# **Supplemental Data**

Table e-1. ICD-9-CM diagnosis codes for pregnancy and delivery

Code	Diagnosis
Ectopic and mo	lar pregnancy (630-633.91)
630	Hydatidiform mole
631.0-631.8	Other abnormal product of conception
632	Abortion, missed
633.00-633.91	Ectopic pregnancy
Other pregnand	cy with abortive outcome (634.00-639.9)
634.00-634.92	Spontaneous abortion
635.00-635.92	Legally induced abortion
636.00-636.92	Illegally induced abortion
637.00-637.92	Unspecified abortion
638.0-638.9	Failed attempted abortion
639.0-639.9	Complications following abortion and ectopic and molar pregnancies
<b>Complications</b> 1	mainly related to pregnancy (640.00-649.82)
640.00-640.93	Hemorrhage in early pregnancy
641.00-641.93	Antepartum hemorrhage, abruptio placentae, and placenta previa
642.00-642.94	Hypertension complicating pregnancy, childbirth, and the puerperium
643.00-643.93	Excessive vomiting in pregnancy
644.00-644.21	Early or threatened labor
645.10-645.23	Late pregnancy
646.00-646.93	Other complications of pregnancy, not elsewhere classified
647.00-647.94	Infectious & parasitic condition in mother classifiable elsewhere, but complicating
	pregnancy/childbirth
648.00-648.94	Other current condition in mother classifiable elsewhere, complicating pregnancy,
	childbirth, puerperium
649.00-649.82	Other conditions or status of the mother complicating pregnancy, childbirth, or the
	puerperium
Normal deliver	y, and other indications for care in pregnancy, labor, and delivery (650-659.93)
650-650	Normal delivery

651.00-651.93	Multiple gestation
652.00-652.93	Malposition and malpresentation of fetus
653.00-653.93	Disproportion
654.00-654.94	Abnormality of organs and soft tissues of pelvis
655.00-655.93	Known or suspected fetal abnormality affecting management of mother
656.00-656.93	Other known or suspected fetal and placental problems affecting management of
	mother
657.00-657.03	Polyhydramnios
658.00-658.93	Other problems associated with amniotic cavity and membranes
659.00-659.93	Other indications for care or intervention related to labor and delivery, NEC
<b>Complications</b> of	occurring mainly in the course of labor and delivery (660.00-669.94)
660.00-660.93	Obstructed labor
661.00-661.93	Abnormality of forces of labor
662.00-662.33	Long labor
663.00-663.93	Umbilical cord complications
664.00-664.94	Trauma to perineum and vulva during delivery
665.00-665.94	Other obstetrical trauma
666.00-666.34	Postpartum hemorrhage
667.00-667.14	Retained placenta or membranes, without hemorrhage
668.00-668.94	Complications of the administration of anesthetic or other sedation in labor and
	delivery
669.00-669.94	Other complications of labor and delivery, not elsewhere classified
<b>Complications</b> of	of the puerperium (670.00 –677)
670.00-670.84	Major puerperal infection
671.00-671.94	Venous complications in pregnancy and the puerperium
672.00-672.04	Pyrexia of unknown origin during the puerperium
673.00-673.84	Obstetrical pulmonary embolism
674.00-674.94	Other and unspecified complications of the puerperium, not elsewhere
	classified
675.00-675.94	Infections of the breast and nipple associated with childbirth
676.00-676.94	Other disorders of the breast associated with childbirth and disorders of

	lactation	
677-677	Late effect of complication of pregnancy, childbirth, and the puerperium	
Other maternal and fetal complications (678.00 – 679.14)		
678.00-678.13	Other fetal conditions	
679.00-679.14	Complications of <i>in utero</i> procedures	

Abbreviations: ICD-9-CM = International Classification of Diseases, Ninth Revision, Clinical

Modification; NEC = necrotizing enterocolitis

Table e-2. ICD-9-CM procedure codes for pregnancy and delivery

Code	Procedure
V22.0	Supervision of normal first pregnancy
V22.1	Supervision of other normal pregnancy
V22.2	Pregnant state, incidental
V23.1	Supervision of high-risk pregnancy with history of trophoblastic disease
V23.2	Supervision of high-risk pregnancy with history of abortion
V23.3	Supervision of high-risk pregnancy with grand multiparity
V23.41	Pregnancy with history of pre-term labor
V23.42	Pregnancy with history of ectopic pregnancy
V23.49	Pregnancy with other poor obstetric history
V23.5	Supervision of high-risk pregnancy with other poor reproductive history
V23.7	Supervision of high-risk pregnancy with insufficient prenatal care
V23.81	Supervision of high-risk pregnancy with elderly primigravida
V23.82	Supervision of high-risk pregnancy with elderly multigravida
V23.83	Supervision of high-risk pregnancy with young primigravida
V23.84	Supervision of high-risk pregnancy with young multigravida
V23.85	Pregnancy resulting from assisted reproductive technology
V23.86	Pregnancy with history of in utero procedure during previous pregnancy
V23.87	Pregnancy with inconclusive fetal viability
V23.89	Supervision of other high-risk pregnancy
V23.9	Supervision of unspecified high-risk pregnancy
V72.42	Pregnancy examination or test, positive result

Abbreviation: ICD-9-CM = International Classification of Diseases, Ninth Revision, Clinical Modification

Table e-3. CPT codes for live birth delivery

Code	Procedure
1960	Anesthesia for vaginal delivery only
1961	Anesthesia for cesarean delivery only
1962	Anesthesia for urgent hysterectomy following delivery
1963	Anesthesia for cesarean hysterectomy without any labor analgesia/anesthesia care
1967	Neuraxial labor analgesia/anesthesia for planned vaginal delivery (this includes
	any repeat subarachnoid needle placement and drug injection and/or any
	necessary replacement of an epidural catheter during labor)
1968	Anesthesia for cesarean delivery following neuraxial labor analgesia/anesthesia
	(list separately in addition to code for primary procedure performed)
1969	Anesthesia for cesarean hysterectomy following neuraxial labor
	analgesia/anesthesia (list separately in addition to code for primary procedure
	performed)
59050	Fetal monitoring during labor by consulting physician (ie, non-attending
	physician) with written report; supervision and interpretation
59051	Fetal monitoring during labor by consulting physician (ie, non-attending
	physician) with written report; interpretation only
59400	Routine obstetric care including antepartum care, vaginal delivery (with or
	without episiotomy, and/or forceps) and postpartum care
59409	Vaginal delivery only (with or without episiotomy and/or forceps)
59410	Vaginal delivery only (with or without episiotomy and/or forceps); including
	postpartum care
59412	External cephalic version, with or without tocolysis
59414	Delivery of placenta (separate procedure)
59430	Postpartum care only (separate procedure)
59510	Routine obstetric care including antepartum care, cesarean delivery, and
	postpartum care
59514	Cesarean delivery only
59515	Cesarean delivery only; including postpartum care

59525	Subtotal or total hysterectomy after cesarean delivery (list separately in addition
	to code for primary procedure)
59610	Routine obstetric care including antepartum care, vaginal delivery (with or
	without episiotomy, and/or forceps) and postpartum care, after previous cesarean
	delivery
59612	Vaginal delivery only, after previous cesarean delivery (with or without
	episiotomy and/or forceps)
59614	Vaginal delivery only, after previous cesarean delivery (with or without
	episiotomy and/or forceps); including postpartum care
59618	Routine obstetric care including antepartum care, cesarean delivery, and
	postpartum care, following attempted vaginal delivery after previous cesarean
	delivery
59620	Cesarean delivery only, following attempted vaginal delivery after previous
	cesarean delivery
59622	Cesarean delivery only, following attempted vaginal delivery after previous
	cesarean delivery; including postpartum care
99436	Attendance at Delivery and 1st Stabilization of Newborn
99440	Newborn resuscitation

Abbreviation: CPT = Current Procedural Terminology

Table e-4. Clinically relevant, categorized ICD-9-CM codes for complications during pregnancy

Hemorrhagic complications	
640.80	Other specified hemorrhage in early pregnancy, unspecified as to episode of care or not
	applicable
640.81	Other specified hemorrhage in early pregnancy, delivered, with or without mention of
	antepartum condition
640.83	Other specified hemorrhage in early pregnancy, antepartum condition or complication
640.90	Unspecified hemorrhage in early pregnancy, unspecified as to episode of care or not applicable
640.91	Unspecified hemorrhage in early pregnancy, delivered, with or without mention of antepartum
	condition
640.93	Unspecified hemorrhage in early pregnancy, antepartum condition or complication
Threat	of abortion/miscarriage
640.00	Threatened abortion, unspecified as to episode of care or not applicable
640.01	Threatened abortion, delivered, with or without mention of antepartum condition
640.03	Threatened abortion, antepartum condition, or complication
649.50	Spotting complicating pregnancy, unspecified as to episode of care or not applicable
649.51	Spotting complicating pregnancy, delivered, with or without mention of antepartum condition
649.53	Spotting complicating pregnancy, antepartum condition or complication
Pregna	ncy loss
646.30	Recurrent pregnancy loss, unspecified as to episode of care or not applicable
646.31	Recurrent pregnancy loss, delivered, with or without mention of antepartum condition
646.33	Recurrent pregnancy loss, antepartum condition, or complication
Placent	a previa or premature separation
641.00	Placenta previa without hemorrhage, unspecified as to episode of care or not applicable
641.01	Placenta previa without hemorrhage, delivered, with or without mention of antepartum
	condition
641.03	Placenta previa without hemorrhage, antepartum condition, or complication
641.20	Premature separation of placenta, unspecified as to episode of care or not applicable
641.21	Premature separation of placenta, delivered, with or without mention of antepartum condition
641.23	Premature separation of placenta, antepartum condition, or complication

#### Hypertensive disease of pregnancy

- 642.00 Benign essential hypertension complicating pregnancy, childbirth, and the puerperium, unspecified as to episode of care or not applicable
- 642.01 Benign essential hypertension complicating pregnancy, childbirth, and the puerperium, delivered, with or without mention of antepartum condition
- Benign essential hypertension, complicating pregnancy, childbirth, and the puerperium, delivered, with mention of postpartum complication
- 642.03 Benign essential hypertension complicating pregnancy, childbirth, and the puerperium, antepartum condition or complication
- 642.04 Benign essential hypertension complicating pregnancy, childbirth, and the puerperium, postpartum condition or complication
- 642.10 Hypertension secondary to renal disease, complicating pregnancy, childbirth, and the puerperium, unspecified as to episode of care or not applicable
- 642.11 Hypertension secondary to renal disease, complicating pregnancy, childbirth, and the puerperium, delivered, with or without mention of antepartum condition
- 642.12 Hypertension secondary to renal disease, complicating pregnancy, childbirth, and the puerperium, delivered, with mention of postpartum complication
- 642.13 Hypertension secondary to renal disease, complicating pregnancy, childbirth, and the puerperium, antepartum condition or complication
- 642.14 Hypertension secondary to renal disease, complicating pregnancy, childbirth, and the puerperium, postpartum condition or complication
- Other pre-existing hypertension complicating pregnancy, childbirth, and the puerperium, unspecified as to episode of care or not applicable
- Other pre-existing hypertension, complicating pregnancy, childbirth, and the puerperium, delivered, with or without mention of antepartum condition
- Other pre-existing hypertension, complicating pregnancy, childbirth, and the puerperium, delivered, with mention of postpartum complication
- Other pre-existing hypertension, complicating pregnancy, childbirth, and the puerperium, antepartum condition or complication

642.24	Other pre-existing hypertension, complicating pregnancy, childbirth, and the puerperium,
	postpartum condition or complication

