepartum condition                           | ICD-9-CM  | Diagnosis     |
| 669.82 | Other complication of labor and delivery, delivered, with mention of postpartum complication                                   | ICD-9-CM  | Diagnosis     |
| 669.91 | Unspecified complication of labor and delivery, with delivery, with or without mention of antepartum condition                 | ICD-9-CM  | Diagnosis     |
| 669.92 | Unspecified complication of labor and delivery, with delivery, with mention of postpartum complication                         | ICD-9-CM  | Diagnosis     |
| 670.02 | Major puerperal infection, unspecified, delivered, with mention of postpartum complication                                     | ICD-9-CM  | Diagnosis     |
| 670.12 | Puerperal endometritis, delivered, with mention of postpartum complication   | ICD-9-CM  | Diagnosis     |
| 670.22 | Puerperal sepsis, delivered, with mention of postpartum complication   | ICD-9-CM  | Diagnosis     |
| 670.32 | Puerperal septic thrombophlebitis, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 670.82 | Other major puerperal infection, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 671.01 | Varicose veins of legs, with delivery, with or without mention of antepartum condition   | ICD-9-CM  | Diagnosis     |
| 671.02 | Varicose veins of legs, with delivery, with mention of postpartum complication   | ICD-9-CM  | Diagnosis     |
| 671.11 | Varicose veins of vulva and perineum, with delivery, with or without mention of antepartum condition                           | ICD-9-CM  | Diagnosis     |
| 671.12 | Varicose veins of vulva and perineum, with delivery, with mention of postpartum complication                                   | ICD-9-CM  | Diagnosis     |
| 671.21 | Superficial thrombophlebitis with delivery, with or without mention of antepartum condition                                    | ICD-9-CM  | Diagnosis     |
| 671.22 | Superficial thrombophlebitis with delivery, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 671.31 | Deep phlebothrombosis, antepartum, with delivery   | ICD-9-CM  | Diagnosis     |
| 671.42 | Deep phlebothrombosis, postpartum, with delivery   | ICD-9-CM  | Diagnosis     |
| 671.51 | Other phlebitis and thrombosis with delivery, with or without mention of antepartum condition                                  | ICD-9-CM  | Diagnosis     |

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| <b>Code</b> | <b>Description</b>  | <b>Code Type</b> | <b>Code Category</b> |
|-------------|---|------------------|----------------------|
| 671.52      | Other phlebitis and thrombosis with delivery, with mention of postpartum complication                     | ICD-9-CM         | Diagnosis            |
| 671.81      | Other venous complication, with delivery, with or without mention of antepartum condition                 | ICD-9-CM         | Diagnosis            |
| 671.82      | Other venous complication, with delivery, with mention of postpartum complication                         | ICD-9-CM         | Diagnosis            |
| 671.91      | Unspecified venous complication, with delivery, with or without mention of antepartum condition           | ICD-9-CM         | Diagnosis            |
| 671.92      | Unspecified venous complication, with delivery, with mention of postpartum complication                   | ICD-9-CM         | Diagnosis            |
| 672.02      | Puerperal pyrexia of unknown origin, delivered, with mention of postpartum complication                   | ICD-9-CM         | Diagnosis            |
| 673.01      | Obstetrical air embolism, with delivery, with or without mention of antepartum condition                  | ICD-9-CM         | Diagnosis            |
| 673.02      | Obstetrical air embolism, with delivery, with mention of postpartum complication                          | ICD-9-CM         | Diagnosis            |
| 673.11      | Amniotic fluid embolism, with delivery, with or without mention of antepartum condition                   | ICD-9-CM         | Diagnosis            |
| 673.12      | Amniotic fluid embolism, with delivery, with mention of postpartum complication                           | ICD-9-CM         | Diagnosis            |
| 673.21      | Obstetrical blood-clot embolism, with delivery, with or without mention of antepartum condition           | ICD-9-CM         | Diagnosis            |
| 673.22      | Obstetrical blood-clot embolism, with mention of postpartum complication                                  | ICD-9-CM         | Diagnosis            |
| 673.31      | Obstetrical pyemic and septic embolism, with delivery, with or without mention of antepartum condition    | ICD-9-CM         | Diagnosis            |
| 673.32      | Obstetrical pyemic and septic embolism, with delivery, with mention of postpartum complication            | ICD-9-CM         | Diagnosis            |
| 673.81      | Other obstetrical pulmonary embolism, with delivery, with or without mention of antepartum condition      | ICD-9-CM         | Diagnosis            |
| 673.82      | Other obstetrical pulmonary embolism, with delivery, with mention of postpartum complication              | ICD-9-CM         | Diagnosis            |
| 674.01      | Cerebrovascular disorder, with delivery, with or without mention of antepartum condition                  | ICD-9-CM         | Diagnosis            |
| 674.02      | Cerebrovascular disorder, with delivery, with mention of postpartum complication                          | ICD-9-CM         | Diagnosis            |
| 674.12      | Disruption of cesarean wound, with delivery, with mention of postpartum complication                      | ICD-9-CM         | Diagnosis            |
| 674.22      | Disruption of perineal wound, with delivery, with mention of postpartum complication                      | ICD-9-CM         | Diagnosis            |
| 674.32      | Other complication of obstetrical surgical wounds, with delivery, with mention of postpartum complication | ICD-9-CM         | Diagnosis            |
| 674.42      | Placental polyp, with delivery, with mention of postpartum complication                                   | ICD-9-CM         | Diagnosis            |

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| Code   | Description   | Code Type | Code Category |
|--------|---|-----------|---------------|
| 674.51 | Peripartum cardiomyopathy, delivered, with or without mention of antepartum condition   | ICD-9-CM  | Diagnosis     |
| 674.52 | Peripartum cardiomyopathy, delivered, with mention of postpartum condition  | ICD-9-CM  | Diagnosis     |
| 674.82 | Other complication of puerperium, with delivery, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 674.92 | Unspecified complications of puerperium, with delivery, with mention of postpartum complication   | ICD-9-CM  | Diagnosis     |
| 675.01 | Infection of nipple associated with childbirth, delivered, with or without mention of antepartum condition                                | ICD-9-CM  | Diagnosis     |
| 675.02 | Infection of nipple associated with childbirth, delivered with mention of postpartum complication   | ICD-9-CM  | Diagnosis     |
| 675.11 | Abscess of breast associated with childbirth, delivered, with or without mention of antepartum condition                                  | ICD-9-CM  | Diagnosis     |
| 675.12 | Abscess of breast associated with childbirth, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 675.21 | Nonpurulent mastitis, delivered, with or without mention of antepartum condition  | ICD-9-CM  | Diagnosis     |
| 675.22 | Nonpurulent mastitis, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 675.81 | Other specified infection of the breast and nipple associated with childbirth, delivered, with or without mention of antepartum condition | ICD-9-CM  | Diagnosis     |
| 675.82 | Other specified infection of the breast and nipple associated with childbirth, delivered, with mention of postpartum complication         | ICD-9-CM  | Diagnosis     |
| 675.91 | Unspecified infection of the breast and nipple, delivered, with or without mention of antepartum condition                                | ICD-9-CM  | Diagnosis     |
| 675.92 | Unspecified infection of the breast and nipple, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 676.01 | Retracted nipple, delivered, with or without mention of antepartum condition  | ICD-9-CM  | Diagnosis     |
| 676.02 | Retracted nipple, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 676.11 | Cracked nipple, delivered, with or without mention of antepartum condition  | ICD-9-CM  | Diagnosis     |
| 676.12 | Cracked nipple, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 676.21 | Engorgement of breasts, delivered, with or without mention of antepartum condition  | ICD-9-CM  | Diagnosis     |
| 676.22 | Engorgement of breasts, delivered, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |
| 676.31 | Other and unspecified disorder of breast associated with childbirth, delivered, with or without mention of antepartum condition           | ICD-9-CM  | Diagnosis     |
| 676.32 | Other and unspecified disorder of breast associated with childbirth, delivered, with mention of postpartum complication                   | ICD-9-CM  | Diagnosis     |
| 676.41 | Failure of lactation, with delivery, with or without mention of antepartum condition  | ICD-9-CM  | Diagnosis     |
| 676.42 | Failure of lactation, with delivery, with mention of postpartum complication  | ICD-9-CM  | Diagnosis     |

