Summary of Technical Expert Panel (TEP): Development of Birthing Friendly Hospital Designation (BFHD)

March 2026

Prepared by:

Yale New Haven Health Services Corporation – Center for Outcomes Research and Evaluation (CORE)

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Background

The Centers for Medicare & Medicaid Services (CMS) has contracted with Yale New Haven Health Services Corporation – Center for Outcomes Research and Evaluation (CORE) to support the development of an expanded Birthing-Friendly Hospital Designation (hereinafter "the Designation"). The CORE contract name is the Centers for Medicare & Medicaid Services: Measure & Instrument Development and Support (MIDS): Development, Reevaluation, and Implementation of Outcome/Efficiency Measures for Hospitals and Eligible Clinicians, Option Period 2 the contract number is HHSM-75FCMC18D0042, Task Order HHSM-75FCMC24F0042. As part of its measure development process, CORE convenes groups of stakeholders who contribute direction and thoughtful input to the measure developer during measure development and maintenance. The purpose of this technical expert panel (TEP) is to advise on conceptual, technical, and implementation considerations for a scoring approach and approach for awarding an expanded Designation.

The CORE Birthing-Friendly Hospital Designation development team is comprised of experts in maternal health and quality measurement development. The TEP includes 24 individuals with expertise in clinical maternal care, obstetrical/gynecologic leadership, hospital administration (including chief quality officers or other hospital quality administrators), perinatal quality improvement, statistics and performance measurement, and consumer/patient experience.

This report summarizes the feedback and recommendations provided by the TEP during the first meeting held on October 10, 2024, the second meeting held on August 18, 2025, and the third meeting held on December 9, 2025.

Measure Development Team

The CORE Birthing-Friendly Hospital Designation team is led by Dr. Onyinye Oyeka, and overseen by Project Director, Dr. Katie Balestracci and Division Lead, Dr. Ladan Golestaneh. The development team is comprised of clinicians, health services researchers, maternal health experts, and experts in quality measurement. See Appendix A for the full list of CORE team members on the measure development team.

The TEP

In alignment with the CMS Measures Management System, CORE held a 30-day public call for TEP requesting nominations and self- nominations to participate in the TEP. CORE solicited prospective TEP members via emails to individuals and organizations representing thought leaders in maternal care, email blasts sent by the CMS Office of Communication, and through a posting on CMS's website. Additionally, the CORE team partnered with SoftDev LLC to recruit patient and caregiver candidates through a targeted search and structured interview process. Through this process, candidates were successfully identified, recruited, and onboarded.

The role of the TEP for the Birthing -Friendly Hospital Designation project is to provide key methodological and clinical recommendations and feedback to inform the development of a scoring approach for an expanded Designation. The appointment term for the TEP is from September 2024 to January 2026.

Specific Responsibilities of the TEP Members

Specific responsibilities of TEP members include:

- Complete and submit all nomination materials, including the TEP Nomination Form, letter of interest, disclosure of conflicts of interests, and curriculum vitae;
- Review background materials provided by CORE prior to each TEP meeting;
- Attend and actively participate in the TEP in-person meeting and/or teleconference meeting(s);
- Provide input and feedback to CORE on key clinical, methodological, and other decisions;
- Provide feedback to CORE on key policy or other non-technical issues;
- Review the TEP summary report prior to public release; and
- Be available to discuss recommendations and perspectives following group TEP meetings and public release of the TEP summary report.

Table 1. TEP Member Name, Affiliation, and Location

Name and Credentials	Organization (if applicable) and Role	Location
Ashley Bates	Person Family Engagement Expert	Quinter, KS
Lori Boardman, MD, ScM	Orlando Health, Orlando Health Winnie Palmer Hospital; Chief Quality Officer, Assistant Vice President	Orlando, FL
Kathryn Burggraf Stewart, MPH	The Leapfrog Group; Director of Health Care Ratings	Washington, DC
Edward Chien, MD, MBA, MA, BS	Cleveland Clinic; Maternal-fetal Medicine physician, Obstetrics and Gynecology	Lakewood, OH
Lastascia Coleman, CNM, ARNP, MSN, FACNM	University of California, San Francisco; Practice Director	San Francisco, CA
Marianne Drexler	Person Family Engagement Expert	Durham, NC
Alissa Erogbogbo, MD	Washington Health-Fremont, CA, Chief of Women's Health Services	Fremont, CA
Jodie Franzen, APRN-CNS, RNC-OB, CPHQ, MS	Duncan Regional Health; Director, Performance Excellence	Duncan, OK
William Greenfield, MD, MBA	University of Arkansas for Medical Sciences Professor, Obstetrics and Gynecology; Arkansas Perinatal Quality Collaborative; Arkansas Department of Health Medical Director Family Health Branch	Little Rock, AR
Ron Iverson, MD, MPH	Vice Chair, Quality and Safety, Department of Obstetrics & Gynecology, Beth Israel Deaconess Medical Center	Boston, MA
Cassaundra Jah, CPM, LM, IBCLC, PhD	Embrace Midwifery Care & Birth Center; National Association of Certified Professional Midwifes, Midwife, Executive Director	Austin, TX

Name and Credentials	Organization (if applicable) and Role	Location
Cheri Johnson, MSN, RNC-OB	Woman's Hospital; Executive Vice President of Patient Services/Chief Nursing Officer	Baton Rouge, LA
David B. Nelson, MD	University of Texas Southwestern Medical Center, Parkland Health; Chief, Division of Maternal-Fetal Medicine, Medical Director, Maternal-Fetal Medicine	Dallas, TX
Ushma Patel, MSPH, PMP	Person Family Engagement Patient Engagement Lead, Center for Innovation and Value Research	Raleigh, NC
Shana Philips	Person Family Engagement Expert	Crown Point, IN
Nicole Purnell	MoMMAs Voices, Preeclampsia Foundation; Coalition Program Director, PFE Expert	Era, TX
Stephanie Radke, MD, MPH, FACOG	University of Iowa Hospitals and Clinics; Clinical Associate Professor, Department of Obstetrics and Gynecology	Iowa City, IA
Lisa Satterfield, MS, MPH	American College of Obstetricians and Gynecologists (ACOG); Senior Director, Health and Payment Policy	Washington, DC
Tanya Sorenson, MD	Swedish Health System Women and Children's; Executive Medical Director	Seattle, WA
Solaire Spellen, MPH	Irth App, Narrative Nation, Inc; Head of Quality Improvement & Systems Change	Brooklyn, NY
Nan Strauss, JD	National Partnership for Women & Families; Senior Policy Analyst for Maternal Health	Brooklyn, NY
Shannon Sullivan, MSW, MHL *[Service date through December 2025]*	Women & Infants Hospital; President and Chief Operating Officer	Providence, RI
Brittany Waggoner, MSN, RN, AGCNS	Indiana Hospital Association, Hendricks Regional Health; Infant and Maternal Quality Improvement Advisor, Clinical Nurse Specialist	Indianapolis, IN
Andrew Williams, PhD, MPH	University of North Dakota School of Medicine and Health Sciences; North & South Dakota Perinatal Quality Collaborative; Assistant Professor, Executive Director and Principal Investigator	Grand Forks, ND

CORE provides an agenda and background materials before every meeting for TEP members to review. TEP members are generally expected to attend a majority of meetings, and to review and comment on materials for the meetings they cannot attend. CORE then summarizes member comments and recommendations in a report that will be publicly posted on CMS's website.

TEP Meetings

TEP meetings follow a structured format consisting of the presentation of updates on measure development, key issues and areas for feedback identified during measure development, and CORE's proposed approaches to addressing the issues, followed by an open discussion of these issues by the TEP members.

CORE's Birthing-Friendly Hospital Designation team held its first TEP meeting on October 10, 2024, its second TEP meeting on August 18, 2025, and its third meeting on December 9, 2025 (see Appendix B for the TEP meeting schedule). This report contains a summary of the three TEP meetings.

First TEP Meeting Overview

Prior to the first TEP meeting, CORE provided TEP members with detailed meeting materials outlining the background on the expanded Birthing-Friendly Hospital Designation, the description of measures included in the Designation (Maternal Morbidity Structural Measure [MMSM], Severe Obstetric Complications (SOC) electronic clinical quality measure [eCQM] [PC-07], and Cesarean Birth eCQM [PC-02]) to serve as a foundation for the discussion. The goal of this meeting was to obtain TEP insights and suggestions to inform the scoring approach in this initial phase of the Designation's expansion. This discussion centered on options for weighting the individual measures to be included in the Designation (see above), and considerations for incorporating the two SOC eCQM outcomes into the Designation.

The following bullets represent a **high-level summary** of what was discussed during the TEP meeting. For a detailed meeting summary, refer to the full minutes of the meeting in (Appendix C). Eight TEP members unable to attend the meeting were invited to share feedback on all three questions. For this additional feedback, refer to email responses in (Appendix D).

Project Background and Status

- CORE reviewed the project background for the Designation, noting that it was first implemented in the Fiscal Year (FY) 2023 Inpatient Prospective Payment Systems (IPPS) final rule, and is the first-ever CMS designation to describe high -quality maternal care. Currently, the Designation includes one measure which is the current version of the Maternal Morbidity Structural Measure (MMSM). CORE noted that CMS displays an icon on the Care Compare website to convey hospital receipt of the Designation, intended to be a consumer-friendly, publicly reported display reflecting that a hospital is committed to maternal health quality.

Future Expansion Plans

- CORE provided a brief overview of the measures that will be included in the initial expansion of the Designation: the expanded MMSM currently under development and two maternal quality care outcome measures that have been implemented in the Hospital Inpatient Quality (IQR) Program:
    - The SOC eCQM (PC-07) assesses the occurrence of severe maternal morbidity (SMM) and mortality events during delivery hospitalizations. The SOC eCQM has two outcomes: any severe obstetric complications (PC-07a), and severe obstetric complications excluding encounters in which blood transfusions are the only complication (PC-07b).

