2026 Reporting Period Measure Updates and Results Report

Severe Obstetric Complications Electronic Clinical Quality Measure CMS1028v3

Submitted By:

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Introduction

This report describes the Centers for Medicare & Medicaid Services (CMS) Severe Obstetric Complications (SOC) electronic clinical quality measure (eCQM) annual updates in measure methodology for the 2025 Performance Year/2026 Reporting Period. This period includes delivery hospitalizations for calendar year 2025 and is the second year of mandatory reporting.

The measure includes inpatient hospitalizations for patients from 8 to under 65 years old delivering a live born or stillborn baby ≥ 20 weeks, 0 days gestation. This measure risk adjusts for 34 patient-level conditions and is the first risk-standardized outcome eCQM implemented by CMS. The measure assesses two outcomes, which are reported as rates per 10,000 delivery hospitalizations:

1. Any Severe Obstetric Complication: Severe medical (i.e., sepsis, eclampsia, respiratory, cardiac, etc.) and procedural (i.e., hysterectomy) obstetric complications, including blood transfusions, and death during delivery hospitalization.
2. Severe Obstetric Complications excluding Transfusion-Only Cases: Severe obstetric complications excluding encounters where blood transfusion was the only complication.

The original measure methodology report is available in the "Specifications & Measure Resources" section on the Severe Obstetric Complications page here on the Electronic Clinical Quality Improvement (eCQI) Resource Center.

Measure Updates

Numerator Exclusion: The measure now excludes inpatient hospitalizations with blood transfusion or hysterectomy with a diagnosis of placenta percreta or placenta increta and no additional severe obstetric complications from the numerator.

Creation of performance categories: Starting with the 2026 Reporting Period, CMS provides performance categories alongside the risk-standardized measure results for hospitals with ≥25 eligible delivery hospitalizations: top 25 percent, middle 50 percent, and bottom 25 percent. For hospitals with fewer than 25 eligible delivery hospitalizations, hospitals are categorized as "too few cases".

Measure Results

In the 2026 Reporting Period, 2,423 hospitals reported data for a total of 3,244,248 delivery hospitalizations. Table 1 summarizes hospital-level outcomes, including the observed rates and the risk-standardized obstetric complications rates (RSOCRs) per 10,000 delivery hospitalizations, reported as an integer for each of the two measure outcomes: severe obstetric complications and severe obstetric complications excluding blood transfusion-only encounters.

Table 1. Hospital-Level Observed and Risk-Standardized Obstetric Complications Rate, N=2,423 hospitals

Outcome	Mean (SD)	Median (25th percentile (Q1), 75th percentile (Q3))
Severe Obstetric Complications		
Observed Rate of Severe Obstetric Complications (per 10,000 delivery hospitalizations)	281 (472)	237 (127, 347)
RSOCR (per 10,000 delivery hospitalizations)	333 (206)	307 (209, 420)
Severe Obstetric Complications Excluding Blood Transfusion-only Encounters		
Observed Rate of Severe Obstetric Complications (per 10,000 delivery hospitalizations)	64 (348)	35 (0, 66)
RSOCR (per 10,000 delivery hospitalizations)	74 (79)	64 (54, 82)

Table 2 summarizes observed (unadjusted) outcomes, including any severe obstetric complication and severe obstetric complications excluding blood transfusion-only encounters, and the number and percentage of delivery hospitalizations with individual clinical or procedural events identified as a severe obstetric complication. Singular numerator events are not mutually exclusive; delivery encounters in which multiple numerator events occurred are included in the frequency for each numerator event experienced. Overall, 2.85% of delivery hospitalizations had a severe obstetric complication and 0.68% of delivery hospitalizations had a severe obstetric complication other than a blood transfusion. Of the individual severe obstetric complications assessed, patients in 2.41% of delivery hospitalizations experienced a blood transfusion; the next most frequent severe complications were acute renal failure (0.22% of delivery hospitalizations) and sepsis (0.12% of delivery hospitalizations).