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code   | Description   | Code Type | Code Category |
|--------|---|-----------|---------------|
| 676.51 | Suppressed lactation, with delivery, with or without mention of antepartum condition              | ICD-9-CM  | Diagnosis     |
| 676.52 | Suppressed lactation, with delivery, with mention of postpartum complication                      | ICD-9-CM  | Diagnosis     |
| 676.61 | Galactorrhea, with delivery, with or without mention of antepartum condition                      | ICD-9-CM  | Diagnosis     |
| 676.62 | Galactorrhea, with delivery, with mention of postpartum complication                              | ICD-9-CM  | Diagnosis     |
| 676.81 | Other disorder of lactation, with delivery, with or without mention of antepartum condition       | ICD-9-CM  | Diagnosis     |
| 676.82 | Other disorder of lactation, with delivery, with mention of postpartum complication               | ICD-9-CM  | Diagnosis     |
| 676.91 | Unspecified disorder of lactation, with delivery, with or without mention of antepartum condition | ICD-9-CM  | Diagnosis     |
| 72     | Forceps, vacuum, and breech delivery  | ICD-9-CM  | Procedure     |
| 73     | Other procedures inducing or assisting delivery   | ICD-9-CM  | Procedure     |
| 720    | Low forceps operation   | ICD-9-CM  | Procedure     |
| 721    | Low forceps operation with episiotomy   | ICD-9-CM  | Procedure     |
| 722    | Mid forceps operation   | ICD-9-CM  | Procedure     |
| 723    | High forceps operation  | ICD-9-CM  | Procedure     |
| 724    | Forceps rotation of fetal head  | ICD-9-CM  | Procedure     |
| 725    | Breech extraction   | ICD-9-CM  | Procedure     |
| 726    | Forceps application to aftercoming head   | ICD-9-CM  | Procedure     |
| 727    | Vacuum extraction   | ICD-9-CM  | Procedure     |
| 728    | Other specified instrumental delivery   | ICD-9-CM  | Procedure     |
| 729    | Unspecified instrumental delivery   | ICD-9-CM  | Procedure     |
| 730    | Artificial rupture of membranes   | ICD-9-CM  | Procedure     |
| 731    | Other surgical induction of labor   | ICD-9-CM  | Procedure     |
| 732    | Internal and combined version and extraction  | ICD-9-CM  | Procedure     |
| 733    | Failed forceps  | ICD-9-CM  | Procedure     |
| 734    | Medical induction of labor  | ICD-9-CM  | Procedure     |
| 735    | Manually assisted delivery  | ICD-9-CM  | Procedure     |
| 736    | Episiotomy  | ICD-9-CM  | Procedure     |
| 738    | Operations on fetus to facilitate delivery  | ICD-9-CM  | Procedure     |
| 739    | Other operations assisting delivery   | ICD-9-CM  | Procedure     |
| 740    | Classical cesarean section  | ICD-9-CM  | Procedure     |
| 741    | Low cervical cesarean section   | ICD-9-CM  | Procedure     |
| 742    | Extraperitoneal cesarean section  | ICD-9-CM  | Procedure     |
| 744    | Cesarean section of other specified type  | ICD-9-CM  | Procedure     |
| 749    | Cesarean section of unspecified type  | ICD-9-CM  | Procedure     |
| 722.1  | Mid forceps operation with episiotomy   | ICD-9-CM  | Procedure     |
| 722.9  | Other mid forceps operation   | ICD-9-CM  | Procedure     |



**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code   | Description  | Code Type | Code Category |
|--------|--|-----------|---------------|
| 723.1  | High forceps operation with episiotomy   | ICD-9-CM  | Procedure     |
| 723.9  | Other high forceps operation   | ICD-9-CM  | Procedure     |
| 725.1  | Partial breech extraction with forceps to aftercoming head   | ICD-9-CM  | Procedure     |
| 725.2  | Other partial breech extraction  | ICD-9-CM  | Procedure     |
| 725.3  | Total breech extraction with forceps to aftercoming head   | ICD-9-CM  | Procedure     |
| 725.4  | Other total breech extraction  | ICD-9-CM  | Procedure     |
| 727.1  | Vacuum extraction with episiotomy  | ICD-9-CM  | Procedure     |
| 727.9  | Other vacuum extraction  | ICD-9-CM  | Procedure     |
| 730.1  | Induction of labor by artificial rupture of membranes  | ICD-9-CM  | Procedure     |
| 730.9  | Other artificial rupture of membranes  | ICD-9-CM  | Procedure     |
| 732.1  | Internal and combined version without extraction   | ICD-9-CM  | Procedure     |
| 732.2  | Internal and combined version with extraction  | ICD-9-CM  | Procedure     |
| 735.1  | Manual rotation of fetal head  | ICD-9-CM  | Procedure     |
| 735.9  | Other manually assisted delivery   | ICD-9-CM  | Procedure     |
| 739.1  | External version to assist delivery  | ICD-9-CM  | Procedure     |
| 739.2  | Replacement of prolapsed umbilical cord  | ICD-9-CM  | Procedure     |
| 739.3  | Incision of cervix to assist delivery  | ICD-9-CM  | Procedure     |
| 739.4  | Pubiotomy to assist delivery   | ICD-9-CM  | Procedure     |
| 739.9  | Other operations to assist delivery  | ICD-9-CM  | Procedure     |
| 749.9  | Other cesarean section of unspecified type   | ICD-9-CM  | Procedure     |
| 676.92 | Unspecified disorder of lactation, with delivery, with mention of postpartum complication                  | ICD-9-CM  | Diagnosis     |
| 678.01 | Fetal hematologic conditions, delivered, with or without mention of antepartum condition                   | ICD-9-CM  | Diagnosis     |
| 678.11 | Fetal conjoined twins, delivered, with or without mention of antepartum condition                          | ICD-9-CM  | Diagnosis     |
| 679.01 | Maternal complications from in utero procedure, delivered, with or without mention of antepartum condition | ICD-9-CM  | Diagnosis     |
| 679.02 | Maternal complications from in utero procedure, delivered, with mention of postpartum complication         | ICD-9-CM  | Diagnosis     |
| 679.11 | Fetal complications from in utero procedure, delivered, with or without mention of antepartum condition    | ICD-9-CM  | Diagnosis     |
| 679.12 | Fetal complications from in utero procedure, delivered, with mention of postpartum complication            | ICD-9-CM  | Diagnosis     |
| V27    | Outcome of delivery  | ICD-9-CM  | Diagnosis     |
| V27.0  | Outcome of delivery, single liveborn   | ICD-9-CM  | Diagnosis     |
| V27.1  | Outcome of delivery, single stillborn  | ICD-9-CM  | Diagnosis     |
| V27.2  | Outcome of delivery, twins, both liveborn  | ICD-9-CM  | Diagnosis     |
| V27.3  | Outcome of delivery, twins, one liveborn and one stillborn   | ICD-9-CM  | Diagnosis     |
| V27.4  | Outcome of delivery, twins, both stillborn   | ICD-9-CM  | Diagnosis     |



