

Tennessee Perinatal Episode of Care Model

In 2014, TennCare, the Tennessee Medicaid program, began implementing statewide episode of care payment models under its Health Care Innovation Initiative. The perinatal episode was one of the first models implemented. Currently, the state supports 48 episodes in total. TennCare administers its Medicaid program through managed care, and Medicaid managed care organizations (MCOs) and TennCare jointly administer the episode of care model. Commercial payers may also adopt the models.

The goal of the perinatal episode is to reduce variation in costs and reward providers who deliver cost-effective, quality care, and promote patient-centered, high-value health care. The model creates payment incentives for providers to manage costs across the entire episode of care. Accountable providers are held financially responsible when their costs are higher than what is considered acceptable. Conversely, they are also eligible for additional payments when their costs are below what is considered commendable, as long as certain quality metrics are met.

Under contract with MACPAC, RTI International conducted interviews and examined five states (Arkansas, Connecticut, Colorado, North Carolina, and Tennessee) implementing value-based payment initiatives to improve maternity care in Medicaid. This case study includes an overview of the Tennessee perinatal model, details how the model is defined, describes the payment methodology, and summarizes the available research on the model's effects on cost and quality.¹ MACPAC has also published case studies for the other study states, as well as an issue brief summarizing the key findings (MACPAC 2021a–e).

Overview

The perinatal episode is a value-based payment arrangement that subjects accountable providers to gainsharing and risk-sharing payments based on costs and quality. Tennessee designates the accountable provider as the individual or group practice performing a delivery.² The model is applied retrospectively; providers receive fee-for-service (FFS) payments from the MCO for perinatal services delivered throughout the enrollee's pregnancy, delivery, and postpartum period.

On an annual basis, the MCO calculates the accountable provider's average risk-adjusted episode cost. Accountable providers with costs that are greater than the acceptable level set by the state are required to make risk-sharing payments; providers with costs below the commendable level are eligible to receive gainsharing payments if quality thresholds are met. This calculation is done on a retrospective basis and provider costs are risk adjusted. This model includes low- to moderate- risk perinatal episodes.

Design Parameters

Duration. The perinatal episode is triggered by the birth of a live infant. The episode begins 40 weeks (280 days) prior to the delivery and ends 60 days after the woman is discharged from the hospital.

Services included. All pregnancy-related care including prenatal visits, lab tests, emergency department visits, medications, ultrasound imaging, delivery of the infant (professional and facility components) and postpartum care are included in the perinatal episode (TennCare n.d.-b).



Market participation. Tennessee mandates participation by Medicaid MCOs. Commercial participation is voluntary.

Provider participation. Participation is mandatory for Medicaid providers. The provider or health care practice performing the delivery is considered the accountable provider. All providers delivering prenatal or delivery services, including those affiliated with freestanding birth centers, family practices, and obstetrician-gynecologist practices, can be designated as the accountable provider and subject to a gainsharing or risk-sharing payments under the model.

Patient population and attribution. The model targets perinatal episodes of low- to moderate- risk pregnant women covered by Medicaid.³ The patient is attributed to the delivering provider retrospectively (TennCare n.d.-b).

Exclusions. Episodes are excluded if:

- the patient is younger than 12 years of age or older than 64 years of age;
- the patient dies during the episode window;
- the patient was discharged against medical advice;
- the patient has one or more conditions that could lead to a different care pathway, including active cancer management, Department of Children’s Services (DCS) custody, blood clotting disorders, HIV, multiple sclerosis, and three or more gestations;
- third-party liability payments are present on any claim during the episode window;
- the patient is dually eligible for Medicaid and Medicare;
- a procedure occurs at a federally qualified health center (FQHC) or a rural health clinic (RHC);
- there is no provider identification number;
- the episode is considered incomplete;
- the episode overlaps with another episode during the same window;
- the risk-adjusted episode spending is greater than the high outlier threshold, which is set at three standard deviations above the average risk-adjusted episode spend for valid episodes; or
- episodes for which the rendering provider of the trigger claim is a maternal fetal medicine (MFM) specialist (TennCare n.d.-b).

In 2018, there were 21,283 valid perinatal episodes. Approximately 30 percent of episodes were excluded (Hill 2020).

