

## Code Book for Developing Cardiovascular Risk Assessment Algorithm

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### ICD-10 and CPT Codes

All codes are abstracted with the date to accurately see the timeline by which a patient attends their visit, is risk assessed, potentially attends any scheduled follow-up visits, and potentially is confirmed positive for cardiovascular disease.

#### **Group A – Pregnancy Episode:**

This episode determines how many patients are eligible for risk assessment during our study period. The patient must have at least 1 prenatal, L&D or postpartum visit during the data abstraction period.

*Exclusion:* Patients who have a positive pregnancy test during an office visit that is unrelated to pregnancy or maternity care.

#### **Group B – Pregnant and Postpartum Office Visit**

Denominator for Measure 1

These are CPT codes that distinguish when a patient has an eligible prenatal, L&D or postpartum office visit to do risk assessment at.

#### **Group C – Exclusion Criteria for Risk Assessment**

There are also exclusion criteria listed. These exclusion criteria are ICD-10 codes that can be abstracted to see if they pre-exist in the patient record and used along with the CPT office visit codes to see how many patients with pre-existing conditions were unnecessarily completed a risk assessment.

#### **Group D: Toolkit Items**

Algorithm items can be extracted from the algorithm Smartset in the EHR. This group of codes identifies items used to calculate the “positive at risk for CVD” score.

- SYMPTOMS: 1. Shortness of breath, 2. Orthopnea, 3. Tachypnea, 4. Asthma unresponsive to therapy, 5. Palpitations 6. Dizziness/syncope 7. Chest pain
- VITAL SIGNS: 8. Resting heart rate  $\geq 110$  bpm 9. Systolic BP  $\geq 140$  mm Hg 10. Respiratory rate  $\geq 24$  11. Oxygen saturation  $\leq 96\%$
- RISK FACTORS: 12. age  $\geq 40$ , 13. African American, 14. Pre-pregnancy BMI  $\geq 35$ , 15. Pre-existing Diabetes, 16. Hypertension, 17. Substance abuse, 18. History of chemotherapy
- Calculation of “positive for at risk for CVD” score:
  - $>1$  Symptoms +  $>1$  vital sign +  $>1$  Risk factors *or*
  - ANY COMBINATION ADDING TO  $>4$

#### **Group E: Cardiovascular Risk Assessment Completed**

Numerator for Measure 1

This is determined by algorithm completion. The algorithm is considered complete when it has a calculated risk and is signed by a clinician. These patients are counted if they were in Group B first.

#### **Group F: Cardiovascular Risk Assessment Positive**

Denominator for Measure 2

This is determined by an “at risk” algorithm output.

#### **Group G – Cardiovascular Follow-up Visits**

Numerator for Measure 2

This group distinguishes if a patient has completed their cardiovascular follow-up visits as scheduled. These codes are dated so that these patients are only counted if they were a part of Group D first (that a risk assessment was performed regardless of the result).

#### **Group H – Cardiovascular Disease Confirmed**

This group identifies which patients are true positives. This number includes all patients regardless of the risk assessment result. For Measure calculation: These patients are only counted if they were in Group E (risk assessment was positive for CVD risk).

## CODES

### **Group A - Live birth**

This episode determines how many patients are eligible for risk assessment during the data abstraction period. The patient must have at least 1 visit with a pregnancy or postpartum episode recorded in their medical record.

### **Delivery CPT Codes for Live Births**

59400 Obstetrical care, vaginal delivery, global (including antepartum/postpartum care)  
 59409 Obstetrical care, vaginal (delivery only)  
 59410 Obstetrical care, vaginal (including postpartum care only)  
 59412 Antepartum manipulation  
 59510 Cesarean delivery  
 59514 Cesarean delivery only  
 59515 Cesarean delivery including postpartum  
 59525 Remove uterus after cesarean  
 59610 Vbac delivery  
 59612 Vbac delivery only  
 59614 Vbac care after delivery  
 59618 Attempted vbc delivery  
 59620 Attempted vbc delivery only