- The Cesarean Birth eCQM (PC-02) assesses the proportion of nulliparous women with a term, singleton baby in a vertex position (baby is head down in uterus) delivered by cesarean section.

Development of the Designation Scoring Approach

- CORE reviewed the approach to developing a scoring approach for the Designation, and the key methodological considerations: whether the Designation will be scored using individual measure thresholds or using a composite score, and key considerations based on that approach related to: measure standardization, whether and how to assign weights to individual measures, best approach to a composite score, and threshold or composite cut-off for awarding the Designation.

Discussion Questions and Summary of TEP Input

Weighting Considerations for the Designation

- CORE identified consideration of whether to assign weights to each measure and how much weight to assign. Options include equal weighting, or differential weighting.
- CORE proposed differential weighting of individual measures within the Designation with an approach that assigns more weight to the outcome measures since outcome measures most directly assess hospital quality, and this approach aligns with other maternal health rankings/designations:
    - Expanded MMSM weighted 20%;
    - SOC eCQM outcome weighted 40%;
    - Cesarean eCQM outcome weighted 40%.

Discussion Questions

- CORE posed the following discussion questions to the TEP:
    - What are your views on the proposed weighting approach?
    - What alternative strategies or modifications might you suggest to improve the weighting approach?

TEP Feedback

- The majority of TEP members expressed support for a differential weighting approach for the three measures and noted support for weighting the outcome measures more than the structural measure. They also recommended to increase the weight of the structural measure (relative to the outcome measures).
    - TEP members expressed that the MMSM is key to encouraging hospitals and teams to collaborate, to build structures that prevent maternal morbidity and mortality, and to increase participation in PQCs.
    - TEP members noted the structural measure is beneficial to all hospitals and weighting the structural measure higher than 20% will incentivize hospital to improve upon the standards of the expanded MMSM.
    - Some TEP members noted that the combined outcome measure weight of 80% is too high (SOC and Cesarean Birth measures are interrelated).

        - One TEP member proposed an alternative option that others agreed with, to re-weight the MMSM 40% and the two outcome measures 30% each.
- Some TEP members supported the existing MMSM weight of 20%, noting the lack of a validation mechanism for the structural measure, thus the measure should have less impact on the composite score.
- One TEP member presented an alternative approach to weight the Cesarean Birth eCQM more heavily than the SOC eCQM, given the high percentage of patients who are affected by cesarean birth and patient preferences to avoid unnecessary C-sections.
- TEP members shared agreement that the Cesarean Birth eCQM can add distinct value in reducing unnecessary C--section rates.
    - Some TEP members highlighted that reducing C-s-ections could lower SMM. They also noted that although reporting NTSV C--section rates has not significantly reduced rates, there is substantial room for improvement, and including the measure in the Designation could help draw greater attention to it.

Inclusion of and Weighting Both SOC eCQM Outcomes

- CORE recommended including both of the SOC eCQM outcomes reported for this measure in the Designation, to align with current reporting practices, provide a comprehensive view of the quality of care, and encourage improvement across the entire range of maternal complications.
    - PC-07a is defined as delivery hospitalizations with any severe obstetric complication, reported as a rate per 10,000 delivery hospitalizations;
    - PC-07b is defined as delivery hospitalizations with any severe obstetric complication excluding hospitalizations for which blood transfusion is the only complication, reported as a rate per 10,000 delivery hospitalizations.
- CORE proposed a weighting approach for these two SOC eCQM outcomes: a total weight of 40% for the SOC measure, to be evenly distributed across both SOC eCQM outcomes with each outcome measure weighted at 20%.
    - This approach retains the same weight for the SOC eCQM (40%) as the other outcome measure in the Designation, and PC-07a and PC-07b would contribute equally to the 40% weighting.

Discussion Questions

- CORE posed the following discussion questions to the TEP:
    - What is your perspective on the recommendation to include both PC-07a and PC-07b in the Designation?
    - What considerations should be made for weighting?

TEP Feedback

- Some TEP members recommended not including PC-07a (which includes any severe obstetric complication, including delivery encounters in which blood transfusion is the only event) in the Designation.
    - TEP members were concerned that inclusion of PC-07a may deter hospitals from providing timely and clinically appropriate transfusions and may lead to public

misinterpretation of the measure results for hospitals that treat higher-risk patients.

- Several other TEP members recommended down-weighting PC-07a relative to the other SOC eCQM outcome that excludes blood transfusion-only events, as the capture of transfusion for severe maternal morbidity complications in the SOC eCQM is not sufficiently defined.
    - TEP members noted that assigning a higher weight to PC-07a may discourage hospitals from providing timely transfusions, which is not the intention of the measure.
    - Several TEP members expressed concern about the capture of transfusion in the SOC eCQM and recommended to quantify and define thresholds for the blood transfusion events captured in PC-07a, as transfusions can represent very different clinical scenarios (e.g., severe vs non-severe events).
    - TEP members noted that patients receive blood transfusions for reasons other than maternal hemorrhage or severe maternal complications, for example, patients with anemia during the pregnancy.
- Another TEP member supported the inclusion of both SOC eCQM outcomes in the Designation with no changes to the proposed weighting. They noted, in response to potential concern that some transfusions included in the outcome could be measuring an outcome other than severe maternal morbidity, that the measure is risk-adjusted for comorbidities such as anemia, bleeding disorder, and long-term anticoagulant use.

Additional TEP Feedback

- TEP members strongly supported the recommendation to include process measures in future expanded Designation.
- TEP members emphasized the importance of disaggregated measure reporting (e.g., by race/ethnicity and/or payer status) to assess disparities and hospital quality.
- TEP members strongly recommended the data/information that are collected to confer the Designation (in addition to the composite score) are made publicly available on the Care Compare website.

Next Steps

- TEP members were invited to send emails with additional feedback or questions to Jace O'Neill-Lee, jacelyn.oneill-lee@yale.edu, and were alerted to a brief survey that they would be asked to complete on their experience of the meeting. CORE noted that they would provide CMS with a summary of the TEP input for consideration. CORE noted that they would reach out to the TEP to schedule the next TEP meeting.
- The project team will consolidate the feedback received at the October 10th, 2024, TEP meeting with the feedback received

Second TEP Meeting Overview

Prior to the second TEP meeting, CORE provided TEP members with detailed meeting materials reminding them of the background on the expanded Birthing-Friendly Hospital Designation, including a description of the component measures. The goal of this meeting was to obtain TEP insights and suggestions to inform the scoring approach for the Designation. This discussion centered on evaluating

potential thresholds for an individual measure threshold scoring approach, identifying preferred weighting options for a composite score approach with k-means clustering, and gathering feedback on the strengths and limitations of each approach to determine which approach the TEP preferred for awarding the Designation.

The following bullets represent a **high-level summary** of what was discussed during the TEP 2 meeting. For a detailed meeting summary, refer to the full minutes of the meeting in (Appendix E). For additional TEP feedback collected after the meeting, refer to email responses in (Appendix F).

Project Background and Status

- CORE reviewed CMS plans for the Designation and provided a brief overview of the measures that will be included in the initial expansion of the Designation: the currently reported MMSM, the SOC eCQM (PC-07, and the Cesarean Birth eCQM (PC-02), all implemented in the Hospital Inpatient Quality (IQR) Program.
    - CORE noted that the Designation will use the currently implemented MMSM [earlier planning, communicated to the TEP in Meeting 1, considered use of an expanded MMSM].

Development of the Designation Scoring Approach

- CORE introduced the proposed Designation scoring approaches, both of which include the MMSM serving as the gateway to receiving the Designation. Hospitals must positively attest to the MMSM to be eligible for the Designation.
- CORE presented two scoring options under consideration for hospitals meeting the MMSM requirement: an individual measure threshold scoring approach and a composite score approach using k-means clustering, and outlined key methodological considerations for each approach. CORE noted that testing was conducted using CY 2024 data from hospitals meeting reporting and volume criteria.

Discussion Questions and Summary of TEP Input

Individual Measure Threshold Scoring Approach

- CORE introduced an approach for scoring hospitals based on performance against predefined thresholds for each individual measure, requiring that hospitals meet or exceed measure thresholds for all three measures.
- For PC-02 (Cesarean Birth eCQM), three threshold options were presented:
    - **Option 1**: CDC Healthy People 2030 Target (≤ 23.6%)
    - **Option 2**: The Joint Commission (TJC) Acceptable Rate (≤ 30%)
    - **Option 3**: National Average (CY 2024 data) (≤ 25.8%)
- For PC-07 (Severe Obstetric Complications [SOC] eCQM), thresholds based on statistical comparison to the national average using 95% confidence intervals. Hospitals are categorized as performing “no different from” or “better than” the national average.
- For MMSM (Maternal Morbidity Structural Measure), threshold based on a positive attestation (Response = Yes).

Discussion Questions

- CORE posed the following discussion question to the TEP:
    - If CMS were to consider an individual measure threshold scoring approach for the Designation, which PC-02 threshold would you suggest be used?