**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code   | Description  | Code Type | Code Category |
|--------|--|-----------|---------------|
| V27.5  | Outcome of delivery, other multiple birth, all liveborn  | ICD-9-CM  | Diagnosis     |
| V27.6  | Outcome of delivery, other multiple birth, some liveborn   | ICD-9-CM  | Diagnosis     |
| V27.7  | Outcome of delivery, other multiple birth, all stillborn   | ICD-9-CM  | Diagnosis     |
| V27.9  | Outcome of delivery, unspecified   | ICD-9-CM  | Diagnosis     |
| V30    | Single liveborn  | ICD-9-CM  | Diagnosis     |
| V30.0  | Single liveborn, born in hospital  | ICD-9-CM  | Diagnosis     |
| V30.00 | Single liveborn, born in hospital, delivered without mention of cesarean delivery                                      | ICD-9-CM  | Diagnosis     |
| V30.01 | Single liveborn, born in hospital, delivered by cesarean delivery  | ICD-9-CM  | Diagnosis     |
| V30.1  | Single liveborn, born before admission to hospital   | ICD-9-CM  | Diagnosis     |
| V30.2  | Single liveborn, born outside hospital and not hospitalized  | ICD-9-CM  | Diagnosis     |
| V31    | Twin birth, mate liveborn  | ICD-9-CM  | Diagnosis     |
| V31.0  | Twin, mate liveborn, born in hospital  | ICD-9-CM  | Diagnosis     |
| V31.00 | Twin, mate liveborn, born in hospital, delivered without mention of cesarean delivery                                  | ICD-9-CM  | Diagnosis     |
| V31.01 | Twin, mate liveborn, born in hospital, delivered by cesarean delivery  | ICD-9-CM  | Diagnosis     |
| V31.1  | Twin birth, mate liveborn, born before admission to hospital   | ICD-9-CM  | Diagnosis     |
| V31.2  | Twin birth, mate liveborn, born outside hospital and not hospitalized  | ICD-9-CM  | Diagnosis     |
| V32    | Twin birth, mate stillborn   | ICD-9-CM  | Diagnosis     |
| V32.0  | Twin, mate stillborn, born in hospital   | ICD-9-CM  | Diagnosis     |
| V32.00 | Twin, mate stillborn, born in hospital, delivered without mention of cesarean delivery                                 | ICD-9-CM  | Diagnosis     |
| V32.01 | Twin, mate stillborn, born in hospital, delivered by cesarean delivery   | ICD-9-CM  | Diagnosis     |
| V32.1  | Twin birth, mate stillborn, born before admission to hospital  | ICD-9-CM  | Diagnosis     |
| V32.2  | Twin birth, mate stillborn, born outside hospital and not hospitalized   | ICD-9-CM  | Diagnosis     |
| V33    | Twin birth, unspecified whether mate liveborn or stillborn   | ICD-9-CM  | Diagnosis     |
| V33.0  | Twin, unspecified, born in hospital  | ICD-9-CM  | Diagnosis     |
| V33.00 | Twin, unspecified whether mate stillborn or liveborn, born in hospital, delivered without mention of cesarean delivery | ICD-9-CM  | Diagnosis     |
| V33.01 | Twin, unspecified whether mate stillborn or liveborn, born in hospital, delivered by cesarean delivery                 | ICD-9-CM  | Diagnosis     |
| V33.1  | Twin birth, unspecified whether mate liveborn or stillborn, born before admission to hospital                          | ICD-9-CM  | Diagnosis     |
| V33.2  | Twin birth, unspecified whether mate liveborn or stillborn, born outside hospital and not hospitalized                 | ICD-9-CM  | Diagnosis     |
| V34    | Other multiple birth (three or more), mates all liveborn   | ICD-9-CM  | Diagnosis     |
| V34.0  | Other multiple, mates all liveborn, born in hospital   | ICD-9-CM  | Diagnosis     |
| V34.00 | Other multiple, mates all liveborn, born in hospital, delivered without mention of cesarean delivery                   | ICD-9-CM  | Diagnosis     |
| V34.01 | Other multiple, mates all liveborn, born in hospital, delivered by cesarean delivery                                   | ICD-9-CM  | Diagnosis     |

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code   | Description   | Code Type | Code Category |
|--------|---|-----------|---------------|
| V34.1  | Other multiple birth (three or more), mates all liveborn, born before admission to hospital                                       | ICD-9-CM  | Diagnosis     |
| V34.2  | Other multiple birth (three or more), mates all liveborn, born outside hospital and not hospitalized                              | ICD-9-CM  | Diagnosis     |
| V35    | Other multiple birth (three or more), mates all stillborn   | ICD-9-CM  | Diagnosis     |
| V35.0  | Other multiple, mates all stillborn, born in hospital   | ICD-9-CM  | Diagnosis     |
| V35.00 | Other multiple, mates all stillborn, born in hospital, delivered without mention of cesarean delivery                             | ICD-9-CM  | Diagnosis     |
| V35.01 | Other multiple, mates all stillborn, born in hospital, delivered by cesarean delivery   | ICD-9-CM  | Diagnosis     |
| V35.1  | Other multiple birth (three or more), mates all stillborn, born before admission to hospital                                      | ICD-9-CM  | Diagnosis     |
| V35.2  | Other multiple birth (three or more), mates all stillborn, born outside of hospital and not hospitalized                          | ICD-9-CM  | Diagnosis     |
| V36    | Other multiple birth (three or more), mates liveborn and stillborn  | ICD-9-CM  | Diagnosis     |
| V36.0  | Other multiple, mates liveborn and stillborn, born in hospital  | ICD-9-CM  | Diagnosis     |
| V36.00 | Other multiple, mates liveborn and stillborn, born in hospital, delivered without mention of cesarean delivery                    | ICD-9-CM  | Diagnosis     |
| V36.01 | Other multiple, mates liveborn and stillborn, born in hospital, delivered by cesarean delivery                                    | ICD-9-CM  | Diagnosis     |
| V36.1  | Other multiple birth (three or more), mates liveborn and stillborn, born before admission to hospital                             | ICD-9-CM  | Diagnosis     |
| V36.2  | Other multiple birth (three or more), mates liveborn and stillborn, born outside hospital and not hospitalized                    | ICD-9-CM  | Diagnosis     |
| V37    | Other multiple birth (three or more), unspecified whether mates liveborn or stillborn   | ICD-9-CM  | Diagnosis     |
| V37.0  | Other multiple, unspecified whether mates stillborn or liveborn, born in hospital   | ICD-9-CM  | Diagnosis     |
| V37.00 | Other multiple, unspecified whether mates stillborn or liveborn, born in hospital, delivered without mention of cesarean delivery | ICD-9-CM  | Diagnosis     |
| V37.01 | Other multiple, unspecified whether mates stillborn or liveborn, born in hospital, delivered by cesarean delivery                 | ICD-9-CM  | Diagnosis     |
| V37.1  | Other multiple birth (three or more), unspecified whether mates liveborn or stillborn, born before admission to hospital          | ICD-9-CM  | Diagnosis     |
| V37.2  | Other multiple birth (three or more), unspecified whether mates liveborn or stillborn, born outside of hospital                   | ICD-9-CM  | Diagnosis     |
| V39    | Liveborn, unspecified whether single, twin, or multiple   | ICD-9-CM  | Diagnosis     |
| V39.0  | Other liveborn, unspecified whether single, twin, or multiple, born in hospital   | ICD-9-CM  | Diagnosis     |
| V39.00 | Liveborn infant, unspecified whether single, twin, or multiple, born in hospital, delivered without mention of cesarean delivery  | ICD-9-CM  | Diagnosis     |