Payment Methodology

In Tennessee, Medicaid MCOs administer the episode of care payment model. They contract with providers and pay for perinatal services on a FFS basis. Delivering providers are paid a base blended rate for vaginal and cesarean deliveries; that is, they receive the same amount regardless of delivery modality.

The MCOs adjust payments retrospectively on an annual basis based on provider performance. If the accountable provider’s costs are below the commendable threshold and he or she meets certain quality metrics (described below), the provider will receive a gainsharing payment. Conversely, accountable providers with costs above the acceptable threshold are required to make a risk-sharing payment.⁴



Cost thresholds

An accountable provider may fall into one of three categories based on average risk-adjusted costs (described below) relative to the cost thresholds:

- The provider has commendable performance if costs are lower than the commendable threshold, which makes them eligible for a gainsharing payment.
- The provider has risk-sharing performance if costs are above the acceptable threshold, subjecting them to a risk-sharing payment.
- The provider has acceptable performance if costs fall between the thresholds, resulting in no payment change.

The cost thresholds are set by TennCare and Medicaid MCOs prior to the start of the performance year and are based on spending projections to result in overall budget neutrality (i.e., the projected risk-sharing payments should equal the projected gainsharing payments) (Table 1). TennCare sets the statewide acceptable threshold, and Medicaid MCOs set their own commendable threshold for what they deem to be cost-effective care (BCBSTN n.d.). For example, BlueCross BlueShield of Tennessee sets its commendable threshold at \$5,005, while United HealthCare has a threshold of \$2,964.

TABLE 1. Perinatal Episode of Care Model Structure, Blue Cross Blue Shield 2020

Performance level	Average episode cost	Payment
Commendable	<\$5,005	Gainsharing payment eligible
Acceptable	5,005 – 8,150	No change to payment
Risk sharing	>8,150	Risk-sharing payment

Notes: Commendable threshold of \$5,005 was set by BCBS for their contracted Medicaid providers. TennCare established the statewide acceptable threshold of \$8,150. Average episode cost is risk adjusted. Gainsharing payments are only made if provider also meets quality metrics.

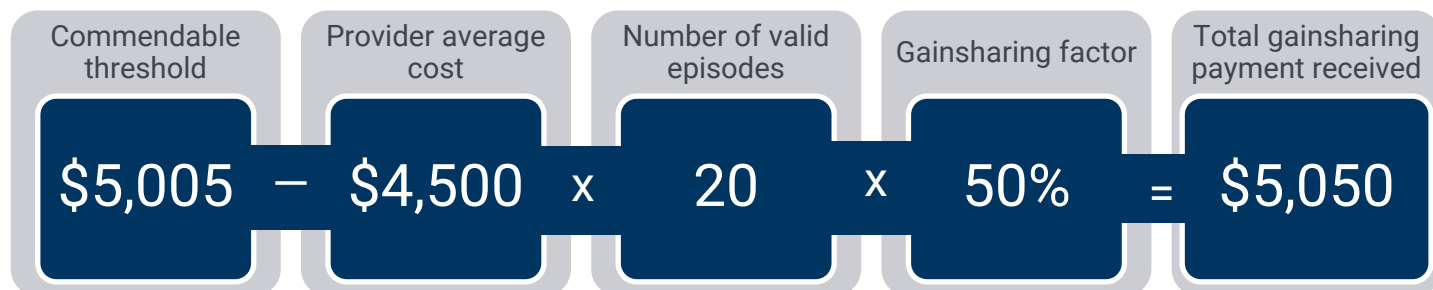
Source: BCBSTN 2020.

Commendable performance. Accountable providers with average risk-adjusted costs below the commendable threshold will receive a gainsharing payment if certain quality metrics are also met. The payment equals 50 percent of the difference between the commendable threshold and their costs, multiplied by the provider’s number of valid episodes in the reporting period.

For example, if an accountable provider contracting with BlueCross BlueShield averages \$4,500 in risk-adjusted costs per perinatal episode, this would be \$505 lower than the commendable threshold of \$5,005. If this provider was accountable for 20 episodes during the performance year, it would result in \$10,100 cost savings. A provider also meeting all three quality metric thresholds would receive 50 percent of the savings, resulting in a gainsharing payment of \$5,050 (Figure 2).