### **Delivery ICD 10 Codes**

Z37 Outcome of delivery  
 Z37.0 Single live birth  
 Z37.1 Single stillbirth  
 Z37.2 Twins, both liveborn  
 Z37.3 Twins, one liveborn and one stillborn  
 Z37.4 Twins, both stillborn  
 Z37.5 Other multiple births, all liveborn  
 Z37.50 Multiple births, unspecified, all liveborn  
 Z37.51 Triplets, all liveborn  
 Z37.52 Quadruplets, all liveborn  
 Z37.53 Quintuplets, all liveborn  
 Z37.54 Sextuplets, all liveborn  
 Z37.59 Other multiple births, all liveborn  
 Z37.6 Other multiple births, some liveborn  
 Z37.60 Multiple births, unspecified, some liveborn  
 Z37.61 Triplets, some liveborn  
 Z37.62 Quadruplets, some liveborn  
 Z37.63 Quintuplets, some liveborn  
 Z37.64 Sextuplets, some liveborn  
 Z37.69 Other multiple births, some liveborn  
 Z37.7 Other multiple births, all stillborn  
 Z37.9 Outcome unknown

**Group B - Pregnant and Postpartum Office Visit**

These determine what patients are eligible for CVD risk assessment at each site. \*Notes, all codes indicated with antepartum are during the pregnancy, if not noted with antepartum, then the diagnosis is for the postpartum period.

**CPT Codes for Pregnant and Postpartum Office Visit**

These determine when the patients had an office visit when they could do the risk assessment.

99201 Office/outpatient visit new	99221 Initial hospital care
99202 Office/outpatient visit new	99222 Initial hospital care
99203 Office/outpatient visit new	99223 Initial hospital care
99204 Office/outpatient visit new	99224 Subsequent observation care
99205 Office/outpatient visit new	99225 Subsequent observation care
99211 Office/outpatient visit	99226 Subsequent observation care
99212 Office/outpatient visit	99231 Subsequent hospital care
99213 Office/outpatient visit	99232 Subsequent hospital care
99214 Office/outpatient visit	99233 Subsequent hospital care
99215 Office/outpatient visit	99234 Observation/hospital same date
99217 Observation care discharge	99235 Observation/hospital same date
99218 Initial observation care	99236 Observation/hospital same date
99219 Initial observation care	99238 Hospital discharge day
99220 Initial observation care	99239 Hospital discharge day

**Group C ICD-10 Exclusion Codes for CVD Risk Assessment**

In the tool, clinicians are directed to not complete risk assessments for patients if they have pre-existing cardiovascular disease or any red flags. If any of these codes are pre-existing in the patient record at the patient's first visit, they do not need to do a risk assessment. For measure 1 (percentage of patients who risk assessed for CVD risk) we exclude them from the denominator.

If a patient presents these conditions during subsequent prenatal or postpartum visits, she should be referred directly to follow-up, rather than completing another risk assessment.

**CARDIOMYOPATHY**

I42.0 Dilated cardiomyopathy	I50.9 Heart failure, unspecified
I42.2 Obstructive hypertrophic cardiomyopathy	M30.3 Mucocutaneous lymph node syndrome [Kawasaki]
I42.8 Other cardiomyopathies	O90.3 Peripartum cardiomyopathy
I25.10 Atherosclerotic heart disease of native coronary artery without angina pectoris	Z82.49 Family history of ischemic heart disease and other diseases of the circulatory system
I50.30 Unspecified diastolic (congestive) heart failure	