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code     | Description   | Code Type | Code Category |
|----------|---|-----------|---------------|
| V39.01   | Liveborn infant, unspecified whether single, twin, or multiple, born in hospital, delivered by cesarean | ICD-9-CM  | Diagnosis     |
| V39.1    | Liveborn, unspecified whether single, twin or multiple, born before admission to hospital               | ICD-9-CM  | Diagnosis     |
| V39.2    | Liveborn, unspecified whether single, twin or multiple, born outside hospital and not hospitalized      | ICD-9-CM  | Diagnosis     |
| O10.02   | Pre-existing essential hypertension complicating childbirth   | ICD-10-CM | Diagnosis     |
| O10.12   | Pre-existing hypertensive heart disease complicating childbirth   | ICD-10-CM | Diagnosis     |
| O10.22   | Pre-existing hypertensive chronic kidney disease complicating childbirth                                | ICD-10-CM | Diagnosis     |
| O10.32   | Pre-existing hypertensive heart and chronic kidney disease complicating childbirth                      | ICD-10-CM | Diagnosis     |
| O10.42   | Pre-existing secondary hypertension complicating childbirth   | ICD-10-CM | Diagnosis     |
| O10.92   | Unspecified pre-existing hypertension complicating childbirth   | ICD-10-CM | Diagnosis     |
| O11.4    | Pre-existing hypertension with pre-eclampsia, complicating childbirth                                   | ICD-10-CM | Diagnosis     |
| O12.04   | Gestational edema, complicating childbirth  | ICD-10-CM | Diagnosis     |
| O12.14   | Gestational proteinuria, complicating childbirth  | ICD-10-CM | Diagnosis     |
| O12.24   | Gestational edema with proteinuria, complicating childbirth   | ICD-10-CM | Diagnosis     |
| O13.4    | Gestational [pregnancy-induced] hypertension without significant proteinuria, complicating childbirth   | ICD-10-CM | Diagnosis     |
| O14.04   | Mild to moderate pre-eclampsia, complicating childbirth   | ICD-10-CM | Diagnosis     |
| O14.14   | Severe pre-eclampsia complicating childbirth  | ICD-10-CM | Diagnosis     |
| O14.24   | HELLP syndrome, complicating childbirth   | ICD-10-CM | Diagnosis     |
| O14.94   | Unspecified pre-eclampsia, complicating childbirth  | ICD-10-CM | Diagnosis     |
| O16.4    | Unspecified maternal hypertension, complicating childbirth  | ICD-10-CM | Diagnosis     |
| O24.02   | Pre-existing type 1 diabetes mellitus, in childbirth  | ICD-10-CM | Diagnosis     |
| O24.12   | Pre-existing type 2 diabetes mellitus, in childbirth  | ICD-10-CM | Diagnosis     |
| O24.32   | Unspecified pre-existing diabetes mellitus in childbirth  | ICD-10-CM | Diagnosis     |
| O24.420  | Gestational diabetes mellitus in childbirth, diet controlled  | ICD-10-CM | Diagnosis     |
| O24.424  | Gestational diabetes mellitus in childbirth, insulin controlled   | ICD-10-CM | Diagnosis     |
| O24.425  | Gestational diabetes mellitus in childbirth, controlled by oral hypoglycemic drugs                      | ICD-10-CM | Diagnosis     |
| O24.429  | Gestational diabetes mellitus in childbirth, unspecified control  | ICD-10-CM | Diagnosis     |
| O24.82   | Other pre-existing diabetes mellitus in childbirth  | ICD-10-CM | Diagnosis     |
| O24.92   | Unspecified diabetes mellitus in childbirth   | ICD-10-CM | Diagnosis     |
| O25.2    | Malnutrition in childbirth  | ICD-10-CM | Diagnosis     |
| O26.62   | Liver and biliary tract disorders in childbirth   | ICD-10-CM | Diagnosis     |
| O26.72   | Subluxation of symphysis (pubis) in childbirth  | ICD-10-CM | Diagnosis     |
| O60.12X0 | Preterm labor second trimester with preterm delivery second trimester, not applicable or unspecified    | ICD-10-CM | Diagnosis     |
| O60.12X1 | Preterm labor second trimester with preterm delivery second trimester, fetus 1                          | ICD-10-CM | Diagnosis     |
| O60.12X2 | Preterm labor second trimester with preterm delivery second trimester, fetus 2                          | ICD-10-CM | Diagnosis     |

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| Code     | Description   | Code Type | Code Category |
|----------|---|-----------|---------------|
| O60.12X3 | Preterm labor second trimester with preterm delivery second trimester, fetus 3                      | ICD-10-CM | Diagnosis     |
| O60.12X4 | Preterm labor second trimester with preterm delivery second trimester, fetus 4                      | ICD-10-CM | Diagnosis     |
| O60.12X5 | Preterm labor second trimester with preterm delivery second trimester, fetus 5                      | ICD-10-CM | Diagnosis     |
| O60.12X9 | Preterm labor second trimester with preterm delivery second trimester, other fetus                  | ICD-10-CM | Diagnosis     |
| O60.13X0 | Preterm labor second trimester with preterm delivery third trimester, not applicable or unspecified | ICD-10-CM | Diagnosis     |
| O60.13X1 | Preterm labor second trimester with preterm delivery third trimester, fetus 1                       | ICD-10-CM | Diagnosis     |
| O60.13X2 | Preterm labor second trimester with preterm delivery third trimester, fetus 2                       | ICD-10-CM | Diagnosis     |
| O60.13X3 | Preterm labor second trimester with preterm delivery third trimester, fetus 3                       | ICD-10-CM | Diagnosis     |
| O60.13X4 | Preterm labor second trimester with preterm delivery third trimester, fetus 4                       | ICD-10-CM | Diagnosis     |
| O60.13X5 | Preterm labor second trimester with preterm delivery third trimester, fetus 5                       | ICD-10-CM | Diagnosis     |
| O60.13X9 | Preterm labor second trimester with preterm delivery third trimester, other fetus                   | ICD-10-CM | Diagnosis     |
| O60.14X0 | Preterm labor third trimester with preterm delivery third trimester, not applicable or unspecified  | ICD-10-CM | Diagnosis     |
| O60.14X1 | Preterm labor third trimester with preterm delivery third trimester, fetus 1                        | ICD-10-CM | Diagnosis     |
| O60.14X2 | Preterm labor third trimester with preterm delivery third trimester, fetus 2                        | ICD-10-CM | Diagnosis     |
| O60.14X3 | Preterm labor third trimester with preterm delivery third trimester, fetus 3                        | ICD-10-CM | Diagnosis     |
| O60.14X4 | Preterm labor third trimester with preterm delivery third trimester, fetus 4                        | ICD-10-CM | Diagnosis     |
| O60.14X5 | Preterm labor third trimester with preterm delivery third trimester, fetus 5                        | ICD-10-CM | Diagnosis     |
| O60.14X9 | Preterm labor third trimester with preterm delivery third trimester, other fetus                    | ICD-10-CM | Diagnosis     |
| O60.22X0 | Term delivery with preterm labor, second trimester, not applicable or unspecified                   | ICD-10-CM | Diagnosis     |
| O60.22X1 | Term delivery with preterm labor, second trimester, fetus 1   | ICD-10-CM | Diagnosis     |
| O60.22X2 | Term delivery with preterm labor, second trimester, fetus 2   | ICD-10-CM | Diagnosis     |
| O60.22X3 | Term delivery with preterm labor, second trimester, fetus 3   | ICD-10-CM | Diagnosis     |
| O60.22X4 | Term delivery with preterm labor, second trimester, fetus 4   | ICD-10-CM | Diagnosis     |
| O60.22X5 | Term delivery with preterm labor, second trimester, fetus 5   | ICD-10-CM | Diagnosis     |
| O60.22X9 | Term delivery with preterm labor, second trimester, other fetus                                     | ICD-10-CM | Diagnosis     |
| O60.23X0 | Term delivery with preterm labor, third trimester, not applicable or unspecified                    | ICD-10-CM | Diagnosis     |
| O60.23X1 | Term delivery with preterm labor, third trimester, fetus 1  | ICD-10-CM | Diagnosis     |
| O60.23X2 | Term delivery with preterm labor, third trimester, fetus 2  | ICD-10-CM | Diagnosis     |
| O60.23X3 | Term delivery with preterm labor, third trimester, fetus 3  | ICD-10-CM | Diagnosis     |
| O60.23X4 | Term delivery with preterm labor, third trimester, fetus 4  | ICD-10-CM | Diagnosis     |
| O60.23X5 | Term delivery with preterm labor, third trimester, fetus 5  | ICD-10-CM | Diagnosis     |
| O60.23X9 | Term delivery with preterm labor, third trimester, other fetus                                      | ICD-10-CM | Diagnosis     |
| O63.2    | Delayed delivery of second twin, triplet, etc   | ICD-10-CM | Diagnosis     |
| O67.0    | Intrapartum hemorrhage with coagulation defect  | ICD-10-CM | Diagnosis     |
| O67.8    | Other intrapartum hemorrhage  | ICD-10-CM | Diagnosis     |
| O67.9    | Intrapartum hemorrhage, unspecified   | ICD-10-CM | Diagnosis     |