To ensure that the model does not create an incentive to underserve enrollees, total gainsharing an accountable provider can receive is limited to a threshold set by the state and the MCOs. Providers cannot financially benefit from having costs below this threshold (TennCare n.d.-b). For example, if the gainsharing limit threshold were set at \$2,000 and a provider had average costs of \$1,500, the gainsharing calculation would assume an average provider cost of \$2,000, instead of \$1,500. This prevents the provider from receiving any gainsharing on the costs below the gainsharing limit threshold.

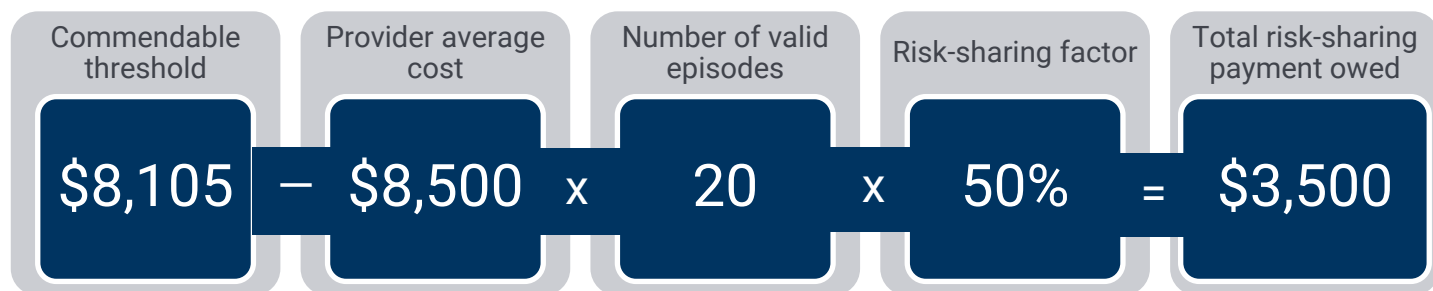


FIGURE 2. Perinatal Episode of Care Model: Example of Gainsharing Calculation

Source: RTI 2021 and BCBSTN 2020.

Risk-sharing performance. Accountable providers with average risk-adjusted costs above the acceptable threshold owe a risk-sharing payment that is equal to 50 percent of the difference between the acceptable threshold and their average costs. This is then multiplied by the number of valid episodes in the reporting period. The risk-sharing limit is capped at 25 percent of the total amount paid to the provider for episodes during the reporting period (TennCare n.d.-c).

For example, if an accountable provider contracting with BlueCross BlueShield averaged \$8,500 per episode, this would be \$350 higher than the acceptable threshold of \$8,150. During the performance year, if this provider was accountable for 20 episodes, this would result in \$7,000 above the acceptable level. The provider would be accountable for 50 percent of the excess cost, resulting in a risk-sharing payment of \$3,500. (Figure 3).

FIGURE 3. Perinatal Episode of Care Model: Example of Risk-Sharing Calculation

Source: RTI 2021 and BCBSTN 2020.

Acceptable performance. Accountable providers with average risk-adjusted episode costs between the acceptable and commendable thresholds do not receive a gainsharing payment and are not subject to a risk-sharing payment (TennCare n.d.-c).

Risk adjustment. Risk adjustment is used to account for differences in enrollees served. A statistical model tests for correlation between risk factors and episode cost, generating a risk score for each episode.



Episode spending is then adjusted by the risk score to arrive at the risk-adjusted episode spending amount (TennCare n.d.-c). Each MCO applies its own risk adjustment model (TennCare n.d.-c).

Modifications to episode spending. Participating providers who perform deliveries at hospitals with high facility costs where no alternative hospital exists (e.g., rural communities) may request adjustment to their risk sharing payments. Requests are considered on a case-by-case basis by each MCO.

Quality measures

To be eligible for gainsharing payments, an accountable provider must meet three quality measure thresholds. These include screening for HIV, screening for Group B streptococcus, and the cesarean section delivery rate. An additional seven quality measures are tracked and reported back to providers but have no effect on payment. Each Medicaid MCO calculates the accountable provider's performance annually for all eligible episodes.

