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The following report(s) provides findings from an FDA-initiated query using Sentinel. While Sentinel queries may be undertaken to assess potential medical product safety risks, they may also be initiated for various other reasons. Some examples include determining a rate or count of an identified health outcome of interest, examining medical product use, exploring the feasibility of future, more detailed analyses within Sentinel, and seeking to better understand Sentinel capabilities.

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

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

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_wp199

Request ID: cder_mpl1r_wp199

Request Description: In this report we describe cohorts of patients with live birth deliveries who had an exposure to HER2 antagonist drugs in the IBM® MarketScan® Research Databases.

Sentinel Routine Querying Module: Cohort Identification and Descriptive Analysis (CIDA) module, version 10.3.2

Data Source: We distributed this request to one Data Partner on May 07, 2021. The study period included data from January 1, 2010 through September 30, 2019. Please see Appendix A for a list of dates of available data for the Data Partner.

Study Design: We identified females over the age of 18 with evidence of a live birth delivery who had prevalent use of HER2 antagonists; we assessed HER2 antagonist use during pregnancy overall and by trimester periods. This is a Type 4 analysis in the Query Request Package (QRP) documentation.

Pregnancy Episode Creation: We identified pregnancies ending in a live birth delivery using a validated claims-based algorithm.[1] This algorithm used International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis codes indicative of weeks of gestation, and International Classification of Diseases, Ninth Revision, Clinical Modification (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 had to occur within seven days of a delivery date in the inpatient 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 B for a list of ICD-9-CM, and ICD-10-CM codes used in the gestational age algorithm, and Appendix C for a list of ICD-9-CM, ICD-10-CM, International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS), and Current Procedural Terminology, Fourth Edition (CPT-4) procedure codes used to define live birth deliveries in this request.

Exposure Identification During Pregnancy: We identified pregnancy episodes with HER2 antagonist use and counts of HER2 antagonist episodes during each pregnancy trimester. Furthermore, we reported the number of pregnancy episodes with a HER2 antagonist episode and total HER2 antagonist episodes by gestational week, which included any HER2 antagonist dispensings on the date of delivery. Please see Appendix D for the list of brand and generic names of medical products used to define medical products of interest (MOIs) and Appendix E for the list of Healthcare Common Procedure Coding System, Level II (HCPCS) codes used to define exposures for this request.

Cohort Eligibility Criteria: We required eligible patients to be enrolled in health plans with medical and drug coverage in the 301 days prior to the delivery date. A gap in coverage of up to 45 days was allowed and treated as continuous enrollment. Patients aged 18 or older were included in the cohorts and age was categorized as: 18+ years.

Please see Appendix F for a pictoral diagram of cohort entry requirements and index exposure for this request and Appendix G for detailed specifications for the design of this study.

Limitations: Algorithms used to define exposures and exclusion criteria 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 (info@sentinelsystem.org) for questions and to provide comments/suggestions for future enhancements to this document. For more information on Sentinel's routine querying modules, please refer to the documentation (https://dev.sentinelsystem.org/projects/SENTINEL/repos/sentinel-routine-querying-tool-documentation/browse).

[1] Li, Q., et al., Validation of an algorithm to estimate gestational age in electronic health plan databases. Pharmacoepidemiol Drug Saf, 2013. 22(5): p. 524-32.

Amount Supplied - number of units (pills, tablets, vials) dispensed. Net amount per NDC per dispensing.

Blackout Period - number of days at the beginning of a treatment episode that events are to be ignored. If an event occurs during the blackout period, the episode is excluded.

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). The Care Setting, along with the Principal Diagnosis Indicator (PDX), 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.

Charlson/Elixhauser Combined Comorbidity Score - calculated based on comorbidities observed during a requester-defined window around the exposure episode start date (e.g., in the 183 days prior to index).

Code Days - the minimum number of times the diagnosis must be found during the evaluation period in order to fulfill the algorithm to identify the corresponding patient characteristic.

Cohort Definition (drug/exposure) - indicates how the cohort will be defined: 01: Cohort includes only the first valid treatment episode during the query period; 02: Cohort includes all valid treatment episodes during the query period; 03: Cohort includes all valid treatment episodes during the query period until an event occurs.

Computed Start Marketing Date - represents the first observed dispensing date among all valid users within a GROUP (scenario) within each Data Partner site.

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

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.

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

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

Event Deduplication - specifies how events are counted by the Modular Program (MP) algorithm: 0: Counts all occurrences of a health outcome of interest (HOI) during an exposure episode; 1: de-duplicates occurrences of the same HOI code and code type on the same day; 2: de-duplicates occurrences of the same HOI group on the same day (e.g., de-duplicates at the group level).

Exposure Episode Length - number of days after exposure initiation that is considered "exposed time."

Exposure Extension Period - number of days post treatment period in which the outcomes/events are counted for a treatment episode. Extensions are added after any episode gaps have been bridged.

Lookback Period - number of days wherein a member is required to have evidence of pre-existing condition (diagnosis/procedure/drug dispensing).

Maximum Episode Duration - truncates exposure episodes after a requester-specified number of exposed days. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

Member-Years - sum of all days of enrollment with medical and drug coverage in the query period preceded by an exposure washout period all divided by 365.25.

Minimum Days Supplied - specifies a minimum number of days in length of the days supplied for the episode to be considered.

Minimum Episode Duration - specifies a minimum number of days in length of the episode for it to be considered. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

Monitoring Period - used to define time periods of interest for both sequential analysis and simple cohort characterization requests.

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.

Switch Evaluation Step Value - value used to differentiate evaluation step. Each switch pattern can support up to 2 evaluation steps (0 = switch pattern evaluation start; 1 = first evaluation; 2 = second evaluation).

Switch Gap Inclusion Indicator - indicator for whether gaps in treatment episodes that are included in a switch episode will be counted as part of the switch episode duration.

Switch Pattern Cohort Inclusion Date - indicates which date to use for inclusion into the switch pattern cohort of interest as well as optionally as the index date of the treatment episode initiating the switch pattern. Valid options are the product approval date, product marketing date, other requester defined date, or computed start marketing date.

Switch Pattern Cohort Inclusion Strategy - indicates how the switch pattern cohort inclusion date will be used: 01: used only as a switch cohort entry date. First treatment episode dispensing date is used as index for computing time to first switch; 02: used as switch cohort entry date and as initial switch step index date for computing time to first switch.

Treatment Episode Truncation Indicator - indicates whether the exposure episode will be truncated at the occurrence of a requester-specified code.

Washout Period (drug/exposure) - number of days a user is required to have no evidence of prior exposure (drug dispensing/procedure) and continuous drug and medical coverage prior to an incident treatment episode.

Washout Period (event/outcome) - number of days a user is required to have no evidence of a prior event (procedure/diagnosis) and continuous drug and medical coverage prior to an incident treatment episode.

Years at Risk - number of days supplied plus any episode gaps and exposure extension periods all divided by 365.25.

*all terms may not be used in this report

Table 1a. Pregnancy Episodes with HER2 Antagonist Use in the IBM® MarketScan® Research Databases from January 1, 2012 to September 30, 2019

	Use in the Pre-Pregnancy Period		Use During Any Trimester		Use in First Trimester		Use in Second Trimester		Use in Third Trimester	
Exposure(s)	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Pregnancy Episodes (1,737,836)										
HER2 Antagonists	4	0.0	24	0.0	13	0.0	15	0.0	12	0.0

Percents displayed represent proportion of total pregnancy episodes

Table 1a. Pregnancy Episodes with HER2 Antagonist Use in the IBM® MarketScan® Databases from January 1, 2012 to September 30, 2019

	Use in All Trimesters		Use Only During First Trimester		Use Only During Second Trimester		Use Only During Third Trimester	
Exposure(s)	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Pregnancy Episodes (1,737,836)								
HER2 Antagonists	4	0.0	5	0.0	4	0.0	3	0.0

Percents displayed represent proportion of total pregnancy episodes

Table 1b. HER2 Antagonist Use Episodes Among the Pregnant Cohort in the IBM® MarketScan® Research Databases from January 1, 2012 to September 30, 2019

Exposure(s)	Use in the Pre-Pregnancy Period	Use During Any Trimester	Use in First Trimester	Use in Second Trimester	Use in Third Trimester	Use in All Trimesters	Use Only During First Trimester	Use Only During Second Trimester	Use Only During Third Trimester
	Number	Number	Number	Number	Number	Number	Number	Number	Number
Pregnancy Episodes (1,737,836)									
HER2 Antagonists	4	52	17	21	20	16	5	4	3

Table 1c. HER2 Antagonist Raw Dispensing Counts[1] Among the Pregnant Cohort in the IBM® MarketScan® Research Databases from January 1, 2012 to September 30, 2019

Exposure(s)	Use in the Pre-Pregnancy Period	Use During Any Trimester	Use in First Trimester	Use in Second Trimester	Use in Third Trimester	Use in All Trimesters	Use Only During First Trimester	Use Only During Second Trimester	Use Only During Third Trimester
	Number	Number	Number	Number	Number	Number	Number	Number	Number
Pregnancy Episodes (1,737,836)									
HER2 Antagonists	0	76	21	32	23	25	8	8	4

[1]Raw dispensing counts the total number of codes observed during an exposure episode and attributes them to the gestational week of the episode start date.
Multiple codes on the same day are counted.

Table 1d. HER2 Antagonist Adjusted Dispensing Counts[1] Among the Pregnant Cohort in the IBM® MarketScan® Research Databases from January 1, 2012 to September 30, 2019

Exposure(s)	Use in the Pre-Pregnancy Period Number	Use During Any Trimester Number	Use in First Trimester Number	Use in Second Trimester Number	Use in Third Trimester Number	Use in All Trimesters Number	Use Only During First Trimester Number	Use Only During Second Trimester Number	Use Only During Third Trimester Number
Pregnancy Episodes (1,737,836)									
HER2 Antagonists	0	76	21	32	23	25	8	8	4

[1]Adjusted episodes counts the total number of codes observed during an exposure episode and attributes them to the gestation week of the episode start date. Multiple codes on the same day are counted only once.