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| Code     | Description  | Code Type | Code Category |
|----------|--|-----------|---------------|
| O68.     | Labor and delivery complicated by abnormality of fetal acid-base balance                                   | ICD-10-CM | Diagnosis     |
| O69.0XX0 | Labor and delivery complicated by prolapse of cord, not applicable or unspecified                          | ICD-10-CM | Diagnosis     |
| O69.0XX1 | Labor and delivery complicated by prolapse of cord, fetus 1  | ICD-10-CM | Diagnosis     |
| O69.0XX2 | Labor and delivery complicated by prolapse of cord, fetus 2  | ICD-10-CM | Diagnosis     |
| O69.0XX3 | Labor and delivery complicated by prolapse of cord, fetus 3  | ICD-10-CM | Diagnosis     |
| O69.0XX4 | Labor and delivery complicated by prolapse of cord, fetus 4  | ICD-10-CM | Diagnosis     |
| O69.0XX5 | Labor and delivery complicated by prolapse of cord, fetus 5  | ICD-10-CM | Diagnosis     |
| O69.0XX9 | Labor and delivery complicated by prolapse of cord, other fetus  | ICD-10-CM | Diagnosis     |
| O69.1XX0 | Labor and delivery complicated by cord around neck, with compression, not applicable or unspecified        | ICD-10-CM | Diagnosis     |
| O69.1XX1 | Labor and delivery complicated by cord around neck, with compression, fetus 1                              | ICD-10-CM | Diagnosis     |
| O69.1XX2 | Labor and delivery complicated by cord around neck, with compression, fetus 2                              | ICD-10-CM | Diagnosis     |
| O69.1XX3 | Labor and delivery complicated by cord around neck, with compression, fetus 3                              | ICD-10-CM | Diagnosis     |
| O69.1XX4 | Labor and delivery complicated by cord around neck, with compression, fetus 4                              | ICD-10-CM | Diagnosis     |
| O69.1XX5 | Labor and delivery complicated by cord around neck, with compression, fetus 5                              | ICD-10-CM | Diagnosis     |
| O69.1XX9 | Labor and delivery complicated by cord around neck, with compression, other fetus                          | ICD-10-CM | Diagnosis     |
| O69.2XX0 | Labor and delivery complicated by other cord entanglement, with compression, not applicable or unspecified | ICD-10-CM | Diagnosis     |
| O69.2XX1 | Labor and delivery complicated by other cord entanglement, with compression, fetus 1                       | ICD-10-CM | Diagnosis     |
| O69.2XX2 | Labor and delivery complicated by other cord entanglement, with compression, fetus 2                       | ICD-10-CM | Diagnosis     |
| O69.2XX3 | Labor and delivery complicated by other cord entanglement, with compression, fetus 3                       | ICD-10-CM | Diagnosis     |
| O69.2XX4 | Labor and delivery complicated by other cord entanglement, with compression, fetus 4                       | ICD-10-CM | Diagnosis     |
| O69.2XX5 | Labor and delivery complicated by other cord entanglement, with compression, fetus 5                       | ICD-10-CM | Diagnosis     |
| O69.2XX9 | Labor and delivery complicated by other cord entanglement, with compression, other fetus                   | ICD-10-CM | Diagnosis     |
| O69.3XX0 | Labor and delivery complicated by short cord, not applicable or unspecified                                | ICD-10-CM | Diagnosis     |
| O69.3XX1 | Labor and delivery complicated by short cord, fetus 1  | ICD-10-CM | Diagnosis     |
| O69.3XX2 | Labor and delivery complicated by short cord, fetus 2  | ICD-10-CM | Diagnosis     |
| O69.3XX3 | Labor and delivery complicated by short cord, fetus 3  | ICD-10-CM | Diagnosis     |
| O69.3XX4 | Labor and delivery complicated by short cord, fetus 4  | ICD-10-CM | Diagnosis     |
| O69.3XX5 | Labor and delivery complicated by short cord, fetus 5  | ICD-10-CM | Diagnosis     |
| O69.3XX9 | Labor and delivery complicated by short cord, other fetus  | ICD-10-CM | Diagnosis     |
| O69.4XX0 | Labor and delivery complicated by vasa previa, not applicable or unspecified                               | ICD-10-CM | Diagnosis     |

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code     | Description   | Code Type | Code Category |
|----------|---|-----------|---------------|
| O69.4XX1 | Labor and delivery complicated by vasa previa, fetus 1  | ICD-10-CM | Diagnosis     |
| O69.4XX2 | Labor and delivery complicated by vasa previa, fetus 2  | ICD-10-CM | Diagnosis     |
| O69.4XX3 | Labor and delivery complicated by vasa previa, fetus 3  | ICD-10-CM | Diagnosis     |
| O69.4XX4 | Labor and delivery complicated by vasa previa, fetus 4  | ICD-10-CM | Diagnosis     |
| O69.4XX5 | Labor and delivery complicated by vasa previa, fetus 5  | ICD-10-CM | Diagnosis     |
| O69.4XX9 | Labor and delivery complicated by vasa previa, other fetus  | ICD-10-CM | Diagnosis     |
| O69.5XX0 | Labor and delivery complicated by vascular lesion of cord, not applicable or unspecified                      | ICD-10-CM | Diagnosis     |
| O69.5XX1 | Labor and delivery complicated by vascular lesion of cord, fetus 1  | ICD-10-CM | Diagnosis     |
| O69.5XX2 | Labor and delivery complicated by vascular lesion of cord, fetus 2  | ICD-10-CM | Diagnosis     |
| O69.5XX3 | Labor and delivery complicated by vascular lesion of cord, fetus 3  | ICD-10-CM | Diagnosis     |
| O69.5XX4 | Labor and delivery complicated by vascular lesion of cord, fetus 4  | ICD-10-CM | Diagnosis     |
| O69.5XX5 | Labor and delivery complicated by vascular lesion of cord, fetus 5  | ICD-10-CM | Diagnosis     |
| O69.5XX9 | Labor and delivery complicated by vascular lesion of cord, other fetus  | ICD-10-CM | Diagnosis     |
| O69.81X0 | Labor and delivery complicated by cord around neck, without compression, not applicable or unspecified        | ICD-10-CM | Diagnosis     |
| O69.81X1 | Labor and delivery complicated by cord around neck, without compression, fetus 1                              | ICD-10-CM | Diagnosis     |
| O69.81X2 | Labor and delivery complicated by cord around neck, without compression, fetus 2                              | ICD-10-CM | Diagnosis     |
| O69.81X3 | Labor and delivery complicated by cord around neck, without compression, fetus 3                              | ICD-10-CM | Diagnosis     |
| O69.81X4 | Labor and delivery complicated by cord around neck, without compression, fetus 4                              | ICD-10-CM | Diagnosis     |
| O69.81X5 | Labor and delivery complicated by cord around neck, without compression, fetus 5                              | ICD-10-CM | Diagnosis     |
| O69.81X9 | Labor and delivery complicated by cord around neck, without compression, other fetus                          | ICD-10-CM | Diagnosis     |
| O69.82X0 | Labor and delivery complicated by other cord entanglement, without compression, not applicable or unspecified | ICD-10-CM | Diagnosis     |
| O69.82X1 | Labor and delivery complicated by other cord entanglement, without compression, fetus 1                       | ICD-10-CM | Diagnosis     |
| O69.82X2 | Labor and delivery complicated by other cord entanglement, without compression, fetus 2                       | ICD-10-CM | Diagnosis     |
| O69.82X3 | Labor and delivery complicated by other cord entanglement, without compression, fetus 3                       | ICD-10-CM | Diagnosis     |
| O69.82X4 | Labor and delivery complicated by other cord entanglement, without compression, fetus 4                       | ICD-10-CM | Diagnosis     |
| O69.82X5 | Labor and delivery complicated by other cord entanglement, without compression, fetus 5                       | ICD-10-CM | Diagnosis     |
| O69.82X9 | Labor and delivery complicated by other cord entanglement, without compression, other fetus                   | ICD-10-CM | Diagnosis     |
| O69.89X0 | Labor and delivery complicated by other cord complications, not applicable or unspecified                     | ICD-10-CM | Diagnosis     |