- 642.30 Transient hypertension of pregnancy, unspecified as to episode of care or not applicable
- 642.31 Transient hypertension of pregnancy, delivered, with or without mention of antepartum condition
- 642.32 Transient hypertension of pregnancy, delivered, with mention of postpartum complication
- 642.33 Transient hypertension of pregnancy, antepartum condition or complication
- 642.34 Transient hypertension of pregnancy, postpartum condition or complication
- 642.90 Unspecified hypertension complicating pregnancy/childbirth; unspecified episode of care
- 642.91 Unspecified hypertension complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition
- 642.92 Unspecified hypertension complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication
- 642.93 Unspecified hypertension complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication
- 642.94 Unspecified hypertension complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication

#### Maternal cardiovascular disease

- 648.50 Congenital cardiovascular disorders of mother, unspecified as to episode of care or not applicable
- 648.51 Congenital cardiovascular disorders of mother, delivered, with or without mention of antepartum condition
- 648.52 Congenital cardiovascular disorders of mother, delivered, with mention of postpartum complication
- 648.53 Congenital cardiovascular disorders of mother, antepartum condition or complication
- 648.54 Congenital cardiovascular disorders of mother, postpartum condition or complication
- 648.60 Other cardiovascular diseases of mother, unspecified as to episode of care or not applicable
- 648.61 Other cardiovascular diseases of mother, delivered, with or without mention of antepartum condition
- 648.62 Other cardiovascular diseases of mother, delivered, with mention of postpartum complication
- 648.63 Other cardiovascular diseases of mother, antepartum condition or complication

648.64 Other cardiovascular diseases of mother, postpartum condition or complication

### Liver disease of pregnancy 646.70 Liver disorders in pregnancy, unspecified as to episode of care or not applicable 646.71 Liver disorders in pregnancy, delivered, with or without mention of antepartum condition 646.73 Liver disorders in pregnancy, antepartum condition or complication Thyroid disease of pregnancy 648.10 Thyroid dysfunction of mother, unspecified as to episode of care or not applicable 648.11 Thyroid dysfunction of mother, delivered, with or without mention of antepartum condition 648.12 Thyroid dysfunction of mother, delivered, with mention of postpartum complication 648.13 Thyroid dysfunction of mother, antepartum condition or complication 648.14 Thyroid dysfunction of mother, postpartum condition or complication Diabetes and abnormal glucose tolerance test in pregnancy 648.00 Diabetes mellitus of mother, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable 648.01 Diabetes mellitus of mother, complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition 648.02 Diabetes mellitus of mother, complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication 648.03 Diabetes mellitus of mother, complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication 648.04 Diabetes mellitus of mother, complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication Abnormal glucose tolerance of mother, unspecified as to episode of care or not applicable 648.80 648.81 Abnormal glucose tolerance of mother, delivered, with or without mention of antepartum condition 648.82 Abnormal glucose tolerance of mother, delivered, with mention of postpartum complication Abnormal glucose tolerance of mother, antepartum condition or complication 648.83 Abnormal glucose tolerance of mother, postpartum condition or complication 648.84 Renal disease of pregnancy 646.20 Unspecified renal disease in pregnancy, without mention of hypertension, unspecified as to

episode of care or not applicable

- 646.21 Unspecified renal disease in pregnancy, without mention of hypertension, delivered, with or without mention of antepartum condition
- 646.22 Unspecified renal disease in pregnancy, without mention of hypertension, delivered, with mention of postpartum complication
- 646.23 Unspecified renal disease in pregnancy, without mention of hypertension, antepartum condition or complication
- 646.24 Unspecified renal disease in pregnancy, without mention of hypertension, postpartum condition or complication
- Pre-eclampsia/eclampsia of pregnancy Mild or unspecified pre-eclampsia, unspecified as to episode of care or not applicable 642.40 642.41 Mild or unspecified pre-eclampsia, delivered, with or without mention of antepartum condition 642.42 Mild or unspecified pre-eclampsia, delivered, with mention of postpartum complication 642.43 Mild or unspecified pre-eclampsia, antepartum condition or complication 642.44 Mild or unspecified pre-eclampsia, postpartum condition or complication 642.50 Severe pre-eclampsia, unspecified as to episode of care or not applicable 642.51 Severe pre-eclampsia, delivered, with or without mention of antepartum condition 642.52 Severe pre-eclampsia, delivered, with mention of postpartum complication 642.53 Severe pre-eclampsia, antepartum condition or complication 642.54 Severe pre-eclampsia, postpartum condition or complication 642.60 Eclampsia, unspecified as to episode of care or not applicable 642.61 Eclampsia, delivered, with or without mention of antepartum condition 642.62 Eclampsia, delivered, with mention of postpartum complication 642.63 Eclampsia, antepartum condition or complication 642.64 Eclampsia, postpartum condition or complication 642.70 Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, unspecified as to episode of care or not applicable
- episode of care or not applicable

  642.71 Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, delivered, with or
- Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, delivered, with or without mention of antepartum condition
- 642.72 Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, delivered, with mention of postpartum complication

- 642.73 Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, antepartum condition or complication
- 642.74 Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, postpartum condition or complication

### Hyperemesis gravidarum/vomiting in pregnancy Mild hyperemesis gravidarum, unspecified as to episode of care or not applicable 643.00 643.01 Mild hyperemesis gravidarum, delivered, with or without mention of antepartum condition 643.03 Mild hyperemesis gravidarum, antepartum condition or complication 643.10 Hyperemesis gravidarum with metabolic disturbance, unspecified as to episode of care or not applicable 643.11 Hyperemesis gravidarum with metabolic disturbance, delivered, with or without mention of antepartum condition 643.13 Hyperemesis gravidarum with metabolic disturbance, antepartum condition or complication 643.20 Late vomiting of pregnancy, unspecified as to episode of care or not applicable 643.21 Late vomiting of pregnancy, delivered, with or without mention of antepartum condition 643.23 Late vomiting of pregnancy, antepartum condition or complication 643.80 Other vomiting complicating pregnancy, unspecified as to episode of care or not applicable 643.81 Other vomiting complicating pregnancy, delivered, with or without mention of antepartum condition

643.90 Unspecified vomiting of pregnancy, unspecified as to episode of care or not applicable

643.83 Other vomiting complicating pregnancy, antepartum condition or complication

- 643.91 Unspecified vomiting of pregnancy, delivered, with or without mention of antepartum condition
- 643.93 Unspecified vomiting of pregnancy, antepartum condition or complication

#### Premature labor

644.00	Threatened premature labor, unspecified as to episode of care or not applicable
644.03	Threatened premature labor, antepartum condition or complication
644.10	Other threatened labor, unspecified as to episode of care or not applicable
644.13	Other threatened labor, antepartum condition or complication
644.20	Early onset of delivery, unspecified as to episode of care or not applicable
644.21	Early onset of delivery, delivered, with or without mention of antepartum condition

## Post-term pregnancy 645.10 Post-term pregnancy; unspecified episode of care 645.11 Post-term pregnancy, delivered, with or without mention of antepartum condition 645.13 Post-term pregnancy, antepartum condition or complication 645.20 Prolonged pregnancy, unspecified as to episode of care or not applicable Prolonged pregnancy, delivered, with or without mention of antepartum condition 645.21 645.23 Prolonged pregnancy, antepartum condition or complication 646.00 Papyraceous fetus, unspecified as to episode of care or not applicable 646.01 Papyraceous fetus, delivered, with or without mention of antepartum condition 646.03 Papyraceous fetus, antepartum condition or complication Edema or excessive weight gain in pregnancy, without mention of hypertension Edema or excessive weight gain in pregnancy, without mention of hypertension, unspecified as to episode of care or not applicable 646.11 Edema or excessive weight gain in pregnancy, without mention of hypertension, delivered, with or without mention of antepartum complication 646.12 Edema or excessive weight gain in pregnancy, without mention of hypertension, delivered, with mention of postpartum complication 646.13 Edema or excessive weight gain in pregnancy, without mention of hypertension, antepartum condition or complication 646.14 Edema or excessive weight gain in pregnancy, without mention of hypertension, postpartum condition or complication Obesity or bariatric surgery 649.10 Obesity complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable 649.11 Obesity complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition 649.12 Obesity complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication Obesity complicating pregnancy, childbirth, or the puerperium, antepartum condition or 649.13 complication

- Obesity complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication
- 649.20 Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable
- 649.21 Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition
- 649.22 Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication
- 649.23 Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication
- 649.24 Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication

#### **Infections in pregnancy**

- 646.50 Asymptomatic bacteriuria in pregnancy, unspecified as to episode of care or not applicable
- Asymptomatic bacteriuria in pregnancy, delivered, with or without mention of antepartum condition
- 646.52 Asymptomatic bacteriuria in pregnancy, delivered, with mention of postpartum complication
- 646.53 Asymptomatic bacteriuria in pregnancy, antepartum condition or complication
- 646.54 Asymptomatic bacteriuria in pregnancy, postpartum condition or complication
- 646.60 Infections of genitourinary tract in pregnancy, unspecified as to episode of care or not applicable
- 646.61 Infections of genitourinary tract in pregnancy, delivered, with or without mention of antepartum condition
- 646.62 Infections of genitourinary tract in pregnancy, delivered, with mention of postpartum complication
- 646.63 Infections of genitourinary tract in pregnancy, antepartum condition or complication
- 646.64 Infections of genitourinary tract in pregnancy, postpartum condition or complication
- 647.30 Tuberculosis of mother, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable
- 647.31 Tuberculosis of mother, complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition

- 647.32 Tuberculosis of mother, complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication
- 647.33 Tuberculosis of mother, complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication
- 647.34 Tuberculosis of mother, complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication
- 647.40 Malaria in the mother, unspecified as to episode of care or not applicable
- 647.41 Malaria in the mother, delivered, with or without mention of antepartum condition
- 647.42 Malaria in the mother, delivered, with mention of postpartum complication
- 647.43 Malaria in the mother, antepartum condition or complication
- 647.44 Malaria in the mother, postpartum condition or complication
- 647.50 Rubella in the mother, unspecified as to episode of care or not applicable
- 647.51 Rubella in the mother, delivered, with or without mention of antepartum condition
- 647.52 Rubella in the mother, delivered, with mention of postpartum complication
- 647.53 Rubella in the mother, antepartum condition or complication
- 647.54 Rubella in the mother, postpartum condition or complication
- 647.60 Other viral diseases in the mother, unspecified as to episode of care or not applicable
- 647.61 Other viral diseases in the mother, delivered, with or without mention of antepartum condition
- 647.62 Other viral diseases in the mother, delivered, with mention of postpartum complication
- 647.63 Other viral diseases in the mother, antepartum condition or complication
- 647.64 Other viral diseases in the mother, postpartum condition or complication
- 647.80 Other specified infectious and parasitic diseases of mother, unspecified as to episode of care or not applicable
- Other specified infectious and parasitic diseases of mother, delivered, with or without mention of antepartum condition
- Other specified infectious and parasitic diseases of mother, delivered, with mention of postpartum complication
- 647.83 Other specified infectious and parasitic diseases of mother, antepartum condition or complication
- 647.84 Other specified infectious and parasitic diseases of mother, postpartum condition or complication

- 647.90 Unspecified infection or infestation of mother, unspecified as to episode of care or not applicable
- 647.91 Unspecified infection or infestation of mother, delivered, with or without mention of antepartum condition
- 647.92 Unspecified infection or infestation of mother, delivered, with mention of postpartum complication
- 647.93 Unspecified infection or infestation of mother, antepartum condition or complication
- 647.94 Unspecified infection or infestation of mother, postpartum condition or complication