TEP Feedback

- The majority of TEP members expressed general support for Option 1 that uses the CDC Healthy People 2030 target as the threshold for PC-02, recognizing its value as an aspirational benchmark aligned with evidence-based practice. However, many also raised concerns about its feasibility, particularly for hospitals serving high-acuity populations or operating in rural settings, where cesarean rates may be higher due to patient complexity or low delivery volumes.
    - TEP members noted that this option could help shift practice toward higher-quality care and provide a clear goal for improvement. Several emphasized its potential to drive systemic change and support consumer transparency.
    - Some TEP members cautioned that without accounting for hospital type or patient acuity, this option using the CDC threshold may unfairly exclude facilities that serve more complex populations or have fewer resources.
    - Several TEP members expressed concern that only 29% of hospitals would be awarded the Designation if this option is adopted (based on CY 2024 test data).
- A few TEP members supported Option 3 (using the national average for PC-02) for its adaptability, highlighting that the threshold can evolve over time as hospital performance improves. However, others cautioned that this option may lack rigor and could vary significantly year to year, especially in poor-performing periods.
    - One TEP member noted that Option 1 (using the CDC threshold for PC-02) is not far off from Option 3 (using the national average for PC-02) and preferred it for its goal-setting value, while remaining open to Option 3 if the CDC benchmark remains static.
- A few TEP members supported Option 2 that uses the TJC threshold, however, several TEP members expressed concern that this option is too lenient and not aligned with evidence-based standards. One TEP member questioned the representativeness of the dataset used to establish this benchmark.
- Some TEP members expressed concern about the implications of failing to meet the Designation, including potential hospital closures and negative impacts on rural facilities.
- One TEP member emphasized the need to disaggregate data to reflect outcomes by demographic groups and raised concerns about payer reactions if thresholds to receive the Designation are not met.

Composite Score Approach with K-Means Clustering

- CORE introduced a composite scoring methodology that aggregates individual measure performance into a single score, using k-means clustering to group hospitals based on overall performance. This approach supports both binary and tiered approaches to awarding the Designation.
    - The composite score combines PC-02 (Cesarean Birth eCQM) and PC-07 (Severe Obstetric Complications eCQM), following positive attestation to the MMSM. Individual

measures are standardized, weighted, and aggregated into a composite score.

- CORE empirically tested clustering models and recommended a three-cluster solution, which more clearly distinguishes hospital performance and minimizes year-to-year volatility in cluster assignment.

- CORE presented three weighting options: upweighting PC-02, upweighting PC-07, and weighting the two measures equally., All three options divide the weighting of PC-07 between the two measure outcomes, and upweight PC-07b (severe obstetric complications excluding blood-transfusion-only encounters) relative to PC-07a (any severed obstetric complications), incorporating feedback from the previous TEP meeting.
- CORE presented the hospital distributions for the three-cluster approach across weighting options, and identified a binary approach for awarding the Designation and tiered approach for categorizing hospitals within the Designation.

Discussion Questions

- CORE posed the following discussion questions to the TEP:
  - If a composite score approach is adopted, which of the proposed weighting options is preferred and why?
  - What is your feedback on the 3-cluster approach?

TEP Feedback

- TEP members shared a range of perspectives on the composite score approach using k-means clustering, with many expressing support for its potential to group hospitals meaningfully and incentivize improvement. The tiered approach to awarding the Designation was generally well-received for its ability to reflect performance gradation, though concerns were raised about transparency and interpretability.
  - Many TEP members supported the tiered scoring model, noting that a 1-, 2-, or 3-star system is intuitive and could help consumers make informed choices. Several emphasized that the Designation should incentivize improvement and reflect year-over-year progress.
  - Some TEP members cautioned that the clustering methodology may mask differences within tiers and could be difficult for consumers to interpret, especially without clear explanations of what each rating represents. They noted that advanced statistical methods may be appropriate for internal benchmarking but less suitable for public-facing tools.
  - Several TEP members emphasized the importance of comparing hospitals with similar characteristics (e.g., level of maternal care, acuity, size), noting that without such adjustments, the scoring could unfairly penalize certain facilities. Some requested further analysis on how hospital type (i.e.: large referral center, maternal level of care) influences cluster assignment.
  - Some TEP members who preferred the composite approach emphasized the importance of displaying detailed breakdowns of individual measure performance to ensure clarity.
- TEP members also provided feedback on the proposed weighting options for the composite score

approach:

- Several TEP members supported upweighting PC-07, noting that it better accounts for hospital acuity and complexity, and aligns with the goal of improving outcomes for vulnerable populations.
- One TEP member preferred equal weighting, citing its balance and simplicity.
- One TEP member leaned toward weight option 1 (PC-02 favored), expressing concern about the limitations of PC-07a and its inclusion of less severe cases.

Scoring Approach Preference

- CORE summarized the aspects of the individual measure threshold approach and composite score k-means clustering approach related to comprehension, transparency, flexibility, future expansions, and limitations.

Discussion Questions

- CORE proposed the following discussion question to the TEP:
  - Which of the two proposed scoring approaches do you support and why?
    - Individual measure threshold scoring approach
    - Composite score approach using k-means clustering approach

TEP Feedback

- Preferences were closely split, with slightly more TEP members favoring the individual measure threshold approach citing its simplicity, transparency, and ease of understanding for consumers and hospitals who need to interpret the scoring and identify areas for improvement. They noted that consumers may better understand hospital performance when scores are presented alongside established benchmarks.
- Several TEP members supported the composite score approach for its flexibility. Many emphasized that, if clearly communicated, the tiered model could help consumers understand hospital ratings and incentivize improvement.
  - Several TEP members who supported the composite score using k-means clustering approach noted a preference for weighting that favors the SOC measure (PC-07) to better reflect maternal morbidity.
  - One TEP member supported the composite score using k-means clustering approach, contingent on individual measure scores being publicly displayed, and noted concerns about overemphasis on the Nulliparous, Term, Singleton, Vertex (NTSV) measure in Option 1.
- TEP members also provided feedback on the Designation:
  - Multiple TEP members emphasized caution around the framing of the Designation, suggesting it should help identify high-performing hospitals rather than create fear, especially in communities with limited access to maternity care.
    - Several members stressed the importance of aligning the scoring approach with the Designation's goals, whether to guide consumer choice, support hospital improvement, or both.

- Several TEP members noted the importance of distinguishing how level of maternal care impacts the receipt of the Designation.
- Many TEP members emphasized that regardless of the scoring method, individual measure scores should be made available to hospitals and to consumers, to support transparency and informed decision-making.
- Some TEP members expressed concern that the Designation could unintentionally reinforce existing differences in access to care, particularly in maternity care deserts or among hospitals serving vulnerable populations. They stressed that the Designation should support improvement and not discourage care-seeking or increase fear among patients.
    - Another TEP member provided similar feedback noting that the Designation should not contribute to the perception that safe, accessible options are unavailable for these populations.
- One TEP member emphasized that the Designation should prioritize long-term improvements in hospitals serving vulnerable populations, rather than primarily guiding consumer choice for those with more options.
- One TEP member suggested that high-performing hospitals could be identified through the Designation and serve as mentors to others, helping to drive system-wide improvement.

Next Steps

- TEP members were invited to send additional feedback or questions via email to cmsmaternalquality@yale.edu and were informed that a brief survey would be circulated to gather input on their experience of the meeting.
- CORE noted that a summary of TEP input will be compiled and shared with CMS for consideration. The project team will also circulate meeting minutes and a TEP Summary Report for member review and will notify participants once the report is posted. CORE will follow up to schedule the next TEP meeting.

Third TEP Meeting Overview

Prior to the third TEP meeting, CORE provided TEP members with detailed meeting materials. The goal of this meeting was to obtain TEP feedback on the recommended Designation scoring approach, and review testing results of a peer grouping approach for the Designation.

The following bullets represent a **high-level summary** of what was discussed during the TEP 3 meeting. For a detailed meeting summary, refer to the full minutes of the meeting in Appendix G. For additional TEP feedback collected after the meeting and Face Validity voting results, refer to Appendices H and I, respectively. For detailed specifications on the measures included under the Designation, refer to Appendix J.

Project Recap

- CORE recapped the Birthing Friendly Hospital Designation ("the Designation") project and provided a brief overview of prior TEP meetings. Dr. Oyeka noted that the goal of this third TEP discussion was to present a recommended Designation scoring approach and review a peer grouping approach for the Designation and review testing results.

Recommended Designation Scoring Approach

- CORE presented the recommended Designation scoring approach:
    - Composite score approach using k-means clustering.
    - For this scoring approach, the Maternal Morbidity Structural Measure (MMSM) will serve as a gateway to receive the Designation, meaning a hospital must positively attest to the structural measure to be considered for the Designation, after which the composite scoring methodology is applied to create a composite score using the Cesarean Birth eCQM and the SOC eCQM hospital scores.
    - The Cesarean Birth eCQM score and the two SOC eCQM outcome scores will be differentially weighted:
        - 45% weight assigned to the Cesarean Birth eCQM; and
        - 55% weight assigned to the SOC eCQM, distributed between the two measure outcomes: 1) any severe obstetric complication (18%) and 2) severe obstetric complications excluding delivery hospitalizations where blood transfusion was the only complication (37%).
    - Hospitals categorized into 3 performance tiers, based on composite score clusters, represented by one, two, or three "Birthing-Friendly" icons representing lowest to highest performance.
- This recommended scoring approach introduces a tiered approach to awarding the Designation, providing a range of and more nuanced presentation of hospital performance and quality of care, rather than a binary classification of "Birthing-Friendly" versus "Non-Birthing-Friendly."

Discussion Questions and Summary of TEP Input

Discussion Questions

- CORE posed the following discussion question to the TEP:

- Do you have questions or concerns about the recommended Designation scoring approach?
- Do you have suggestions on information to communicate about the recommended Designation scoring approach to support patient understanding?

TEP Feedback

- The majority of TEP members expressed support of the recommended Designation scoring approach.
- Some TEP members were concerned that patients may not clearly understand what a "Birthing-Friendly" icon represents and may have challenges differentiating between the three performance tiers (one, two, or three icons).
- Some TEP members recommended clear and transparent communication of the Designation quality levels and how the Designation is determined, and use of plain language to improve patient understanding of the Designation status.
    - A few TEP members recommended using symbols such as gold, silver, and bronze icons to better distinguish performance tiers.
    - A few TEP members supported the display of the weights and scores of underlying measures on *Care Compare* so patients can understand the relative importance of Designation component measures.
- A few TEP members expressed concern over the validity of the SOC eCQM as an indicator of facility quality given the data mapping issues experienced by some hospitals [during calendar year 2024 measure reporting].