TABLE 3. Perinatal Episode of Care Quality Measures

Measure	Measure type	Gainsharing threshold
Measures tied to payment		
HIV screening	Process	90%
Group B Streptococcus screening	Process	90
Cesarean section was performed	Outcome	38
Measures for reporting only		
Gestational diabetes screening	Process	N/A
Asymptomatic bacteriuria screening	Process	N/A
Hepatitis B specific antigens screening	Process	N/A
Tdap vaccine administered	Process	N/A
Primary caesarean section was performed	Outcome	N/A
Genetic screening	Process	N/A
Maternal Fetal Medicine services provided	Process	N/A

Notes: N/A is not applicable. Tdap is tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis.

Source: TennCare 2021.

Model Effects

While the perinatal episode of care model has not been formally evaluated, the state has reported that it has been effective in increasing screenings and lowering projected costs (TennCare 2019b). Quality measures changed modestly. Quarterly monitoring reports on cost and quality are not made publicly available (BCBSTN 2020).



Cost savings

In 2018, TennCare reported cost savings of \$632 per perinatal episode, which translated to a 9.2 percent decrease from projected perinatal episode costs in 2018. Across all perinatal episodes that year, cost savings were estimated to be \$13,456,251 (TennCare 2019b).

Changes in quality measures

On the three quality measures tied to gainsharing payments, Tennessee saw improvement on two measures (Table 4). The HIV screening and Group B Streptococcus screening rates increased by 2.6 and 7.4 percentage points respectively from 2014 and 2018. There was little change in the rate of cesarean sections during this time.

TABLE 4. Changes in Perinatal Episode of Care Quality Measures, 2014-2018

Measure	2014 rate	2018 rate	Percent point change
Measures tied to gainsharing			
HIV screening	90.2%	92.8%	2.6%
Group B Streptococcus screening	87.8	95.2	7.4
Caesarean section was performed	30.5	30.8	0.3
Measures for reporting only			
Tdap vaccine administered ¹	22.9	78.9	56.0
Gestational diabetes screening	80.5	82.6	2.1
Asymptomatic bacteriuria screening	81.1	82.8	1.7
Hepatitis B screening	86.9	86.5	-0.4

Notes: ¹ American College of Obstetricians and Gynecologists (ACOG) published an updated recommendation that a dose of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) should be administered during each pregnancy which is believed to be partially responsible for the sharp increase after 2014.

Source: TennCare 2019b.

Maternal health outcomes

The rate of cesarean sections did not change from 2014 to 2018 (TennCare 2019b).

Birth outcomes

Birth outcomes were not included in TennCare's reporting.

Endnotes

¹ MACPAC developed this case study based on the results from RTI International's interviews and unpublished state profiles. TennCare reviewed the unpublished profile for accuracy.

² In Tennessee, the accountable provider is referred to as the principal accountable provider (PAP) or quarterback.



³ MACPAC uses the terms pregnant and postpartum women because these are the terms used in Medicaid statute and regulations. However, other more inclusive terms are increasingly being used in recognition that not all individuals who become pregnant and give birth identify as women.

⁴ In July 2020, TennCare announced that MCOs will waive all risk-sharing payments due to COVID-19. Providers with gainsharing payments for performance through 2019 will still receive the payments as planned (TennCare 2020).

References

BlueCross BlueShield of Tennessee (BCBSTN). 2020. *Tennessee healthcare innovation initiative threshold methodology*. Chattanooga, TN: BCBSTN. https://bluecare.bcbst.com/forms/Provider%20Forms/2020_Episodes_of_Care_Thresholds.pdf.

BlueCross BlueShield of Tennessee (BCBSTN). n.d. *2020 THCI Tennessee gainsharing limits for episodes*. Chattanooga, TN: BCBSTN. <https://bluecare.bcbst.com/forms/Provider%20Forms/THCI%20Gain%20Share%20Limit%20BlueCare-ALT.pdf>.

Hill, J.S., TennCare. 2020. E-mail to MACPAC, October 21.

Martin J., B. Hamilton, M. Osterman, and A. Driscoll. 2019. Births: Final data for 2018. *National Vital Statistics Report* 68: 13: 1-46. https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_13-508.pdf.

Medicaid and CHIP Payment and Access Commission (MACPAC). 2021a. *Arkansas Perinatal Episode of Care*. Washington, DC: MACPAC. <https://www.macpac.gov/publication/arkansas-perinatal-episode-of-care/>.