Table 2. Observed Frequencies of Outcomes and Specific Complications (N= 3,244,248 delivery hospitalizations)

Outcome	N with outcome	% with outcome
Overall Outcomes	—	—
Severe Obstetric Complications	92,518	2.85
Severe Obstetric Complications excluding Blood Transfusion-only Encounters	22,171	0.68
Outcome Components: Complications	—	—
Blood transfusion	78,041	2.41
Acute Renal failure	7,168	0.22
Sepsis	4,011	0.12
Hysterectomy	3,363	0.10
Ventilation	3,222	0.10
Shock	3,114	0.10

Outcome	N with outcome	% with outcome
Adult respiratory distress syndrome	2,865	0.09
Disseminated intravascular coagulation	1,580	0.05
Pulmonary edema	1,009	0.03
Eclampsia	663	0.02
Air and thrombotic embolism	631	0.02
Acute heart failure	539	0.02
Puerperal cerebrovascular disorder	453	0.01
Conversion of cardiac rhythm	337	0.01
Cardiac arrest/Ventricular fibrillation	288	0.01
Severe anesthesia complications	202	0.01
Acute myocardial infarction	196	0.01
Amniotic fluid embolism	160	<0.01
Death	118	<0.01
Temporary tracheostomy	89	<0.01
Heart failure/arrest during procedure or surgery	52	<0.01
Sickle cell disease with crisis	44	<0.01
Aortic aneurysm	11	<0.01

Risk Model

The SOC eCQM is risk adjusted to account for patient-level factors that are clinically relevant, have strong relationships with the outcome, and are outside of the control of the reporting entity. The risk variables consist of 34 conditions present on admission to hospital, including two vital signs and two lab results obtained upon hospital arrival.

Table 3 shows the frequencies, coefficients, and adjusted odds ratios (aORs) with 95% confidence intervals (CI) for the variables in the hierarchical logistic regression model, which accounts for risk factors, the natural clustering of observations within hospitals, and hospital-specific random effects. Adjusted ORs illustrate that placental conditions (placenta previa, placental abruption, and placental accreta spectrum) greatly increase the risk of a severe obstetric complication. These data also indicate that pulmonary hypertension, renal disease, cardiac disease, and severe preeclampsia have adjusted ORs greater than three for either the Severe Obstetric Complications measure outcome or Severe Obstetrics Complications Excluding Blood Transfusion-Only Encounters measure outcome or both measure outcomes, indicating elevated risk of a severe obstetric complication.

Table 3. Risk Variable Frequencies with Beta Coefficients (beta)* and Adjusted Odds Ratios (aORs) for Multivariable Risk Models for Both Severe Obstetric Complications Outcomes

-		Severe Obstetric Complication(s)		Severe Obstetric Complication(s) Excluding Blood Transfusion-Only Encounters	
Risk variable	**Total N (%)**	**Beta Coefficient**	**aOR (95% CI)**	**Beta Coefficient**	**aOR (95% CI)**
Intercept	-	-4.363	0.01 (0.01, 0.01)	-6.119	<0.01 (<0.01, <0.01)
Anemia	560,251 (17.27)	0.549	1.73 (1.70, 1.76)	0.255	1.29 (1.25, 1.34)
Asthma	228,937 (7.06)	0.105	1.11 (1.09, 1.14)	0.368	1.44 (1.39, 1.50)
Autoimmune Disease	9,199 (0.28)	0.111	1.12 (1.01, 1.23)	-0.002	1.00 (0.85, 1.17)
Bariatric Surgery	20,290 (0.63)	0.107	1.11 (1.04, 1.19)	-0.115	0.89 (0.77, 1.02)
Bleeding Disorder	88,023 (2.71)	0.576	1.78 (1.72, 1.84)	0.550	1.73 (1.64, 1.83)
Body Mass Index (BMI) ≥ 40	98,839 (3.05)	0.019	1.02 (0.98, 1.06)	0.298	1.35 (1.27, 1.43)
Cardiac Disease	39,511 (1.22)	0.661	1.94 (1.86, 2.01)	1.164	3.20 (3.03, 3.39)
Economic Housing Instability	39,210 (1.21)	0.224	1.25 (1.19, 1.31)	0.367	1.44 (1.33, 1.57)
Gastrointestinal Disease	70,552 (2.17)	0.245	1.28 (1.23, 1.33)	0.462	1.59 (1.49, 1.69)
Gestational Diabetes	308,040 (9.49)	0.024	1.02 (1.00, 1.05)	0.028	1.03 (0.99, 1.07)
Human Immunodeficiency Virus (HIV)	2,946 (0.09)	0.125	1.13 (0.97, 1.33)	0.172	1.19 (0.89, 1.59)
Hypertension	132,179 (4.07)	-0.070	0.93 (0.91, 0.96)	-0.077	0.93 (0.88, 0.98)
Long Term Anticoagulant Use	10,101 (0.31)	0.329	1.39 (1.28, 1.51)	0.792	2.21 (1.95, 2.50)
Mental Health Disorder	420,844 (12.97)	0.073	1.08 (1.06, 1.10)	0.133	1.14 (1.10, 1.18)