Peer Grouping

- CORE presented a peer grouping approach to the Designation using hospital delivery volume, noting that it allows comparison of hospital obstetric units of similar scale.
    - Dr. Oyeka noted prior TEP feedback to consider peer grouping by maternal levels of care and explained that data on maternal levels of care are currently not comprehensively or publicly available.
    - Four hospital delivery volume categories, measured using CY 2024 SOC eCQM hospital submission data, were adopted following consultation with a clinical subject matter expert and a literature review:
        - ≤ 500 deliveries per year
        - 501 – 1,000
        - 1,001 – 2,000
        - > 2,000
    - CORE noted that the distribution of hospitals in each volume category is approximately 25%.
- CORE explained that peer grouping by hospital delivery volume would be implemented by first assigning hospitals to their respective delivery volume categories and then performing k-means clustering within each volume category to group hospitals into performance tiers.

Peer Grouping Testing Results

- CORE presented the peer grouping testing results using CY 2024 maternal measure data which included 1,920 hospitals that reported all three maternal measures, had 25 or more delivery hospitalizations, and responded positively to the structural measure.
- CORE noted the variation in the mean composite score for the Designation across delivery volume categories.
    - Results showed variation in the mean composite score for the Designation across delivery volume categories, most notably for the facilities with the largest delivery volumes, which had the lowest mean composite scores for all three clusters.
- CORE highlighted that because assignment into clusters was being performed within delivery volume categories (peer groups), direct comparison to hospitals in other delivery volume categories was not meaningful. Comparison between hospitals is only meaningful within each peer group.

Discussion Questions

- CORE posed the following discussion question to the TEP:
    - Do you have questions or concerns about the recommended approach to peer grouping

TEP Feedback

- Several TEP members expressed support for using hospital delivery volume for peer grouping. They noted that, in the absence of comprehensive data on levels of maternal care, delivery volume is a reasonable and fair approach. and an appropriate starting point until a more optimal variable becomes available
    - One TEP member noted that while levels of maternal care are defined by the American College of Obstetricians and Gynecologists and the Society for Maternal-Fetal Medicine (ACOG/SMFM), they are implemented and, in some cases, legislated at the state level. As a result, definitions and application may vary across states and may not be a reliable peer grouping mechanism.
- Some TEP members expressed concern that peer grouping by delivery volume would not accurately depict the care that is being provided at some hospitals and may mask care practices or important differences between smaller hospitals that transfer complex cases and higher volume hospitals that receive and manage higher acuity patients.
- Some TEP members offered additional recommendations:
    - Providing additional information and context for patients regarding peer grouping by delivery volume.
    - Identifying whether a hospital is a safety-net facility or serves higher-risk patients.
    - Balancing transparency with simplicity by providing enough information to support informed decision-making without overwhelming patients with technical jargon.

Face Validity Vote

- CORE invited TEP members to provide feedback on the Designation scoring approach with peer grouping by delivery volume by responding to the following statement using a six-point scale

(1=Strongly agree, 2=Moderately agree, 3=Somewhat agree, 4=Somewhat Disagree, 5=Moderately Disagree, and 6=Strongly Disagree):

- The recommended Designation scoring approach can differentiate hospitals that provide higher-quality maternal care from hospitals that provide lower-quality maternal care.

TEP Feedback

- A total of 17 TEP members, which included 12 votes collected during the TEP meeting and 5 votes collected via email after the meeting, voted on face validity for the Designation. Ninety-four percent responded to the face validity question in support of the Designation approach:
  - Strongly agree = 6% (1)
  - Moderately agree = 59% (10)
  - Somewhat agree = 29% (5)
  - Somewhat disagree = 6% (1)

Next Steps

- TEP members were invited to send additional feedback or questions via email to cmsmaternalquality@yale.edu and were informed that a brief survey would be circulated to gather input on their experience of the meeting.

Appendix A. CORE Measure Development Team

Table 2. Center for Outcomes Research and Evaluation (CORE) Team Members – Birthing- Friendly Hospital Designation

Name	Role
Kathleen Balestracci, PhD, MSW	Director, Quality Measurement Programs
Ladan Golestaneh, MD, MS	Division Lead
Onyinye Oyeka, PhD	Project Lead
Kerry McDowell, MS, MPhil	Project Manager
Katherine O'Hare, MSW	Research Support
Amanda Ketner, MPH	Research Support
Genne Murphy, MFA	Research Support
Ji Chen, PhD	Analyst
Valery A. Danilack-Fekete, MPH, PhD	Technical Subject Matter Expert
Lisa Suter, MD	Senior Director, Quality Measurement Programs

We would like to acknowledge former Yale-CORE staff for their contributions to this work: Shefali Grant, MPH; Jacelyn O'Neill-Lee, BA; and James Wallace, MPH.

Appendix B. TEP Call Schedule

TEP Meeting #1

Development of the Birthing-Friendly Hospital Designation TEP
October 10, 2024, 3:00-5:00PM EST (Zoom teleconference)

TEP Meeting #2

Development of the Birthing-Friendly Hospital Designation TEP
August 18, 2025, 2:00-4:00PM EST (Zoom teleconference)

TEP Meeting #3

Development of the Birthing-Friendly Hospital Designation TEP
December 9, 2025, 2:00-4:00PM EST (Zoom teleconference)

Appendix C. Meeting Minutes: TEP Meeting 1

Development of the Birthing-Friendly Hospital Designation Technical Expert Panel (TEP) Meeting #1 Minutes

Thursday, October 10th, 2024, 3:00 – 5:00PM ET

Participants

- **Technical Expert Panel (TEP) Participants:** Kathryn Burggraf Stewart, Edward Chien, Lastascia Coleman, Marianne Drexler, Alissa Erogbogbo, Jodie Franzen, William (Sam) Greenfield, Ron Iverson, Cassandra Jah, Ushma Patel, Shana Philips, Nicole Purnell, Lisa Satterfield, Solaire Spellen, Nan Strauss, Andrew Williams
- **Yale New Haven Health Services Corporation — Center for Outcomes Research and Evaluation (YNHHSC/CORE):** Katie Balestracci**,** Valery Danilack-Fekete, Patricia Farone Nogel, Monika Grzeniewski, Roisin Healy, Erin Joyce, Jacelyn (Jace) O'Neill-Lee, Onyinye Oyeka, Allie Stupakevich, Laura Barrett (X4 Health)

Administrative Items

TEP Action Items

- Review and send any suggested edits to the meeting summary;
- Complete a brief survey about their experience during this meeting;
- Reach out via email if they have any questions; and
- Watch their email for future project updates.

CORE Action Items

- Share the summary of the TEP meeting for review; and
- Consider TEP feedback during the measure development process.

Discussion

Welcome & Introductions

- Ms. Jacelyn O'Neill-Lee welcomed the TEP members, provided instructions about the meeting controls for closed captioning, provided participation guidelines and discussion decorum, shared details about the specific Center for Medicare & Medicaid Services (CMS) funding source supporting this work, and reminded members about the confidentiality of meeting materials and discussion.
- Ms. O'Neill-Lee acknowledged that CMS staff may be joining the call.
- Ms. O'Neill-Lee reviewed the agenda.

Introductions

- Ms. O'Neill-Lee introduced herself as the Project Coordinator for the Birthing-Friendly Hospital Designation (BFHD) Team.

- Dr. Onyinye Oyeka introduced herself as the Project Lead and expressed appreciation for the TEP members' participation and their willingness to provide input about the proposed measure.
- As these TEP members were convened to provide input for two maternal projects for CORE, only those who had not yet attended a TEP meeting introduced themselves and shared their relevant background and interest in maternal health.

Project Background and Status

- Ms. O'Neill-Lee reviewed the TEP meeting goal and project scope: to solicit input and feedback on key decisions in the development of a scoring methodology for an expanded BFHD ("the Designation"). She noted that modifications to the measures being considered for inclusion in the Designation which have been implemented in a CMS program are not within scope of this project and would not be a part of the meeting discussion.
- Dr. Oyeka provided an overview of the project, noting that the Designation was first implemented in the Fiscal Year (FY) 2023 Inpatient Prospective Payment Systems (IPPS) final rule and is the first-ever CMS designation to describe high-quality maternal care; it is intended to be a consumer-friendly, publicly reported display reflecting that a hospital is committed to maternal health quality.
- Currently the Designation includes the current version of the Maternal Morbidity Structural Measure (MMSM); it will be expanded to include additional maternal health quality measures, and an expanded version of the MMSM. Dr. Oyeka noted that CMS displays an icon on the Care Compare website, to convey hospital receipt of the Designation. The icon reflects that the hospital has met or exceeded the criteria, based on hospital performance, to be a Birthing-Friendly hospital.

Future Expansion Plans

- Dr. Oyeka provided a brief overview of the measures that will be included in the initial expansion of the Designation:
    - Expanded MMSM
        - The expanded MMSM will be an attestation-based structural measure designed to assess hospital capacity to provide high-quality maternal care consisting of five domains focused on different aspects of maternal care, quality, and safety.
    - Severe Obstetric Complications (SOC) electronic clinical quality measure (eCQM)
        - The SOC eCQM, sometimes referred to as PC-07, is an outcome measure that assesses the occurrence of severe maternal morbidity (SMM) and mortality events, based on the Centers for Disease Control and Prevention's (CDC) 21 indicators of severe maternal morbidity. Currently this measure is in mandatory reporting (2024).
        - The SOC eCQM includes two outcomes:
            1. Delivery hospitalizations with any severe obstetric complication, reported as a rate per 10,000 delivery hospitalizations (PC-07a).
            2. Delivery hospitalizations with any severe obstetric complication excluding delivery hospitalizations for which blood transfusion is the only complication, reported as a rate per 10,000 delivery

hospitalizations (PC-07b).