**CORONARY ARTERY DISEASE**

I24 Other acute ischemic heart diseases	involving other coronary artery of anterior wall
I24.0 Acute coronary thrombosis not resulting in myocardial infarction	I21.3 ST elevation (STEMI) myocardial infarction of unspecified site
I24.1 Dressler's syndrome	I25.10 Atherosclerotic heart disease of native coronary artery without angina pectoris
I24.81 Acute coronary microvascular dysfunction	I25.2 Old Myocardial Infarction
I24.89 Other forms of acute ischemic heart disease	I25.84 Coronary Atherosclerosis due to calcified Coronary Lesion
I24.9 Acute ischemic heart disease, unspecified	I25.9 Chronic ischemic heart disease, unspecified
I25.42 Coronary artery dissection	O99.419 Diseases of the circulatory system complicating pregnancy, unspecified trimester
I25.9 Chronic ischemic heart disease, unspecified	Z86.79 Personal history of other diseases of the circulatory system
I20.9 Angina pectoris, unspecified	
I21.B Myocardial infarction with coronary microvascular dysfunction	
I21.09 ST elevation (STEMI) myocardial infarction	

## ARRHYTHMIA

Z86.79 Personal history of other diseases of the circulatory system

I48.91 Unspecified atrial fibrillation

I48.92 Unspecified atrial flutter

I49.1 Atrial premature depolarization

I49.3 Ventricular premature depolarization

I49.8 Other specified cardiac arrhythmias

I49.9 Cardiac arrhythmia, unspecified

I45 Other conduction disorders

I45.10 Unspecified right bundle-branch block

I45.0 Right fascicular block

I45.19 Other right bundle-branch block

I45.2 Bifascicular block

I45.3 Trifascicular block

I45.4 Nonspecific intraventricular block

I45.5 Other specified heart block

I45.6 Pre-excitation syndrome

I45.81 Long QT syndrome

I45.89 Other specified conduction disorders

I45.9 Conduction disorder, unspecified

I47.1 Supraventricular tachycardia

I47.2 Ventricular tachycardia

I27.0 Primary pulmonary hypertension

I47.10 Supraventricular tachycardia, unspecified

I47.11 Inappropriate sinus tachycardia, so stated

I47.19 Other supraventricular tachycardia

I47.20 Ventricular tachycardia, unspecified

I47.21 Torsades de pointes

I47.29 Other ventricular tachycardia

O99.411 Diseases of the circulatory system complicating pregnancy, first trimester

O99.412 Diseases of the circulatory system complicating pregnancy, second trimester

O99.413 Diseases of the circulatory system complicating pregnancy, third trimester

I97.190 Other postprocedural cardiac functional disturbances following cardiac surgery

## PULMONARY HYPERTENSION

I27 Primary pulmonary hypertension

I27.1 Kyphoscoliotic heart disease

I27.21 Secondary pulmonary arterial hypertension

I27.22 Pulmonary hypertension due to left heart disease

I27.23 Pulmonary hypertension due to lung diseases and hypoxia

I27.24 Chronic thromboembolic pulmonary

hypertension

I27.20 Pulmonary hypertension, unspecified

I27.29 Other secondary pulmonary hypertension

I27.81 Cor pulmonale (chronic)

