Unexpected Newborn Complications (PC-06): Conceptual Algorithm

For detailed algorithm, see the Joint Commission Manual: PC-06

Figure 1: Denominator Inclusions

Hospital Discharge Diagnosis File

Singleton Livebirth?

Yes

BWt ≥2.5kg?

Yes

GA ≥37wks?

Yes

GA Unknown

No

BWt ≥3kg?

Yes

No

Use Birth Certificate or Medical Record: Best Obstetric Estimate of Gestational Age

Note 1: ICD10 codes alone poorly identify term infants. Therefore, GA from the Birth Certificate or Medical Record is used to indicate “Term Newborn”. Note 2: The Joint Commission places clinical data elements for Term Newborn and BW at the end of their algorithm; this diagram is for illustrative purposes.

Screen for ICD-10 Diagnosis Codes Z38.00 or Z38.01 (TJC Table 11.20.1)

Use Birth Certificate or Medical Record: Birthweight OR use ICD-10 Diagnosis Codes for birth weight < 2500g as defined in TJC Tables 11.12, 11.13, 11.14, 11.15, 11.16, 11.20

Not in Measure Population

Starting Denominator
In summary, the Final Denominator excludes most serious fetal conditions that are “preexisting” (present before labor), including: prematurity, multiple gestations, poor fetal growth, congenital malformations and genetic disorders, other specified fetal and maternal conditions and maternal drug use.
TJC PC-06: Unexpected Newborn Complications
(aka Healthy Term Newborn)

**Figure 3: Numerator Inclusions: Severe Complications**

- **Final Denominator**

  - **Neonatal Death?**
    - Yes
    - **Neonatal Transfer?**
      - Yes
      - **Severe ICD-10 Code?**
        - Yes
        - Sepsis and LOS >4 days?
          - Yes
          - Numerator: Severe Complications
          - Starting Population for Moderate Complications Analysis
          - No
        - No
      - No
    - No
  - No

**Use Patient Discharge Diagnosis Data:**
- Disposition Code for Death
  - (TJC Disposition Code: 6 / UB Discharge Code: 20)

**Use Patient Discharge Diagnosis Data:**
- Disposition Code for Transfer to Higher Level of Care
  - (TJC Disposition Codes: 3,4,5 / UB Discharge Codes: 2,3,4,5,43,51, 61,62,63,64,70,82,83,84,85,88,89,90,91,92,95)

**Use Patient Discharge Diagnosis Data,** examining both Primary and Other Diagnosis and Procedure fields for specific ICD-10 Codes defining a array of specific Severe Complications, included selected codes from the categories of: Birth Injuries, Hypoxia/Asphyxia, Shock/Complications, Respiratory Complications/Procedures, Infections, Neurologic Complications.

**Use Patient Discharge Diagnosis Data,** examining both Primary and Other Diagnosis fields for the specific ICD-10 Code defining sepsis but also requiring a neonatal Length of Stay >4 days.
  - (TJC Table 11.45)
Figure 4: Numerator Inclusions: Moderate Complications

Use Patient Discharge Diagnosis Data, examining both Primary and Other Diagnosis and Procedure fields for specific ICD-10 Code defining a specific Moderate Complication, that do not require a prolonged LOS (TJC Tables 11.46, 11.47, 11.48)

Use Patient Discharge Diagnosis Data for LOS and for ICD-10 Diagnosis Codes Z38.00 (TJC Table 11.20.2) for vaginal birth or Z38.01 (TJC Table 11.20.3) for Cesarean birth

Use Patient Discharge Diagnosis Data, examining both Primary and Other Diagnosis and Procedure fields for specific ICD-10 Codes defining a array of specific Moderate Complications, included selected codes from the categories of: Birth Injuries, Hypoxia/Asphyxia, Shock/Resuscitation, Respiratory Complications/Procedures, Infections, Neurologic Complications. (TJC Tables 11.49, 11.50, 11.51, 11.52, 11.53)

Use Patient Discharge Diagnosis Data to determine LOS

Use Patient Discharge Diagnosis Data, examining both Primary and Other Diagnosis and Procedure fields for the specific ICD-10 Code defining Neonatal Jaundice or Social Indications for prolonged hospitalization. (TJC Tables 11.33, 11.34, 11.35)

Starting Population for Moderate Complications Analysis

Moderate Comps (No LOS)?

No

LOS >4d CS or LOS >2d Vag?

Yes

Moderate Comps (with LOS)?

Yes

No

LOS>5d?

Yes

Jaundice or Social codes?

No

Yes

Not in Numerator

Numerator: Moderate Complications
TJC PC-06: Unexpected Newborn Complications
(aka Healthy Term Newborn, Revised Specifications)

Table 1: Final Measure Calculations

- **Unexpected Newborn Complications (Total):** (rate per 1,000 livebirths)
  \[(\text{Severe Complications Numerator} + \text{Moderate Complications Numerator}) \times 1,000\]
  Final Denominator
  California state-wide rate in 2017: **31.7 per 1,000 births**

- **Unexpected Newborn Complications (Severe):** (rate per 1,000 livebirths)
  \[(\text{Severe Complications Numerator}) \times 1,000\]
  Final Denominator
  California state-wide rate in 2017: **19.0 per 1,000 births**

- **Unexpected Newborn Complications (Moderate):** (rate per 1,000 livebirths)
  \[(\text{Moderate Complications Numerator}) \times 1,000\]
  Final Denominator
  California state-wide rate in 2017: **12.8 per 1,000 births**