Supplemental Digital Content: Definitions Based on the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) Diagnose and Procedures Codes

1. ICD-9-CM definition of delivery-related discharges

Inclusion criteria	
ICD-9 CM diagnosis codes	
- Outcome of delivery	V27.0-V27.9
- Normal delivery	650
ICD-9 CM procedure codes	
- Forceps, vacuum, and breech extraction	72.0-72.9
- Internal and combined version and extraction	73.22
- Other manually-assisted deliveries	73.59
- Episiotomy	73.6
- Cesarean delivery	74.0-74.2, 74.4, 74.9
Exclusion criteria	
ICD-9 CM diagnosis codes	
- Ectopic or molar pregnancy	630.x-633.x
- Pregnancy with abortive outcome	634.x-639.x
ICD-9 CM procedure codes	
- Abortion	69.01, 69.51, 75.0

2. ICD-9-CM codes indicating labor

Condition	ICD-9 CM diagnosis codes
Breech or other malpresentation successfully converted to cephalic presentation	652.1x
Disproportion	653x
Fetal distress	656.3x
Failed mechanical induction	659.0x
Failed medical or unspecified induction	659.1x
Maternal pyrexia during labor, unspecified	659.2x
Generalized infection during labor	659.3x
Obstructed labor	660x
Abnormality of forces of labor	661.x
Long labor	662.x
Umbilical cord complications	663.x
Rupture of uterus during labor	665.1x
Condition	**ICD-9 CM procedure codes**
Artificial rupture of membranes	73.0
Other surgical induction of labor	73.1
Medical induction of labor	73.4x

3. ICD-9-CM codes indicating fetal or maternal conditions requiring rapid delivery

Fetal or maternal condition	ICD-9 CM diagnosis codes
Abnormality in fetal heart rate or rhythm	763.81, 763.82, 659.7
Premature separation of placenta and other forms of placental separation and hemorrhage	641.2, 762.1
Rupture of uterus	665.0, 665.1
Eclampsia	642.6
Prolapse of cord	663.0

4. ICD-9-CM definition of anesthesia-related adverse events

	ICD-9-CM diagnosis and procedures codes
1. Systemic adverse events and adverse events related to anesthetics drugs	
1-1. Adverse events related to the administration of anesthetic or other sedation in labor and delivery	
- Pulmonary complication	668.0
- Cardiac complications	668.1
- Central nervous system complications	668.2
- Other and unspecified complications of anesthesia or other sedation	668.8, 668.9
1-2. Adverse events related to the administration of anesthetic without specification of the location	
- Malignant hyperthermia due to anesthesia	995.86
- Hypothermia due to anesthesia	995.89
- Endotracheal tube wrongly placed during anesthetic procedure	E876.3
- Certain adverse effects not elsewhere classified: shock due to anesthesia in which the correct substance was properly administered	995.4

ICD-9-CM definition of anesthesia-related adverse events (continued)

	ICD-9-CM diagnosis and procedures codes
1-3. Adverse events related to anesthetic drugs	
- Poisoning and adverse effects by halothane	968.1, E938.1
- Poisoning and adverse effects by other gaseous anesthetics	968.2, E938.2
- Poisoning and adverse effects by intravenous anesthetics	968.3, E938.3
- Poisoning and adverse effects by other and unspecified general anesthetics	968.4, E938.4, E855.1
- Other and unspecified adverse effect of drug, medicinal and biological substance (due) to correct medicinal substance properly administered: unspecified adverse effect of anesthesia	995.22
2. Adverse events related to neuraxial anesthesia and local anesthetics	
- Headache following lumbar puncture	349.0
- Abscess of spinal cord: epidural, extradural, subdural	324.1
- Spinal blood patch	03.95 (procedure)
- Poisoning and adverse effects by spinal anesthetics	968.7, E938.7
- Poisoning and adverse effects by local anesthetics	968.5, 968.9, E855.2, E938.5, E938.6, E938.9

5. ICD-9-CM definition of cardiac arrest

Condition	ICD-9 CM diagnosis codes
Cardiac arrest	427.5
Ventricular fibrillation	427.41

Condition	ICD-9 CM procedure codes
Cardiopulmonary resuscitation, not otherwise specified	99.60
Closed chest cardiac massage	99.63
Open chest cardiac massage	37.91

6. ICD-9-CM codes indicating non-anesthetic perioperative complications

Complication	ICD-9-CM diagnostic codes
Cardiac	
- Acute myocardial infarction	410.x
- Acute myocardial ischemia	411.1,411.81,411.89
- Acute right heart failure acute cor pulmonale)	415.0
- Acute left heart failure or acute on chronic left heart failure (systolic, diastolic or both)	428.21, 428.23, 428.31, 428.33, 428.41, 428.43
Respiratory	
- Acute respiratory failure	518.81
Thromboembolic	
- Pulmonary embolism blood-clot	415.1x, 673.2
- Deep venous thrombosis (excluding antepartum 671.3)	671.4,671.9,451.x,452,453.x
Kidney	
- Acute renal failure	669.3x, 584.x
Coagulation	
- Disseminated intravascular coagulation	286.6, 286.9, 641.3, 666.3

**ICD-9-CM codes indicating non-anesthetic perioperative complications (continued)**

Complication	ICD-9-CM diagnostic codes
Sepsis	
- Sepsis (with or without organ dysfunction) and septic shock	995.91, 995.92, 785.52
Central nervous system	
- Subarachnoid hemorrhage	430
- Intracerebral hemorrhage, and other and unspecified intracranial hemorrhage	431,432.x
- Occlusion and stenosis of precerebral and cerebral arteries	433.x, 434.x
- Cerebral venous thrombosis or thrombosis of intracranial venous sinus	671.5
- Cerebrovascular disorders in the puerperium	674.0