I27.82 Chronic pulmonary embolism

I27.89 Other specified pulmonary heart diseases

I27.9 Pulmonary heart disease, unspecified

## CONGENITAL HEART DISEASE

I05.2 Mitral stenosis and regurgitation

I27.83 Eisenmengers

I34 Valve regurgitation

I34.0 Nonrheumatic mitral (valve) insufficiency

I34.1 Nonrheumatic mitral (valve) prolapse

I34.2 Valve disease

I34.81 Nonrheumatic mitral (valve) annulus calcification

I34.89 Other nonrheumatic mitral valve disorders

I34.9 Nonrheumatic mitral valve disorder, unspecified

I35 Valve disease

I35.0 Nonrheumatic aortic (valve) stenosis

I35.1 Valve regurgitation

I35.2 Nonrheumatic aortic (valve) stenosis with insufficiency

I35.8 Other nonrheumatic aortic valve disorders

I35.9 Nonrheumatic aortic valve disorder, unspecified

I36 Valve disease

I36.0 Nonrheumatic tricuspid (valve) stenosis

I36.1 Nonrheumatic tricuspid (valve) insufficiency

I36.2 Nonrheumatic tricuspid (valve) stenosis with insufficiency

I36.8 Other nonrheumatic tricuspid valve disorders

I36.9 Nonrheumatic tricuspid valve disorder, unspecified

I37 Valve disease

I37.0 Nonrheumatic pulmonary valve stenosis

I37.1 Valve regurgitation

I37.2 Nonrheumatic pulmonary valve stenosis with insufficiency

I37.8 Other nonrheumatic pulmonary valve disorders

I37.9 Nonrheumatic pulmonary valve disorder, unspecified

I38 Valve regurgitation

I77.810 Aortic root dilation

O99.411 Mitral stenosis

O99.412 Mitral stenosis  
O99.413 Mitral stenosis  
Q20.0 Truncus arteriosus  
Q20.1 Double outlet right ventricle  
Q21.0 VSD  
Q21.10 ASD  
Q21.20 Atrioventricular canal defect  
Q21.3 TOF  
Q22.1 Valve disease  
Q23.0 Valve disease  
Q23.2 Valve disease  
Q24.5 ALCAPA  
Q25.0 PDA  
Q25.1 Coarctation of aorta  
Q25.44 Dilated ascending aorta  
Q25.5 Pulmonary atresia  
Q25.6 Pulmonary stenosis  
Q26.3 Anomalous pulmonary vein  
Q87.40 Marfan syndrome  
Q87.89 Loeys-Dietz  
Z87.74 Sudden death  
Z86.79 History of aortic pulmonary mitral stenosis  
Z87.74 Fontan

Q20.3 TGA  
Q20.4 Single ventricle  
Q20.8 Fontan

**Group D – Toolkit Items**

The algorithm items can be extracted directly from the EHR Smartset, or manually using the following code.

**ICD-10 Codes for Attributes in Tool:**

11 of the 18 items can be found with codes, the other 7 items can be found directly in the patient’s EMR.

SYMPTOMS

1. Dyspnea/shortness of breath  
R06 Abnormalities of breathing  
R06.0 Dyspnea
2. Orthopnea  
R06.01 Orthopnea (included in the Dyspnea category already)
3. Tachypnea  
R06.82 Tachypnea
4. Asthma  
J45 Asthma  
R06.2 wheezing NOS  
J.44.9 obstructive bronchitis, chronic obstructive asthma
5. Palpitations  
R00.2 Palpitations  
R00 Abnormalities of heartbeat
6. Dizziness/syncope  
R42 Dizziness and giddiness  
R55 Syncope and collapse  
(G90.01) carotid sinus syncope  
(T67.1) heat syncope  
(F45.8) neurocirculatory asthenia  
(G90.3) neurogenic orthostatic hypotension  
(I95.1) orthostatic hypotension  
(T81.1-) postprocedural shock  
(F48.8) psychogenic syncope
7. Chest pain  
R07.9 Chest pain, unspecified  
R07 Pain in throat and chest  
(R68.84) jaw pain  
(N64.4) pain in breast

RISK FACTORS

15. Pre-existing diabetes  
E11.65 Diabetes Mellitus, II with Hyperglycemia  
E11.9 Diabetes Mellitus, II Controlled  
E88.81 Dysmetabolic Syndrome  
E88.81 Insulin Resistance  
E88.81 Metabolic Syndrome  
R73.01 Elevated Fasting Glucose  
R73.01 Impaired Fasting Glucose  
R73.09 Prediabetes  
R73.09 Abnormal Glucose  
R73.9 Hyperglycemia
16. Hypertension  
I10-I16 Essential hypertension  
(I60-I69) essential (primary) hypertension involving vessels of brain  
(H35.0-) essential (primary) hypertension involving vessels of eye
17. Substance abuse  
F19.20 other psychoactive substance abuse, uncomplicated  
F10.1 alcohol abuse, uncomplicated  
F11 Opioid related disorders  
F16 Hallucinogen related disorders  
F17 Nicotine dependence  
Z72.0 Tobacco use  
F18 Inhalant related disorders  
F19 Other psychoactive substance related disorders
18. Chemotherapy  
Z92.21 History of Chemotherapy

VARIABLES FROM THE EMR

*VITAL SIGNS*

8. Resting heart rate  $\geq 110$  bpm
9. Systolic BP  $\geq 140$  mm Hg
10. Respiratory rate  $\geq 24$
11. Oxygen saturation  $\leq 96\%$

*RISK FACTORS*

12. age  $\geq 40$
13. African American
14. Pre-pregnancy BMI  $\geq 35$

**Group E - Cardiovascular Risk Assessment Completed**

This is determined by a completed algorithm in the EHR. A complete algorithm will have a calculated risk score and is signed by a clinician.