Medicaid and CHIP Payment and Access Commission (MACPAC). 2021b. *Colorado Hospital Quality Incentive Payment Program and Maternity Bundled Payment Program*. Washington, DC: MACPAC. <https://www.macpac.gov/publication/colorado-hospital-quality-incentive-payment-program-and-maternity-bundled-payment-program/>.

Medicaid and CHIP Payment and Access Commission (MACPAC). 2021c. *Connecticut Pay for Performance in Obstetrical Care*. Washington, DC: MACPAC. <https://www.macpac.gov/publication/connecticut-pay-for-performance-in-obstetrics-care-program/>.

Medicaid and CHIP Payment and Access Commission (MACPAC). 2021d. *North Carolina Pregnancy Medical Home*. Washington, DC: MACPAC. <https://www.macpac.gov/publication/north-carolina-pregnancy-medical-home/>.

Medicaid and CHIP Payment and Access Commission (MACPAC). 2021e. *Value-Based Payment for Maternity Care in Medicaid: Findings from Five States*. Washington, DC: MACPAC. <https://www.macpac.gov/publication/value-based-payment-for-maternity-care-in-medicaid-findings-from-five-states/>.

Medicaid and CHIP Payment and Access Commission (MACPAC). 2020. *Medicaid's Role in Financing Maternity Care*. Washington, DC: MACPAC. <https://www.macpac.gov/wp-content/uploads/2020/01/Medicaid%E2%80%99s-Role-in-Financing-Maternity-Care.pdf>.

National Academy for State Health Policy (NASHP), National Institute for Children's Health Quality. 2017. *Case Study: Tennessee's Perinatal Episode of Care Payment Strategy Promotes Improved Birth Outcomes*. October 2017. Portland, ME. <https://www.nashp.org/wp-content/uploads/2017/10/Tennessee-CaseStudy.pdf>.

RTI International 2021. Unpublished case study on Tennessee Perinatal Episode of Care Model.



Medicaid and CHIP Payment
and Access Commission
www.macpac.gov

TennCare. 2021. *2021 Episodes of Care Cost and Quality Thresholds*. Nashville, TN: Tennessee Division of TennCare. <https://www.tn.gov/content/dam/tn/tenncare/documents2/2021EpisodesOfCareThresholds.pdf>.

TennCare. 2020. Memo regarding "Waiving 2019 episodes risk-sharing payments." July 17, 2020. Nashville, TN: Tennessee Division of TennCare. <https://www.tn.gov/content/dam/tn/tenncare/documents2/TennCaresEpisodesOfCareIsWaiving2019RiskSharingPayments.pdf>.

TennCare. 2019a. *2019 Episode Changes*. Nashville, TN: Tennessee Division of TennCare. <https://www.tn.gov/content/dam/tn/tenncare/documents2/Memo2019EpisodesChanges.pdf>.

TennCare. 2019b. *TennCare delivery system transformation: episodes of care analytics report*. Nashville, TN: Tennessee Division of TennCare. <https://www.tn.gov/content/dam/tn/tenncare/documents2/EpisodesOfCareAnalyticsReport.pdf>.

TennCare. n.d.-a. *Episodes of Care Frequently Asked Questions*. Nashville, TN: Tennessee Division of TennCare. <https://www.tn.gov/content/dam/tn/tenncare/documents2/EpisodesOfCareFAQsWhatYouNeedToKnow.pdf>.

TennCare. n.d.-b. *Detailed business requirement perinatal episode. V6.0*. Nashville, TN: Tennessee Division of TennCare. <https://www.tn.gov/content/dam/tn/tenncare/documents2/PerinatalDBRv60.pdf>.

TennCare. n.d.-c. Episodes of care. Nashville, TN: Tennessee Division of TennCare. <https://www.tn.gov/tenncare/health-care-innovation/episodes-of-care.html>.

United Healthcare Community Plan (UHCP). 2019. *2020 episode of care payment appendix threshold updates*. Minnetonka, MN: UHCP. <https://www.uhcprovider.com/content/provider/en/viewer.html?file=%2Fcontent%2Fdam%2Fprovider%2Fdocs%2Fpublic%2Fcommplan%2Ftn%2Fepisodes-care%2FTN-eoc-threshold-updates-.pdf>.