Table 2. Pregnancy Episodes with HER2 Antagonist Use by Gestational Week in the IBM® MarketScan® Research Databases from January 1, 2012 to September 30, 2019

Gestational Week	1		2		3		4		5		6	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
	4	0	3	0	4	0	2	0	3	0	5	0

Table 2. Pregnancy Episodes with HER2 Antagonist Use by Gestational Week in the IBM® MarketScan® Research Databases from January 1, 2012 to September 30, 2019

Gestational Week	7		8		9		10		11		12	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
	3	0	4	0	6	0	6	0	7	0	6	0

Table 2. Pregnancy Episodes with HER2 Antagonist Use by Gestational Week in the IBM® MarketScan® Research Databases from January 1, 2012 to September 30, 2019

Gestational Week	13		14		15		16		17		18	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
	3	0	1	0	3	0	3	0	3	0	6	0

Table 2. Pregnancy Episodes with HER2 Antagonist Use by Gestational Week in the IBM® MarketScan® Research Databases from January 1, 2012 to September 30, 2019

Gestational Week	19		20		21		22		23		24	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
	9	0	9	0	10	0	5	0	3	0	4	0

Table 2. Pregnancy Episodes with HER2 Antagonist Use by Gestational Week in the IBM® MarketScan® Research Databases from January 1, 2012 to September 30, 2019

Gestational Week	25		26		27		28		29		30	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
	4	0	5	0	8	0	8	0	5	0	4	0

Table 2. Pregnancy Episodes with HER2 Antagonist Use by Gestational Week in the IBM® MarketScan® Research Databases from January 1, 2012 to September 30, 2019

Gestational Week	31		32		33		34		35		36	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
	4	0	4	0	4	0	2	0	2	0	1	0

Table 2. Pregnancy Episodes with HER2 Antagonist Use by Gestational Week in the IBM® MarketScan® Research Databases from January 1, 2012 to September 30, 2019

Gestational Week	37		38		39		40		41		42	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
	3	0	5	0	6	0	6	0	4	0	1	0

Table 2. Pregnancy Episodes with HER2 Antagonist Use by Gestational Week in the IBM® MarketScan® Research Databases from January 1, 2012 to September 30, 2019

Gestational Week	43		44	
	Number	Percentage	Number	Percentage
	0	0	0	0

Appendix A. Dates Available for IBM® MarketScan® Commercial and Medicare Supplemental Databases

Databases	Start Date	End Date
IBM® MarketScan® Commercial and Medicare Supplemental Databases[1]	01/01/2010	09/30/2019

[1]The IBM® MarketScan® Research Databases includes a sample of 150 million employees, dependents, and retirees in the United States with primary or Medicare supplemental coverage through privately insured fee-for-service, point-of-service, or capitated health plans. The IBM® MarketScan® Research Databases are based on a large convenience sample. Because the sample is not random, it may contain biases or fail to generalize well to other populations. Data come mostly from large employers; medium and small firms may be underrepresented. For more information on the IBM® MarketScan® Research Databases, please review the White Paper here: https://www.ibm.com/downloads/cas/OWZWJ0QO

Code	Description	Code Category	Code Type
	Live Birth Delivery		
O481	Prolonged pregnancy	Diagnosis	ICD-10-CM
P0822	Prolonged gestation of newborn	Diagnosis	ICD-10-CM
Z3A49	Greater than 42 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
O480	Post-term pregnancy	Diagnosis	ICD-10-CM
P0821	Post-term newborn	Diagnosis	ICD-10-CM
Z3A42	42 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
Z3A41	41 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
Z3A40	40 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
Z3A39	39 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
Z3A38	38 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
Z3A37	37 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0739	Preterm newborn, gestational age 36 completed weeks	Diagnosis	ICD-10-CM
Z3A36	36 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0738	Preterm newborn, gestational age 35 completed weeks	Diagnosis	ICD-10-CM
Z3A35	35 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0737	Preterm newborn, gestational age 34 completed weeks	Diagnosis	ICD-10-CM
Z3A34	34 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0736	Preterm newborn, gestational age 33 completed weeks	Diagnosis	ICD-10-CM
Z3A33	33 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0735	Preterm newborn, gestational age 32 completed weeks	Diagnosis	ICD-10-CM
Z3A32	32 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0734	Preterm newborn, gestational age 31 completed weeks	Diagnosis	ICD-10-CM
Z3A31	31 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0733	Preterm newborn, gestational age 30 completed weeks	Diagnosis	ICD-10-CM
Z3A30	30 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0732	Preterm newborn, gestational age 29 completed weeks	Diagnosis	ICD-10-CM
Z3A29	29 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0731	Preterm newborn, gestational age 28 completed weeks	Diagnosis	ICD-10-CM
Z3A28	28 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0726	Extreme immaturity of newborn, gestational age 27 completed weeks	Diagnosis	ICD-10-CM
Z3A27	27 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0725	Extreme immaturity of newborn, gestational age 26 completed weeks	Diagnosis	ICD-10-CM
Z3A26	26 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0724	Extreme immaturity of newborn, gestational age 25 completed weeks	Diagnosis	ICD-10-CM
Z3A25	25 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0723	Extreme immaturity of newborn, gestational age 24 completed weeks	Diagnosis	ICD-10-CM
Z3A24	24 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0722	Extreme immaturity of newborn, gestational age 23 completed weeks	Diagnosis	ICD-10-CM
Z3A23	23 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0721	Extreme immaturity of newborn, gestational age less than 23 completed weeks	Diagnosis	ICD-10-CM
Z3A22	22 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
Z3A21	21 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
Z3A20	20 weeks gestation of pregnancy	Diagnosis	ICD-10-CM
P0720	Extreme immaturity of newborn, unspecified weeks of gestation	Diagnosis	ICD-10-CM
O6013X0	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
O6013X1	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
O6013X2	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
O6013X3	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
O6013X4	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
O6013X5	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
O6013X9	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
O6014X0	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
O6014X1	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
O6014X2	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
O6014X3	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
O6014X4	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
O6014X5	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
O6014X9	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM
P0730	Preterm newborn, unspecified weeks of gestation	Diagnosis	ICD-10-CM
O6012X0	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM
O6012X1	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM
O6012X2	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM
O6012X3	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM
O6012X4	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM
O6012X5	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM
O6012X9	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM
64520	Prolonged pregnancy	Diagnosis	ICD-9-CM
64521	Prolonged pregnancy	Diagnosis	ICD-9-CM
64523	Prolonged pregnancy	Diagnosis	ICD-9-CM
76528	35-36 completed weeks of gestation	Diagnosis	ICD-9-CM
76622	Prolonged gestation of infant	Diagnosis	ICD-9-CM
64510	Post term pregnancy	Diagnosis	ICD-9-CM
64511	Post term pregnancy	Diagnosis	ICD-9-CM
64513	Post term pregnancy	Diagnosis	ICD-9-CM
76527	33-34 completed weeks of gestation	Diagnosis	ICD-9-CM
76621	Post-term infant	Diagnosis	ICD-9-CM
76526	31-32 completed weeks of gestation	Diagnosis	ICD-9-CM
76525	29-30 completed weeks of gestation	Diagnosis	ICD-9-CM
76524	27-28 completed weeks of gestation	Diagnosis	ICD-9-CM
76523	25-26 completed weeks of gestation	Diagnosis	ICD-9-CM
76521	Less than 24 completed weeks of gestation	Diagnosis	ICD-9-CM
76522	24 completed weeks of gestation	Diagnosis	ICD-9-CM
76500	Extreme immaturity, by weight	Diagnosis	ICD-9-CM
76501	Extreme immaturity, by weight	Diagnosis	ICD-9-CM
76502	Extreme immaturity, by weight	Diagnosis	ICD-9-CM
76503	Extreme immaturity, by weight	Diagnosis	ICD-9-CM
76504	Extreme immaturity, by weight	Diagnosis	ICD-9-CM
76505	Extreme immaturity, by weight	Diagnosis	ICD-9-CM
76506	Extreme immaturity, by weight	Diagnosis	ICD-9-CM
76507	Extreme immaturity, by weight	Diagnosis	ICD-9-CM
76508	Extreme immaturity, by weight	Diagnosis	ICD-9-CM
76509	Extreme immaturity, by weight	Diagnosis	ICD-9-CM
64421	Early onset of delivery, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
76510	Other preterm infants, by weight	Diagnosis	ICD-9-CM
76511	Other preterm infants, by weight	Diagnosis	ICD-9-CM
76512	Other preterm infants, by weight	Diagnosis	ICD-9-CM
76513	Other preterm infants, by weight	Diagnosis	ICD-9-CM

Appendix B. 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) Codes Used to Define the Gestational Age Algorithm in this Request

Code	Description	Code Category	Code Type
76514	Other preterm infants, by weight	Diagnosis	ICD-9-CM
76515	Other preterm infants, by weight	Diagnosis	ICD-9-CM
76516	Other preterm infants, by weight	Diagnosis	ICD-9-CM
76517	Other preterm infants, by weight	Diagnosis	ICD-9-CM
76518	Other preterm infants, by weight	Diagnosis	ICD-9-CM
76519	Other preterm infants, by weight	Diagnosis	ICD-9-CM
76520	Unspecified weeks of gestation	Diagnosis	ICD-9-CM

[1]If multiple codes for specific weeks of gestation (Z codes), preterm delivery, and/or postterm delivery are available, the ICD-10 algorithm for

(1) Codes that specify weeks of gestation, including all Z codes ranging from 20 weeks through >=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

(2) Codes that indicate preterm delivery without specifying weeks of gestation. If multiple codes are observed, codes with more specificity (e.g., preterm delivery, 2nd trimester of pregnancy or 'extreme immaturity') are prioritized over those with less specificity (e.g.,

(3) Codes that indicate postterm delivery without specifying weeks of gestation. If multiple codes are observed, codes indicating longer

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 C. International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS), and Current Procedural Terminology, Fourth Edition (CPT-4) Codes Used to Define Live Birth Deliveries in this Request

Code	Description	Code Category	Code Type
	Live Birth Delivery		
0W8NXZZ	Division of Female Perineum, External Approach	Procedure	ICD-10-PCS
10900ZC	Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Open Approach	Procedure	ICD-10-PCS
10903ZC	Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Percutaneous Approach	Procedure	ICD-10-PCS
10904ZC	Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
10907ZC	Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10908ZC	Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
10D00Z0	Extraction of Products of Conception, Classical, Open Approach	Procedure	ICD-10-PCS
10D00Z1	Extraction of Products of Conception, Low Cervical, Open Approach	Procedure	ICD-10-PCS
10D00Z2	Extraction of Products of Conception, Extraperitoneal, Open Approach	Procedure	ICD-10-PCS
10D07Z3	Extraction of Products of Conception, Low Forceps, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10D07Z4	Extraction of Products of Conception, Mid Forceps, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10D07Z5	Extraction of Products of Conception, High Forceps, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10D07Z6	Extraction of Products of Conception, Vacuum, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10D07Z7	Extraction of Products of Conception, Internal Version, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10D07Z8	Extraction of Products of Conception, Other, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10E0XZZ	Delivery of Products of Conception, External Approach	Procedure	ICD-10-PCS
10S07ZZ	Reposition Products of Conception, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
59400	Routine obstetric care including antepartum care, vaginal delivery (with or without episiotomy, and/or forceps) and postpartum care	Procedure	CPT-4
59409	Vaginal delivery only (with or without episiotomy and/or forceps);	Procedure	CPT-4
59410	Vaginal delivery only (with or without episiotomy and/or forceps); including postpartum care	Procedure	CPT-4
59510	Routine obstetric care including antepartum care, cesarean delivery, and postpartum care	Procedure	CPT-4
59514	Cesarean delivery only;	Procedure	CPT-4
59515	Cesarean delivery only; including postpartum care	Procedure	CPT-4
59610	Routine obstetric care including antepartum care, vaginal delivery (with or without episiotomy, and/or forceps) and postpartum care, after previous cesarean delivery	Procedure	CPT-4
59612	Vaginal delivery only, after previous cesarean delivery (with or without episiotomy and/or forceps);	Procedure	CPT-4
59614	Vaginal delivery only, after previous cesarean delivery (with or without episiotomy and/or forceps); including postpartum care	Procedure	CPT-4
59618	Routine obstetric care including antepartum care, cesarean delivery, and postpartum care, following attempted vaginal delivery after previous cesarean delivery	Procedure	CPT-4