**Group F: - Cardiovascular Risk Assessment Positive**

This is determined by an “at risk” algorithm output.

**Group G- Cardiovascular Follow-up Procedure**

These determine which patients completed their follow-up cardiovascular tests or cardiology or MFM consults as documented in the Smartset that occurred within 60 days after a positive risk assessment.

**CPT Codes for CVD Tests**

Electrocardiogram = 93000, 93005, 93010  
 Brain natriuretic peptide test (BNP) = 37386  
 Echocardiogram = 93303, 93304, 93306, 93307, 93308, 93320, 93321, 93325, 93326, 93350, 93351  
 Holter monitor = 93224, 93225, 93226, 93227, 93230, 93231, 93233, 93235, 93236, 93237  
 Complete blood count (CBC) = 85025, 85027, G0306, H0307  
 Basic metabolic panel = 80048  
 Comprehensive metabolic panel = 80053  
 Arterial blood gas = 82803  
 Drug screen = 80307 (10 panel)  
 Thyroid stimulating hormone = 84439; 84443

**CPT Codes for MFM/Cardiologist Evaluation and Management following a referral documented in the Smartset that occurred within 60 days after a positive risk assessment.**

99201 Office/outpatient visit new	99232 Subsequent hospital care
99202 Office/outpatient visit new	99215 Office/outpatient visit
99203 Office/outpatient visit new	99233 Subsequent hospital care
99204 Office/outpatient visit new	99217 Observation care discharge
99223 Initial hospital care	99234 Observation/hospital same date
99205 Office/outpatient visit new	99218 Initial observation care
99224 Subsequent observation care	99235 Observation/hospital same date
99211 Office/outpatient visit	99219 Initial observation care
99225 Subsequent observation care	99236 Observation/hospital same date
99212 Office/outpatient visit	99220 Initial observation care
99226 Subsequent observation care	99238 Hospital discharge day
99213 Office/outpatient visit	99221 Initial hospital care
99231 Subsequent hospital care	99239 Hospital discharge day
99214 Office/outpatient visit	99222 Initial hospital care

**Group H - Cardiovascular Disease Confirmed**

These determine the patients diagnosed with CVD.

**ICD-10 Codes for General Cardiovascular and Ischaemic Disease**

*Cardiovascular and Ischaemic Disease*

I25.10 Cardiovascular Disease, Unspecified  
I48.91 Atrial Fibrillation  
I50.9 Congestive Heart Failure

*Circulatory System Diseases*

I20.9 Angina Pectoris, NOS  
I21.09 Myocardial Infarction, Acute, Anterior (Initial episode of care)  
I21.3 Myocardial Infarction, Acute, Unspecified (initial episode of care)  
I25.10 ASHD Coronary Artery  
I25.10 ASHD Unspecified  
I25.10 CAD (Coronary Artery Disease)/ASHD  
I25.2 Old Myocardial Infarction  
I25.84 Coronary Atherosclerosis due to calcified Coronary Lesion  
I25.85 Chronic coronary microvascular dysfunction  
I25.9 Chronic Ischaemic Heart Disease

*Hypertensive Disease*

I11.0 Malignant Hypertension Heart Disease with Heart Failure  
I11.0 Benign Hypertension Heart Disease with Heart Failure  
I11.0 Unspecified Hypertension Heart Disease with Heart Failure  
I11.9 Benign Hypertension Heart Disease without Heart Failure  
I11.9 Malignant Hypertension Heart Disease without Heart Failure  
I11.9 Unspecified Hypertension Heart Disease without Heart Failure