**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code     | Description   | Code Type | Code Category |
|----------|---|-----------|---------------|
| O69.89X1 | Labor and delivery complicated by other cord complications, fetus 1                             | ICD-10-CM | Diagnosis     |
| O69.89X2 | Labor and delivery complicated by other cord complications, fetus 2                             | ICD-10-CM | Diagnosis     |
| O69.89X3 | Labor and delivery complicated by other cord complications, fetus 3                             | ICD-10-CM | Diagnosis     |
| O69.89X4 | Labor and delivery complicated by other cord complications, fetus 4                             | ICD-10-CM | Diagnosis     |
| O69.89X5 | Labor and delivery complicated by other cord complications, fetus 5                             | ICD-10-CM | Diagnosis     |
| O69.89X9 | Labor and delivery complicated by other cord complications, other fetus                         | ICD-10-CM | Diagnosis     |
| O69.9XX0 | Labor and delivery complicated by cord complication, unspecified, not applicable or unspecified | ICD-10-CM | Diagnosis     |
| O69.9XX1 | Labor and delivery complicated by cord complication, unspecified, fetus 1                       | ICD-10-CM | Diagnosis     |
| O69.9XX2 | Labor and delivery complicated by cord complication, unspecified, fetus 2                       | ICD-10-CM | Diagnosis     |
| O69.9XX3 | Labor and delivery complicated by cord complication, unspecified, fetus 3                       | ICD-10-CM | Diagnosis     |
| O69.9XX4 | Labor and delivery complicated by cord complication, unspecified, fetus 4                       | ICD-10-CM | Diagnosis     |
| O69.9XX5 | Labor and delivery complicated by cord complication, unspecified, fetus 5                       | ICD-10-CM | Diagnosis     |
| O69.9XX9 | Labor and delivery complicated by cord complication, unspecified, other fetus                   | ICD-10-CM | Diagnosis     |
| O70.0    | First degree perineal laceration during delivery  | ICD-10-CM | Diagnosis     |
| O70.1    | Second degree perineal laceration during delivery   | ICD-10-CM | Diagnosis     |
| O70.20   | Third degree perineal laceration during delivery, unspecified                                   | ICD-10-CM | Diagnosis     |
| O70.21   | Third degree perineal laceration during delivery, IIIa  | ICD-10-CM | Diagnosis     |
| O70.22   | Third degree perineal laceration during delivery, IIIb  | ICD-10-CM | Diagnosis     |
| O70.23   | Third degree perineal laceration during delivery, IIIc  | ICD-10-CM | Diagnosis     |
| O70.3    | Fourth degree perineal laceration during delivery   | ICD-10-CM | Diagnosis     |
| O70.4    | Anal sphincter tear complicating delivery, not associated with third degree laceration          | ICD-10-CM | Diagnosis     |
| O70.9    | Perineal laceration during delivery, unspecified  | ICD-10-CM | Diagnosis     |
| O74.0    | Aspiration pneumonitis due to anesthesia during labor and delivery                              | ICD-10-CM | Diagnosis     |
| O74.1    | Other pulmonary complications of anesthesia during labor and delivery                           | ICD-10-CM | Diagnosis     |
| O74.2    | Cardiac complications of anesthesia during labor and delivery                                   | ICD-10-CM | Diagnosis     |
| O74.3    | Central nervous system complications of anesthesia during labor and delivery                    | ICD-10-CM | Diagnosis     |
| O74.4    | Toxic reaction to local anesthesia during labor and delivery                                    | ICD-10-CM | Diagnosis     |
| O74.5    | Spinal and epidural anesthesia-induced headache during labor and delivery                       | ICD-10-CM | Diagnosis     |
| O74.6    | Other complications of spinal and epidural anesthesia during labor and delivery                 | ICD-10-CM | Diagnosis     |
| O74.7    | Failed or difficult intubation for anesthesia during labor and delivery                         | ICD-10-CM | Diagnosis     |
| O74.8    | Other complications of anesthesia during labor and delivery                                     | ICD-10-CM | Diagnosis     |
| O74.9    | Complication of anesthesia during labor and delivery, unspecified                               | ICD-10-CM | Diagnosis     |
| O75.0    | Maternal distress during labor and delivery   | ICD-10-CM | Diagnosis     |
| O75.1    | Shock during or following labor and delivery  | ICD-10-CM | Diagnosis     |
| O75.5    | Delayed delivery after artificial rupture of membranes  | ICD-10-CM | Diagnosis     |
| O75.81   | Maternal exhaustion complicating labor and delivery   | ICD-10-CM | Diagnosis     |

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code    | Description   | Code Type | Code Category |
|---------|---|-----------|---------------|
| O75.82  | Onset (spontaneous) of labor after 37 completed weeks of gestation but before 39 completed weeks gestation, with delivery by (planned) cesarean section | ICD-10-CM | Diagnosis     |
| O75.89  | Other specified complications of labor and delivery   | ICD-10-CM | Diagnosis     |
| O75.9   | Complication of labor and delivery, unspecified   | ICD-10-CM | Diagnosis     |
| O76.    | Abnormality in fetal heart rate and rhythm complicating labor and delivery  | ICD-10-CM | Diagnosis     |
| O77.0   | Labor and delivery complicated by meconium in amniotic fluid  | ICD-10-CM | Diagnosis     |
| O77.8   | Labor and delivery complicated by other evidence of fetal stress  | ICD-10-CM | Diagnosis     |
| O77.9   | Labor and delivery complicated by fetal stress, unspecified   | ICD-10-CM | Diagnosis     |
| O80.    | Encounter for full-term uncomplicated delivery  | ICD-10-CM | Diagnosis     |
| O82.    | Encounter for cesarean delivery without indication  | ICD-10-CM | Diagnosis     |
| O88.02  | Air embolism in childbirth  | ICD-10-CM | Diagnosis     |
| O88.12  | Amniotic fluid embolism in childbirth   | ICD-10-CM | Diagnosis     |
| O88.22  | Thromboembolism in childbirth   | ICD-10-CM | Diagnosis     |
| O88.32  | Pyemic and septic embolism in childbirth  | ICD-10-CM | Diagnosis     |
| O88.82  | Other embolism in childbirth  | ICD-10-CM | Diagnosis     |
| O98.02  | Tuberculosis complicating childbirth  | ICD-10-CM | Diagnosis     |
| O98.12  | Syphilis complicating childbirth  | ICD-10-CM | Diagnosis     |
| O98.22  | Gonorrhea complicating childbirth   | ICD-10-CM | Diagnosis     |
| O98.32  | Other infections with a predominantly sexual mode of transmission complicating childbirth   | ICD-10-CM | Diagnosis     |
| O98.42  | Viral hepatitis complicating childbirth   | ICD-10-CM | Diagnosis     |
| O98.52  | Other viral diseases complicating childbirth  | ICD-10-CM | Diagnosis     |
| O98.62  | Protozoal diseases complicating childbirth  | ICD-10-CM | Diagnosis     |
| O98.72  | Human immunodeficiency virus [HIV] disease complicating childbirth  | ICD-10-CM | Diagnosis     |
| O98.82  | Other maternal infectious and parasitic diseases complicating childbirth  | ICD-10-CM | Diagnosis     |
| O98.92  | Unspecified maternal infectious and parasitic disease complicating childbirth   | ICD-10-CM | Diagnosis     |
| O99.02  | Anemia complicating childbirth  | ICD-10-CM | Diagnosis     |
| O99.12  | Other diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism complicating childbirth                       | ICD-10-CM | Diagnosis     |
| O99.214 | Obesity complicating childbirth   | ICD-10-CM | Diagnosis     |
| O99.284 | Endocrine, nutritional and metabolic diseases complicating childbirth   | ICD-10-CM | Diagnosis     |
| O99.314 | Alcohol use complicating childbirth   | ICD-10-CM | Diagnosis     |
| O99.324 | Drug use complicating childbirth  | ICD-10-CM | Diagnosis     |
| O99.334 | Smoking (tobacco) complicating childbirth   | ICD-10-CM | Diagnosis     |
| O99.344 | Other mental disorders complicating childbirth  | ICD-10-CM | Diagnosis     |
| O99.354 | Diseases of the nervous system complicating childbirth  | ICD-10-CM | Diagnosis     |
| O99.42  | Diseases of the circulatory system complicating childbirth  | ICD-10-CM | Diagnosis     |
| O99.52  | Diseases of the respiratory system complicating childbirth  | ICD-10-CM | Diagnosis     |
| O99.62  | Diseases of the digestive system complicating childbirth  | ICD-10-CM | Diagnosis     |