Code	Description	Code Category	Code Type
59620	Cesarean delivery only, following attempted vaginal delivery after previous cesarean delivery;	Procedure	CPT-4
59622	Cesarean delivery only, following attempted vaginal delivery after previous cesarean delivery; including postpartum care	Procedure	CPT-4
64101	Placenta previa without hemorrhage, with delivery	Diagnosis	ICD-9-CM
64111	Hemorrhage from placenta previa, with delivery	Diagnosis	ICD-9-CM
64121	Premature separation of placenta, with delivery	Diagnosis	ICD-9-CM
64131	Antepartum hemorrhage associated with coagulation defects, with delivery	Diagnosis	ICD-9-CM
64181	Other antepartum hemorrhage, with delivery	Diagnosis	ICD-9-CM
64191	Unspecified antepartum hemorrhage, with delivery	Diagnosis	ICD-9-CM
64201	Benign essential hypertension with delivery	Diagnosis	ICD-9-CM
64202	Benign essential hypertension, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64211	Hypertension secondary to renal disease, with delivery	Diagnosis	ICD-9-CM
64212	Hypertension secondary to renal disease, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64221	Other pre-existing hypertension, with delivery	Diagnosis	ICD-9-CM
64222	Other pre-existing hypertension, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64231	Transient hypertension of pregnancy, with delivery	Diagnosis	ICD-9-CM
64232	Transient hypertension of pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64241	Mild or unspecified pre-eclampsia, with delivery	Diagnosis	ICD-9-CM
64242	Mild or unspecified pre-eclampsia, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64251	Severe pre-eclampsia, with delivery	Diagnosis	ICD-9-CM
64252	Severe pre-eclampsia, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64261	Eclampsia, with delivery	Diagnosis	ICD-9-CM
64262	Eclampsia, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64271	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, with delivery	Diagnosis	ICD-9-CM
64272	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64291	Unspecified hypertension, with delivery	Diagnosis	ICD-9-CM
64292	Unspecified hypertension, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64301	Mild hyperemesis gravidarum, delivered	Diagnosis	ICD-9-CM
64311	Hyperemesis gravidarum with metabolic disturbance, delivered	Diagnosis	ICD-9-CM
64321	Late vomiting of pregnancy, delivered	Diagnosis	ICD-9-CM
64381	Other vomiting complicating pregnancy, delivered	Diagnosis	ICD-9-CM

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

Code	Description	Code Category	Code Type
64391	Unspecified vomiting of pregnancy, delivered	Diagnosis	ICD-9-CM
64421	Early onset of delivery, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64501	Prolonged pregnancy, with delivery	Diagnosis	ICD-9-CM
64511	Post term pregnancy, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64521	Prolonged pregnancy, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64522	Prolonged pregnancy, antepartum condition or complication	Diagnosis	ICD-9-CM
64601	Papyraceous fetus, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64611	Edema or excessive weight gain in pregnancy, with delivery, with or without mention of antepartum complication	Diagnosis	ICD-9-CM
64612	Edema or excessive weight gain in pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64621	Unspecified renal disease in pregnancy, with delivery	Diagnosis	ICD-9-CM
64622	Unspecified renal disease in pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64631	Pregnancy complication, recurrent pregnancy loss, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64641	Peripheral neuritis in pregnancy, with delivery	Diagnosis	ICD-9-CM
64642	Peripheral neuritis in pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64651	Asymptomatic bacteriuria in pregnancy, with delivery	Diagnosis	ICD-9-CM
64652	Asymptomatic bacteriuria in pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64661	Infections of genitourinary tract in pregnancy, with delivery	Diagnosis	ICD-9-CM
64662	Infections of genitourinary tract in pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64671	Liver and biliary tract disorders in pregnancy, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64681	Other specified complication of pregnancy, with delivery	Diagnosis	ICD-9-CM
64682	Other specified complications of pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64691	Unspecified complication of pregnancy, with delivery	Diagnosis	ICD-9-CM
64701	Maternal syphilis, complicating pregnancy, with delivery	Diagnosis	ICD-9-CM
64702	Maternal syphilis, complicating pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64711	Maternal gonorrhea with delivery	Diagnosis	ICD-9-CM
64712	Maternal gonorrhea, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64721	Other maternal venereal diseases with delivery	Diagnosis	ICD-9-CM
64722	Other maternal venereal diseases with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64731	Maternal tuberculosis with delivery	Diagnosis	ICD-9-CM
64732	Maternal tuberculosis with delivery, with current postpartum complication	Diagnosis	ICD-9-CM

Code	Description	Code Category	Code Type
64741	Maternal malaria with delivery	Diagnosis	ICD-9-CM
64742	Maternal malaria with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64751	Maternal rubella with delivery	Diagnosis	ICD-9-CM
64752	Maternal rubella with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64761	Other maternal viral disease with delivery	Diagnosis	ICD-9-CM
64762	Other maternal viral disease with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64781	Other specified maternal infectious and parasitic disease with delivery	Diagnosis	ICD-9-CM
64782	Other specified maternal infectious and parasitic disease with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64791	Unspecified maternal infection or infestation with delivery	Diagnosis	ICD-9-CM
64792	Unspecified maternal infection or infestation with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64801	Maternal diabetes mellitus with delivery	Diagnosis	ICD-9-CM
64802	Maternal diabetes mellitus with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64811	Maternal thyroid dysfunction with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64812	Maternal thyroid dysfunction with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64821	Maternal anemia, with delivery	Diagnosis	ICD-9-CM
64822	Maternal anemia with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64831	Maternal drug dependence, with delivery	Diagnosis	ICD-9-CM
64832	Maternal drug dependence, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64841	Maternal mental disorders, with delivery	Diagnosis	ICD-9-CM
64842	Maternal mental disorders, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64851	Maternal congenital cardiovascular disorders, with delivery	Diagnosis	ICD-9-CM
64852	Maternal congenital cardiovascular disorders, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64861	Other maternal cardiovascular diseases, with delivery	Diagnosis	ICD-9-CM
64862	Other maternal cardiovascular diseases, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64871	Bone and joint disorders of maternal back, pelvis, and lower limbs, with delivery	Diagnosis	ICD-9-CM
64872	Bone and joint disorders of maternal back, pelvis, and lower limbs, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64881	Abnormal maternal glucose tolerance, with delivery	Diagnosis	ICD-9-CM
64882	Abnormal maternal glucose tolerance, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64891	Other current maternal conditions classifiable elsewhere, with delivery	Diagnosis	ICD-9-CM
64892	Other current maternal conditions classifiable elsewhere, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM

Code	Description	Code Category	Code Type
64901	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64902	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
64911	Obesity complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64912	Obesity complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
64921	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64922	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
64931	Coagulation defects complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64932	Coagulation defects complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
64941	Epilepsy complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64942	Epilepsy complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
64951	Spotting complicating pregnancy, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64961	Uterine size date discrepancy, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64962	Uterine size date discrepancy, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
64971	Cervical shortening, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64981	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	Diagnosis	ICD-9-CM
64982	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	Diagnosis	ICD-9-CM
650	Normal delivery	Diagnosis	ICD-9-CM
65101	Twin pregnancy, delivered	Diagnosis	ICD-9-CM
65111	Triplet pregnancy, delivered	Diagnosis	ICD-9-CM
65121	Quadruplet pregnancy, delivered	Diagnosis	ICD-9-CM
65131	Twin pregnancy with fetal loss and retention of one fetus, delivered	Diagnosis	ICD-9-CM
65141	Triplet pregnancy with fetal loss and retention of one or more, delivered	Diagnosis	ICD-9-CM
65151	Quadruplet pregnancy with fetal loss and retention of one or more, delivered	Diagnosis	ICD-9-CM
65161	Other multiple pregnancy with fetal loss and retention of one or more fetus(es), delivered	Diagnosis	ICD-9-CM
65171	Multiple gestation following (elective) fetal reduction, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
65181	Other specified multiple gestation, delivered	Diagnosis	ICD-9-CM
65191	Unspecified multiple gestation, delivered	Diagnosis	ICD-9-CM
65201	Unstable lie of fetus, delivered	Diagnosis	ICD-9-CM
65211	Breech or other malpresentation successfully converted to cephalic presentation, delivered	Diagnosis	ICD-9-CM
65221	Breech presentation without mention of version, delivered	Diagnosis	ICD-9-CM
65231	Transverse or oblique fetal presentation, delivered	Diagnosis	ICD-9-CM
65241	Fetal face or brow presentation, delivered	Diagnosis	ICD-9-CM
65251	High fetal head at term, delivered	Diagnosis	ICD-9-CM
65261	Multiple gestation with malpresentation of one fetus or more, delivered	Diagnosis	ICD-9-CM
65271	Prolapsed arm of fetus, delivered	Diagnosis	ICD-9-CM
65281	Other specified malposition or malpresentation of fetus, delivered	Diagnosis	ICD-9-CM
65291	Unspecified malposition or malpresentation of fetus, delivered	Diagnosis	ICD-9-CM
65301	Major abnormality of bony pelvis, not further specified, delivered	Diagnosis	ICD-9-CM
65311	Generally contracted pelvis in pregnancy, delivered	Diagnosis	ICD-9-CM
65321	Inlet contraction of pelvis in pregnancy, delivered	Diagnosis	ICD-9-CM
65331	Outlet contraction of pelvis in pregnancy, delivered	Diagnosis	ICD-9-CM
65341	Fetopelvic disproportion, delivered	Diagnosis	ICD-9-CM
65351	Unusually large fetus causing disproportion, delivered	Diagnosis	ICD-9-CM
65361	Hydrocephalic fetus causing disproportion, delivered	Diagnosis	ICD-9-CM
65371	Other fetal abnormality causing disproportion, delivered	Diagnosis	ICD-9-CM
65381	Fetal disproportion of other origin, delivered	Diagnosis	ICD-9-CM
65391	Unspecified fetal disproportion, delivered	Diagnosis	ICD-9-CM
65401	Congenital abnormalities of pregnant uterus, delivered	Diagnosis	ICD-9-CM
65402	Congenital abnormalities of pregnant uterus, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65411	Tumors of body of uterus, delivered	Diagnosis	ICD-9-CM
65412	Tumors of body of uterus, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65421	Previous cesarean delivery, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
65431	Retroverted and incarcerated gravid uterus, delivered	Diagnosis	ICD-9-CM
65432	Retroverted and incarcerated gravid uterus, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65441	Other abnormalities in shape or position of gravid uterus and of neighboring structures, delivered	Diagnosis	ICD-9-CM

Code	Description	Code Category	Code Type
65442	Other abnormalities in shape or position of gravid uterus and of neighboring structures, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65451	Cervical incompetence, delivered	Diagnosis	ICD-9-CM
65452	Cervical incompetence, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65461	Other congenital or acquired abnormality of cervix, with delivery	Diagnosis	ICD-9-CM
65462	Other congenital or acquired abnormality of cervix, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65471	Congenital or acquired abnormality of vagina, with delivery	Diagnosis	ICD-9-CM
65472	Congenital or acquired abnormality of vagina, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65481	Congenital or acquired abnormality of vulva, with delivery	Diagnosis	ICD-9-CM
65482	Congenital or acquired abnormality of vulva, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65491	Other and unspecified abnormality of organs and soft tissues of pelvis, with delivery	Diagnosis	ICD-9-CM
65492	Other and unspecified abnormality of organs and soft tissues of pelvis, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65501	Central nervous system malformation in fetus, with delivery	Diagnosis	ICD-9-CM
65511	Chromosomal abnormality in fetus, affecting management of mother, with delivery	Diagnosis	ICD-9-CM
65521	Hereditary disease in family possibly affecting fetus, affecting management of mother, with delivery	Diagnosis	ICD-9-CM
65531	Suspected damage to fetus from viral disease in mother, affecting management of mother, with delivery	Diagnosis	ICD-9-CM
65541	Suspected damage to fetus from other disease in mother, affecting management of mother, with delivery	Diagnosis	ICD-9-CM
65551	Suspected damage to fetus from drugs, affecting management of mother, delivered	Diagnosis	ICD-9-CM
65561	Suspected damage to fetus from radiation, affecting management of mother, delivered	Diagnosis	ICD-9-CM
65571	Decreased fetal movements, affecting management of mother, delivered	Diagnosis	ICD-9-CM
65581	Other known or suspected fetal abnormality, not elsewhere classified, affecting management of mother, delivery	Diagnosis	ICD-9-CM
65591	Unspecified fetal abnormality affecting management of mother, delivery	Diagnosis	ICD-9-CM
65601	Fetal-maternal hemorrhage, with delivery	Diagnosis	ICD-9-CM
65611	Rhesus isoimmunization affecting management of mother, delivered	Diagnosis	ICD-9-CM
65621	Isoimmunization from other and unspecified blood-group incompatibility, affecting management of mother, delivered	Diagnosis	ICD-9-CM
65631	Fetal distress affecting management of mother, delivered	Diagnosis	ICD-9-CM
65641	Intrauterine death affecting management of mother, delivered	Diagnosis	ICD-9-CM
65651	Poor fetal growth, affecting management of mother, delivered	Diagnosis	ICD-9-CM
65661	Excessive fetal growth affecting management of mother, delivered	Diagnosis	ICD-9-CM
65671	Other placental conditions affecting management of mother, delivered	Diagnosis	ICD-9-CM