**ICD-10 codes for Pregnant and Postpartum Specific Cardiovascular and Ischaemic Disease**

O90.3 Cardiomyopathy in the puerperium

O99.4 Diseases of the circulatory system complicating pregnancy, childbirth and the puerperium Conditions in I00-I99 Excludes1:

O90.3 peripartum cardiomyopathy

Excludes 2: (O10-O16) hypertensive disorders (O88.-) obstetric embolism (O87.-) venous complications and cerebrovenous sinus thrombosis in labor, childbirth, and the puerperium (O22.-) venous complications and cerebrovenous sinus thrombosis in pregnancy

O99.41 Diseases of the circulatory system complicating pregnancy

O99.411 Diseases of the circulatory system complicating pregnancy, first trimester, (antepartum)

O99.412 Diseases of the circulatory system complicating pregnancy, second trimester, (antepartum)

O99.413 Diseases of the circulatory system complicating pregnancy, third trimester, (antepartum)

O99.419 Diseases of the circulatory system complicating pregnancy, unspecified trimester, (antepartum)

O99.42 Diseases of the circulatory system complicating childbirth

O99.43 Diseases of the circulatory system complicating the puerperium

**Additional Pregnancy Outcome ICD-10 Codes**

*Maternal:*

O10.011, O10.012, O10.013 Chronic hypertension

O13.1, O13.2, O13.3 Gestational hypertension

O14.02, O14.03 Mild-moderate preeclampsia

O14.12, O14.13 Severe Preeclampsia



O15.02, O15.03 Eclampsia  
 O14.22, O14.23 HELLP syndrome  
 O24.414 Gestational DM (diet or medication)  
 O36.5920, O36.5930 Fetal growth restriction  
 O60.12X0, O60.13X0, O60.14X0 Premature rupture of membranes  
 O60.02, O60.03 Preterm labor/delivery/birth  
 O82 Cesarean Birth  
 O75.82 Early elective delivery  
 O41.1210, O41.1220, O41.1230 Chorioamnionitis  
 Z39.2 Postpartum care following Cesarean  
 Z39.2 Postpartum care following vaginal delivery  
 Z39.9 Induction of labor  
 O42 Premature rupture of membranes  
 O60 Preterm delivery/birth  
 O75.4 Severe obstetric complications  
 O99.011, O99.012, O99.013 Anemia  
 P05.10 gestational age at delivery  
 P07.00 birth weight  
 O14.00 development of preeclampsia  
 O10.019 hypertensive complications  
 O24.111, O24.112, O24.113 Diabetes frequency  
 Type II DM  
 O24.011, O24.012, O24.012 Diabetes frequency  
 TYPE I DM  
 O22.31, O22.32, O22.33 DVT prophylaxis in women undergoing  
 PR30233, 30240, 30243 Severe maternal morbidity (SMM) including transfusion  
 Length of stay after Cesarean Codes: Admission, Discharge, Date of Delivery, Type of Delivery  
 Length of stay after vaginal delivery: Admission, Discharge, Date of Delivery, Type of Delivery  
 Induction rate: Code for Delivery Induced  
 I21.xx, I22.x Acute Myocardial Infarction  
 I71.xx, I79.0 Aneurysm  
 N17.x, O90.4 Acute Renal Failure  
 Acute Respiratory Distress Syndrome: J80, J95.1, J95.2, J95.3, J95.82x, J96.0x, J96.2x, J96.9x, R06.03, R09.2  
 Amniotic Fluid Embolism: O88.112, O88.113, O88.119, O88.12, O88.13  
 Cardiac Arrest / Ventricular Fibrillation: I46.x, I49.0x  
 Puerperal Cerebrovascular Disorders: A81.2, G45.x, G46.x, G93.49, H34.0x, I60.xx, I61.xx, I62.xx, I63.00, I63.01x, I63.1xx, I63.2xx, I63.3xx, I63.4xx, I63.5xx, I63.6, I63.8x, I63.9, I65.xx, I66.xx,