**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code    | Description   | Code Type | Code Category |
|---------|---|-----------|---------------|
| O99.72  | Diseases of the skin and subcutaneous tissue complicating childbirth                        | ICD-10-CM | Diagnosis     |
| O99.814 | Abnormal glucose complicating childbirth  | ICD-10-CM | Diagnosis     |
| O99.824 | Streptococcus B carrier state complicating childbirth                                       | ICD-10-CM | Diagnosis     |
| O99.834 | Other infection carrier state complicating childbirth                                       | ICD-10-CM | Diagnosis     |
| O99.844 | Bariatric surgery status complicating childbirth  | ICD-10-CM | Diagnosis     |
| O9A.12  | Malignant neoplasm complicating childbirth  | ICD-10-CM | Diagnosis     |
| O9A.22  | Injury, poisoning and certain other consequences of external causes complicating childbirth | ICD-10-CM | Diagnosis     |
| O9A.32  | Physical abuse complicating childbirth  | ICD-10-CM | Diagnosis     |
| O9A.42  | Sexual abuse complicating childbirth  | ICD-10-CM | Diagnosis     |
| O9A.52  | Psychological abuse complicating childbirth   | ICD-10-CM | Diagnosis     |
| P03.0   | Newborn affected by breech delivery and extraction  | ICD-10-CM | Diagnosis     |
| P03.2   | Newborn affected by forceps delivery  | ICD-10-CM | Diagnosis     |
| P03.3   | Newborn affected by delivery by vacuum extractor [ventouse]                                 | ICD-10-CM | Diagnosis     |
| P03.4   | Newborn affected by Cesarean delivery   | ICD-10-CM | Diagnosis     |
| P03.5   | Newborn affected by precipitate delivery  | ICD-10-CM | Diagnosis     |
| P07.00  | Extremely low birth weight newborn, unspecified weight                                      | ICD-10-CM | Diagnosis     |
| P07.01  | Extremely low birth weight newborn, less than 500 grams                                     | ICD-10-CM | Diagnosis     |
| P07.02  | Extremely low birth weight newborn, 500-749. grams  | ICD-10-CM | Diagnosis     |
| P07.03  | Extremely low birth weight newborn, 750-999 grams   | ICD-10-CM | Diagnosis     |
| P07.10  | Other low birth weight newborn, unspecified weight  | ICD-10-CM | Diagnosis     |
| P07.14  | Other low birth weight newborn, 1000-1249 grams   | ICD-10-CM | Diagnosis     |
| P07.15  | Other low birth weight newborn, 1250-1499 grams   | ICD-10-CM | Diagnosis     |
| P07.16  | Other low birth weight newborn, 1500-1749. grams  | ICD-10-CM | Diagnosis     |
| P07.17  | Other low birth weight newborn, 1750-1999 grams   | ICD-10-CM | Diagnosis     |
| P07.18  | Other low birth weight newborn, 2000-2499 grams   | ICD-10-CM | Diagnosis     |
| P07.20  | Extreme immaturity of newborn, unspecified weeks of gestation                               | ICD-10-CM | Diagnosis     |
| P07.21  | Extreme immaturity of newborn, gestational age less than 23 completed weeks                 | ICD-10-CM | Diagnosis     |
| P07.22  | Extreme immaturity of newborn, gestational age 23 completed weeks                           | ICD-10-CM | Diagnosis     |
| P07.23  | Extreme immaturity of newborn, gestational age 24 completed weeks                           | ICD-10-CM | Diagnosis     |
| P07.24  | Extreme immaturity of newborn, gestational age 25 completed weeks                           | ICD-10-CM | Diagnosis     |
| P07.25  | Extreme immaturity of newborn, gestational age 26 completed weeks                           | ICD-10-CM | Diagnosis     |
| P07.26  | Extreme immaturity of newborn, gestational age 27 completed weeks                           | ICD-10-CM | Diagnosis     |
| P07.30  | Preterm newborn, unspecified weeks of gestation   | ICD-10-CM | Diagnosis     |
| P07.31  | Preterm newborn, gestational age 28 completed weeks   | ICD-10-CM | Diagnosis     |
| P07.32  | Preterm newborn, gestational age 29 completed weeks   | ICD-10-CM | Diagnosis     |
| P07.33  | Preterm newborn, gestational age 30 completed weeks   | ICD-10-CM | Diagnosis     |
| P07.34  | Preterm newborn, gestational age 31 completed weeks   | ICD-10-CM | Diagnosis     |
| P07.35  | Preterm newborn, gestational age 32 completed weeks   | ICD-10-CM | Diagnosis     |

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code   | Description  | Code Type | Code Category |
|--------|--|-----------|---------------|
| P07.36 | Preterm newborn, gestational age 33 completed weeks      | ICD-10-CM | Diagnosis     |
| P07.37 | Preterm newborn, gestational age 34 completed weeks      | ICD-10-CM | Diagnosis     |
| P07.38 | Preterm newborn, gestational age 35 completed weeks      | ICD-10-CM | Diagnosis     |
| P07.39 | Preterm newborn, gestational age 36 completed weeks      | ICD-10-CM | Diagnosis     |
| P08.21 | Post-term newborn  | ICD-10-CM | Diagnosis     |
| P08.22 | Prolonged gestation of newborn                           | ICD-10-CM | Diagnosis     |
| Z37.0  | Single live birth  | ICD-10-CM | Diagnosis     |
| Z37.2  | Twins, both liveborn                                     | ICD-10-CM | Diagnosis     |
| Z37.3  | Twins, one liveborn and one stillborn                    | ICD-10-CM | Diagnosis     |
| Z37.50 | Multiple births, unspecified, all liveborn               | ICD-10-CM | Diagnosis     |
| Z37.51 | Triplets, all liveborn                                   | ICD-10-CM | Diagnosis     |
| Z37.52 | Quadruplets, all liveborn                                | ICD-10-CM | Diagnosis     |
| Z37.53 | Quintuplets, all liveborn                                | ICD-10-CM | Diagnosis     |
| Z37.54 | Sextuplets, all liveborn                                 | ICD-10-CM | Diagnosis     |
| Z37.59 | Other multiple births, all liveborn                      | ICD-10-CM | Diagnosis     |
| Z37.60 | Multiple births, unspecified, some liveborn              | ICD-10-CM | Diagnosis     |
| Z37.61 | Triplets, some liveborn                                  | ICD-10-CM | Diagnosis     |
| Z37.62 | Quadruplets, some liveborn                               | ICD-10-CM | Diagnosis     |
| Z37.63 | Quintuplets, some liveborn                               | ICD-10-CM | Diagnosis     |
| Z37.64 | Sextuplets, some liveborn                                | ICD-10-CM | Diagnosis     |
| Z37.69 | Other multiple births, some liveborn                     | ICD-10-CM | Diagnosis     |
| Z37.9  | Outcome of delivery, unspecified                         | ICD-10-CM | Diagnosis     |
| Z38.00 | Single liveborn infant, delivered vaginally              | ICD-10-CM | Diagnosis     |
| Z38.01 | Single liveborn infant, delivered by cesarean            | ICD-10-CM | Diagnosis     |
| Z38.1  | Single liveborn infant, born outside hospital            | ICD-10-CM | Diagnosis     |
| Z38.2  | Single liveborn infant, unspecified as to place of birth | ICD-10-CM | Diagnosis     |
| Z38.30 | Twin liveborn infant, delivered vaginally                | ICD-10-CM | Diagnosis     |
| Z38.31 | Twin liveborn infant, delivered by cesarean              | ICD-10-CM | Diagnosis     |
| Z38.4  | Twin liveborn infant, born outside hospital              | ICD-10-CM | Diagnosis     |
| Z38.5  | Twin liveborn infant, unspecified as to place of birth   | ICD-10-CM | Diagnosis     |
| Z38.61 | Triplet liveborn infant, delivered vaginally             | ICD-10-CM | Diagnosis     |
| Z38.62 | Triplet liveborn infant, delivered by cesarean           | ICD-10-CM | Diagnosis     |
| Z38.63 | Quadruplet liveborn infant, delivered vaginally          | ICD-10-CM | Diagnosis     |
| Z38.64 | Quadruplet liveborn infant, delivered by cesarean        | ICD-10-CM | Diagnosis     |
| Z38.65 | Quintuplet liveborn infant, delivered vaginally          | ICD-10-CM | Diagnosis     |
| Z38.66 | Quintuplet liveborn infant, delivered by cesarean        | ICD-10-CM | Diagnosis     |
| Z38.68 | Other multiple liveborn infant, delivered vaginally      | ICD-10-CM | Diagnosis     |
| Z38.69 | Other multiple liveborn infant, delivered by cesarean    | ICD-10-CM | Diagnosis     |
| Z38.7  | Other multiple liveborn infant, born outside hospital    | ICD-10-CM | Diagnosis     |