-		Severe Obstetric Complication(s)		Severe Obstetric Complication(s) Excluding Blood Transfusion-Only Encounters	
Risk variable	**Total N (%)**	**Beta Coefficient**	**aOR (95% CI)**	**Beta Coefficient**	**aOR (95% CI)**
Multiple Pregnancy	49,405 (1.52)	0.912	2.49 (2.41, 2.58)	0.405	1.50 (1.40, 1.61)
Neuromuscular	17,904 (0.55)	0.256	1.29 (1.20, 1.39)	0.590	1.80 (1.61, 2.03)
Obstetrical Venous Thromboembolism (VTE)	969 (0.03)	0.691	2.00 (1.57, 2.54)	0.953	2.59 (1.81, 3.71)
Other Preeclampsia	384,331 (11.85)	0.221	1.25 (1.22, 1.27)	0.286	1.33 (1.28, 1.38)
Placenta Previa	15,073 (0.46)	1.201	3.32 (3.14, 3.52)	0.732	2.08 (1.89, 2.29)
Placental Abruption	29,778 (0.92)	1.335	3.80 (3.66, 3.95)	0.922	2.51 (2.33, 2.71)
Placental Accreta Spectrum	4,101 (0.13)	3.004	20.16 (18.71, 21.72)	3.868	47.85 (43.98, 52.07)
Preexisting Diabetes	66,889 (2.06)	0.139	1.15 (1.11, 1.19)	0.213	1.24 (1.16, 1.32)
Preterm Birth	326,733 (10.07)	0.268	1.31 (1.28, 1.32)	0.540	1.72 (1.65, 1.78)
Previous Cesarean	541,088 (16.68)	0.264	1.30 (1.28, 1.32)	0.107	1.11 (1.07, 1.15)
Pulmonary Hypertension	958 (0.03)	1.230	3.42 (2.90, 4.04)	1.441	4.22 (3.49, 5.11)
Renal Disease	9,895 (0.31)	1.187	3.28 (3.09, 3.48)	1.634	5.13 (4.74, 5.54)
Severe Preeclampsia	156,941 (4.84)	0.863	2.37 (2.31, 2.43)	1.218	3.38 (3.23, 3.53)
Substance Abuse	141,134 (4.35)	0.055	1.06 (1.03, 1.09)	0.156	1.17 (1.11, 1.24)
Thyrotoxicosis	11,955 (0.37)	0.006	1.01 (0.91, 1.11)	0.082	1.09 (0.91, 1.29)
Maternal Age in Years	-	-	-	-	-

-		Severe Obstetric Complication(s)		Severe Obstetric Complication(s) Excluding Blood Transfusion-Only Encounters	
Risk variable	**Total N (%)**	**Beta Coefficient**	**aOR (95% CI)**	**Beta Coefficient**	**aOR (95% CI)**
Age <20	116,657 (3.60)	Reference	-	Reference	-
Age 20-25	527,098 (16.20)	-0.234	0.79 (0.76, 0.82)	-0.116	0.89 (0.82, 0.97)
Age 25-30	885,510 (27.30)	-0.359	0.70 (0.67, 0.72)	-0.114	0.89 (0.82, 0.97)
Age 30-35	1,000,677 (30.80)	-0.334	0.72 (0.69, 0.74)	0.034	1.03 (0.95, 1.12)
Age 35-40	576,319 (17.80)	-0.222	0.80 (0.77, 0.83)	0.173	1.19 (1.09, 1.29)
Age 40+	137,987 (4.30)	-0.050	0.95 (0.91, 0.99)	0.400	1.49 (1.36, 1.64)
Labs – Hematocrit	-	-	-	-	-
Result <33	633,815 (19.50)	0.941	2.56 (2.52, 2.60)	0.150	1.16 (1.12, 1.20)
Result ≥33	2,312,559 (71.30)	Reference	-	Reference	-
Missing	297,874 (9.20)	0.256	1.29 (1.18, 1.41)	0.011	1.01 (0.86, 1.19)
Labs – White Blood Cell (WBC) Count	-	-	-	-	-
Result <14	2,611,307 (80.50)	Reference	-	Reference	-
Result ≥14	304,060 (9.40)	0.164	1.18 (1.15, 1.21)	0.339	1.40 (1.34, 1.46)
Missing	328,881 (10.10)	0.021	1.02 (0.94, 1.12)	0.021	1.02 (0.87, 1.20)
Vitals – Heart Rate	-	-	-	-	-
Result <110	2,558,890 (78.80)	Reference	-	Reference	-
Result ≥110	228,523 (7.00)	0.231	1.26 (1.23, 1.29)	0.383	1.47 (1.40, 1.53)