- Cesarean Birth eCQM
  - The Cesarean Birth eCQM, sometimes referred to as PC-02, is an outcome measure that assesses the number of nulliparous women with a term, singleton baby in a vertex position (baby is head down in uterus) delivered by cesarean section.
  - While there is not an established threshold for cesarean rates, The Joint Commission (TJC) recommends an acceptable rate of 30% or lower, while the CDC's Healthy People 2030 target is set at 23.6%.

- Dr. Oyeka noted that the Designation will aggregate the individual measures (expanded MMSM, SOC eCQM, and Cesarean Birth eCQM) into an overall Designation score, which will be used to award the Designation.

TEP Question

- A TEP member asked about the Cesarean Birth PC-02 measure and the rationale for the single stillbirth exclusion.
  - Dr. Valery Danilack-Fekete clarified that CORE was not involved in the development of the Cesarean Birth eCQM but noted that the majority of stillbirths in the United States (US) are known before the start of labor and delivery, which may impact the decision of whether or not to perform a Cesarean and changes the associated risk-benefit of the decision. She confirmed that single stillbirths are included in the SOC measure.

Development of the Designation Scoring Approach

- Dr. Oyeka reviewed CORE's approach to the project which includes:
  - Reviewing the scoring methodologies of existing designations and rankings with a focus on existing maternal designations and rankings.
  - Exploring approaches to aggregating different types of measures, including structural, process, and outcome measures, to develop a comprehensive assessment framework.
  - Assessing the application and rationale for different weighting approaches, considering how each measure's importance should be reflected in the final composite score.
- Dr. Oyeka noted that the team is testing the Designation scoring approach using voluntary reported data from calendar year (CY) 2023 for the SOC eCQM and Cesarean Birth eCQM, and simulated data for the expanded MMSM, given that the measure is currently under development. Mandatory reported data from CY 2024 for the outcome measures, and the simulated expanded MMSM data, will be used to finalize the scoring methodology.
- Dr. Oyeka reviewed the key methodological considerations of the Designation scoring framework that will require TEP input including:
  - Whether the Designation will be scored using individual measure thresholds or using a composite score.
  - Best approach for standardizing individual measures to ensure consistency in evaluation.
  - Whether and how to assign weights to individual measures.

- Best approach to derive the composite score.
- Determine individual thresholds or composite cut-off for awarding the Designation.

- Dr. Oyeka noted that the goal for the current meeting was to solicit TEP input about the approach to weighting the individual measures and for incorporating the two SOC eCQM outcomes, PC-07a and PC-07b, into the Designation. Consideration must be made on whether to assign weights to each measure and how much weight to assign.

Proposed Weighting of Individual Measures within the Designation

- Dr. Oyeka explained that the weights signal the relative importance of the different components of a composite score. Options for weighting individual measures within the Designation are: 1) equal weighting or 2) differential weighting.
- CORE proposed differential weighting of individual measures within the Designation with an approach that assigns more weight to the outcome measures since outcome measures most directly assess hospital quality, and this approach aligns with other maternal health rankings/designations. The proposed weighting approach for the individual measures are:
  - Expanded MMSM weighted 20%;
  - SOC eCQM outcome weighted 40%;
  - Cesarean Birth eCQM outcome weighted 40%.

Discussion Session #1

Questions for TEP

What are your views on the proposed weighting approach?

What alternative strategies or modifications might you suggest to improve the weighting approach?

TEP Discussion

- Several TEP members supported the proposed weighting approach and agreed that the outcome measures should be weighted more highly than the structural measure.
- Several TEP members recommended increasing the weight of the structural measure.
  - Some TEP members expressed concern about weighting the structural measure at 20%, recommending it be weighted more highly to incentivize hospitals to improve upon the standards of the expanded MMSM, though they agreed outcome measures should still have the highest weight overall.
  - Another TEP member agreed with increasing the weight of the structural measure but did not think the weights needed to be split evenly.
  - Several TEP members agreed the structural measure deserved more weight, suggesting reducing the combined weight of the outcome measures, which they found too high.
  - One TEP member emphasized that the structural measure encourages team collaboration and participation in Perinatal Quality Collaboratives (PQCs).
  - Several TEP members supported increasing the weight of the structural measure to better reflect hospitals' efforts in preventing maternal morbidity and mortality. One

member specifically proposed weighting adjustments: MMSM 40%, SOC 30%, Cesarean 30%.

    - Another TEP member echoed concerns that the structural measure is currently underweighted at 20%, and that the SOC measure, though risk-adjusted, might unfairly impact hospitals.
    - A TEP member also expressed concern that the lower weighting of MMSM reduced hospitals' incentives to focus on structural improvements.

- One TEP member highlighted challenges in assessing the structural measure's weight, as it is not finalized.
- A few members raised concerns regarding risk adjustment during the discussion on weighting. They emphasized that without appropriate risk adjustment, weighting the outcome measures too heavily could discourage hospitals from accepting complicated patients and penalize tertiary hospitals that handle high-risk cases.
    - A few members also agreed that measures were not adequately risk-adjusted, warning of potential unintended consequences.
    - One TEP member noted that small hospitals with few SMM events may be unfairly judged due to their low delivery volumes, while another member highlighted that Level 3 hospitals might struggle to meet standards because they serve higher-risk populations.
- A few TEP members raised similar concerns about the lack of risk adjustment for the Cesarean Birth Measure.
    - One TEP member suggested that while the Cesarean Birth Measure is not risk- adjusted, the denominator accounts for risk by including several exclusions.
- One TEP member recommended weighting the Cesarean Birth Measure more heavily than the SOC measure, especially given the high percentage of patients who are affected by cesarean birth and patient preferences to avoid unnecessary C-sections. They stated that maternal organizations have reported that the increase in C-section rates have had no discernible benefits to either babies or mothers, and is heavily influenced by the hospital unit culture, which makes the Cesarean Birth Measure an excellent measure to include, with information for patients to select the best hospital. The TEP member did not support using TJC threshold because it is too high at 30%. They also recommended that the data/information collected to confer the Designation be made publicly available on the Care Compare website, so that the underlying information is useful to patients who are making decisions about where to give birth. The member asked whether CORE had information about the number of people and patients who utilize the Care Compare website.
    - Several TEP members agreed with the comment about the Cesarean Birth Measure and rates.
    - Ms. Monika Grzeniewski confirmed that CORE does not have information about the number of patients that use the Care Compare website to make a decision on where they go to receive maternal care.
- A TEP member recommended that the Designation include process measures. They also noted that it is difficult to make recommendations to weighting the structural measure given that it will include 25 structural areas to assess, which have yet to be determined. They asked if there would

be an opportunity to discuss weighting after the expanded structural measure has been finalized.

    - Dr. Oyeka acknowledged the challenges, noted CORE's work on the expansion of the MMSM, and that the weighting/scoring approach will not be finalized until the mandatory reporting data for the SOC and Cesarean Birth eCQMs are examined. There will be ample time to incorporate additional feedback and recommendations throughout the process.

- A different TEP member echoed previous comments that the Cesarean Birth Measure is not reducing Cesarean rates. The TEP member shared that maternal health experts had emphasized that the nulliparous, term, singleton, vertex (NTSV) is a measure of how labor and delivery is managed in a facility. They strongly supported making the composite score and the individual measures transparent to patients. Lastly, they emphasized the significance of equity issues around NTSV C-sections as evidenced by data that shows differences in race and ethnicity within hospitals.
- A few TEP members agreed that reporting the NTSV C-section rates has not made a difference in reducing C-section rates at their hospital, and one noted that including the measure in the Designation would bring more attention to the measure. They concurred with the perspective on the importance of hospital culture to reflect on the hospital's treatment process (e.g., identify what is happening with a patient, observe how we operationalize the labor deck, and the detailed conversations with patients).
- Another TEP member commented that reducing C-sections will likely reduce SMM.
    - A TEP member also shared the need for experts in the field to focus on structural changes that affect patients and ensure key conversations help patients understand their labor. Simply reporting outcomes hasn't improved nationwide NTSV C-section rates, highlighting the importance of considering the entire patient experience. If a C-section is discussed, it is crucial to have open communication with all parties aligned toward the same goal. This approach promotes equity by ensuring all patients receive consistent care, with the team working in harmony to support the patient through delivery.
    - Another TEP member agreed with the lack of progress on NTSV but noted if CMS incorporated it into this Designation, it would make people start to pay attention.
- Another TEP member agreed with adding process measures to the Designation and emphasized the importance of disaggregated measure reporting (by race and ethnicity or payer status) to identify out-of-range values, which have implications for disparities and hospital quality.
    - Another TEP member agreed that disaggregated reporting is critical.

Incorporating Severe Obstetric Complications eCQM Outcomes into the Designation

- Dr. Oyeka discussed CORE's proposed approach to incorporate both SOC measure outcomes (PC-07a and PC-07b) in the Designation scoring. PC-07a captures SOC events, including blood transfusions, which are typically performed in response to excessive bleeding; PC-07b excludes cases where blood transfusion is the only event. She noted that including both outcomes will align with current reporting practices, provide a comprehensive view of the quality of care, and encourage improvement across the entire range of maternal complications.
- Dr. Oyeka noted that CORE examined the correlation between the SOC eCQM outcomes to assess the relationship between the two outcomes. The Spearman correlation coefficient for both

outcomes, PC-07a and PC-07b, is 0.29 ($p<0.0001$), which indicates a weak positive correlation between the two measures. This suggests that the measures reflect different dimensions of quality and supports the recommendation to incorporate both measures into the Designation.

- Dr. Oyeka summarized a potential approach for weighting the SOC eCQM outcomes, noting that since the weight assigned to the SOC measure is 40%, each outcome could be assigned 20% each (20% PC-07a and 20% PC-07b).

Discussion Session #2

Questions for TEP:

What is your perspective on the recommendation to include both PC-07a and PC-07b in the Designation?

What considerations should be made for weighting?