Code	Description	Code Category	Code Type
65681	Other specified fetal and placental problems affecting management of mother, delivered	Diagnosis	ICD-9-CM
65691	Unspecified fetal and placental problem affecting management of mother, delivered	Diagnosis	ICD-9-CM
65701	Polyhydramnios, with delivery	Diagnosis	ICD-9-CM
65801	Oligohydramnios, delivered	Diagnosis	ICD-9-CM
65811	Premature rupture of membranes in pregnancy, delivered	Diagnosis	ICD-9-CM
65821	Delayed delivery after spontaneous or unspecified rupture of membranes, delivered	Diagnosis	ICD-9-CM
65831	Delayed delivery after artificial rupture of membranes, delivered	Diagnosis	ICD-9-CM
65841	Infection of amniotic cavity, delivered	Diagnosis	ICD-9-CM
65881	Other problem associated with amniotic cavity and membranes, delivered	Diagnosis	ICD-9-CM
65891	Unspecified problem associated with amniotic cavity and membranes, delivered	Diagnosis	ICD-9-CM
65901	Failed mechanical induction of labor, delivered	Diagnosis	ICD-9-CM
65911	Failed medical or unspecified induction of labor, delivered	Diagnosis	ICD-9-CM
65921	Unspecified maternal pyrexia during labor, delivered	Diagnosis	ICD-9-CM
65931	Generalized infection during labor, delivered	Diagnosis	ICD-9-CM
65941	Grand multiparity, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
65951	Elderly primigravida, delivered	Diagnosis	ICD-9-CM
65961	Elderly multigravida, delivered, with mention of antepartum condition	Diagnosis	ICD-9-CM
65971	Abnormality in fetal heart rate or rhythm, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
65981	Other specified indication for care or intervention related to labor and delivery, delivered	Diagnosis	ICD-9-CM
65991	Unspecified indication for care or intervention related to labor and delivery, delivered	Diagnosis	ICD-9-CM
66001	Obstruction caused by malposition of fetus at onset of labor, delivered	Diagnosis	ICD-9-CM
66011	Obstruction by bony pelvis during labor and delivery, delivered	Diagnosis	ICD-9-CM
66021	Obstruction by abnormal pelvic soft tissues during labor and delivery, delivered	Diagnosis	ICD-9-CM
66031	Deep transverse arrest and persistent occipitoposterior position during labor and deliver, delivered	Diagnosis	ICD-9-CM
66041	Shoulder (girdle) dystocia during labor and deliver, delivered	Diagnosis	ICD-9-CM
66051	Locked twins, delivered	Diagnosis	ICD-9-CM
66061	Unspecified failed trial of labor, delivered	Diagnosis	ICD-9-CM
66071	Unspecified failed forceps or vacuum extractor, delivered	Diagnosis	ICD-9-CM
66081	Other causes of obstructed labor, delivered	Diagnosis	ICD-9-CM
66091	Unspecified obstructed labor, with delivery	Diagnosis	ICD-9-CM

Code	Description	Code Category	Code Type
66101	Primary uterine inertia, with delivery	Diagnosis	ICD-9-CM
66111	Secondary uterine inertia, with delivery	Diagnosis	ICD-9-CM
66121	Other and unspecified uterine inertia, with delivery	Diagnosis	ICD-9-CM
66131	Precipitate labor, with delivery	Diagnosis	ICD-9-CM
66141	Hypertonic, incoordinate, or prolonged uterine contractions, with delivery	Diagnosis	ICD-9-CM
66191	Unspecified abnormality of labor, with delivery	Diagnosis	ICD-9-CM
66201	Prolonged first stage of labor, delivered	Diagnosis	ICD-9-CM
66211	Unspecified prolonged labor, delivered	Diagnosis	ICD-9-CM
66221	Prolonged second stage of labor, delivered	Diagnosis	ICD-9-CM
66231	Delayed delivery of second twin, triplet, etc., delivered	Diagnosis	ICD-9-CM
66301	Prolapse of cord, complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66311	Cord around neck, with compression, complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66321	Other and unspecified cord entanglement, with compression, complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66331	Other and unspecified cord entanglement, without mention of compression, complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66341	Short cord complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66351	Vasa previa complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66361	Vascular lesions of cord complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66381	Other umbilical cord complications during labor and delivery, delivered	Diagnosis	ICD-9-CM
66391	Unspecified umbilical cord complication during labor and delivery, delivered	Diagnosis	ICD-9-CM
66401	First-degree perineal laceration, with delivery	Diagnosis	ICD-9-CM
66411	Second-degree perineal laceration, with delivery	Diagnosis	ICD-9-CM
66421	Third-degree perineal laceration, with delivery	Diagnosis	ICD-9-CM
66431	Fourth-degree perineal laceration, with delivery	Diagnosis	ICD-9-CM
66441	Unspecified perineal laceration, with delivery	Diagnosis	ICD-9-CM
66451	Vulvar and perineal hematoma, with delivery	Diagnosis	ICD-9-CM
66461	Anal sphincter tear complicating delivery, not associated with third-degree perineal laceration, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66481	Other specified trauma to perineum and vulva, with delivery	Diagnosis	ICD-9-CM
66491	Unspecified trauma to perineum and vulva, with delivery	Diagnosis	ICD-9-CM
66501	Rupture of uterus before onset of labor, with delivery	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
66511	Rupture of uterus during labor, with delivery	Diagnosis	ICD-9-CM
66522	Inversion of uterus, delivered with postpartum complication	Diagnosis	ICD-9-CM
66531	Laceration of cervix, with delivery	Diagnosis	ICD-9-CM
66541	High vaginal laceration, with delivery	Diagnosis	ICD-9-CM
66551	Other injury to pelvic organs, with delivery	Diagnosis	ICD-9-CM
66561	Damage to pelvic joints and ligaments, with delivery	Diagnosis	ICD-9-CM
66571	Pelvic hematoma, with delivery	Diagnosis	ICD-9-CM
66572	Pelvic hematoma, delivered with postpartum complication	Diagnosis	ICD-9-CM
66581	Other specified obstetrical trauma, with delivery	Diagnosis	ICD-9-CM
66582	Other specified obstetrical trauma, delivered, with postpartum	Diagnosis	ICD-9-CM
66591	Unspecified obstetrical trauma, with delivery	Diagnosis	ICD-9-CM
66592	Unspecified obstetrical trauma, delivered, with postpartum complication	Diagnosis	ICD-9-CM
66602	Third-stage postpartum hemorrhage, with delivery	Diagnosis	ICD-9-CM
66612	Other immediate postpartum hemorrhage, with delivery	Diagnosis	ICD-9-CM
66622	Delayed and secondary postpartum hemorrhage, with delivery	Diagnosis	ICD-9-CM
66632	Postpartum coagulation defects, with delivery	Diagnosis	ICD-9-CM
66702	Retained placenta without hemorrhage, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
66712	Retained portions of placenta or membranes, without hemorrhage, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66801	Pulmonary complications of the administration of anesthesia or other sedation in labor and delivery, delivered	Diagnosis	ICD-9-CM
66802	Pulmonary complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66811	Cardiac complications of the administration of anesthesia or other sedation in labor and delivery, delivered	Diagnosis	ICD-9-CM
66812	Cardiac complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66821	Central nervous system complications of the administration of anesthesia or other sedation in labor and delivery, delivered	Diagnosis	ICD-9-CM
66822	Central nervous system complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66881	Other complications of the administration of anesthesia or other sedation in labor and delivery, delivered	Diagnosis	ICD-9-CM
66882	Other complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
66891	Unspecified complication of the administration of anesthesia or other sedation in labor and delivery, delivered	Diagnosis	ICD-9-CM
66892	Unspecified complication of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66901	Maternal distress, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66902	Maternal distress, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
66911	Shock during or following labor and delivery, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66912	Shock during or following labor and delivery, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
66921	Maternal hypotension syndrome, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66922	Maternal hypotension syndrome, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
66932	Acute kidney failure following labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66941	Other complications of obstetrical surgery and procedures, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66942	Other complications of obstetrical surgery and procedures, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
66951	Forceps or vacuum extractor delivery without mention of indication, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66961	Breech extraction, without mention of indication, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66971	Cesarean delivery, without mention of indication, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66981	Other complication of labor and delivery, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66982	Other complication of labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66991	Unspecified complication of labor and delivery, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66992	Unspecified complication of labor and delivery, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67002	Major puerperal infection, unspecified, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67012	Puerperal endometritis, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67022	Puerperal sepsis, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67032	Puerperal septic thrombophlebitis, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67082	Other major puerperal infection, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67101	Varicose veins of legs, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67102	Varicose veins of legs, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67111	Varicose veins of vulva and perineum, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67112	Varicose veins of vulva and perineum, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67121	Superficial thrombophlebitis with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67122	Superficial thrombophlebitis with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM

Code	Description	Code Category	Code Type
67131	Deep phlebothrombosis, antepartum, with delivery	Diagnosis	ICD-9-CM
67142	Deep phlebothrombosis, postpartum, with delivery	Diagnosis	ICD-9-CM
67151	Other phlebitis and thrombosis with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67152	Other phlebitis and thrombosis with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67181	Other venous complication, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67182	Other venous complication, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67191	Unspecified venous complication, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67192	Unspecified venous complication, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67202	Puerperal pyrexia of unknown origin, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67301	Obstetrical air embolism, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67302	Obstetrical air embolism, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67311	Amniotic fluid embolism, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67312	Amniotic fluid embolism, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67321	Obstetrical blood-clot embolism, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67322	Obstetrical blood-clot embolism, with mention of postpartum complication	Diagnosis	ICD-9-CM
67331	Obstetrical pyemic and septic embolism, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67332	Obstetrical pyemic and septic embolism, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67381	Other obstetrical pulmonary embolism, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67382	Other obstetrical pulmonary embolism, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67401	Cerebrovascular disorder, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67402	Cerebrovascular disorder, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67412	Disruption of cesarean wound, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67422	Disruption of perineal wound, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67432	Other complication of obstetrical surgical wounds, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67442	Placental polyp, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67451	Peripartum cardiomyopathy, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67452	Peripartum cardiomyopathy, delivered, with mention of postpartum condition	Diagnosis	ICD-9-CM
67482	Other complication of puerperium, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67492	Unspecified complications of puerperium, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67501	Infection of nipple associated with childbirth, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM

Code	Description	Code Category	Code Type
67502	Infection of nipple associated with childbirth, delivered with mention of postpartum complication	Diagnosis	ICD-9-CM
67511	Abscess of breast associated with childbirth, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67512	Abscess of breast associated with childbirth, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67521	Nonpurulent mastitis, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67522	Nonpurulent mastitis, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67581	Other specified infection of the breast and nipple associated with childbirth, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67582	Other specified infection of the breast and nipple associated with childbirth, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67591	Unspecified infection of the breast and nipple, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67592	Unspecified infection of the breast and nipple, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67601	Retracted nipple, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67602	Retracted nipple, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67611	Cracked nipple, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67612	Cracked nipple, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67621	Engorgement of breasts, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67622	Engorgement of breasts, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67631	Other and unspecified disorder of breast associated with childbirth, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67632	Other and unspecified disorder of breast associated with childbirth, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67641	Failure of lactation, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67642	Failure of lactation, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67651	Suppressed lactation, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67652	Suppressed lactation, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67661	Galactorrhea, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67662	Galactorrhea, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67681	Other disorder of lactation, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67682	Other disorder of lactation, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67691	Unspecified disorder of lactation, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67692	Unspecified disorder of lactation, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67801	Fetal hematologic conditions, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67811	Fetal conjoined twins, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM

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

Code	Description	Code Category	Code Type
67901	Maternal complications from in utero procedure, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67902	Maternal complications from in utero procedure, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67911	Fetal complications from in utero procedure, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67912	Fetal complications from in utero procedure, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
72	Forceps, vacuum, and breech delivery	Procedure	ICD-9-CM
720	Low forceps operation	Procedure	ICD-9-CM
721	Low forceps operation with episiotomy	Procedure	ICD-9-CM
722	Mid forceps operation	Procedure	ICD-9-CM
7221	Mid forceps operation with episiotomy	Procedure	ICD-9-CM
7229	Other mid forceps operation	Procedure	ICD-9-CM
723	High forceps operation	Procedure	ICD-9-CM
7231	High forceps operation with episiotomy	Procedure	ICD-9-CM
7239	Other high forceps operation	Procedure	ICD-9-CM
724	Forceps rotation of fetal head	Procedure	ICD-9-CM
725	Breech extraction	Procedure	ICD-9-CM
7251	Partial breech extraction with forceps to aftercoming head	Procedure	ICD-9-CM
7252	Other partial breech extraction	Procedure	ICD-9-CM
7253	Total breech extraction with forceps to aftercoming head	Procedure	ICD-9-CM
7254	Other total breech extraction	Procedure	ICD-9-CM
726	Forceps application to aftercoming head	Procedure	ICD-9-CM
727	Vacuum extraction	Procedure	ICD-9-CM
7271	Vacuum extraction with episiotomy	Procedure	ICD-9-CM
7279	Other vacuum extraction	Procedure	ICD-9-CM
728	Other specified instrumental delivery	Procedure	ICD-9-CM
729	Unspecified instrumental delivery	Procedure	ICD-9-CM
73	Other procedures inducing or assisting delivery	Procedure	ICD-9-CM
730	Artificial rupture of membranes	Procedure	ICD-9-CM
7301	Induction of labor by artificial rupture of membranes	Procedure	ICD-9-CM
7309	Other artificial rupture of membranes	Procedure	ICD-9-CM
731	Other surgical induction of labor	Procedure	ICD-9-CM

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

Code	Description	Code Category	Code Type
732	Internal and combined version and extraction	Procedure	ICD-9-CM
7321	Internal and combined version without extraction	Procedure	ICD-9-CM
7322	Internal and combined version with extraction	Procedure	ICD-9-CM
733	Failed forceps	Procedure	ICD-9-CM
734	Medical induction of labor	Procedure	ICD-9-CM
735	Manually assisted delivery	Procedure	ICD-9-CM
7351	Manual rotation of fetal head	Procedure	ICD-9-CM
7359	Other manually assisted delivery	Procedure	ICD-9-CM
736	Episiotomy	Procedure	ICD-9-CM
738	Operations on fetus to facilitate delivery	Procedure	ICD-9-CM
739	Other operations assisting delivery	Procedure	ICD-9-CM
7391	External version to assist delivery	Procedure	ICD-9-CM
7392	Replacement of prolapsed umbilical cord	Procedure	ICD-9-CM
7393	Incision of cervix to assist delivery	Procedure	ICD-9-CM
7394	Pubiotomy to assist delivery	Procedure	ICD-9-CM
7399	Other operations to assist delivery	Procedure	ICD-9-CM
740	Classical cesarean section	Procedure	ICD-9-CM
741	Low cervical cesarean section	Procedure	ICD-9-CM
742	Extraperitoneal cesarean section	Procedure	ICD-9-CM
744	Cesarean section of other specified type	Procedure	ICD-9-CM
749	Cesarean section of unspecified type	Procedure	ICD-9-CM
7499	Other cesarean section of unspecified type	Procedure	ICD-9-CM
7630	Fetus or newborn affected by breech delivery and extraction	Diagnosis	ICD-9-CM
7632	Fetus or newborn affected by forceps delivery	Diagnosis	ICD-9-CM
7633	Fetus or newborn affected by delivery by vacuum extractor	Diagnosis	ICD-9-CM
7634	Fetus or newborn affected by cesarean delivery	Diagnosis	ICD-9-CM
7636	Fetus or newborn affected by precipitate delivery	Diagnosis	ICD-9-CM
7680	Fetal death from asphyxia or anoxia before onset of labor or at unspecified time	Diagnosis	ICD-9-CM
7681	Fetal death from asphyxia or anoxia during labor	Diagnosis	ICD-9-CM
O1002	Pre-existing essential hypertension complicating childbirth	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
O1012	Pre-existing hypertensive heart disease complicating childbirth	Diagnosis	ICD-10-CM
O1022	Pre-existing hypertensive chronic kidney disease complicating childbirth	Diagnosis	ICD-10-CM
O1032	Pre-existing hypertensive heart and chronic kidney disease complicating childbirth	Diagnosis	ICD-10-CM
O1042	Pre-existing secondary hypertension complicating childbirth	Diagnosis	ICD-10-CM
O1092	Unspecified pre-existing hypertension complicating childbirth	Diagnosis	ICD-10-CM
O114	Pre-existing hypertension with pre-eclampsia, complicating childbirth	Diagnosis	ICD-10-CM
O1204	Gestational edema, complicating childbirth	Diagnosis	ICD-10-CM
O1214	Gestational proteinuria, complicating childbirth	Diagnosis	ICD-10-CM
O1224	Gestational edema with proteinuria, complicating childbirth	Diagnosis	ICD-10-CM
O134	Gestational [pregnancy-induced] hypertension without significant proteinuria, complicating childbirth	Diagnosis	ICD-10-CM
O1404	Mild to moderate pre-eclampsia, complicating childbirth	Diagnosis	ICD-10-CM
O1414	Severe pre-eclampsia complicating childbirth	Diagnosis	ICD-10-CM
O1424	HELLP syndrome, complicating childbirth	Diagnosis	ICD-10-CM
O1494	Unspecified pre-eclampsia, complicating childbirth	Diagnosis	ICD-10-CM
O164	Unspecified maternal hypertension, complicating childbirth	Diagnosis	ICD-10-CM
O2402	Pre-existing type 1 diabetes mellitus, in childbirth	Diagnosis	ICD-10-CM
O2412	Pre-existing type 2 diabetes mellitus, in childbirth	Diagnosis	ICD-10-CM
O2432	Unspecified pre-existing diabetes mellitus in childbirth	Diagnosis	ICD-10-CM
O24420	Gestational diabetes mellitus in childbirth, diet controlled	Diagnosis	ICD-10-CM
O24424	Gestational diabetes mellitus in childbirth, insulin controlled	Diagnosis	ICD-10-CM
O24425	Gestational diabetes mellitus in childbirth, controlled by oral hypoglycemic drugs	Diagnosis	ICD-10-CM
O24429	Gestational diabetes mellitus in childbirth, unspecified control	Diagnosis	ICD-10-CM
O2482	Other pre-existing diabetes mellitus in childbirth	Diagnosis	ICD-10-CM
O2492	Unspecified diabetes mellitus in childbirth	Diagnosis	ICD-10-CM
O252	Malnutrition in childbirth	Diagnosis	ICD-10-CM
O2662	Liver and biliary tract disorders in childbirth	Diagnosis	ICD-10-CM
O2672	Subluxation of symphysis (pubis) in childbirth	Diagnosis	ICD-10-CM
O6012X0	Preterm labor second trimester with preterm delivery second trimester, not applicable or unspecified	Diagnosis	ICD-10-CM
O6012X1	Preterm labor second trimester with preterm delivery second trimester, fetus 1	Diagnosis	ICD-10-CM
O6012X2	Preterm labor second trimester with preterm delivery second trimester, fetus 2	Diagnosis	ICD-10-CM