-		Severe Obstetric Complication(s)		Severe Obstetric Complication(s) Excluding Blood Transfusion-Only Encounters	
Risk variable	**Total N (%)**	**Beta Coefficient**	**aOR (95% CI)**	**Beta Coefficient**	**aOR (95% CI)**
Missing	456,835 (14.10)	-0.051	0.95 (0.90, 1.01)	-0.156	0.86 (0.76, 0.97)
Vitals – Systolic Blood Pressure (BP)	-	-	-	-	-
Result <140	2,395,063 (73.80)	Reference	-	Reference	-
Result ≥140 & <160	358,755 (11.10)	0.194	1.21 (1.19, 1.24)	0.078	1.08 (1.04, 1.13)
Result ≥160	77,290 (2.40)	0.331	1.39 (1.34, 1.44)	0.252	1.29 (1.21, 1.37)
Missing	413,140 (12.70)	0.209	1.23 (1.16, 1.31)	0.252	1.29 (1.13, 1.46)

*Coefficients are estimated by a multivariable hierarchical logistic regression model with hospital-specific random intercept.

The risk model performance was stable in Calendar Year (CY) 2025 delivery hospitalizations (Table 4). Predictive ability was adequate, with mean rates ranging from 1.05% to 10.37% across deciles for severe obstetric complications and from 0.19% to 3.34% for severe obstetric complications excluding blood transfusion-only encounters. Both models demonstrated good discrimination, with C-statistics[1] of 0.722 for severe obstetric complications and 0.763 for severe obstetric complications excluding blood transfusion-only encounters. The between-hospital variance estimates were 0.522 (standard error [SE]=0.254) and 0.333 (SE=0.387), respectively, indicating measurable variation in outcomes across hospitals after risk adjustment.

[1] A concordance statistic or c-statistic is commonly used to measure the discriminative ability of a binary outcome model. Discrimination refers to how well the risk model can separate the individuals that achieve the measure outcome from those that do not. A general guideline for interpretation is that a c-statistic between 0.5 to 0.7 indicate poor discrimination, 0.7 to 0.8 indicate acceptable discrimination, 0.8 to 0.9 indicate excellent discrimination, and greater than 0.9 indicate outstanding discrimination. Reference: Hosmer, D., Lemeshow, S., Sturdivant, R. (2013). *Applied Logistic Regression, 3rd Edition.* John Wiley & Sons.

Table 4. Logistic Regression Model Performance and Between-Hospital Variance (CY 2025)

Characteristic	CY 2025 - Severe Obstetric Complications	CY 2025 - Severe Obstetric Complications excluding Blood Transfusion-only Encounters
Predictive ability% (lowest decile – highest decile)	1.05 - 10.37	0.19 - 3.34
C-statistic	0.722	0.763
Between-hospital variance (SE)	0.522 (0.254)	0.333 (0.387)

Performance Categories

Starting with 2026 public reporting, CMS will share performance categories alongside measure results. For hospitals with ≥25 delivery hospitalizations (n=2,367), hospitals will be in the following categories based on their RSOCRs for each outcome:

- Top 25 percent (hospitals with a RSOCR less than or equal to the 25th percentile [lower cutpoint]),
- Middle 50 percent (hospitals with a RSOCR between but not equal to the 25th and 75th percentiles),
- Bottom 25 percent (hospitals with a RSOCR greater than or equal to the 75th percentile [upper cutpoint]).

Hospitals with <25 delivery hospitalizations (n=56) are assigned to a separate category (too few cases), and their measure results will not be publicly reported. In Table 5 below, we share the RSOCR cutpoints for each performance category for both measure outcomes.

Table 5. RSOCR Cutpoint Values for Performance Categories (CY 2025)

Measure Outcome	Top 25 Percent Complications per 10,000 Delivery Hospitalizations	Middle 50 Percent Complications per 10,000 Delivery Hospitalizations	Bottom 25 Percent Complications per 10,000 Delivery Hospitalizations
Severe Obstetric Complications	≤207 (593)	208-419 (1178)	≥420 (596)
Severe Obstetric Complications excluding Blood Transfusion-only Encounters	≤53 (592)	54-82 (1178)	≥83 (597)