#### Sexually transmitted diseases in pregnancy

- 647.00 Syphilis of mother, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable
- 647.01 Syphilis of mother, complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition
- 647.02 Syphilis of mother, complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication
- 647.03 Syphilis of mother, complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication
- 647.04 Syphilis of mother, complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication
- 647.10 Gonorrhea of mother, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable
- 647.11 Gonorrhea of mother, complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition
- 647.12 Gonorrhea of mother, complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication
- 647.13 Gonorrhea of mother, complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication
- 647.14 Gonorrhea of mother, complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication
- 647.20 Other venereal diseases of mother, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable

- 647.21 Other venereal diseases of mother, complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition
- Other venereal diseases of mother, complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication
- 647.23 Other venereal diseases of mother, complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication
- Other venereal diseases of mother, complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication

### Neurologic complications in pregnancy

- 646.40 Peripheral neuritis in pregnancy, unspecified as to episode of care or not applicable
- 646.41 Peripheral neuritis in pregnancy, delivered, with or without mention of antepartum condition
- 646.42 Peripheral neuritis in pregnancy, delivered, with mention of postpartum complication
- 646.43 Peripheral neuritis in pregnancy, antepartum condition or complication
- 646.44 Peripheral neuritis in pregnancy, postpartum condition or complication
- 649.40 Epilepsy complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable
- 649.41 Epilepsy complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition
- 649.42 Epilepsy complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication
- 649.43 Epilepsy complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication
- Epilepsy complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication

#### Addictions in pregnancy - drugs

- 648.30 Drug dependence of mother, unspecified as to episode of care or not applicable
- 648.31 Drug dependence of mother, delivered, with or without mention of antepartum condition
- 648.32 Drug dependence of mother, delivered, with mention of postpartum complication
- 648.33 Drug dependence of mother, antepartum condition or complication
- 648.34 Drug dependence of mother, postpartum condition or complication

#### Addictions in pregnancy - tobacco

- Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable
   Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition
   Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication
   Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication
- 649.04 Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication

#### Anemia or coagulation disorder of pregnancy

- 649.30 Coagulation defects complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable
- 649.31 Coagulation defects complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition
- 649.32 Coagulation defects complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication
- 649.33 Coagulation defects complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication
- 649.34 Coagulation defects complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication

#### C-section delivery prior to 37 weeks

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

#### C-section delivery after 37 weeks

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

#### Mental health disorder of mother

648.40 Mental disorders of mother, unspecified as to episode of care or not applicable

648.41	Mental disorders of mother, delivered, with or without mention of antepartum condition
648.42	Mental disorders of mother, delivered, with mention of postpartum complication
648.43	Mental disorders of mother, antepartum condition or complication
648.44	Mental disorders of mother, postpartum condition or complication

Abbreviation: ICD-9-CM = International Classification of Diseases, Ninth Revision, Clinical Modification

Table e-5. Clinically relevant, categorized ICD-9-CM codes for complications during labor and delivery

Fetal m	alposition or disproportion
652.00	Unstable lie, unspecified as to episode of care or not applicable
652.01	Unstable lie, delivered, with or without mention of antepartum condition
652.03	Unstable lie, antepartum condition or complication
652.10	Breech or other malpresentation successfully converted to cephalic presentation, unspecified as
	to episode of care or not applicable
652.11	Breech or other malpresentation successfully converted to cephalic presentation, delivered, with
	or without mention of antepartum condition
652.13	Breech or other malpresentation successfully converted to cephalic presentation, antepartum
	condition or complication
652.20	Breech presentation without mention of version, unspecified as to episode of care or not
	applicable
652.21	Breech presentation without mention of version, delivered, with or without mention of
	antepartum condition
652.23	Breech presentation without mention of version, antepartum condition or complication
652.30	Transverse or oblique presentation, unspecified as to episode of care or not applicable
652.31	Transverse or oblique presentation, delivered, with or without mention of antepartum condition
652.33	Transverse or oblique presentation, antepartum condition or complication
652.40	Face or brow presentation, unspecified as to episode of care or not applicable
652.41	Face or brow presentation, delivered, with or without mention of antepartum condition
652.43	Face or brow presentation, antepartum condition or complication
652.50	High head at term, unspecified as to episode of care or not applicable
652.51	High head at term, delivered, with or without mention of antepartum condition
652.53	High head at term, antepartum condition or complication
652.60	Multiple gestation with malpresentation of one fetus or more, unspecified as to episode of care
	or not applicable
652.61	Multiple gestation with malpresentation of one fetus or more, delivered, with or without
	mention of antepartum condition

652.63	Multiple gestation with malpresentation of one fetus or more, antepartum condition or
	complication
652.70	Prolapsed arm of fetus, unspecified as to episode of care or not applicable
652.71	Prolapsed arm of fetus, delivered, with or without mention of antepartum condition
652.73	Prolapsed arm of fetus, antepartum condition or complication
652.80	Other specified malposition or malpresentation, unspecified as to episode of care or not
	applicable
652.81	Other specified malposition or malpresentation, delivered, with or without mention of
	antepartum condition
652.83	Other specified malposition or malpresentation, antepartum condition or complication
652.90	Unspecified malposition or malpresentation, unspecified as to episode of care or not applicable
652.91	Unspecified malposition or malpresentation, delivered, with or without mention of antepartun
	condition
652.93	Unspecified malposition or malpresentation, antepartum condition or complication
653.40	Fetopelvic disproportion, unspecified as to episode of care or not applicable
653.41	Fetopelvic disproportion, delivered, with or without mention of antepartum condition
653.43	Fetopelvic disproportion, antepartum condition or complication
653.50	Unusually large fetus causing disproportion, unspecified as to episode of care or not applicable
653.51	Unusually large fetus causing disproportion, delivered, with or without mention of antepartum
	condition
653.53	Unusually large fetus causing disproportion, antepartum condition or complication
653.60	Hydrocephalic fetus causing disproportion, unspecified as to episode of care or not applicable
653.61	Hydrocephalic fetus causing disproportion, delivered, with or without mention of antepartum
	condition
653.63	Hydrocephalic fetus causing disproportion, antepartum condition or complication
653.70	Other fetal abnormality causing disproportion, unspecified as to episode of care or not
	applicable
653.71	Other fetal abnormality causing disproportion, delivered, with or without mention of
	antepartum condition
653 73	Other fetal abnormality causing disproportion, antepartum condition or complication

656.50	Poor fetal growth, affecting management of mother, unspecified as to episode of care or not applicable
656.51	Poor fetal growth, affecting management of mother, delivered, with or without mention of
	antepartum condition
656.53	Poor fetal growth, affecting management of mother, antepartum condition or complication
656.60	Excessive fetal growth, affecting management of mother, unspecified as to episode of care or
	not applicable
656.61	Excessive fetal growth, affecting management of mother, delivered, with or without mention of antepartum condition
656.63	Excessive fetal growth, affecting management of mother, antepartum condition or complication
659.70	Abnormality in fetal heart rate or rhythm, unspecified as to episode of care or not applicable
659.71	Abnormality in fetal heart rate or rhythm, delivered, with or without mention of antepartum
	condition
659.73	Abnormality in fetal heart rate or rhythm, antepartum condition or complication
660.00	Obstruction caused by malposition of fetus at onset of labor, unspecified as to episode of care
	or not applicable
660.01	Obstruction caused by malposition of fetus at onset of labor, delivered, with or without mention
	of antepartum condition
660.03	Obstruction caused by malposition of fetus at onset of labor, antepartum condition or
	complication
660.30	Deep transverse arrest and persistent occipitoposterior position, unspecified as to episode of
	care or not applicable
660.31	Deep transverse arrest and persistent occipitoposterior position, delivered, with or without
	mention of antepartum condition
660.33	Deep transverse arrest and persistent occipitoposterior position, antepartum condition or
	complication
660.50	Locked twins, unspecified as to episode of care or not applicable
660.51	Locked twins, delivered, with or without mention of antepartum condition
660.53	Locked twins, antepartum condition or complication

# **Maternal factors complicating delivery**

653.00	Major abnormality of bony pelvis, not further specified, unspecified as to episode of care or not
	applicable
653.01	Major abnormality of bony pelvis, not further specified, delivered, with or without mention of
	antepartum condition
653.03	Major abnormality of bony pelvis, not further specified, antepartum condition or complication
653.10	Generally contracted pelvis, unspecified as to episode of care or not applicable
653.11	Generally contracted pelvis, delivered, with or without mention of antepartum condition
653.13	Generally contracted pelvis, antepartum condition or complication
653.20	Inlet contraction of pelvis, unspecified as to episode of care or not applicable
653.21	Inlet contraction of pelvis, delivered, with or without mention of antepartum condition
653.23	Inlet contraction of pelvis, antepartum condition or complication
653.30	Outlet contraction of pelvis, unspecified as to episode of care or not applicable
653.31	Outlet contraction of pelvis, delivered, with or without mention of antepartum condition
653.33	Outlet contraction of pelvis, antepartum condition or complication
654.00	Congenital abnormalities of uterus, unspecified as to episode of care or not applicable
654.01	Congenital abnormalities of uterus, delivered, with or without mention of antepartum condition
654.02	Congenital abnormalities of uterus, delivered, with mention of postpartum complication
654.03	Congenital abnormalities of uterus, antepartum condition or complication
654.04	Congenital abnormalities of uterus, postpartum condition or complication
654.10	Tumors of body of uterus, unspecified as to episode of care or not applicable
654.11	Tumors of body of uterus, delivered, with or without mention of antepartum condition
654.12	Tumors of body of uterus, delivered, with mention of postpartum complication
654.13	Tumors of body of uterus, antepartum condition or complication
654.14	Tumors of body of uterus, postpartum condition or complication
654.20	Previous cesarean delivery, unspecified as to episode of care or not applicable
654.21	Previous cesarean delivery, delivered, with or without mention of antepartum condition
654.23	Previous cesarean delivery, antepartum condition or complication
654.30	Retroverted and incarcerated gravid uterus, unspecified as to episode of care or not applicable
654.31	Retroverted and incarcerated gravid uterus, delivered, with mention of antepartum condition
654.32	Retroverted and incarcerated gravid uterus, delivered, with mention of postpartum complication
654.33	Retroverted and incarcerated gravid uterus, antepartum condition or complication

654.34	Retroverted and incarcerated gravid uterus, postpartum condition or complication
654.40	Other abnormalities in shape or position of gravid uterus and of neighboring structures,
	unspecified as to episode of care or not applicable
654.41	Other abnormalities in shape or position of gravid uterus and of neighboring structures,
	delivered, with or without mention of antepartum condition
654.42	Other abnormalities in shape or position of gravid uterus and of neighboring structures,
	delivered, with mention of postpartum complication
654.43	Other abnormalities in shape or position of gravid uterus and of neighboring structures,
	antepartum condition or complication
654.44	Other abnormalities in shape or position of gravid uterus and of neighboring structures,
	postpartum condition or complication
654.50	Cervical incompetence, unspecified as to episode of care or not applicable
654.51	Cervical incompetence, delivered, with or without mention of antepartum condition
654.52	Cervical incompetence, delivered, with mention of postpartum complication
654.53	Cervical incompetence, antepartum condition or complication
654.54	Cervical incompetence, postpartum condition or complication
654.60	Other congenital or acquired abnormality of cervix, unspecified as to episode of care or not
	applicable
654.61	Other congenital or acquired abnormality of cervix, delivered, with or without mention of
	antepartum condition
654.62	Other congenital or acquired abnormality of cervix, delivered, with mention of postpartum
	complication
654.63	Other congenital or acquired abnormality of cervix, antepartum condition or complication
654.64	Other congenital or acquired abnormality of cervix, postpartum condition or complication
654.70	Congenital or acquired abnormality of vagina, unspecified as to episode of care or not
	applicable
654.71	Congenital or acquired abnormality of vagina, delivered, with or without mention of antepartum
	condition
654.72	Congenital or acquired abnormality of vagina, delivered, with mention of postpartum
	complication
654.73	Congenital or acquired abnormality of vagina, antepartum condition or complication