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

Code	Description	Code Category	Code Type
O6012X3	Preterm labor second trimester with preterm delivery second trimester, fetus 3	Diagnosis	ICD-10-CM
O6012X4	Preterm labor second trimester with preterm delivery second trimester, fetus 4	Diagnosis	ICD-10-CM
O6012X5	Preterm labor second trimester with preterm delivery second trimester, fetus 5	Diagnosis	ICD-10-CM
O6012X9	Preterm labor second trimester with preterm delivery second trimester, other fetus	Diagnosis	ICD-10-CM
O6013X0	Preterm labor second trimester with preterm delivery third trimester, not applicable or unspecified	Diagnosis	ICD-10-CM
O6013X1	Preterm labor second trimester with preterm delivery third trimester, fetus 1	Diagnosis	ICD-10-CM
O6013X2	Preterm labor second trimester with preterm delivery third trimester, fetus 2	Diagnosis	ICD-10-CM
O6013X3	Preterm labor second trimester with preterm delivery third trimester, fetus 3	Diagnosis	ICD-10-CM
O6013X4	Preterm labor second trimester with preterm delivery third trimester, fetus 4	Diagnosis	ICD-10-CM
O6013X5	Preterm labor second trimester with preterm delivery third trimester, fetus 5	Diagnosis	ICD-10-CM
O6013X9	Preterm labor second trimester with preterm delivery third trimester, other fetus	Diagnosis	ICD-10-CM
O6014X0	Preterm labor third trimester with preterm delivery third trimester, not applicable or unspecified	Diagnosis	ICD-10-CM
O6014X1	Preterm labor third trimester with preterm delivery third trimester, fetus 1	Diagnosis	ICD-10-CM
O6014X2	Preterm labor third trimester with preterm delivery third trimester, fetus 2	Diagnosis	ICD-10-CM
O6014X3	Preterm labor third trimester with preterm delivery third trimester, fetus 3	Diagnosis	ICD-10-CM
O6014X4	Preterm labor third trimester with preterm delivery third trimester, fetus 4	Diagnosis	ICD-10-CM
O6014X5	Preterm labor third trimester with preterm delivery third trimester, fetus 5	Diagnosis	ICD-10-CM
O6014X9	Preterm labor third trimester with preterm delivery third trimester, other fetus	Diagnosis	ICD-10-CM
O6022X0	Term delivery with preterm labor, second trimester, not applicable or unspecified	Diagnosis	ICD-10-CM
O6022X1	Term delivery with preterm labor, second trimester, fetus 1	Diagnosis	ICD-10-CM
O6022X2	Term delivery with preterm labor, second trimester, fetus 2	Diagnosis	ICD-10-CM
O6022X3	Term delivery with preterm labor, second trimester, fetus 3	Diagnosis	ICD-10-CM
O6022X4	Term delivery with preterm labor, second trimester, fetus 4	Diagnosis	ICD-10-CM
O6022X5	Term delivery with preterm labor, second trimester, fetus 5	Diagnosis	ICD-10-CM
O6022X9	Term delivery with preterm labor, second trimester, other fetus	Diagnosis	ICD-10-CM
O6023X0	Term delivery with preterm labor, third trimester, not applicable or unspecified	Diagnosis	ICD-10-CM
O6023X1	Term delivery with preterm labor, third trimester, fetus 1	Diagnosis	ICD-10-CM
O6023X2	Term delivery with preterm labor, third trimester, fetus 2	Diagnosis	ICD-10-CM
O6023X3	Term delivery with preterm labor, third trimester, fetus 3	Diagnosis	ICD-10-CM
O6023X4	Term delivery with preterm labor, third trimester, fetus 4	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
O6023X5	Term delivery with preterm labor, third trimester, fetus 5	Diagnosis	ICD-10-CM
O6023X9	Term delivery with preterm labor, third trimester, other fetus	Diagnosis	ICD-10-CM
O632	Delayed delivery of second twin, triplet, etc	Diagnosis	ICD-10-CM
O670	Intrapartum hemorrhage with coagulation defect	Diagnosis	ICD-10-CM
O678	Other intrapartum hemorrhage	Diagnosis	ICD-10-CM
O679	Intrapartum hemorrhage, unspecified	Diagnosis	ICD-10-CM
O68	Labor and delivery complicated by abnormality of fetal acid-base balance	Diagnosis	ICD-10-CM
O690XX0	Labor and delivery complicated by prolapse of cord, not applicable or unspecified	Diagnosis	ICD-10-CM
O690XX1	Labor and delivery complicated by prolapse of cord, fetus 1	Diagnosis	ICD-10-CM
O690XX2	Labor and delivery complicated by prolapse of cord, fetus 2	Diagnosis	ICD-10-CM
O690XX3	Labor and delivery complicated by prolapse of cord, fetus 3	Diagnosis	ICD-10-CM
O690XX4	Labor and delivery complicated by prolapse of cord, fetus 4	Diagnosis	ICD-10-CM
O690XX5	Labor and delivery complicated by prolapse of cord, fetus 5	Diagnosis	ICD-10-CM
O690XX9	Labor and delivery complicated by prolapse of cord, other fetus	Diagnosis	ICD-10-CM
O691XX0	Labor and delivery complicated by cord around neck, with compression, not applicable or unspecified	Diagnosis	ICD-10-CM
O691XX1	Labor and delivery complicated by cord around neck, with compression, fetus 1	Diagnosis	ICD-10-CM
O691XX2	Labor and delivery complicated by cord around neck, with compression, fetus 2	Diagnosis	ICD-10-CM
O691XX3	Labor and delivery complicated by cord around neck, with compression, fetus 3	Diagnosis	ICD-10-CM
O691XX4	Labor and delivery complicated by cord around neck, with compression, fetus 4	Diagnosis	ICD-10-CM
O691XX5	Labor and delivery complicated by cord around neck, with compression, fetus 5	Diagnosis	ICD-10-CM
O691XX9	Labor and delivery complicated by cord around neck, with compression, other fetus	Diagnosis	ICD-10-CM
O692XX0	Labor and delivery complicated by other cord entanglement, with compression, not applicable or unspecified	Diagnosis	ICD-10-CM
O692XX1	Labor and delivery complicated by other cord entanglement, with compression, fetus 1	Diagnosis	ICD-10-CM
O692XX2	Labor and delivery complicated by other cord entanglement, with compression, fetus 2	Diagnosis	ICD-10-CM
O692XX3	Labor and delivery complicated by other cord entanglement, with compression, fetus 3	Diagnosis	ICD-10-CM
O692XX4	Labor and delivery complicated by other cord entanglement, with compression, fetus 4	Diagnosis	ICD-10-CM
O692XX5	Labor and delivery complicated by other cord entanglement, with compression, fetus 5	Diagnosis	ICD-10-CM
O692XX9	Labor and delivery complicated by other cord entanglement, with compression, other fetus	Diagnosis	ICD-10-CM
O693XX0	Labor and delivery complicated by short cord, not applicable or unspecified	Diagnosis	ICD-10-CM
O693XX1	Labor and delivery complicated by short cord, fetus 1	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
O693XX2	Labor and delivery complicated by short cord, fetus 2	Diagnosis	ICD-10-CM
O693XX3	Labor and delivery complicated by short cord, fetus 3	Diagnosis	ICD-10-CM
O693XX4	Labor and delivery complicated by short cord, fetus 4	Diagnosis	ICD-10-CM
O693XX5	Labor and delivery complicated by short cord, fetus 5	Diagnosis	ICD-10-CM
O693XX9	Labor and delivery complicated by short cord, other fetus	Diagnosis	ICD-10-CM
O694XX0	Labor and delivery complicated by vasa previa, not applicable or unspecified	Diagnosis	ICD-10-CM
O694XX1	Labor and delivery complicated by vasa previa, fetus 1	Diagnosis	ICD-10-CM
O694XX2	Labor and delivery complicated by vasa previa, fetus 2	Diagnosis	ICD-10-CM
O694XX3	Labor and delivery complicated by vasa previa, fetus 3	Diagnosis	ICD-10-CM
O694XX4	Labor and delivery complicated by vasa previa, fetus 4	Diagnosis	ICD-10-CM
O694XX5	Labor and delivery complicated by vasa previa, fetus 5	Diagnosis	ICD-10-CM
O694XX9	Labor and delivery complicated by vasa previa, other fetus	Diagnosis	ICD-10-CM
O695XX0	Labor and delivery complicated by vascular lesion of cord, not applicable or unspecified	Diagnosis	ICD-10-CM
O695XX1	Labor and delivery complicated by vascular lesion of cord, fetus 1	Diagnosis	ICD-10-CM
O695XX2	Labor and delivery complicated by vascular lesion of cord, fetus 2	Diagnosis	ICD-10-CM
O695XX3	Labor and delivery complicated by vascular lesion of cord, fetus 3	Diagnosis	ICD-10-CM
O695XX4	Labor and delivery complicated by vascular lesion of cord, fetus 4	Diagnosis	ICD-10-CM
O695XX5	Labor and delivery complicated by vascular lesion of cord, fetus 5	Diagnosis	ICD-10-CM
O695XX9	Labor and delivery complicated by vascular lesion of cord, other fetus	Diagnosis	ICD-10-CM
O6981X0	Labor and delivery complicated by cord around neck, without compression, not applicable or unspecified	Diagnosis	ICD-10-CM
O6981X1	Labor and delivery complicated by cord around neck, without compression, fetus 1	Diagnosis	ICD-10-CM
O6981X2	Labor and delivery complicated by cord around neck, without compression, fetus 2	Diagnosis	ICD-10-CM
O6981X3	Labor and delivery complicated by cord around neck, without compression, fetus 3	Diagnosis	ICD-10-CM
O6981X4	Labor and delivery complicated by cord around neck, without compression, fetus 4	Diagnosis	ICD-10-CM
O6981X5	Labor and delivery complicated by cord around neck, without compression, fetus 5	Diagnosis	ICD-10-CM
O6981X9	Labor and delivery complicated by cord around neck, without compression, other fetus	Diagnosis	ICD-10-CM
O6982X0	Labor and delivery complicated by other cord entanglement, without compression, not applicable or unspecified	Diagnosis	ICD-10-CM
O6982X1	Labor and delivery complicated by other cord entanglement, without compression, fetus 1	Diagnosis	ICD-10-CM
O6982X2	Labor and delivery complicated by other cord entanglement, without compression, fetus 2	Diagnosis	ICD-10-CM
O6982X3	Labor and delivery complicated by other cord entanglement, without compression, fetus 3	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
O6982X4	Labor and delivery complicated by other cord entanglement, without compression, fetus 4	Diagnosis	ICD-10-CM
O6982X5	Labor and delivery complicated by other cord entanglement, without compression, fetus 5	Diagnosis	ICD-10-CM
O6982X9	Labor and delivery complicated by other cord entanglement, without compression, other fetus	Diagnosis	ICD-10-CM
O6989X0	Labor and delivery complicated by other cord complications, not applicable or unspecified	Diagnosis	ICD-10-CM
O6989X1	Labor and delivery complicated by other cord complications, fetus 1	Diagnosis	ICD-10-CM
O6989X2	Labor and delivery complicated by other cord complications, fetus 2	Diagnosis	ICD-10-CM
O6989X3	Labor and delivery complicated by other cord complications, fetus 3	Diagnosis	ICD-10-CM
O6989X4	Labor and delivery complicated by other cord complications, fetus 4	Diagnosis	ICD-10-CM
O6989X5	Labor and delivery complicated by other cord complications, fetus 5	Diagnosis	ICD-10-CM
O6989X9	Labor and delivery complicated by other cord complications, other fetus	Diagnosis	ICD-10-CM
O699XX0	Labor and delivery complicated by cord complication, unspecified, not applicable or unspecified	Diagnosis	ICD-10-CM
O699XX1	Labor and delivery complicated by cord complication, unspecified, fetus 1	Diagnosis	ICD-10-CM
O699XX2	Labor and delivery complicated by cord complication, unspecified, fetus 2	Diagnosis	ICD-10-CM
O699XX3	Labor and delivery complicated by cord complication, unspecified, fetus 3	Diagnosis	ICD-10-CM
O699XX4	Labor and delivery complicated by cord complication, unspecified, fetus 4	Diagnosis	ICD-10-CM
O699XX5	Labor and delivery complicated by cord complication, unspecified, fetus 5	Diagnosis	ICD-10-CM
O699XX9	Labor and delivery complicated by cord complication, unspecified, other fetus	Diagnosis	ICD-10-CM
O700	First degree perineal laceration during delivery	Diagnosis	ICD-10-CM
O701	Second degree perineal laceration during delivery	Diagnosis	ICD-10-CM
O7020	Third degree perineal laceration during delivery, unspecified	Diagnosis	ICD-10-CM
O7021	Third degree perineal laceration during delivery, IIIa	Diagnosis	ICD-10-CM
O7022	Third degree perineal laceration during delivery, IIIb	Diagnosis	ICD-10-CM
O7023	Third degree perineal laceration during delivery, IIIc	Diagnosis	ICD-10-CM
O703	Fourth degree perineal laceration during delivery	Diagnosis	ICD-10-CM
O704	Anal sphincter tear complicating delivery, not associated with third degree laceration	Diagnosis	ICD-10-CM
O709	Perineal laceration during delivery, unspecified	Diagnosis	ICD-10-CM
O740	Aspiration pneumonitis due to anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O741	Other pulmonary complications of anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O742	Cardiac complications of anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O743	Central nervous system complications of anesthesia during labor and delivery	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
O744	Toxic reaction to local anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O745	Spinal and epidural anesthesia-induced headache during labor and delivery	Diagnosis	ICD-10-CM
O746	Other complications of spinal and epidural anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O747	Failed or difficult intubation for anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O748	Other complications of anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O749	Complication of anesthesia during labor and delivery, unspecified	Diagnosis	ICD-10-CM
O750	Maternal distress during labor and delivery	Diagnosis	ICD-10-CM
O751	Shock during or following labor and delivery	Diagnosis	ICD-10-CM
O755	Delayed delivery after artificial rupture of membranes	Diagnosis	ICD-10-CM
O7581	Maternal exhaustion complicating labor and delivery	Diagnosis	ICD-10-CM
O7582	Onset (spontaneous) of labor after 37 completed weeks of gestation but before 39 completed weeks gestation, with delivery by (planned) cesarean section	Diagnosis	ICD-10-CM
O7589	Other specified complications of labor and delivery	Diagnosis	ICD-10-CM
O759	Complication of labor and delivery, unspecified	Diagnosis	ICD-10-CM
O76	Abnormality in fetal heart rate and rhythm complicating labor and delivery	Diagnosis	ICD-10-CM
O770	Labor and delivery complicated by meconium in amniotic fluid	Diagnosis	ICD-10-CM
O778	Labor and delivery complicated by other evidence of fetal stress	Diagnosis	ICD-10-CM
O779	Labor and delivery complicated by fetal stress, unspecified	Diagnosis	ICD-10-CM
O80	Encounter for full-term uncomplicated delivery	Diagnosis	ICD-10-CM
O82	Encounter for cesarean delivery without indication	Diagnosis	ICD-10-CM
O8802	Air embolism in childbirth	Diagnosis	ICD-10-CM
O8812	Amniotic fluid embolism in childbirth	Diagnosis	ICD-10-CM
O8822	Thromboembolism in childbirth	Diagnosis	ICD-10-CM
O8832	Pyemic and septic embolism in childbirth	Diagnosis	ICD-10-CM
O8882	Other embolism in childbirth	Diagnosis	ICD-10-CM
O9802	Tuberculosis complicating childbirth	Diagnosis	ICD-10-CM
O9812	Syphilis complicating childbirth	Diagnosis	ICD-10-CM
O9822	Gonorrhea complicating childbirth	Diagnosis	ICD-10-CM
O9832	Other infections with a predominantly sexual mode of transmission complicating childbirth	Diagnosis	ICD-10-CM
O9842	Viral hepatitis complicating childbirth	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
O9852	Other viral diseases complicating childbirth	Diagnosis	ICD-10-CM
O9862	Protozoal diseases complicating childbirth	Diagnosis	ICD-10-CM
O9872	Human immunodeficiency virus [HIV] disease complicating childbirth	Diagnosis	ICD-10-CM
O9882	Other maternal infectious and parasitic diseases complicating childbirth	Diagnosis	ICD-10-CM
O9892	Unspecified maternal infectious and parasitic disease complicating childbirth	Diagnosis	ICD-10-CM
O9902	Anemia complicating childbirth	Diagnosis	ICD-10-CM
O9912	Other diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism complicating childbirth	Diagnosis	ICD-10-CM
O99214	Obesity complicating childbirth	Diagnosis	ICD-10-CM
O99284	Endocrine, nutritional and metabolic diseases complicating childbirth	Diagnosis	ICD-10-CM
O99314	Alcohol use complicating childbirth	Diagnosis	ICD-10-CM
O99324	Drug use complicating childbirth	Diagnosis	ICD-10-CM
O99334	Smoking (tobacco) complicating childbirth	Diagnosis	ICD-10-CM
O99344	Other mental disorders complicating childbirth	Diagnosis	ICD-10-CM
O99354	Diseases of the nervous system complicating childbirth	Diagnosis	ICD-10-CM
O9942	Diseases of the circulatory system complicating childbirth	Diagnosis	ICD-10-CM
O9952	Diseases of the respiratory system complicating childbirth	Diagnosis	ICD-10-CM
O9962	Diseases of the digestive system complicating childbirth	Diagnosis	ICD-10-CM
O9972	Diseases of the skin and subcutaneous tissue complicating childbirth	Diagnosis	ICD-10-CM
O99814	Abnormal glucose complicating childbirth	Diagnosis	ICD-10-CM
O99824	Streptococcus B carrier state complicating childbirth	Diagnosis	ICD-10-CM
O99834	Other infection carrier state complicating childbirth	Diagnosis	ICD-10-CM
O99844	Bariatric surgery status complicating childbirth	Diagnosis	ICD-10-CM
O9A12	Malignant neoplasm complicating childbirth	Diagnosis	ICD-10-CM
O9A22	Injury, poisoning and certain other consequences of external causes complicating childbirth	Diagnosis	ICD-10-CM
O9A32	Physical abuse complicating childbirth	Diagnosis	ICD-10-CM
O9A42	Sexual abuse complicating childbirth	Diagnosis	ICD-10-CM
O9A52	Psychological abuse complicating childbirth	Diagnosis	ICD-10-CM
P030	Newborn affected by breech delivery and extraction	Diagnosis	ICD-10-CM
P032	Newborn affected by forceps delivery	Diagnosis	ICD-10-CM