TEP Discussion

- A TEP member expressed preference to exclude the outcome that includes blood transfusion (PC-07a) from hospital-level reporting in this context. Although the measure is important for tracking/surveillance of population-wide trends, it is not appropriate for the purpose of measuring hospital quality because of the unintended consequence of including transfusions as something that would be considered negative. She stated that we do not want to create a deterrent or to penalize hospitals that are doing what they should in providing timely transfusions. Inclusion of PC-07a may inadvertently communicate to community members that they avoid hospitals that are most promptly identifying and treating obstetric hemorrhage.
- Some TEP members did not support the weight assignment to PC-07a, recommending that the outcome be down-weighted. They noted that assigning a higher weight to PC- 07a may discourage hospitals from providing transfusions. They shared that many of their patients are having blood transfusions for reasons other than maternal hemorrhage or severe obstetric complication, which is not the intention of the measure. They also noted that hospitals that they work with on quality improvement (QI) initiatives would prefer to exclude transfusion because it may introduce complexities that could obscure the clarity of the measure.
- A few TEP members noted the inclusion of transfusions provides some value but recommended establishing a threshold to quantify transfusions. Transfusing 4 – 6 units (as a component of a mass transfusion protocol) is a much different indicator than transfusing 1 – 2 units for an anemic patient; it is important to differentiate these clinical scenarios. They referenced that the California Maternal Quality Care Collaborative (CMQCC) OB Hemorrhage Toolkit V3.0 - Appendix T: Sample Massive Transfusion Procedure (MTP), an MTP, is defined as greater than 4 or more units of any type of blood products. While transfusion is a very important metric, it also reflects prenatal care, patient access to care, incoming anemia rates, how blood loss is managed in real time, as well as local practices and culture related to managing post-op symptoms. There is much variation with transfusions across physicians within hospitals in California.
- One TEP member recommended removing the SOC outcome including transfusion-only events and increasing the weighting for the Cesarean Birth Measure and the MMSM. Another TEP member recommended reducing the PC-07a weight to 5 – 10%, if the assessment of transfusion cannot be redefined to quantify a threshold (e.g., 4 – 6 units and higher). If the transfusion measure can be

redefined with specific quantities, they recommended leaving PC-07a weight at 20%.

    - Dr. Balestracci clarified that the SOC and Cesarean Birth eCQMs for inclusion in the Designation are fully developed measures in CMS reporting programs (e.g., the Hospital Inpatient Quality Reporting Program [IQR]), and that CORE does not have the opportunity to alter the measures or report them differently for use in the Designation. There may be an opportunity in the future to provide input to CMS if/when the measures are in reevaluation. She noted that this task will include the measures as they exist with input from the TEP on measure scoring and weighting approaches for inclusion of the measures in the Designation.
    - Dr. Balestracci noted that CORE will share the TEP concerns about how transfusion is measured with CMS. She noted that in the process of SOC measure development, the development team had extensive discussion and TEP input on the SOC measure. Future reevaluation of the SOC measure may possibly include a discussion related to hospital and electronic health record (EHR) system's ability to provide more consistent capture of transfusion data.

- A different TEP member asked if hemorrhage is included in the measure numerator definition. They also noted concern that the general public may misunderstand or misinterpret measure results for different types of hospitals, especially the results for hospitals that treat more higher-risk patients.
    - Dr. Balestracci clarified that the intent of the inclusion of transfusion in the numerator (outcome) definition for the SOC measure is for capture of hemorrhage. Additional numerator events are also included, such as disseminated intravascular coagulation (DIC). There is variation in the measurement and documentation of transfusions across hospitals, creating challenges to obtaining consistent measurement data for more detailed specification in the measure.
- A few TEP members reiterated the importance of disaggregated data and reporting to assess racial disparities because it can indicate that people are not receiving equitable care if differences exist in transfusions across populations. They recommended establishing hemoglobin for patients upon hospital admission, as Black women are more prone to anemia during pregnancy; Black women may be getting more transfusions because they have anemia when they enter the hospital, or they may receive delayed or no transfusions due to differential care.
    - Dr. Oyeka clarified that PC-07 and PC-02 will be disaggregated and privately reported to the individual hospitals, but these data will not be publicly available.
- A different TEP member agreed with previous comments and supported the inclusion of both measures (PC-07a and PC-07b) with no changes to the weighting, especially since the measure is risk-adjusted (e.g., risk-adjusted for anemia).
- Another TEP member agreed with previous sentiments that blood transfusion should be quantified with 4 units at the lowest end of the transfusion. They agreed that if PC-07a is retained without further definition or qualification, then it should be weighted less.
    - A TEP member asked if some of the risk adjustments would account for minor transfusions.
        - Dr. Danilack-Fekete responded that anemia is a risk factor, for example, as is

bleeding disorder and long-term anticoagulant use.

- Dr. Balestracci confirmed the risk adjustment model does account for anemia and there is an extensive number of risk variables (34) included in the model. The risk model includes variables that would help support some of the issues that have been raised by the TEP.

- Ms. O'Neill-Lee briefly summarized the TEP discussion feedback.
- Dr. Oyeka acknowledged the TEP feedback about the importance of adding process measures to the Designation, however, the current focus is to develop a scoring approach for the current Designation with the three existing measures (expanded MMSM, SOC eCQM, and Cesarean Birth eCQM). CORE will compile the TEP input about the addition of process measures to the Designation to share with CMS. She asked the TEP for input on specific process measures they would want CMS to consider as part of the Designation.
- A TEP member noted that research on process measures could be helpful before formulating recommendations. Another TEP member suggested the group could scour Alliance for Innovation on Maternal Health (AIM) process measures to see if there is a future state with process measures.
    - Dr. Balestracci acknowledged TEP input to include a process measure in a future expanded Designation. She clarified that the Designation must include measures that are already used in CMS reporting and any additional measure considerations will be shared with CMS.
    - Dr. Oyeka confirmed that the CORE team will reach out regarding TEP recommendations for process measures.

Next Steps

- Ms. O'Neill-Lee noted that continued input was welcome and encouraged TEP members to send emails with additional feedback or questions to: cmsmaternalquality@yale.edu
- Ms. O'Neill-Lee noted the next steps for CORE including:
    - Compile TEP feedback and share with CMS.
    - Share a summary of today's meeting for TEP review in the coming weeks; and
    - Utilize TEP feedback to inform the Designation.
- Ms. O'Neill-Lee noted next steps for the TEP members, including:
    - Review and send any suggested edits to the TEP meeting summary;
    - Complete a brief survey about experience during meeting;
    - Reach out via email with any questions and watch email for future project updates; and
    - Plan to join the next TEP meeting scheduled for early-December 2024.
    - Ms. O'Neill-Lee thanked participants for sharing their valuable insights and noted appreciation for the complexity of this conversation.

Appendix D. Email Responses Following TEP Meeting 1

Following the first TEP meeting for the Birthing-Friendly Hospital Designation project, eight TEP members who were unable to attend the meeting were invited to share feedback on all three questions. TEP members were also invited to provide feedback on process measures they would like CMS to consider. The below is a high-level summary of TEP feedback, grouped into themes.

Question 1

What are your views on the proposed weighting approach?

What alternative strategies or modifications might you suggest to improve the weighting approach?

TEP Responses to Question 1

- TEP members recommended increasing the weight of the Maternal Morbidity Structural Measure (MMSM), and they communicated that greater weighting of this measure could help drive improvements in care.
    - One TEP member noted that institutional commitment and genuine accountability can set the expectations and tone for care both within and outside of the hospital setting. They suggested possibly weighting all three measures equally.
    - Another TEP member also recommended weighting the MMSM equally to outcome measures. They noted that the Designation provides a major opportunity to encourage facilities to invest in their maternal health service line, which is often excluded from the facility's central quality and safety program. They noted that the goal is to incentivize facilities to invest in their maternal service line. Outcome measures are not always in the facility's direct control, as some patients do need C-sections and some SMM events are not preventable, though certainly each facility should be striving to optimize both of these outcomes so they are valid to consider. The TEP member highlighted that they view a "good" rate for each depends on the type of facility.
    - One TEP member highlighted that structural measures are more apt to get at the root causes of maternal issues in comparison to PC-02 and PC-07 rates. They suggested the following weighting: structure measure = 30%, SOC eCQM = 30%, and the > Cesarean Birth eCQM = 40%.
- One TEP member recommended increasing the weight of the Cesarean Birth eCQM results.
- One TEP member noted that hospitals with higher acuity are naturally going to have a higher Severe Maternal Morbidity rate due to chronic health issues and seeing higher acuity patients.
- One TEP member recommended more heavily weighting outcome as opposed to structural measures if we are looking to support high quality reporting and care. However, they noted they would not weight them equally.
- One TEP member encouraged CMS to carefully consider using C-section rates for NTSV as a marker. They highlighted that research has found this often does not account for the increasing comorbidities (4-6% regionally) of women and can inadvertently push

hospitals to not do C-sections when medically appropriate, resulting in increased infant mortality and morbidity.

- One TEP member asked for clarification regarding how we see the data testing affecting our universal goal of improved maternal child health outcomes.
- One TEP member recommended including infant morbidity and mortality to the Designation to ensure the measures aren't causing more infant harm.
- Two TEP members recommended removing C-section rates or risk adjusting the measure before it is included.
- One TEP member agreed that not all measures should be weighted equally but believes that heavily weighting the NTSV Cesarean rate is problematic due to its lack of risk adjustment and the underdevelopment of comprehensive quality measures. They suggested a revised weighting: 30% for the structural measure, 50% for the SOC eCQM, and 20% for the Cesarean Birth eCQM, while advocating for the inclusion of process measures, such as standardized protocols and timely interventions. They proposed a final weighting of 10% structural measure, 40% process measures, 30% SOC eCQM, and 20% Cesarean Birth eCQM to prioritize evidence-based practices.
- TEP members agreed with including some clinical process measures that reflect the quality of care being provided, specifically noting the AIM program. Additionally, one member echoed conversations about OB tertiary hospitals being unfairly treated because of taking on high-risk patients. Another member agreed that they would weigh the SOC measure more.
- One TEP member recommended this conversation be shifted toward how facilities will be compared to achieve the Designation. It will not be fair to tertiary care centers to be compared to community facilities. They suggested creating facility cohorts based on volume or level of maternal care and then compare within these groups with differing requirements to achieve Designation. Tertiary care facilities will see more SOC due to complex patients being referred to them.