*Newborn:*

P03.4 5-minute APGAR <7  
 P05.09 <2500 g rate  
 P05.10 Late preterm birth rate  
 P03.9 Unexpected newborn complications overall  
 P07.16 VLBW <1500 g  
 O02.1 Fetal demise >20 weeks, IUFD

I67.xx, I68.xx, O22.50, O22.52, O22.53, I97.810, I97.811, I97.820, I97.821, O87.3  
 Pulmonary Edema / Acute Heart Failure: I50.1, I50.20, I50.21, I50.23, I50.30, I50.31, I50.33, I50.40, I50.41, I50.43, I50.810, I50.811, I50.813, I50.814, I50.82, I50.83, I50.84, I50.89, I50.9, J81.0  
 Sepsis: A32.7, A40.x, A41.x, I76, O85, O86.04, R65.20, R65.21, T81.12XA, T81.44XA  
 Shock: O75.1, R57.x, T78.2XXA, T81.10XA, T81.11XA, T81.19XA, T88.6XXA  
 Air and Thrombotic Embolism: I26.x, O88.012-O88.03, O88.212-O88.23, O88.312-O88.33, O88.812-O88.83, T80.0XXA  
 Severe maternal morbidity (SMM) including transfusion: 30230H0, 30230K0, 30230L0, 30230M0, 30230N0, 30230P0, 30230R0, 30230T0, 30230H1, 30230K1, 30230L1, 30230M1, 30230N1, 30230P1, 30230R1, 30230T1, 30233H0, 30233K0, 30233L0, 30233M0, 30233N0, 30233P0, 30233R0, 30233T0, 30233H1, 30233K1, 30233L1, 30233M1, 30233N1, 30233P1, 30233R1, 30233T1, 30240H0, 30240K0, 30240L0, 30240M0, 30240N0, 30240P0, 30240R0, 30240T0, 30240H1, 30240K1, 30240L1, 30240M1, 30240N1, 30240P1, 30240R1, 30240T1, 30243H0, 30243K0, 30243L0, 30243M0, 30243N0, 30243P0, 30243R0, 30243T0, 30243H1, 30243K1, 30243L1, 30243M1, 30243N1, 30243P1, 30243R1, 30243T1  
 Severe obstetric complications excluding transfusion-only cases: O88.0 - Amniotic fluid embolism; O88.1 - Other embolism of obstetric pulmonary vessels; O75.1 - Shock during or following labor and delivery; O67.4 - Obstructed labor due to shoulder dystocia; Uterine rupture: O71.0 - Rupture of uterus during labor; O71.1 - Rupture of uterus before onset of labor; O72.0 - Third-stage hemorrhage; O72.1 - Other immediate postpartum;  
 O85 - Puerperal sepsis; O88.8 - Other specified obstetric embolism, not elsewhere classified  
 Z52.0 - Blood transfusion associated with delivery  
 z51.3 - Transfusion: all RBC transfusions  
 Length of hospital stay (any stay during pregnancy)  
 Codes for Any type of stay, admission, discharge up to 12 months  
 Hospital Readmission  
 Any Code for Readmission

O45.91, O45.92, O45.93 Placenta abruption  
 Z3A.01 Total preterm birth rate  
 P10.0 - Injury to scalp of newborn due to extraction with vacuum extractor  
 P12.0 - Birth injury to scalp  
 P14.0 - Injury to facial nerve due to birth trauma

P20.0 - Hypoxemic-ischemic encephalopathy [HIE] of newborn  
P21.9 - Birth asphyxia, unspecified  
P36.9 - Sepsis of newborn, unspecified  
P50.9 - Neonatal jaundice from unspecified cause  
P22.0 - Respiratory distress of newborn

P24.0 - Meconium aspiration syndrome in newborn  
P36.9 - Sepsis of newborn, unspecified  
P39.0 - Neonatal urinary tract infection  
P91.0 - Neonatal seizure  
P91.6 - Hypoxic-ischemic encephalopathy [HIE] of newborn