654.74	Congenital or acquired abnormality of vagina, postpartum condition or complication
654.80	Congenital or acquired abnormality of vulva, unspecified as to episode of care or not applicable
654.81	Congenital or acquired abnormality of vulva, delivered, with or without mention of antepartum
	condition
654.82	Congenital or acquired abnormality of vulva, delivered, with mention of postpartum
	complication
654.83	Congenital or acquired abnormality of vulva, antepartum condition or complication
654.84	Congenital or acquired abnormality of vulva, postpartum condition or complication
654.90	Other and unspecified abnormality of organs and soft tissues of pelvis, unspecified as to
	episode of care or not applicable
654.91	Other and unspecified abnormality of organs and soft tissues of pelvis, delivered, with or
	without mention of antepartum condition
654.92	Other and unspecified abnormality of organs and soft tissues of pelvis, delivered, with mention
	of postpartum complication
654.93	Other and unspecified abnormality of organs and soft tissues of pelvis, antepartum condition or
	complication
654.94	Other and unspecified abnormality of organs and soft tissues of pelvis, postpartum condition or
	complication
659.00	Failed mechanical induction of labor, unspecified as to episode of care or not applicable
659.01	Failed mechanical induction of labor, delivered, with or without mention of antepartum
	condition
659.03	Failed mechanical induction of labor, antepartum condition or complication
659.10	Failed medical or unspecified induction of labor, unspecified as to episode of care or not
	applicable
659.11	Failed medical or unspecified induction of labor, delivered, with or without mention of
	antepartum condition
659.13	Failed medical or unspecified induction of labor, antepartum condition or complication
659.20	Maternal pyrexia during labor, unspecified, unspecified as to episode of care or not applicable
659.21	Maternal pyrexia during labor, unspecified, delivered, with or without mention of antepartum
	condition
659.23	Maternal pyrexia during labor, unspecified, antepartum condition or complication

659.30	Generalized infection during labor, unspecified as to episode of care or not applicable
659.31	Generalized infection during labor, delivered, with or without mention of antepartum condition
659.33	Generalized infection during labor, antepartum condition or complication
659.40	Grand multiparity, unspecified as to episode of care or not applicable
659.41	Grand multiparity, delivered, with or without mention of antepartum condition
659.43	Grand multiparity, antepartum condition or complication
659.50	Elderly primigravida, unspecified as to episode of care or not applicable
659.51	Elderly primigravida, delivered, with or without mention of antepartum condition
659.53	Elderly primigravida, antepartum condition or complication
659.60	Elderly multigravida, unspecified as to episode of care or not applicable
659.61	Elderly multigravida, delivered with or without mention of antepartum condition
659.63	Elderly multigravida, antepartum condition or complication
660.10	Obstruction by bony pelvis during labor, unspecified as to episode of care or not applicable
660.11	Obstruction by bony pelvis during labor, delivered, with or without mention of antepartum
	condition
660.13	Obstruction by bony pelvis during labor, antepartum condition or complication
660.20	Obstruction by abnormal pelvic soft tissues during labor, unspecified as to episode of care or
	not applicable
660.21	Obstruction by abnormal pelvic soft tissues during labor, delivered, with or without mention of
	antepartum condition
660.23	Obstruction by abnormal pelvic soft tissues during labor, antepartum condition or complication
660.60	Unspecified failed trial of labor, unspecified as to episode of care or not applicable
660.61	Unspecified failed trial of labor, delivered, with or without mention of antepartum condition
660.63	Unspecified failed trial of labor, antepartum condition or complication
660.70	Failed forceps or vacuum extractor, unspecified, unspecified as to episode of care or not
	applicable
660.71	Failed forceps or vacuum extractor, unspecified, delivered, with or without mention of
	antepartum condition
660.73	Failed forceps or vacuum extractor, unspecified, antepartum condition or complication
660.80	Other causes of obstructed labor, unspecified as to episode of care or not applicable
660.81	Other causes of obstructed labor, delivered, with or without mention of antepartum condition

660.83	Other causes of obstructed labor, antepartum condition or complication
660.90	Unspecified obstructed labor, unspecified as to episode of care or not applicable
660.91	Unspecified obstructed labor, delivered, with or without mention of antepartum condition
660.93	Unspecified obstructed labor, antepartum condition or complication
661.00	Primary uterine inertia, unspecified as to episode of care or not applicable
661.01	Primary uterine inertia, delivered, with or without mention of antepartum condition
661.03	Primary uterine inertia, antepartum condition or complication
661.10	Secondary uterine inertia, unspecified as to episode of care or not applicable
661.11	Secondary uterine inertia, delivered, with or without mention of antepartum condition
661.13	Secondary uterine inertia, antepartum condition or complication
661.20	Other and unspecified uterine inertia, unspecified as to episode of care or not applicable
661.21	Other and unspecified uterine inertia, delivered, with or without mention of antepartum
	condition
661.23	Other and unspecified uterine inertia, antepartum condition or complication
661.30	Precipitate labor, unspecified as to episode of care or not applicable
661.31	Precipitate labor, delivered, with or without mention of antepartum condition
661.33	Precipitate labor, antepartum condition or complication
661.40	Hypertonic, incoordinate, or prolonged uterine contractions, unspecified as to episode of care or
	not applicable
661.41	Hypertonic, incoordinate, or prolonged uterine contractions, delivered, with or without mention
	of antepartum condition
661.43	Hypertonic, incoordinate, or prolonged uterine contractions, antepartum condition or
	complication
661.90	Unspecified abnormality of labor, unspecified as to episode of care or not applicable
661.91	Unspecified abnormality of labor, delivered, with or without mention of antepartum condition
661.93	Unspecified abnormality of labor, antepartum condition or complication
662.00	Prolonged first stage of labor, unspecified as to episode of care or not applicable
662.01	Prolonged first stage of labor, delivered, with or without mention of antepartum condition
662.03	Prolonged first stage of labor, antepartum condition or complication
662.10	Unspecified prolonged labor, unspecified as to episode of care or not applicable
662.11	Unspecified prolonged labor, delivered, with or without mention of antepartum condition

- 662.13 Unspecified prolonged labor, antepartum condition or complication
- 662.20 Prolonged second stage of labor, unspecified as to episode of care or not applicable
- 662.21 Prolonged second stage of labor, delivered, with or without mention of antepartum condition
- 662.23 Prolonged second stage of labor, antepartum condition or complication
- 662.30 Delayed delivery of second twin, triplet, etc., unspecified as to episode of care or not applicable
- 662.31 Delayed delivery of second twin, triplet, etc., delivered, with or without mention of antepartum condition
- 662.33 Delayed delivery of second twin, triplet, etc., antepartum condition or complication
- 663.00 Prolapse of cord complicating labor and delivery, unspecified as to episode of care or not applicable
- Prolapse of cord complicating labor and delivery, delivered, with or without mention of antepartum condition
- 663.03 Prolapse of cord complicating labor and delivery, antepartum condition or complication
- 663.10 Cord around neck with compression, complicating labor and delivery, unspecified as to episode of care or not applicable
- 663.11 Cord around neck, with compression, complicating labor and delivery, delivered, with or without mention of antepartum condition
- 663.13 Cord around neck, with compression, complicating labor and delivery, antepartum condition or complication
- Other and unspecified cord entanglement, with compression, complicating labor and delivery, unspecified as to episode of care or not applicable
- Other and unspecified cord entanglement, with compression, complicating labor and delivery, delivered, with or without mention of antepartum condition
- 663.23 Other and unspecified cord entanglement, with compression, complicating labor and delivery, antepartum condition or complication
- 663.30 Other and unspecified cord entanglement, without mention of compression, complicating labor and delivery, unspecified as to episode of care or not applicable
- Other and unspecified cord entanglement, without mention of compression, complicating labor and delivery, delivered, with or without mention of antepartum condition
- 663.33 Other and unspecified cord entanglement, without mention of compression, complicating labor and delivery, antepartum condition or complication

663.40	Short cord complicating labor and delivery, unspecified as to episode of care or not applicable
663.41	Short cord complicating labor and delivery, delivered, with or without mention of antepartum

- condition
- 663.43 Short cord complicating labor and delivery, antepartum condition or complication
- 663.50 Vasa previa complicating labor and delivery, unspecified as to episode of care or not applicable
- Vasa previa complicating labor and delivery, delivered, with or without mention of antepartum condition
- 663.53 Vasa previa complicating labor and delivery, antepartum condition or complication
- Vascular lesions of cord complicating labor and delivery, unspecified as to episode of care or not applicable
- Vascular lesions of cord complicating labor and delivery, delivered, with or without mention of antepartum condition
- 663.63 Vascular lesions of cord complicating labor and delivery, antepartum condition or complication
- 663.80 Other umbilical cord complications complicating labor and delivery, unspecified as to episode of care or not applicable
- Other umbilical cord complications complicating labor and delivery, delivered, with or without mention of antepartum condition
- 663.83 Other umbilical cord complications complicating labor and delivery, antepartum condition or complication
- 663.90 Unspecified umbilical cord complication complicating labor and delivery, unspecified as to episode of care or not applicable
- Unspecified umbilical cord complication complicating labor and delivery, delivered, with or without mention of antepartum condition
- 663.93 Unspecified umbilical cord complication complicating labor and delivery, antepartum condition or complication
- 665.00 Rupture of uterus before onset of labor, unspecified as to episode of care or not applicable
- Rupture of uterus before onset of labor, delivered, with or without mention of antepartum condition
- 665.03 Rupture of uterus before onset of labor, antepartum condition or complication
- Rupture of uterus during labor, unspecified as to episode of care or not applicable
- 665.11 Rupture of uterus during labor, delivered, with or without mention of antepartum condition

665.20	Inversion of uterus, unspecified as to episode of care or not applicable
665.22	Inversion of uterus, delivered, with mention of postpartum complication
665.24	Inversion of uterus, postpartum condition or complication
669.00	Maternal distress complicating labor and delivery, unspecified as to episode of care or not
	applicable
669.01	Maternal distress complicating labor and delivery, delivered, with or without mention of
	antepartum condition
669.02	Maternal distress complicating labor and delivery, delivered, with mention of postpartum
	complication
669.03	Maternal distress complicating labor and delivery, antepartum condition or complication
669.04	Maternal distress complicating labor and delivery, postpartum condition or complication
669.10	Shock during or following labor and delivery, unspecified as to episode of care or not
	applicable
669.11	Shock during or following labor and delivery, delivered, with or without mention of antepartum
	condition
669.12	Shock during or following labor and delivery, delivered, with mention of postpartum
	complication
669.13	Shock during or following labor and delivery, antepartum condition or complication
669.14	Shock during or following labor and delivery, postpartum condition or complication
669.20	Maternal hypotension syndrome, unspecified as to episode of care or not applicable
669.21	Maternal hypotension syndrome, delivered, with or without mention of antepartum condition
669.22	Maternal hypotension syndrome, delivered, with mention of postpartum complication
669.23	Maternal hypotension syndrome, antepartum condition or complication
669.24	Maternal hypotension syndrome, postpartum condition or complication
669.30	Acute kidney failure following labor and delivery, unspecified as to episode of care or not
	applicable
669.32	Acute kidney failure following labor and delivery, delivered, with mention of postpartum
	complication
669.34	Acute kidney failure following labor and delivery, postpartum condition or complication
669.40	Other complications of obstetrical surgery and procedures, unspecified as to episode of care or
	not applicable