Question 2

What is your perspective on the recommendation to include both PC-07a and PC-07b in the Designation?

What considerations should be made for weighting?

TEP Responses to Question 2

- TEP members voiced concern about inclusion of the SOC outcome which includes encounters in which the only event was a blood transfusion (PC-07a).
    - One member noted that transfusions are often given for other reasons than obstetric complications. They stated that until we can apply a benchmark or threshold to quantify how much blood is truly considered an obstetric complication, this element seems irrelevant for QI purposes. They noted that if both SOC outcomes need to be included, they recommended PC-07a at 20% and PC-07b at 10%.
    - One TEP member noted that excluding blood transfusions is important. While transfusion rates can reflect care quality (such as how well hemorrhages are

managed), we do not want hospitals to avoid transfusions that are medically indicated for concerns of this measure. They noted it is important to address conditions present on admission. For example, patients transferred to a higher level of care due to a complication.

  - One TEP member noted that many organizations have chosen to follow PC-07b only given the evidence that the occurrence of blood transfusion without other SMM indicators lacks specificity and reduces the PPV for 'near miss' events.
  - One TEP member highlighted that implementing quality measures addressing SMM can have unintended consequences, such as discouraging necessary interventions like blood transfusions to avoid a negative label. This could lead to worse outcomes, including increased mortality. A hospital with a high transfusion rate may actually be providing better quality care than one with a low rate, as the former may be more effective at addressing severe hemorrhage. Similarly, using blood transfusion as a component of SMM can be misleading due to inconsistent coding. A more accurate measure of hospital quality could be SMM without transfusion (PC-07b), but this requires consistent definitions and data quality. Additionally, comparisons of SMM rates should consider regional care differences, case mix, and the adequacy of risk adjustment for various obstetric conditions.

- One TEP member agreed with TEP members on the live meeting that although NTSV C- section rates have remained relatively stagnant, and that the measure should benefit from risk-adjustment.

Input on Future Consideration of Inclusion of Process Measures

- TEP members suggested several process measures.
  - One TEP member suggested transparency on racial/ethnic disparities in maternal and neonatal care (focus on any perinatal core measure).
  - Another TEP member suggested measures addressing VBAC rate, Episiotomy rate, DVT prophylaxis (% of women receiving DVT prophylaxis prior to c-section), Bilirubin screening (% of babies screened for jaundice prior to discharge).
  - One TEP member suggested SDOH.
- One TEP member provided detailed measure suggestions, including:
  - Timely antihypertensive treatment (within 30-60 minutes) for severe blood pressure (160/110 mmHg or greater), aligning with the Society for Maternal-Fetal Medicine and AIM guidelines.
  - Widespread adoption of "enhanced recovery after surgery" (ERAS) to reduce opioid use after cesarean births, with successful outcomes in opioid reduction without impacting pain management.
  - Screening for postpartum depression and placenta accreta spectrum (PAS), with efforts like universal screening for cesarean patients in Texas.
  - Adoption of Culturally and Linguistically Appropriate Services (CLAS) in maternal care to ensure respectful, compassionate care.
  - Multidisciplinary case reviews for quality improvement, particularly for triggers like PC-07.

- Providing Naloxone at discharge for patients with opioid use disorder to reduce overdose-related maternal deaths.

Appendix E. Meeting Minutes: TEP Meeting 2

Development of the Birthing-Friendly Hospital Designation Technical Expert Panel (TEP) Meeting #2 Minutes

Monday, August 18, 2025, 2:00 PM – 4:00 PM ET

Participants

- **Technical Expert Panel (TEP) Participants:** Ashley Bates, Edward Chien, Lastascia Coleman, Marianne Drexler, Jodie Franzen, William (Sam) Greenfield, Cassandra Jah, Ushma Patel, Nicole Purnell, Lisa Satterfield, Tanya Sorensen, Nan Strauss, Shannon Sullivan, Brittany Waggoner, Andrew Williams
- **Yale New Haven Health Services Corporation — Center for Outcomes Research and Evaluation (YNHHSC/CORE):** Katie Balestracci**,** Ji Chen, Valery Danilack-Fekete, Ladan Golestaneh, Shefali Grant, Zhenqui Lin, Jacelyn (Jace) O'Neill-Lee, Onyinye Oyeka, Lisa Suter, James Wallace
- **Centers for Medicare and Medicaid Services (CMS):** Stephanie Clark, Melissa Hager, Vinitha Meyer, Raquel Myers, Rebekah Natanov

Administrative Items

TEP Action Items

- Review and send any suggested edits to the meeting summary;
- Complete a brief survey about their experience during this meeting;
- Reach out via email if they have any questions; and
- Watch their email for future project updates.

CORE Action Items

- Share the summary of the TEP meeting for review; and
- Consider TEP feedback during the measure development process.

Discussion

Welcome & Introductions

- Ms. Jacelyn O'Neill-Lee welcomed the Technical Expert Panel (TEP) members and initiated the meeting with a confidentiality reminder and funding disclosure, reviewed the meeting agenda, and shared slides introducing the CORE project team and the participating TEP members. Ms. O'Neill-Lee outlined the ground rules for participation.

Project Background and Status

- Ms. O'Neil reviewed the TEP meeting goal and project scope for a scoring approach to the Birthing-Friendly Hospital Designation ("the Designation").
- Dr. Onyinye Oyeka provided background for the Designation. She explained that the current Designation includes the current version of the Maternal Morbidity Structural Measure (MMSM) and hospitals participating in the Hospital Inpatient Quality Reporting (IQR) program will receive

the Designation if they attest positively to the structural measure. She noted that CMS displays an icon on the Care Compare website, to convey hospital receipt of the Designation.

- Dr. Oyeka provided a brief overview of the additional measures that CMS has indicated, through the 2023 IPPS final rule, it will include in the initial expansion of the Designation: the Severe Obstetric Complications (SOC) electronic clinical quality measure (eCQM) or PC-07 and the Cesarean Birth eCQM or PC-02. The PC-07 is an outcome measure with two outcomes: PC-07a assesses any SOC as defined by the measure, and PC-07b assessment any SOC excluding delivery hospitalizations where blood transfusion was the only complication.
- Dr. Oyeka introduced the proposed Designation scoring approaches, both of which include the MMSM serving as a gateway to receiving the Designation with the rationale that MMSM serves as a foundational building block to provide high quality maternal care. Thus, a hospital must positively attest to the MMSM to be eligible for the Designation. Dr. Oyeka explained that the two scoring approach options which the CORE team aims to gather feedback from TEP members on:
    - Individual Measure Threshold Scoring Approach
    - Composite Score Approach with K-Means Clustering
- Dr. Oyeka described the testing dataset and key inclusion criteria, using Calendar Year (CY) 2024 mandatory reporting data for all three maternal measures. To be included in the testing dataset, hospitals were required to report on all three measures and have at least 25 delivery hospitalizations, consistent with the public reporting threshold for the outcome measures (PC-02 and PC-07). A total of 1,977 out of 3,044 birthing hospitals met these criteria and were included in testing of scoring approaches.
- Dr. Oyeka outlined methodological considerations for the Designation scoring approach. If the Individual Measure Threshold Scoring Approach is selected, thresholds must be defined for each measure. If the Composite Score Approach using K-Means Clustering is adopted, weights must be assigned to each measure and clusters determined based on hospital performance.
- Dr. Oyeka outlined the goals for the meeting discussion, which included:
    - Review methodological details of the proposed Designation scoring approach options,
    - Review test results of the proposed Designation scoring approach options,
    - Solicit feedback on preferred scoring.
- Dr. Oyeka shared the descriptive statistics for the Cesarean Birth eCQM (PC-02), SOC eCQM (PC-07), and the MMSM based on CY 2024 test data.

Individual Measure Threshold Scoring Approach

- Dr. Oyeka introduced the Individual Measure Threshold Scoring Approach, requiring that hospitals meet or exceed measure thresholds for all three measures.
- Dr. Oyeka presented a chart summarizing the individual measure threshold options along with Calendar Year (CY) 2024 testing results.
    - For PC-02 (Cesarean Birth eCQM), three threshold options were presented:
        - **Option 1**: CDC Healthy People 2030 Target (≤ 23.6%) - 43% of hospitals met this threshold
        - **Option 2**: The Joint Commission (TJC) Acceptable Rate (≤ 30%) - 83% of

hospitals met this threshold

- **Option 3**: National Average (CY 2024 data) (≤ 25.8%) - 58% of hospitals met this threshold. For PC-07a (Any Severe Obstetric Complications) and PC-07b (Severe Obstetric Complications excluding blood transfusion-only encounters), the team proposed using a statistical performance categorization method in which hospitals are classified as "better than" or "no different than" the national average using 95% confidence intervals
- 67% of hospitals met the threshold for PC-07a
- 88% of hospitals met the threshold for PC-07b

- For the MMSM, hospitals are scored based on positive attestation (response = Yes):
  - 97% of hospitals met this criterion

- Dr. Oyeka presented the proposed scoring options and clarified that the only variation across the three scoring options lies in the threshold selected for PC-02. The thresholds for PC-07a, PC-07b, and MMSM remain consistent across all options.
- Dr. Oyeka shared a graph which illustrated the percentage of hospitals that would be awarded the Designation under each PC-02 threshold option, based on CY 2024 testing data:
  - Option 1 (CDC threshold): 29% of hospitals would be awarded the Designation
  - Option 2 (TJC threshold): 51% of hospitals would be awarded the Designation
  - Option 3 (National Average): 37% of hospitals would be awarded the Designation

Discussion Session #1

Questions for TEP:

Do you have questions about this proposed scoring approach or any of the three options?