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

Code	Description	Code Category	Code Type
P033	Newborn affected by delivery by vacuum extractor [ventouse]	Diagnosis	ICD-10-CM
P034	Newborn affected by Cesarean delivery	Diagnosis	ICD-10-CM
P035	Newborn affected by precipitate delivery	Diagnosis	ICD-10-CM
P0700	Extremely low birth weight newborn, unspecified weight	Diagnosis	ICD-10-CM
P0701	Extremely low birth weight newborn, less than 500 grams	Diagnosis	ICD-10-CM
P0702	Extremely low birth weight newborn, 500-749 grams	Diagnosis	ICD-10-CM
P0703	Extremely low birth weight newborn, 750-999 grams	Diagnosis	ICD-10-CM
P0710	Other low birth weight newborn, unspecified weight	Diagnosis	ICD-10-CM
P0714	Other low birth weight newborn, 1000-1249 grams	Diagnosis	ICD-10-CM
P0715	Other low birth weight newborn, 1250-1499 grams	Diagnosis	ICD-10-CM
P0716	Other low birth weight newborn, 1500-1749 grams	Diagnosis	ICD-10-CM
P0717	Other low birth weight newborn, 1750-1999 grams	Diagnosis	ICD-10-CM
P0718	Other low birth weight newborn, 2000-2499 grams	Diagnosis	ICD-10-CM
P0720	Extreme immaturity of newborn, unspecified weeks of gestation	Diagnosis	ICD-10-CM
P0721	Extreme immaturity of newborn, gestational age less than 23 completed weeks	Diagnosis	ICD-10-CM
P0722	Extreme immaturity of newborn, gestational age 23 completed weeks	Diagnosis	ICD-10-CM
P0723	Extreme immaturity of newborn, gestational age 24 completed weeks	Diagnosis	ICD-10-CM
P0724	Extreme immaturity of newborn, gestational age 25 completed weeks	Diagnosis	ICD-10-CM
P0725	Extreme immaturity of newborn, gestational age 26 completed weeks	Diagnosis	ICD-10-CM
P0726	Extreme immaturity of newborn, gestational age 27 completed weeks	Diagnosis	ICD-10-CM
P0730	Preterm newborn, unspecified weeks of gestation	Diagnosis	ICD-10-CM
P0731	Preterm newborn, gestational age 28 completed weeks	Diagnosis	ICD-10-CM
P0732	Preterm newborn, gestational age 29 completed weeks	Diagnosis	ICD-10-CM
P0733	Preterm newborn, gestational age 30 completed weeks	Diagnosis	ICD-10-CM
P0734	Preterm newborn, gestational age 31 completed weeks	Diagnosis	ICD-10-CM
P0735	Preterm newborn, gestational age 32 completed weeks	Diagnosis	ICD-10-CM
P0736	Preterm newborn, gestational age 33 completed weeks	Diagnosis	ICD-10-CM
P0737	Preterm newborn, gestational age 34 completed weeks	Diagnosis	ICD-10-CM
P0738	Preterm newborn, gestational age 35 completed weeks	Diagnosis	ICD-10-CM
P0739	Preterm newborn, gestational age 36 completed weeks	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
P0821	Post-term newborn	Diagnosis	ICD-10-CM
P0822	Prolonged gestation of newborn	Diagnosis	ICD-10-CM
V27	Outcome of delivery	Diagnosis	ICD-9-CM
V270	Outcome of delivery, single liveborn	Diagnosis	ICD-9-CM
V271	Outcome of delivery, single stillborn	Diagnosis	ICD-9-CM
V272	Outcome of delivery, twins, both liveborn	Diagnosis	ICD-9-CM
V273	Outcome of delivery, twins, one liveborn and one stillborn	Diagnosis	ICD-9-CM
V274	Outcome of delivery, twins, both stillborn	Diagnosis	ICD-9-CM
V275	Outcome of delivery, other multiple birth, all liveborn	Diagnosis	ICD-9-CM
V276	Outcome of delivery, other multiple birth, some liveborn	Diagnosis	ICD-9-CM
V277	Outcome of delivery, other multiple birth, all stillborn	Diagnosis	ICD-9-CM
V279	Outcome of delivery, unspecified	Diagnosis	ICD-9-CM
V30	Single liveborn	Diagnosis	ICD-9-CM
V300	Single liveborn, born in hospital	Diagnosis	ICD-9-CM
V3000	Single liveborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3001	Single liveborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V301	Single liveborn, born before admission to hospital	Diagnosis	ICD-9-CM
V302	Single liveborn, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
V31	Twin birth, mate liveborn	Diagnosis	ICD-9-CM
V310	Twin, mate liveborn, born in hospital	Diagnosis	ICD-9-CM
V3100	Twin, mate liveborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3101	Twin, mate liveborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V311	Twin birth, mate liveborn, born before admission to hospital	Diagnosis	ICD-9-CM
V312	Twin birth, mate liveborn, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
V32	Twin birth, mate stillborn	Diagnosis	ICD-9-CM
V320	Twin, mate stillborn, born in hospital	Diagnosis	ICD-9-CM
V3200	Twin, mate stillborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3201	Twin, mate stillborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V321	Twin birth, mate stillborn, born before admission to hospital	Diagnosis	ICD-9-CM
V322	Twin birth, mate stillborn, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM

Code	Description	Code Category	Code Type
V33	Twin birth, unspecified whether mate liveborn or stillborn	Diagnosis	ICD-9-CM
V330	Twin, unspecified, born in hospital	Diagnosis	ICD-9-CM
V3300	Twin, unspecified whether mate stillborn or liveborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3301	Twin, unspecified whether mate stillborn or liveborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V331	Twin birth, unspecified whether mate liveborn or stillborn, born before admission to hospital	Diagnosis	ICD-9-CM
V332	Twin birth, unspecified whether mate liveborn or stillborn, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
V34	Other multiple birth (three or more), mates all liveborn	Diagnosis	ICD-9-CM
V340	Other multiple, mates all liveborn, born in hospital	Diagnosis	ICD-9-CM
V3400	Other multiple, mates all liveborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3401	Other multiple, mates all liveborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V341	Other multiple birth (three or more), mates all liveborn, born before admission to hospital	Diagnosis	ICD-9-CM
V342	Other multiple birth (three or more), mates all liveborn, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
V35	Other multiple birth (three or more), mates all stillborn	Diagnosis	ICD-9-CM
V350	Other multiple, mates all stillborn, born in hospital	Diagnosis	ICD-9-CM
V3500	Other multiple, mates all stillborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3501	Other multiple, mates all stillborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V351	Other multiple birth (three or more), mates all stillborn, born before admission to hospital	Diagnosis	ICD-9-CM
V352	Other multiple birth (three or more), mates all stillborn, born outside of hospital and not hospitalized	Diagnosis	ICD-9-CM
V36	Other multiple birth (three or more), mates liveborn and stillborn	Diagnosis	ICD-9-CM
V360	Other multiple, mates liveborn and stillborn, born in hospital	Diagnosis	ICD-9-CM
V3600	Other multiple, mates liveborn and stillborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3601	Other multiple, mates liveborn and stillborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V361	Other multiple birth (three or more), mates liveborn and stillborn, born before admission to hospital	Diagnosis	ICD-9-CM
V362	Other multiple birth (three or more), mates liveborn and stillborn, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
V37	Other multiple birth (three or more), unspecified whether mates liveborn or stillborn	Diagnosis	ICD-9-CM
V370	Other multiple, unspecified whether mates stillborn or liveborn, born in hospital	Diagnosis	ICD-9-CM
V3700	Other multiple, unspecified whether mates stillborn or liveborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3701	Other multiple, unspecified whether mates stillborn or liveborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V371	Other multiple birth (three or more), unspecified whether mates liveborn or stillborn, born before admission to hospital	Diagnosis	ICD-9-CM
V372	Other multiple birth (three or more), unspecified whether mates liveborn or stillborn, born outside of hospital	Diagnosis	ICD-9-CM