669.41	Other complications of obstetrical surgery and procedures, delivered, with or without mention
	of antepartum condition
669.42	Other complications of obstetrical surgery and procedures, delivered, with mention of
	postpartum complication
669.43	Other complications of obstetrical surgery and procedures, antepartum condition or
	complication
669.44	Other complications of obstetrical surgery and procedures, postpartum condition or
	complication
669.80	Other complications of labor and delivery, unspecified as to episode of care or not applicable
669.81	Other complications of labor and delivery, delivered, with or without mention of antepartum
	condition
669.82	Other complications of labor and delivery, delivered, with mention of postpartum complication
669.83	Other complications of labor and delivery, antepartum condition or complication
669.84	Other complications of labor and delivery, postpartum condition or complication
669.90	Unspecified complication of labor and delivery, unspecified as to episode of care or not
	applicable
669.91	Unspecified complication of labor and delivery, delivered, with or without mention of
	antepartum condition
669.92	Unspecified complication of labor and delivery, delivered, with mention of postpartum
	complication
669.93	Unspecified complication of labor and delivery, antepartum condition or complication
669.94	Unspecified complication of labor and delivery, postpartum condition or complication
Congen	ital/hereditary fetal malformations
655.00	Central nervous system malformation in fetus, unspecified as to episode of care or not
	applicable
655.01	Central nervous system malformation in fetus, delivered, with or without mention of
	antepartum condition
655.03	Central nervous system malformation in fetus, antepartum condition or complication
655.10	Chromosomal abnormality in fetus, affecting management of mother, unspecified as to episode
	of care or not applicable

- 655.11 Chromosomal abnormality in fetus, affecting management of mother, delivered, with or without mention of antepartum condition
- 655.13 Chromosomal abnormality in fetus, affecting management of mother, antepartum condition or complication
- 655.20 Hereditary disease in family possibly affecting fetus, affecting management of mother, unspecified as to episode of care or not applicable
- 655.21 Hereditary disease in family possibly affecting fetus, affecting management of mother, delivered, with or without mention of antepartum condition
- Hereditary disease in family possibly affecting fetus, affecting management of mother, antepartum condition or complication

#### Acquired damage to the fetus (infection, position)

- Suspected damage to fetus from viral disease in the mother, affecting management of mother, unspecified as to episode of care or not applicable
- Suspected damage to fetus from viral disease in the mother, affecting management of mother, delivered, with or without mention of antepartum condition
- Suspected damage to fetus from viral disease in the mother, affecting management of mother, antepartum condition or complication
- Suspected damage to fetus from other disease in the mother, affecting management of mother, unspecified as to episode of care or not applicable
- Suspected damage to fetus from other disease in the mother, affecting management of mother, delivered, with or without mention of antepartum condition
- Suspected damage to fetus from other disease in the mother, affecting management of mother, antepartum condition or complication
- Suspected damage to fetus from drugs, affecting management of mother, unspecified as to episode of care or not applicable
- Suspected damage to fetus from drugs, affecting management of mother, delivered, with or without mention of antepartum condition
- Suspected damage to fetus from drugs, affecting management of mother, antepartum condition or complication
- Suspected damage to fetus from radiation, affecting management of mother, unspecified as to episode of care or not applicable

655.61	Suspected damage to fetus from radiation, affecting management of mother, delivered,
655.63	Suspected damage to fetus from radiation, affecting management of mother, antepartum
	condition or complication
655.80	Other known or suspected fetal abnormality, not elsewhere classified, affecting management
	of mother, unspecified as to episode of care or not applicable
655.81	Other known or suspected fetal abnormality, not elsewhere classified, affecting management
	of mother, delivered, with or without mention of antepartum condition
655.83	Other known or suspected fetal abnormality, not elsewhere classified, affecting management
	of mother, antepartum condition or complication
655.90	Unspecified suspected fetal abnormality, affecting management of mother, unspecified as to
	episode of care or not applicable
655.91	Unspecified suspected fetal abnormality, affecting management of mother, delivered, with or
	without mention of antepartum condition
655.93	Unspecified suspected fetal abnormality, affecting management of mother, antepartum
	condition or complication
656.30	Fetal distress, affecting management of mother, unspecified as to episode of care or not
	applicable
656.31	Fetal distress, affecting management of mother, delivered, with or without mention of
	antepartum condition
656.33	Fetal distress, affecting management of mother, antepartum condition or complication
660.40	Shoulder (girdle) dystocia, unspecified as to episode of care or not applicable
660.41	Shoulder (girdle) dystocia, delivered, with or without mention of antepartum condition
660.43	Shoulder (girdle) dystocia, antepartum condition or complication
Hemor	rhage
656.00	Fetal-maternal hemorrhage, unspecified as to episode of care or not applicable
656.01	Fetal-maternal hemorrhage, delivered, with or without mention of antepartum condition
656.03	Fetal-maternal hemorrhage, antepartum condition or complication
656.10	Rhesus isoimmunization, unspecified as to episode of care or not applicable
656.11	Rhesus isoimmunization, delivered, with or without mention of antepartum condition

656.13 Rhesus isoimmunization, antepartum condition or complication

656.20	Isoimmunization from other and unspecified blood-group incompatibility, unspecified as to
	episode of care or not applicable
656.21	Isoimmunization from other and unspecified blood-group incompatibility, delivered, with or
	without mention of antepartum condition
656.23	Isoimmunization from other and unspecified blood-group incompatibility, antepartum
	condition or complication
665.70	Pelvic hematoma, unspecified as to episode of care or not applicable
665.71	Pelvic hematoma, delivered, with or without mention of antepartum condition
665.72	Pelvic hematoma, delivered with mention of postpartum complication
665.74	Pelvic hematoma, postpartum condition or complication
666.00	Third-stage postpartum hemorrhage, unspecified as to episode of care or not applicable
666.02	Third-stage postpartum hemorrhage, delivered, with mention of postpartum complication
666.04	Third-stage postpartum hemorrhage, postpartum condition or complication
666.10	Other immediate postpartum hemorrhage, unspecified as to episode of care or not applicable
666.12	Other immediate postpartum hemorrhage, delivered, with mention of postpartum
	complication
666.14	Other immediate postpartum hemorrhage, postpartum condition or complication
666.20	Delayed and secondary postpartum hemorrhage, unspecified as to episode of care or not
	applicable
666.22	Delayed and secondary postpartum hemorrhage, delivered, with mention of postpartum
	complication
666.24	Delayed and secondary postpartum hemorrhage, postpartum condition or complication
666.30	Postpartum coagulation defects, unspecified as to episode of care or not applicable
666.32	Postpartum coagulation defects, delivered, with mention of postpartum complication
666.34	Postpartum coagulation defects, postpartum condition or complication
Intraut	erine death
656.40	Intrauterine death, affecting management of mother, unspecified as to episode of
	care or not applicable
656.41	Intrauterine death, affecting management of mother, delivered, with or without mention of
	antepartum condition
656.43	Intrauterine death, affecting management of mother, antepartum condition or complication

# **Placental issues** 656.70 Other placental conditions, affecting management of mother, unspecified as to episode of care or not applicable 656.71 Other placental conditions, affecting management of mother, delivered, with or without mention of antepartum condition 656.73 Other placental conditions, affecting management of mother, antepartum condition or complication 656.80 Other specified fetal and placental problems, affecting management of mother, unspecified as to episode of care or not applicable 656.81 Other specified fetal and placental problems, affecting management of mother, delivered, with or without mention of antepartum condition 656.83 Other specified fetal and placental problems, affecting management of mother, antepartum condition or complication 656.90 Unspecified fetal and placental problem, affecting management of mother, unspecified as to episode of care or not applicable 656.91 Unspecified fetal and placental problem, affecting management of mother, delivered, with or without mention of antepartum condition 656.93 Unspecified fetal and placental problem, affecting management of mother, antepartum condition or complication 667.00 Retained placenta without hemorrhage, unspecified as to episode of care or not applicable 667.02 Retained placenta without hemorrhage, delivered, with mention of postpartum complication 667.04 Retained placenta without hemorrhage, postpartum condition or complication 667.10 Retained portions of placenta or membranes, without hemorrhage, unspecified as to episode of care or not applicable Retained portions of placenta or membranes, without hemorrhage, delivered, with mention of postpartum complication Retained portions of placenta or membranes, without hemorrhage, postpartum condition or 667.14 complication

#### Amniotic cavity and fluid problems

- 657.00 Polyhydramnios, unspecified as to episode of care or not applicable
- 657.01 Polyhydramnios, delivered, with or without mention of antepartum condition

657.03	Polyhydramnios, antepartum condition or complication
658.00	Oligohydramnios, unspecified as to episode of care or not applicable
658.01	Oligohydramnios, delivered, with or without mention of antepartum condition
658.03	Oligohydramnios, antepartum condition or complication
658.10	Premature rupture of membranes, unspecified as to episode of care or not applicable
658.11	Premature rupture of membranes, delivered, with or without mention of antepartum condition
658.13	Premature rupture of membranes, antepartum condition or complication
658.20	Delayed delivery after spontaneous or unspecified rupture of membranes, unspecified as to
	episode of care or not applicable
658.21	Delayed delivery after spontaneous or unspecified rupture of membranes, delivered, with or
	without mention of antepartum condition
658.23	Delayed delivery after spontaneous or unspecified rupture of membranes, antepartum
	condition or complication
658.30	Delayed delivery after artificial rupture of membranes, unspecified as to episode of care or
	not applicable
658.31	Delayed delivery after artificial rupture of membranes, delivered, with or without mention of
	antepartum condition
658.33	Delayed delivery after artificial rupture of membranes, antepartum condition or complication
658.40	Infection of amniotic cavity, unspecified as to episode of care or not applicable
658.41	Infection of amniotic cavity, delivered, with or without mention of antepartum condition
658.43	Infection of amniotic cavity, antepartum condition or complication
658.80	Other problems associated with amniotic cavity and membranes, unspecified as to episode of
	care or not applicable
658.81	Other problems associated with amniotic cavity and membranes, delivered, with or without
	mention of antepartum condition
658.83	Other problems associated with amniotic cavity and membranes, antepartum
658.90	Unspecified problem associated with amniotic cavity and membranes, unspecified as to
	episode of care or not applicable
658.91	Unspecified problem associated with amniotic cavity and membranes, delivered, with or
	without mention of antepartum condition

658.93 Unspecified problem associated with amniotic cavity and membranes, antepartum condition or complication

Post-pa	rtum lacerations, damage to pelvis
664.00	First-degree perineal laceration, unspecified as to episode of care or not applicable
664.01	First-degree perineal laceration, delivered, with or without mention of antepartum condition
664.04	First-degree perineal laceration, postpartum condition or complication
664.10	Second-degree perineal laceration, unspecified as to episode of care or not applicable
664.11	Second-degree perineal laceration, delivered, with or without mention of antepartum
	condition
664.14	Second-degree perineal laceration, postpartum condition or complication
664.20	Third-degree perineal laceration, unspecified as to episode of care or not applicable
664.21	Third-degree perineal laceration, delivered, with or without mention of antepartum condition
664.24	Third-degree perineal laceration, postpartum condition or complication
664.30	Fourth-degree perineal laceration, unspecified as to episode of care or not applicable
664.31	Fourth-degree perineal laceration, delivered, with or without mention of antepartum condition
664.34	Fourth-degree perineal laceration, postpartum condition or complication
664.40	Unspecified perineal laceration, unspecified as to episode of care or not applicable
664.41	Unspecified perineal laceration, delivered, with or without mention of antepartum condition
664.44	Unspecified perineal laceration, postpartum condition or complication
664.50	Vulvar and perineal hematoma, unspecified as to episode of care or not applicable
664.51	Vulvar and perineal hematoma, delivered, with or without mention of antepartum condition
664.54	Vulvar and perineal hematoma, postpartum condition or complication
664.60	Anal sphincter tear complicating delivery, not associated with third-degree perineal
	laceration, unspecified as to episode of care or not applicable
664.61	Anal sphincter tear complicating delivery, not associated with third-degree perineal
	laceration, delivered, with or without mention of antepartum condition
664.64	Anal sphincter tear complicating delivery, not associated with third-degree perineal
	laceration, postpartum condition or complication
664.80	Other specified trauma to perineum and vulva, unspecified as to episode of care or not
	applicable