**Appendix E. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) Diagnosis and Procedure Codes Used to Define Live-Born Deliveries in this Request**

| Code    | Description   | Code Type  | Code Category |
|---------|---|------------|---------------|
| Z38.8   | Other multiple liveborn infant, unspecified as to place of birth  | ICD-10-CM  | Diagnosis     |
| 0W8NXZZ | Division of Female Perineum, External Approach  | ICD-10-PCS | Procedure     |
| 10900ZC | Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Open Approach                                | ICD-10-PCS | Procedure     |
| 10903ZC | Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Percutaneous Approach                        | ICD-10-PCS | Procedure     |
| 10904ZC | Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Percutaneous Endoscopic Approach             | ICD-10-PCS | Procedure     |
| 10907ZC | Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Via Natural or Artificial Opening            | ICD-10-PCS | Procedure     |
| 10908ZC | Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Via Natural or Artificial Opening Endoscopic | ICD-10-PCS | Procedure     |
| 10D00Z0 | Extraction of Products of Conception, Classical, Open Approach  | ICD-10-PCS | Procedure     |
| 10D00Z1 | Extraction of Products of Conception, Low Cervical, Open Approach   | ICD-10-PCS | Procedure     |
| 10D00Z2 | Extraction of Products of Conception, Extraperitoneal, Open Approach  | ICD-10-PCS | Procedure     |
| 10D07Z3 | Extraction of Products of Conception, Low Forceps, Via Natural or Artificial Opening                              | ICD-10-PCS | Procedure     |
| 10D07Z4 | Extraction of Products of Conception, Mid Forceps, Via Natural or Artificial Opening                              | ICD-10-PCS | Procedure     |
| 10D07Z5 | Extraction of Products of Conception, High Forceps, Via Natural or Artificial Opening                             | ICD-10-PCS | Procedure     |
| 10D07Z6 | Extraction of Products of Conception, Vacuum, Via Natural or Artificial Opening                                   | ICD-10-PCS | Procedure     |
| 10D07Z7 | Extraction of Products of Conception, Internal Version, Via Natural or Artificial Opening                         | ICD-10-PCS | Procedure     |
| 10D07Z8 | Extraction of Products of Conception, Other, Via Natural or Artificial Opening                                    | ICD-10-PCS | Procedure     |
| 10E0XZZ | Delivery of Products of Conception, External Approach   | ICD-10-PCS | Procedure     |
| 10S07ZZ | Reposition Products of Conception, Via Natural or Artificial Opening  | ICD-10-PCS | Procedure     |

**Appendix F. Specifications Defining Parameters for this Request, Type 1**

This request used the Cohort Identification and Descriptive Analysis (CIDA) Tool, version 5.4.4, to estimate use of dolutegravir among all women of reproductive age and women of reproductive age with a prior human immunodeficiency virus (HIV) diagnosis in the Sentinel Distributed Database (SDD).

**Query Period:** August 1, 2013 to March 31, 2018  
**Coverage Requirement:** Medical and Drug  
**Enrollment Requirement:** 180 days  
**Enrollment Gap:** 45 days  
**Sex:** Females  
**Age Groups:** 15-49 years

| Scenario | Event        |                           |                |              |                                      | Pre-Existing Conditions |                    |                           |                            |          |
|----------|--------------|---------------------------|----------------|--------------|--------------------------------------|-------------------------|--------------------|---------------------------|----------------------------|----------|
|          | Event        | Incident with respect to: | Washout (Days) | Care Setting | Cohort Definition                    | Condition               | Include or Exclude | Care Setting <sup>1</sup> | Number of Code Occurrences | Lookback |
| 1        | Dolutegravir | Dolutegravir              | 0              | Any          | Include all valid events per patient | None                    | N/A                | N/A                       | N/A                        | N/A      |
| 2        | Dolutegravir | Dolutegravir              | 0              | Any          | Include all valid events per patient | HIV                     | Include            | AV*, OA*<br>IP*           | >1<br>≥1                   | -180, 0  |

<sup>1</sup>Ambulatory Visit (AV), Other Ambulatory Visit (OA), Inpatient Visit (IP)

Note: International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS), and Current Procedural Terminology (CPT) codes are provided by Optum360. National Drug Codes (NDC) are checked against First Data Bank's "National Drug Data File (NDDF®) Plus"

**Appendix G. Specifications Defining Parameters for this Request, Type 4**

This request used the Cohort Identification and Descriptive Analysis (CIDA) Tool, version 5.4.4, to estimate dolutegravir use during pregnancy among women with live-birth deliveries in the Sentinel Distributed Database (SDD).

**Query Period (Binds Delivery Date):** August 1, 2013 to March 31, 2018

**Coverage Requirement:** Medical and Drug

**Enrollment Requirement Prior to Delivery Date:** 481 Days

(301 day delivery length + 180 day pre-pregnancy exposure assessment period)

**Enrollment Requirement Following Delivery Date:** 0 Days

**Enrollment Gap:** 45 Days

**Age Groups (calculated at age at delivery date):** 15-49 years

**Sex:** Females

**Pregnancy Episode Creation**

**Exposure Episode Creation**

| Scenario | Delivery Definition  | Delivery Washout Period (Days) | Pregnancy Duration Definition | Pre/-Post-Term Evaluation Window (Days) | Pregnancy Duration in Absence of Specific Code (Days) | Exposure     | Incident with respect to: | Washout (Days) | Cohort Definition  | Episode Gap Type | Episode Gap (Days) | Pre-Pregnancy Evaluation (Days) | Characteristic                   |
|----------|----------------------|--------------------------------|-------------------------------|---|---|--------------|---------------------------|----------------|--|------------------|--------------------|---------------------------------|----------------------------------|
|          |                      |                                |                               |   |   |              |                           |                |  |                  |                    |                                 |                                  |
| 1        | Use Algorithm Codes* | 301                            | Use Algorithm Codes*          | 7                                       | 273   | Dolutegravir | Dolutegravir              | 0              | Include all valid exposure episodes during a pregnancy episode | Fixed            | 15                 | 180                             | See Characteristic section below |

Note: International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS), and Current Procedural Terminology (CPT) codes are provided by Optum360. National Drug Codes (NDC) are checked against First Data Bank's "National Drug Data File (NDDF®) Plus"

|                  | Characteristic  | Care Setting | Evaluation Window          |
|------------------|---|--------------|----------------------------|
| Dolutegravir use | Exposed at LMP and continuing into pregnancy                            | Any          | (-1, -1) AND (0, 30)       |
|                  | Exposed in first month of pregnancy and not in the pre-pregnancy period | Any          | (0, 30) AND NOT (-180, -1) |
|                  | Exposed at LMP or first exposed in the first month of pregnancy         | Any          | (0, 30)                    |
|                  | Exposed after the first month from LMP                                  | Any          | (31, 301)                  |
|                  | Exposed after the first month from LMP and not in the first month of    | Any          | (31, 301) AND NOT (0, 30)  |