Code	Description	Code Category	Code Type
V39	Liveborn, unspecified whether single, twin, or multiple	Diagnosis	ICD-9-CM
V390	Other liveborn, unspecified whether single, twin, or multiple, born in hospital	Diagnosis	ICD-9-CM
V3900	Liveborn infant, unspecified whether single, twin, or multiple, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3901	Liveborn infant, unspecified whether single, twin, or multiple, born in hospital, delivered by cesarean	Diagnosis	ICD-9-CM
V391	Liveborn, unspecified whether single, twin or multiple, born before admission to hospital	Diagnosis	ICD-9-CM
V392	Liveborn, unspecified whether single, twin or multiple, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
Z370	Single live birth	Diagnosis	ICD-10-CM
Z372	Twins, both liveborn	Diagnosis	ICD-10-CM
Z373	Twins, one liveborn and one stillborn	Diagnosis	ICD-10-CM
Z3750	Multiple births, unspecified, all liveborn	Diagnosis	ICD-10-CM
Z3751	Triplets, all liveborn	Diagnosis	ICD-10-CM
Z3752	Quadruplets, all liveborn	Diagnosis	ICD-10-CM
Z3753	Quintuplets, all liveborn	Diagnosis	ICD-10-CM
Z3754	Sextuplets, all liveborn	Diagnosis	ICD-10-CM
Z3759	Other multiple births, all liveborn	Diagnosis	ICD-10-CM
Z3760	Multiple births, unspecified, some liveborn	Diagnosis	ICD-10-CM
Z3761	Triplets, some liveborn	Diagnosis	ICD-10-CM
Z3762	Quadruplets, some liveborn	Diagnosis	ICD-10-CM
Z3763	Quintuplets, some liveborn	Diagnosis	ICD-10-CM
Z3764	Sextuplets, some liveborn	Diagnosis	ICD-10-CM
Z3769	Other multiple births, some liveborn	Diagnosis	ICD-10-CM
Z379	Outcome of delivery, unspecified	Diagnosis	ICD-10-CM
Z3800	Single liveborn infant, delivered vaginally	Diagnosis	ICD-10-CM
Z3801	Single liveborn infant, delivered by cesarean	Diagnosis	ICD-10-CM
Z381	Single liveborn infant, born outside hospital	Diagnosis	ICD-10-CM
Z382	Single liveborn infant, unspecified as to place of birth	Diagnosis	ICD-10-CM
Z3830	Twin liveborn infant, delivered vaginally	Diagnosis	ICD-10-CM
Z3831	Twin liveborn infant, delivered by cesarean	Diagnosis	ICD-10-CM
Z384	Twin liveborn infant, born outside hospital	Diagnosis	ICD-10-CM
Z385	Twin liveborn infant, unspecified as to place of birth	Diagnosis	ICD-10-CM

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

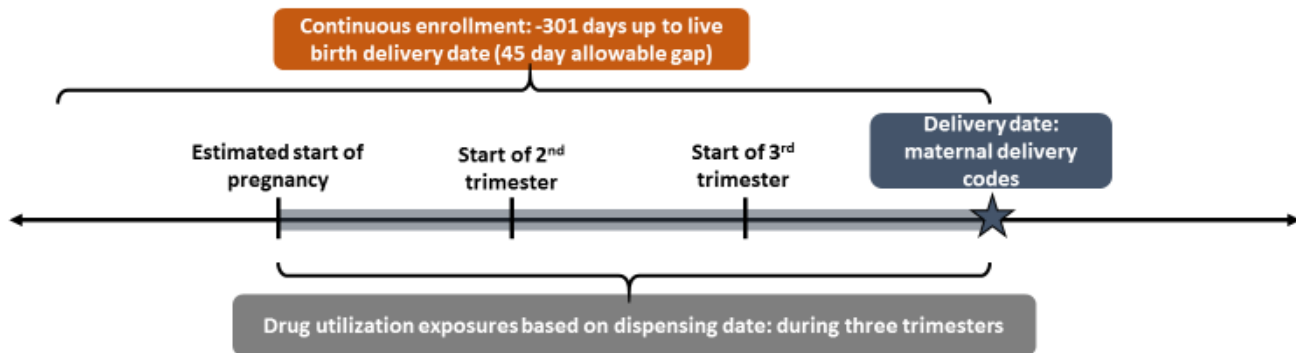| Code	Description	Code Category	Code Type
Z3861	Triplet liveborn infant, delivered vaginally	Diagnosis	ICD-10-CM
Z3862	Triplet liveborn infant, delivered by cesarean	Diagnosis	ICD-10-CM
Z3863	Quadruplet liveborn infant, delivered vaginally	Diagnosis	ICD-10-CM
Z3864	Quadruplet liveborn infant, delivered by cesarean	Diagnosis	ICD-10-CM
Z3865	Quintuplet liveborn infant, delivered vaginally	Diagnosis	ICD-10-CM
Z3866	Quintuplet liveborn infant, delivered by cesarean	Diagnosis	ICD-10-CM
Z3868	Other multiple liveborn infant, delivered vaginally	Diagnosis	ICD-10-CM
Z3869	Other multiple liveborn infant, delivered by cesarean	Diagnosis	ICD-10-CM
Z387	Other multiple liveborn infant, born outside hospital	Diagnosis	ICD-10-CM
Z388	Other multiple liveborn infant, unspecified as to place of birth	Diagnosis	ICD-10-CM

Appendix D. List of Generic and Brand Names of Medical Products Used to Define Medical Products of Interest (MOIs) in this Request

Generic Name	Brand Name
HER2 Antagonists	
trastuzumab-dttb	Ontruzant
trastuzumab-qyyp	Trazimera
lapatinib ditosylate	Tykerb
trastuzumab	Herceptin
trastuzumab-hyaluronidase-oysk	Herceptin Hylecta
ado-trastuzumab emtansine	Kadcyla
pertuzumab	Perjeta
pertuzumab-trastuzumab-hyaluronidase-zzxf	Phesgo
tucatinib	Tukysa
trastuzumab-anns	Kanjinti
trastuzumab-pkrb	Herzuma
fam-trastuzumab deruxtecan-nxki	Enhertu
trastuzumab-dkst	Ogivri
lapatinib ditosylate	lapatinib
neratinib maleate	Nerlynx

Appendix E. List of Healthcare Common Procedure Coding System, Level II (HCPCS) Codes Used to Define Medical Products of Interest (MOIs) in this Request

Code	Description	Code Category	Code Type
	HER2 Antagonists		
G9835	Trastuzumab administered within 12 months of diagnosis	Procedure	HCPCS
G9836	Reason for not administering trastuzumab documented (e.g., patient declined, patient died, patient transferred, contraindication or other clinical exclusion, neoadjuvant chemotherapy or radiation not complete)	Procedure	HCPCS
G9837	Trastuzumab not administered within 12 months of diagnosis	Procedure	HCPCS
J9306	Injection, pertuzumab, 1 mg	Procedure	HCPCS
J9354	Injection, ado-trastuzumab emtansine, 1 mg	Procedure	HCPCS
J9355	Injection, trastuzumab, excludes biosimilar, 10 mg	Procedure	HCPCS
J9356	Injection, trastuzumab, 10 mg and hyaluronidase-oysk	Procedure	HCPCS
J9358	Injection, fam-trastuzumab deruxtecan-nxki, 1 mg	Procedure	HCPCS
Q5112	Injection, trastuzumab-dttb, biosimilar, (Ontruzant), 10 mg	Procedure	HCPCS
Q5113	Injection, trastuzumab-pkrb, biosimilar, (Herzuma), 10 mg	Procedure	HCPCS
Q5114	Injection, Trastuzumab-dkst, biosimilar, (Ogivri), 10 mg	Procedure	HCPCS
Q5116	Injection, trastuzumab-qyyp, biosimilar, (Trazimera), 10 mg	Procedure	HCPCS
Q5117	Injection, trastuzumab-anns, biosimilar, (Kanjinti), 10 mg	Procedure	HCPCS

Appendix G. Specifications for this Request

This request used the Cohort Identification and Descriptive Analysis (CIDA) Pregnancy tool version 10.3.2 to assess HER2 exposure during the pregnancy episode in the IBM® MarketScan® Research Databases.

Query period (*bound by the delivery date*): 1/1/2012 - 12/31/2020
Coverage requirement: Medical & Drug Coverage
Enrollment requirement prior to index date: 301 days
Enrollment requirement post index date: 0 days
Minimum enrollment requirement prior to delivery date: 301 days
Enrollment gap: 45 days
Pre-pregnancy period (*relative to pregnancy start date*): N/A
Age groups (*calculated at delivery date*): 18+
Sex: Female only
Stratifications: N/A
Output by gestational week: Yes
Restrictions: N/A
Envelope macro: No
Freeze data: N/A

Pregnancy Episode Creation

Scenario	Group	Delivery Definition	Pregnancy Cohort Definition	Delivery Caresetting	Create Baseline Table?	Delivery Washout Period	Pregnancy Duration Definition (Pre/PostTerm Codes)	Pre/Post-Term Code Evaluation Window Relative to Delivery Date	Pregnancy Duration in Absence of Pre/Post-Term Codes (ITT Days)
1	her2	Use Pregnancy Algorithm Codes*	Cohort includes all valid pregnancy episodes during the query period	Inpatient hospital stay, any diagnosis position	No	Days specified	Use Pregnancy Algorithm Codes*	7 days (recommended by MEPREP algorithm)	273 days (recommended by MEPREP algorithm)

Appendix G. Specifications for this Request

<table>
<tr><th colspan="12" align="center">Medical Product of Interest (MOI) Exposure Episode Creation</th></tr>
<tr>
<th>Scenario</th>
<th>Group</th>
<th>Exposure</th>
<th>Cohort Definition</th>
<th>Incident exposure washout period</th>
<th>Incident w/ respect to:</th>
<th>Build Episodes on Point Exposure?</th>
<th>Exposure episode length</th>
<th>Remove MOI exposure on delivery date</th>
<th>Care setting</th>
<th>Principal diagnosis position</th>
</tr>
<tr>
<td>1</td>
<td>her2</td>
<td>HER2 Antagonists</td>
<td>All valid MOI exposure episodes during pregnancy episode</td>
<td>21</td>
<td>HER2 Antagonists</td>
<td>Yes</td>
<td>21</td>
<td>Exclude MOIs with Adate equivalent to pregnancy delivery date;</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</table>

ICD-9, ICD-10, HCPCS, and CPT codes are provided by Optum360.

NDC codes are checked against First Data Bank's FDB MedKnowledge®.