664.81	Other specified trauma to perineum and vulva, delivered, with or without mention of
	antepartum condition
664.84	Other specified trauma to perineum and vulva, postpartum condition or complication
664.90	Unspecified trauma to perineum and vulva, unspecified as to episode of care or not applicable
664.91	Unspecified trauma to perineum and vulva, delivered, with or without mention of antepartum
	condition
664.94	Unspecified trauma to perineum and vulva, postpartum condition or complication
665.30	Laceration of cervix, unspecified as to episode of care or not applicable
665.31	Laceration of cervix, delivered, with or without mention of antepartum condition
665.34	Laceration of cervix, postpartum condition or complication
665.40	High vaginal laceration, unspecified as to episode of care or not applicable
665.41	High vaginal laceration, delivered, with or without mention of antepartum condition
665.44	High vaginal laceration, postpartum condition or complication
665.50	Other injury to pelvic organs, unspecified as to episode of care or not applicable
665.51	Other injury to pelvic organs, delivered, with or without mention of antepartum condition
665.54	Other injury to pelvic organs, postpartum condition or complication
665.60	Damage to pelvic joints and ligaments, unspecified as to episode of care or not applicable
665.61	Damage to pelvic joints and ligaments, delivered, with or without mention of antepartum
	condition
665.64	Damage to pelvic joints and ligaments, postpartum condition or complication
665.80	Other specified obstetrical trauma, unspecified as to episode of care or not applicable
665.81	Other specified obstetrical trauma, delivered, with or without mention of antepartum
	condition
665.82	Other specified obstetrical trauma, delivered, with mention of postpartum complication
665.83	Other specified obstetrical trauma, antepartum condition or complication
665.84	Other specified obstetrical trauma, postpartum condition or complication
665.90	Unspecified obstetrical trauma, unspecified as to episode of care or not applicable
665.91	Unspecified obstetrical trauma, delivered, with or without mention of antepartum condition
665.92	Unspecified obstetrical trauma, delivered, with mention of postpartum complication
665.93	Unspecified obstetrical trauma, antepartum condition or complication
665.94	Unspecified obstetrical trauma, postpartum condition or complication

## **Anesthesia complications** 668.00 Pulmonary complications of anesthesia or other sedation in labor and delivery, unspecified as to episode of care or not applicable Pulmonary complications of anesthesia or other sedation in labor and delivery, delivered, with 668.01 or without mention of antepartum condition 668.02 Pulmonary complications of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication 668.03 Pulmonary complications of anesthesia or other sedation in labor and delivery, antepartum condition or complication 668.04 Pulmonary complications of anesthesia or other sedation in labor and delivery, postpartum condition or complication 668.10 Cardiac complications of anesthesia or other sedation in labor and delivery, unspecified as to episode of care or not applicable 668.11 Cardiac complications of anesthesia or other sedation in labor and delivery, delivered, with or without mention of antepartum condition 668.12 Cardiac complications of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication 668.13 Cardiac complications of anesthesia or other sedation in labor and delivery, antepartum condition or complication 668.14 Cardiac complications of anesthesia or other sedation in labor and delivery, postpartum condition or complication 668.20 Central nervous system complications of anesthesia or other sedation in labor and delivery, unspecified as to episode of care or not applicable 668.21 Central nervous system complications of anesthesia or other sedation in labor and delivery, delivered, with or without mention of antepartum condition 668.22 Central nervous system complications of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication Central nervous system complications of anesthesia or other sedation in labor and delivery, 668.23

668.24 Central nervous system complications of anesthesia or other sedation in labor and delivery, postpartum condition or complication

antepartum condition or complication

- 668.80 Other complications of anesthesia or other sedation in labor and delivery, unspecified as to episode of care or not applicable
- Other complications of anesthesia or other sedation in labor and delivery, delivered, with or without mention of antepartum condition
- Other complications of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication
- Other complications of anesthesia or other sedation in labor and delivery, antepartum condition or complication
- Other complications of anesthesia or other sedation in labor and delivery, postpartum condition or complication
- 668.90 Unspecified complication of anesthesia and other sedation in labor and delivery, unspecified as to episode of care or not applicable
- 668.91 Unspecified complication of anesthesia and other sedation in labor and delivery, delivered, with or without mention of antepartum condition
- 668.92 Unspecified complication of anesthesia and other sedation in labor and delivery, delivered, with mention of postpartum complication
- 668.93 Unspecified complication of anesthesia and other sedation in labor and delivery, antepartum condition or complication
- 668.94 Unspecified complication of anesthesia and other sedation in labor and delivery, postpartum condition or complication

## Forceps or c-section

- 669.50 Forceps or vacuum extractor delivery without mention of indication, unspecified as to episode of care or not applicable
- 669.51 Forceps or vacuum extractor delivery without mention of indication, delivered, with or without mention of antepartum condition
- 669.60 Breech extraction, without mention of indication, unspecified as to episode of care or not applicable
- Breech extraction, without mention of indication, delivered, with or without mention of antepartum condition
- 669.70 Cesarean delivery, without mention of indication, unspecified as to episode of care or not applicable

669.71 Cesarean delivery, without mention of indication, delivered, with or without mention of antepartum condition

Abbreviation: ICD-9-CM = International Classification of Diseases, Ninth Revision, Clinical Modification

Table e-6. Clinically relevant, categorized ICD-9-CM codes for complications during puerperium

Infection	ous complications
670.04	Major puerperal infection, postpartum condition or complication
670.10	Puerperal endometritis, unspecified as to episode of care or not applicable
670.12	Puerperal endometritis, delivered, with mention of postpartum complication
670.14	Puerperal endometritis, postpartum condition or complication
670.20	Puerperal sepsis, unspecified as to episode of care or not applicable
670.22	Puerperal sepsis, delivered, with mention of postpartum complication
670.24	Puerperal sepsis, postpartum condition or complication
670.30	Puerperal septic thrombophlebitis, unspecified as to episode of care or not applicable
670.32	Puerperal septic thrombophlebitis, delivered, with mention of postpartum complication
670.34	Puerperal septic thrombophlebitis, postpartum condition or complication
670.80	Other major puerperal infection, unspecified as to episode of care or not applicable
670.82	Other major puerperal infection, delivered, with mention of postpartum complication
670.84	Other major puerperal infection, postpartum condition or complication
672.00	Pyrexia of unknown origin during the puerperium, unspecified as to episode of care or not
	applicable
672.02	Pyrexia of unknown origin during the puerperium, delivered, with mention of postpartum
	complication
672.04	Pyrexia of unknown origin during the puerperium, postpartum condition or complication
673.30	Obstetrical pyemic and septic embolism, unspecified as to episode of care or not applicable
673.31	Obstetrical pyemic and septic embolism, delivered, with or without mention of antepartum
	condition
673.32	Obstetrical pyemic and septic embolism, delivered, with mention of postpartum complication
673.33	Obstetrical pyemic and septic embolism, antepartum condition or complication
673.34	Obstetrical pyemic and septic embolism, postpartum condition or complication
Venous	thrombosis and varicosities

## Venous thrombosis and varicosities

671.00 Varicose veins of legs complicating pregnancy and the puerperium, unspecified as to episode of care or not applicable

- Varicose veins of legs complicating pregnancy and the puerperium, delivered, with or without mention of antepartum condition
- Varicose veins of legs complicating pregnancy and the puerperium, delivered, with mention of postpartum complication
- Varicose veins of legs complicating pregnancy and the puerperium, antepartum condition or complication
- Varicose veins of legs complicating pregnancy and the puerperium, postpartum condition or complication
- Varicose veins of vulva and perineum complicating pregnancy and the puerperium, unspecified as to episode of care or not applicable
- Varicose veins of vulva and perineum complicating pregnancy and the puerperium, delivered, with or without mention of antepartum condition
- Varicose veins of vulva and perineum complicating pregnancy and the puerperium, delivered, with mention of postpartum complication
- Varicose veins of vulva and perineum complicating pregnancy and the puerperium, antepartum condition or complication
- Varicose veins of vulva and perineum complicating pregnancy and the puerperium, postpartum condition or complication
- 671.20 Superficial thrombophlebitis complicating pregnancy and the puerperium, unspecified as to episode of care or not applicable
- 671.21 Superficial thrombophlebitis complicating pregnancy and the puerperium, delivered, with or without mention of antepartum condition
- 671.22 Superficial thrombophlebitis complicating pregnancy and the puerperium, delivered, with mention of postpartum complication
- 671.23 Superficial thrombophlebitis complicating pregnancy and the puerperium, antepartum condition or complication
- 671.24 Superficial thrombophlebitis complicating pregnancy and the puerperium, postpartum condition or complication
- 671.30 Deep phlebothrombosis, antepartum, unspecified as to episode of care or not applicable
- 671.31 Deep phlebothrombosis, antepartum, delivered, with or without mention of antepartum condition

- 671.33 Deep phlebothrombosis, antepartum, antepartum condition or complication
- 671.40 Deep phlebothrombosis, postpartum, unspecified as to episode of care or not applicable
- 671.42 Deep phlebothrombosis, postpartum, delivered, with mention of postpartum complication
- 671.44 Deep phlebothrombosis, postpartum, postpartum condition or complication
- 671.50 Other phlebitis and thrombosis complicating pregnancy and the puerperium, unspecified as to episode of care or not applicable
- 671.51 Other phlebitis and thrombosis complicating pregnancy and the puerperium, delivered, with or without mention of antepartum condition
- 671.52 Other phlebitis and thrombosis complicating pregnancy and the puerperium, delivered, with mention of postpartum complication
- 671.53 Other phlebitis and thrombosis complicating pregnancy and the puerperium, antepartum condition or complication
- 671.54 Other phlebitis and thrombosis complicating pregnancy and the puerperium, postpartum condition or complication
- 671.80 Other venous complications of pregnancy and the puerperium, unspecified as to episode of care or not applicable
- 671.81 Other venous complications of pregnancy and the puerperium, delivered, with or without mention of antepartum condition
- 671.82 Other venous complications of pregnancy and the puerperium, delivered, with mention of postpartum complication
- 671.83 Other venous complications of pregnancy and the puerperium, antepartum condition or complication
- 671.84 Other venous complications of pregnancy and the puerperium, postpartum condition or complication
- 671.90 Unspecified venous complication of pregnancy and the puerperium, unspecified as to episode of care or not applicable
- 671.91 Unspecified venous complication of pregnancy and the puerperium, delivered, with or without mention of antepartum condition
- 671.92 Unspecified venous complication of pregnancy and the puerperium, delivered, with mention of postpartum complication

- 671.93 Unspecified venous complication of pregnancy and the puerperium, antepartum condition or complication
- 671.94 Unspecified venous complication of pregnancy and the puerperium, postpartum condition or complication

	complication
Air/flui	d/blood embolism, no-infectious
673.00	Obstetrical air embolism, unspecified as to episode of care or not applicable
673.01	Obstetrical air embolism, delivered, with or without mention of antepartum condition
673.02	Obstetrical air embolism, delivered, with mention of postpartum complication
673.03	Obstetrical air embolism, antepartum condition or complication
673.04	Obstetrical air embolism, postpartum condition or complication
673.10	Amniotic fluid embolism, unspecified as to episode of care or not applicable
673.11	Amniotic fluid embolism, delivered, with or without mention of antepartum condition
Infection	ous complications
673.12	Amniotic fluid embolism, delivered, with mention of postpartum complication
673.13	Amniotic fluid embolism, antepartum condition or complication
673.14	Amniotic fluid embolism, postpartum condition or complication
673.20	Obstetrical blood-clot embolism, unspecified as to episode of care or not applicable
673.21	Obstetrical blood-clot embolism, delivered, with or without mention of antepartum condition
673.22	Obstetrical blood-clot embolism, delivered, with mention of postpartum complication
673.23	Obstetrical blood-clot embolism, antepartum condition or complication
673.24	Obstetrical blood-clot embolism, postpartum condition or complication
673.80	Other obstetrical pulmonary embolism, unspecified as to episode of care or not applicable
673.81	Other obstetrical pulmonary embolism, delivered, with or without mention of antepartum
	condition
673.82	Other obstetrical pulmonary embolism, delivered, with mention of postpartum complication
673.83	Other obstetrical pulmonary embolism, antepartum condition or complication
673.84	Other obstetrical pulmonary embolism, postpartum condition or complication
Stroke	
674.00	Cerebrovascular disorders in the puerperium, unspecified as to episode of care or not applicable
674.01	Cerebrovascular disorders in the puerperium, delivered, with or without mention of antepartum
	condition

674.02	Cerebrovascular disorders in the puerperium, delivered, with mention of postpartum
	complication
674.03	Cerebrovascular disorders in the puerperium, antepartum condition or complication
674.04	Cerebrovascular disorders in the puerperium, postpartum condition or complication
Surgical	wound issues
674.10	Disruption of cesarean wound, unspecified as to episode of care or not applicable
674.12	Disruption of cesarean wound, delivered, with mention of postpartum complication
674.14	Disruption of cesarean wound, postpartum condition or complication
674.20	Disruption of perineal wound, unspecified as to episode of care or not applicable
674.22	Disruption of perineal wound, delivered, with mention of postpartum complication
674.24	Disruption of perineal wound, postpartum condition or complication
674.30	Other complications of obstetrical surgical wounds, unspecified as to episode of care or not
	applicable
674.32	Other complications of obstetrical surgical wounds, delivered, with mention of postpartum
	complication
674.34	Other complications of obstetrical surgical wounds, postpartum condition or complication
Cardiac	complications
674.50	Peripartum cardiomyopathy, unspecified as to episode of care or not applicable
674.51	Peripartum cardiomyopathy, delivered, with or without mention of antepartum condition
674.52	Peripartum cardiomyopathy, delivered, with mention of postpartum condition
674.53	Peripartum cardiomyopathy, antepartum condition or complication
674.54	Peripartum cardiomyopathy, postpartum condition or complication
Breast co	omplications
675.00	Infections of nipple associated with childbirth, unspecified as to episode of care or not
	applicable
675.01	Infections of nipple associated with childbirth, delivered, with or without mention of
	antepartum condition
675.02	Infections of nipple associated with childbirth, delivered, with mention of postpartum
	complication
675.03	Infections of nipple associated with childbirth, antepartum condition or complication
675.04	Infections of nipple associated with childbirth, postpartum condition or complication

- 675.10 Abscess of breast associated with childbirth, unspecified as to episode of care or not applicable
- Abscess of breast associated with childbirth, delivered, with or without mention of antepartum condition
- 675.12 Abscess of breast associated with childbirth, delivered, with mention of postpartum complication
- 675.13 Abscess of breast associated with childbirth, antepartum condition or complication
- 675.14 Abscess of breast associated with childbirth, postpartum condition or complication
- Nonpurulent mastitis associated with childbirth, unspecified as to episode of care or not applicable
- Nonpurulent mastitis associated with childbirth, delivered, with or without mention of antepartum condition
- Nonpurulent mastitis associated with childbirth, delivered, with mention of postpartum complication
- 675.23 Nonpurulent mastitis associated with childbirth, antepartum condition or complication
- 675.24 Nonpurulent mastitis associated with childbirth, postpartum condition or complication
- 675.80 Other specified infections of the breast and nipple associated with childbirth, unspecified as to episode of care or not applicable
- Other specified infections of the breast and nipple associated with childbirth, delivered, with or without mention of antepartum condition
- Other specified infections of the breast and nipple associated with childbirth, delivered, with mention of postpartum complication
- 675.83 Other specified infections of the breast and nipple associated with childbirth, antepartum condition or complication
- 675.84 Other specified infections of the breast and nipple associated with childbirth, postpartum condition or complication
- 675.90 Unspecified infection of the breast and nipple associated with childbirth, unspecified as to episode of care or not applicable
- Unspecified infection of the breast and nipple associated with childbirth, delivered, with or without mention of antepartum condition
- Unspecified infection of the breast and nipple associated with childbirth, delivered, with mention of postpartum complication

- Or complication of the breast and nipple associated with childbirth, antepartum condition or complication
- Or complication of the breast and nipple associated with childbirth, postpartum condition or complication

## Failed, disordered or suppressed lactation

,	The state of the s
676.40	Failure of lactation, unspecified as to episode of care or not applicable
676.41	Failure of lactation, delivered, with or without mention of antepartum condition
676.42	Failure of lactation, delivered, with mention of postpartum complication
676.43	Failure of lactation, antepartum condition or complication
676.44	Failure of lactation, postpartum condition or complication
676.50	Suppressed lactation, unspecified as to episode of care or not applicable
676.51	Suppressed lactation, delivered, with or without mention of antepartum condition
676.52	Suppressed lactation, delivered, with mention of postpartum complication
676.53	Suppressed lactation, antepartum condition or complication
676.54	Suppressed lactation, postpartum condition or complication
676.80	Other disorders of lactation, unspecified as to episode of care or not applicable
676.81	Other disorders of lactation, delivered, with or without mention of antepartum condition
676.82	Other disorders of lactation, delivered, with mention of postpartum complication
676.83	Other disorders of lactation, antepartum condition or complication
676.84	Other disorders of lactation, postpartum condition or complication
676.90	Unspecified disorder of lactation, unspecified as to episode of care or not applicable
676.91	Unspecified disorder of lactation, delivered, with or without mention of antepartum condition
676.92	Unspecified disorder of lactation, delivered, with mention of postpartum complication
676.93	Unspecified disorder of lactation, antepartum condition or complication
676.94	Unspecified disorder of lactation, postpartum condition or complication

Abbreviation: ICD-9-CM = International Classification of Diseases, Ninth Revision, Clinical Modification

Table e-7. Baseline demographic characteristics of women without MS and a pregnancy for the 9 annual cohorts

	2006	2007	2008	2009	2010	2011	2012	2013	2014
N	40,843	49,527	57,947	59,771	56,459	57,975	57,866	55,031	53,486
Mean age (SD), years	29.2 (6.3)	29.2 (6.4)	29.2 (6.4)	29.3 (6.4)	29.5 (6.3)	29.4 (6.3)	29.4 (6.3)	29.4 (6.2)	29.6 (6.2)
Median age, years	29	29	29	29	29	29	29	29	29
Age grouping, ye	ars								
18–24	9977 (24.4)	11,923 (24.1)	13,664 (23.6)	13,758 (23.0)	11,900 (21.1)	12,591 (21.7)	13,148 (22.7)	12,335 (22.4)	11,381 (21.3)
25–29	12,429 (30.4)	15,410 (31.1)	18,143 (31.3)	18,469 (30.9)	17,959 (31.8)	17,933 (30.9)	17,422 (30.1)	16,443 (29.9)	16,170 (30.2)
30–34	10,751 (26.3)	12,897 (26.0)	15,267 (26.3)	16,256 (27.2)	15,935 (28.2)	16,771 (28.9)	16,788 (29.0)	16,271 (29.6)	15,804 (29.5)
35–39	5537 (13.6)	6741 (13.6)	7872 (13.6)	8026 (13.4)	7604 (13.5)	7590 (13.1)	7365 (12.7)	7143 (13.0)	7305 (13.7)
40–44	1509 (3.7)	1,745 (3.5)	2,038 (3.5)	2,206 (3.7)	2,075 (3.7)	2,092 (3.6)	2,111 (3.6)	1,973 (3.6)	1,893 (3.5)
45+	640 (1.6)	811 (1.6)	963 (1.7)	1,056 (1.8)	986 (1.7)	998 (1.7)	1,032 (1.8)	866 (1.6)	933 (1.7)
Geographic regio	n								
Midwest	11,090 (27.7)	12,896 (26.5)	16,270 (28.5)	15,974 (27.1)	14,653 (26.4)	15,385 (27.0)	15,578 (27.4)	14,233 (26.3)	14,409 (27.4)
Northeast	11,297 (28.2)	13,159 (27.1)	15,706 (27.5)	15,773 (26.8)	12,895 (23.2)	13,286 (23.3)	13,517 (23.7)	12,900 (23.8)	11,817 (22.5)
South	10,820 (27.0)	14,435 (29.7)	15,707 (27.5)	18,849 (32.0)	18,853 (34.0)	19,943 (35.0)	20,288 (35.6)	20,316 (37.5)	19,765 (37.6)
West	6,840 (17.1)	8108 (16.7)	9369 (16.4)	8247 (14.0)	9114 (16.4)	8364 (14.7)	7572 (13.3)	6757 (12.5)	6634 (12.6)
Insurance									
Commercial	36,521 (89.4)	44,630 (90.1)	52,172 (90.0)	53,747 (89.9)	51,510 (91.2)	52,849 (91.2)	51,933 (89.7)	49,956 (90.8)	49,822 (93.1)
Medicaid	4314 (10.6)	4721 (9.5)	5635 (9.7)	5949 (10.0)	4938 (8.7)	5112 (8.8)	5922 (10.2)	5072 (9.2)	3662 (6.8)
Medicare	8 (0.0)	176 (0.4)	140 (0.2)	75 (0.1)	11 (0.0)	14 (0.0)	11 (0.0)	3 (0.0)	2 (0.0)

All values are n (%) unless indicated otherwise

Table e-8. Baseline demographic characteristics of women with MS and a pregnancy for the 9 annual cohorts

	2006	2007	2008	2009	2010	2011	2012	2013	2014
N	871	1071	1340	1447	1368	1388	1304	1258	1260
Mean age (SD), years	32.5 (6.8)	32.4 (6.8)	33.0 (7.4)	32.6 (6.7)	32.5 (6.6)	32.7 (6.7)	32.2 (6.5)	32.4 (6.7)	32.7 (6.8)
Median age, years	32	32	32	32	32	32	32	32	32
Age grouping, yea	ırs								
18–24	76 (8.7)	95 (8.9)	106 (7.9)	102 (7.0)	106 (7.7)	108 (7.8)	104 (8.0)	101 (8.0)	93 (7.4)
25–29	221 (25.4)	273 (25.5)	343 (25.6)	396 (27.4)	350 (25.6)	347 (25.0)	320 (24.5)	311 (24.7)	307 (24.4)
30–34	286 (32.8)	367 (34.3)	445 (33.2)	497 (34.3)	472 (34.5)	490 (35.3)	512 (39.3)	478 (38.0)	465 (36.9)
35–39	184 (21.1)	208 (19.4)	268 (20.0)	286 (19.8)	293 (21.4)	281 (20.2)	238 (18.3)	240 (19.1)	256 (20.3)
40–44	56 (6.4)	83 (7.8)	86 (6.4)	98 (6.8)	92 (6.7)	88 (6.3)	69 (5.3)	68 (5.4)	75 (6.0)
45+	48 (5.5)	45 (4.2)	92 (6.9)	68 (4.7)	55 (4.0)	74 (5.3)	61 (4.7)	60 (4.8)	64 (5.1)
Geographic region	n								
Midwest	246 (29.0)	284 (26.9)	395 (29.7)	390 (27.2)	397 (29.5)	430 (31.5)	421 (32.9)	382 (30.8)	392 (31.5)
Northeast	297 (35.1)	353 (33.5)	470 (35.4)	528 (36.9)	421 (31.3)	413 (30.3)	384 (30.0)	386 (31.1)	380 (30.5)
South	177 (20.9)	266 (25.2)	296 (22.3)	363 (25.3)	405 (30.1)	416 (30.5)	377 (29.4)	400 (32.2)	417 (33.5)
West	127 (15.0)	152 (14.4)	167 (12.6)	151 (10.5)	121 (9.0)	104 (7.6)	99 (7.7)	73 (5.9)	56 (4.5)
Insurance									
Commercial	862 (99.0)	1059 (99.0)	1302 (97.2)	1411 (97.5)	1340 (98.0)	1343 (96.8)	1252 (96.0)	1199 (95.3)	1238 (98.3)
Medicaid	7 (0.8)	5 (0.5)	26 (1.9)	28 (1.9)	26 (1.9)	42 (3.0)	51 (3.9)	56 (4.5)	19 (1.5)
Medicare	2 (0.2)	7 (0.7)	12 (0.9)	8 (0.6)	2 (0.1)	3 (0.2)	1 (0.1)	3 (0.2)	3 (0.2)

All values are n (%) unless indicated otherwise

Table e-9. Baseline clinical characteristics of women without MS and a pregnancy for the 9 annual cohorts

	2006	2007	2008	2009	2010	2011	2012	2013	2014
N	40,843	49,527	57,947	59,771	56,459	57,975	57,866	55,031	53,486
Charlson Con	norbidity Index	:							
Mean (SD)	0.14 (0.51)	0.14 (0.51)	0.15 (0.54)	0.16 (0.56)	0.15 (0.53)	0.16 (0.55)	0.16 (0.54)	0.15 (0.53)	0.15 (0.54)
Median	0	0	0	0	0	0	0	0	0
Alcohol disord	der								
n (%)	143 (0.4)	205 (0.4)	262 (0.5)	303 (0.5)	262 (0.5)	306 (0.5)	326 (0.6)	333 (0.6)	326 (0.6)
Anxiety									
n (%)	1781 (4.4)	2400 (4.8)	3032 (5.2)	3609 (6.0)	3644 (6.5)	4157 (7.2)	4532 (7.8)	4703 (8.5)	4855 (9.1)
Arthritis									
n (%)	494 (1.2)	570 (1.3)	681 (1.2)	739 (1.2)	724 (1.3)	732 (1.3)	768 (1.3)	704 (1.3)	686 (1.3)
Chronic lung	disease								
n (%)	2027 (5.0)	2553 (5.2)	3169 (5.5)	3476 (5.8)	3220 (5.7)	3370 (5.8)	3543 (6.1)	3229 (5.9)	2976 (5.6)
Depression									
n (%)	973 (2.4)	1213 (2.4)	1415 (2.4)	1511 (2.5)	1495 (2.6)	1595 (2.8)	1549 (2.7)	1515 (2.8)	1488 (2.8)
Diabetes									
n (%)	1057 (2.6)	1269 (2.6)	1542 (2.7)	1574 (2.6)	1484 (2.6)	1521 (2.6)	1502 (2.6)	1424 (2.6)	1300 (2.4)
Gastrointestin	nal disease								
n (%)	2893 (7.1)	3584 (7.2)	4457 (7.7)	5010 (8.4)	5037 (8.9)	5204 (9.0)	5650 (9.8)	5396 (9.8)	5471 (10.2)
Hyperlipidem	ia								
n (%)	1727 (4.3)	2053 (4.1)	2602 (4.5)	2743 (4.6)	2479 (4.4)	2511 (4.3)	2261 (3.9)	2099 (3.8)	1891 (3.5)
Hypertension									
n (%)	1913 (4.7)	2552 (5.2)	2945 (5.1)	3196 (5.3)	3061 (5.4)	3169 (5.5)	3247 (5.6)	2923 (5.3)	2828 (5.3)
Thyroid disea	se								
n (%)	2645 (6.5)	3279 (6.6)	4217 (7.3)	4528 (7.6)	4589 (8.1)	4824 (8.3)	4899 (8.5)	4716 (8.6)	4733 (8.8)

Table e-10. Baseline clinical characteristics of women with MS and a pregnancy for the 9 annual cohorts

	2006	2007	2008	2009	2010	2011	2012	2013	2014
N	871	1071	1340	1447	1368	1388	1304	1258	1260
Charlson Con	morbidity Index								
Mean (SD)	0.37 (0.86)	0.30 (0.78)	0.33 (0.84)	0.34 (0.89)	0.28 (0.87)	0.29 (0.77)	0.34 (0.95)	0.34 (0.93)	0.28 (0.77)
Median	0	0	0	0	0	0	0	0	0
Alcohol disor	der								
n (%)	4 (0.5)	4 (0.4)	2 (0.1)	8 (0.6)	7 (0.5)	7 (0.5)	5 (0.4)	15 (1.2)	8 (0.6)
Anxiety									
n (%)	79 (9.1)	85 (8.0)	128 (9.6)	139 (9.6)	135 (10.0)	175 (12.6)	174 (13.3)	197 (15.7)	186 (14.8)
Arthritis									
n (%)	29 (3.3)	31 (2.9)	50 (3.7)	48 (3.3)	41 (3.0)	38 (2.7)	45 (3.5)	43 (3.4)	41 (3.3)
Chronic lung	disease								
n (%)	80 (9.2)	72 (6.7)	99 (7.4)	113 (7.8)	95 (7.0)	102 (7.3)	119 (9.1)	96 (7.6)	97 (7.7)
Depression									
n (%)	49 (5.6)	54 (5.0)	61 (4.6)	89 (6.2)	74 (5.4)	75 (5.4)	62 (4.8)	67 (5.3)	69 (5.5)
Diabetes									
n (%)	48 (5.5)	47 (4.4)	53 (4.0)	57 (3.9)	57 (4.2)	62 (4.5)	57 (4.4)	59 (4.7)	40 (3.2)
Gastrointesti	nal disease								
n (%)	107 (12.3)	142 (13.3)	181 (13.5)	211 (14.6)	203 (14.8)	173 (12.5)	196 (15.0)	217 (17.2)	187 (14.8)
Hyperlipiden	าia								
n (%)	75 (8.6)	92 (8.6)	119 (8.9)	119 (8.2)	118 (8.6)	113 (8.1)	95 (7.3)	78 (6.2)	97 (7.7)
Hypertension	1								
n (%)	70 (8.0)	90 (8.4)	147 (11.0)	141 (9.7)	129 (9.4)	134 (9.7)	129 (9.9)	138 (11.0)	110 (8.7)
Thyroid disea	ase								
n (%)	99 (11.4)	116 (10.8)	159 (11.9)	184 (12.7)	168 (12.3)	170 (12.2)	182 (14.0)	161 (12.8)	188 (14.9)

Table e-11. Number of women without MS and pregnancy and unadjusted pregnancy rates for the 9 annual cohorts

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total number of women without MS	735,974	900,781	1,060,918	1,123,406	1,109,962	1,144,868	1,126,738	1,051,788	1,037,944
Number of women without MS with pregnancy	40,843	49,527	57,947	59,771	56,459	57,975	57,866	55,031	53,486
Unadjusted rate of pregnancy in women without MS	5.55%	5.50%	5.46%	5.32%	5.09%	5.06%	5.14%	5.23%	5.15%

Abbreviation: MS = multiple sclerosis

Table e-12. Number of women with MS and pregnancy and unadjusted pregnancy rates for the 9 annual cohorts

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total number of women with MS	36,361	44,237	54,390	58,218	54,400	54,376	52,596	49,287	48,996
Number of women with MS with pregnancy	871	1071	1340	1447	1368	1388	1304	1258	1260
Unadjusted rate of pregnancy in women with MS	2.40%	2.42%	2.46%	2.49%	2.51%	2.55%	2.48%	2.55%	2.57%

Abbreviation: MS = multiple sclerosis

Table e-13. Propensity matching balance statistics for the covariates in women with and without MS

Covariate	Case Before	Case After	Control Before	Control After	Std Diff Before	Std Diff After	T-Test P-Value Before	T-Test P-Value After
Age Grouping 25–29	0.2729	0.2729	0.3193	0.2705	-10.420	0.5298	0	0.1317
Age Grouping 30–34	0.3938	0.3938	0.3218	0.3942	14.733	-0.0966	0	0.8349
Age Grouping 35–39	0.2148	0.2148	0.1458	0.2177	16.808	-0.6896	0	0.2208
Age Grouping 40–44	0.0439	0.0439	0.0286	0.0430	7.4679	0.4608	0.0007	0.4796
Age Grouping 45+	0.0009	0.0009	0.0025	0.0014	-5.0487	-1.5368	0.0301	0.5638
Final Payer Medicaid	0.0109	0.0109	0.0463	0.0099	-34.221	0.9109	0	0.4143
Final Payer Medicare	0.0019	0.0019	0.0009	0.0005	2.2319	3.2616	0.3109	0.0833
Hypertension 1 Year Pre- Pregnancy	0.0557	0.0557	0.0357	0.0519	8.7019	1.6464	0.0001	0.1701
Hypothyroidism 1 Year Pre- Pregnancy	0.0732	0.0732	0.0476	0.0708	9.8224	0.9062	0	0.3693
Obesity 1 Year Pre-Pregnancy	0.0524	0.0524	0.0323	0.0486	9.0056	1.6945	0	0.1442
Other Female Genital Tract Disorders 1 Year Pre-Pregnancy	0.3928	0.3928	0.3140	0.3961	16.143	-0.6766	0	0.2087
Ovarian Dysfunction 1 Year Pre- Pregnancy	0.0571	0.0571	0.0408	0.0585	7.0149	-0.6102	0.0016	0.5776
Region NORTHEAST	0.2885	0.2885	0.2281	0.2885	13.324	0	0	1

Region SOUTH	0.3083	0.3083	0.3322	0.3121	-5.1654	-0.8177	0.0209	0.1306
Region WEST	0.0817	0.0817	0.1443	0.0807	-22.843	0.3447	0	0.5931
Year of Pregnancy 2007	0.1110	0.1110	0.1147	0.1086	-1.1863	0.7515	0.5955	0.0956
Year of Pregnancy 2008	0.1166	0.1166	0.1236	0.1162	-2.1614	0.1471	0.3337	0.7056
Year of Pregnancy 2009	0.1331	0.1331	0.1284	0.1327	1.3832	0.1389	0.5353	0.7816
Year of Pregnancy 2010	0.1596	0.1596	0.1342	0.1591	6.9164	0.1289	0.0019	0.8084
Year of Pregnancy 2011	0.1464	0.1464	0.1289	0.1468	4.9349	-0.1335	0.0268	0.8084
Year of Pregnancy 2012	0.1346	0.1346	0.1285	0.1364	1.7766	-0.5533	0.4258	0.2852
Year of Pregnancy 2013	0.1176	0.1176	0.1157	0.1185	0.5851	-0.2931	0.7932	0.6548
Year of Pregnancy 2014	0.0203	0.0203	0.0184	0.0208	1.3765	-0.3347	0.5366	0.7390

Abbreviations: MS = multiple sclerosis; Std Diff = standard difference