If CMS were to consider an individual measure threshold scoring approach for the Designation, which PC-02 threshold would you suggest be used?

TEP Discussion

- Several TEP members expressed concern that only 29% of hospitals would be awarded the Designation if the CDC threshold for the PC-02 measure is used (Option 1).
- One TEP member expressed concern about the wide variation in hospital performance between the threshold options, finding it troubling that only 29% of hospitals meet the Designation that uses the CDC threshold (Option 1). The TEP member questioned the implications if CDC changes its benchmark in the future and also noted that the scoring option using the national average (Option 3) is not much better. The TEP member indicated a leaning toward Option 2 (Designation using the TJC threshold for PC-02 at 51%).
- Another TEP member found it troubling that only 29% of hospitals are meeting what they perceive to be a modest goal (Designation using Option 1) but emphasized the value of having an actual goal that hospitals can work toward, arguing that it presents an opportunity to shift practice and recognize high quality evidence-based practice. The TEP member criticized the TJC benchmark (used in Option 2) for being too high and not aligned with evidence for improving outcomes and

expressed concern that the national average (used in Option 3) relies on available data rather than evidence-based aspirational benchmarks, which may make sense for PC-07, but not for PC-02. The TEP member emphasized the importance of giving consumers the ability to identify hospitals which are meeting strong benchmarks. The same TEP member questioned via chat whether failing to achieve the Designation could contribute to hospital closures or negatively impact rural facilities.

- Several TEP members raised concerns about Option 1 (using the CDC threshold for PC-02) related to hospitals treating high-acuity patients or hospitals with a low volume of deliveries.
- One TEP member warned that without considering risk and acuity and without comparing similar facilities (e.g. quaternary to quaternary), hospitals could be unfairly excluded from the Designation. While acknowledging the aspirational nature of Option 1, the TEP member emphasized the need to consider population-level comparisons rather than individual hospital performance.
- Another TEP member appreciated Option 1 as a goal but found it potentially discouraging for facilities, especially rural hospitals with low volumes, as well as hospitals which take high risk patients and end up doing more C-sections. The TEP member criticized the TJC threshold (used in Option 2) for being based on a dataset that is not representative of all hospitals, and for being too high of a threshold. The TEP member supported the a PC-02 threshold using the national average (used in Option 3) for its ability to evolve as hospitals improve.
- A different TEP member offered a contrasting opinion from a rural perspective, opposing Option 3 due to concerns that using the national average for the PC-02 threshold does not account for regional variation and access disparities in rural communities. The TEP member ultimately leaned toward Option 1 but expressed feeling conflicted.
- Another TEP member expressed a preference for Option 1 and agreed with concerns about rural differences related to types of care and access. While not fully supportive of using an individual measure threshold approach, the TEP member felt the CDC threshold (used in Option 1) gives Perinatal Quality Collaboratives a goal to work toward, but noted it was not the preferred choice in the broader context.
- One TEP member found the TJC threshold for PC-02 used in Option 2 to be too high and expressed concern that Option 3 relies on a national average threshold (for PC-02), which may not reflect high-quality care. The TEP member expressed interest in Option 1 but questioned whether [the CDC threshold for PC-02] is a realistic goal, and ultimately leaned toward Option 3, particularly if the benchmark can fluctuate based on hospital performance.
- Another TEP member initially preferred Option 3 and asked whether the national average for PC-02 is based on CDC and TJC rates.
- Dr. Oyeka clarified that the national average is based on the actual scores in the dataset and can change with hospital performance.
    - Based on that clarification, the TEP member shifted their preference to Option 1.
- One TEP member initially supported Option 3 and emphasized that the TJC threshold for PC-02 used in Option 2 is not evidence-based. They noted leaning toward Option 1, as hospitals need to be able to work toward a goal, while remaining open to Option 3 if the benchmark can fluctuate over time. The same TEP member later added via chat that American College of Obstetricians and

Gynecologists (ACOG) has withdrawn support for Alliance for Innovation on Maternal Health (AIM) and federal funding, which may affect the attestation processes.

- Another TEP member noted the small difference in PC-02 thresholds used in Options 1 and 3, and noted a preference for Option 1 for its goal-setting value and emphasized the importance of continuous improvement. The TEP member noted they would choose Option 3 if Option 1 remains static, as the Option 3 PC-02 threshold is dynamic. The TEP member also agreed via chat with concerns about the impact of the Designation on rural hospitals.
- A different TEP member agreed with concerns about high-acuity facilities being penalized, especially those receiving transfers and performing more C-sections, in which the CDC threshold for PC-02 in Option 1 may be unattainable for these hospitals. The TEP member found the TJC threshold (used in Option 2) too high and expressed concern about the PC-02 threshold in Option 3's volatility, especially in poor-performing years. They noted that Option 1 is ambitious, but it is a scientifically sound and steady rate that hospitals can work toward. However, it may not be attainable for all hospitals (high-acuity or low-volume). The TEP member expressed concern about hospital closures and suggested postponing PC-02 as an indicator for a few years and focusing on PC-07.
- One TEP member inquired about how recent policy changes and hospital closures might impact the percentage of hospitals receiving the Designation and noted an overall preference for Option 1 (using the CDC threshold).
- Another TEP member noted that PC-02 and PC-07 originate from TJC, and selecting a different threshold may confuse facilities and consumers. The TEP member agreed with concerns about excluding low-volume and high-acuity hospitals and asked whether hospitals report PC-02 using a sample or all births. The TEP member also emphasized the need to disaggregate data to reflect outcomes by demographic groups. Overall, they supported Option 1 (with the CDC threshold) but expressed concerns about payer and administrator reactions if thresholds are not met, considering that payers have already begun to endorse hospitals based on the Designation.
    - Dr. Katie Balestracci responded that hospitals report on PC-02 using all Nulliparous Term Singleton Vertex (NTSV) deliveries.
- One TEP member did not support Option 2 (using the TJC threshold for PC-02) and noted that Options 1 (with CDC threshold) and 3 (with threshold using the national average) were reasonable, citing Option 1 as being aspirational and not far off from the Option 3 PC-02 threshold. Overall, the TEP member stated that Option 1 is best for identifying high-performing institutions. The TEP member also acknowledged concerns for low volume hospitals but added that many of these hospitals are in maternity deserts where the Designation may not be informative for consumers, given they may have limited options. In more competitive markets, Option 1 could help patients make informed decisions.

Composite Score Approach with K-Means Clustering

- Dr. Oyeka explained the composite score approach with k-means clustering.
    - Dr. Oyeka noted that for this Designation scoring approach option, hospitals must first attest positively to the MMSM for Designation consideration, and then the PC-02 and PC-07 measure scores are aggregated into a composite score.
- Dr. Oyeka shared the proposed three weighting options based on the valuable feedback received

during the last TEP meeting, including the upweighting of PC-07b (weighted at 67% of PC-07, respectively) across all options:

  - **Option 1** upweights the Cesarean Birth eCQM (PC-02).
    - PC-02: 55%
    - PC-07: 45%
    - PC-07a: 15%
    - PC-07b: 30%
  - **Option 2** upweights the SOC eCQM (PC-07).
    - PC-02: 45%
    - PC-07: 55%
    - PC-07a: 18%
    - PC-07b: 37%
  - **Option 3** weights the Cesarean Birth eCQM and SOC eCQM equally.
    - PC-02: 50%
    - PC-07: 50%
    - PC-07a: 17%
    - PC-07b: 33%

- Dr. Oyeka explained the methodology of the K-means clustering approach.
- Dr. Oyeka noted that CORE tested two to five cluster approaches and ultimately recommends using three clusters based on empiric testing demonstrating that three clusters more clearly distinguished hospital performance and will result in less shifting of hospitals across clusters year-to-year due to small changes in performance.
- Dr. Oyeka showed a graph with the hospital distributions using three clusters for all weight options (hospitals grouped into the higher cluster perform better):
  - Weight Option 1 (PC-02 favored) showed:
    - 22.2% of hospitals are grouped into the lowest cluster (first cluster)
    - 50.4% of hospitals are grouped into the middle cluster (second cluster)
    - 27.4% of hospitals are grouped into the highest cluster (third cluster)
  - Weight Option 2 (PC-07 Favored) showed:
    - 19.6% of hospitals are grouped into the lowest cluster (first cluster)
    - 50.3% of hospitals are grouped into the middle cluster (second cluster)
    - 30.1% of hospitals are grouped into the highest cluster (third cluster)
  - Weight Option 3 (equal weighting) showed:
    - 20.1% of hospitals are grouped into the lowest cluster (first cluster)
    - 51.0% of hospitals are grouped into the middle cluster (second cluster)
    - 38.9% of hospitals are grouped into the highest cluster (third cluster)
- Dr. Oyeka further explained two approaches for awarding the Designation:
  - Binary approach: Designation awarded to hospitals in the top cluster.

- Tiered approach: Designation with three performance categories (graded approach where upward movement can be reflected by stars or other icon).
- She noted that utilizing the binary approach would result in less than 50% of hospitals receiving the Designation across all weight options and emphasized greater flexibility in using the tiered approach.

Discussion Session #2

Questions for TEP:

Do you have questions about this proposed scoring approach?

If a composite score approach is adopted, which of the proposed weighting options is preferred and why?

What is your feedback on the 3-cluster approach?

TEP Discussion

- One TEP member inquired whether, in the cluster analysis, hospitals categorized as cluster 1, 2, or 3 were fairly separated or evenly distributed across clusters and expressed concern that hospitals might be grouped into clusters based on their type (e.g., level of care).
- Dr. Oyeka responded that the team did not specifically analyze the data by level of maternal care. However, CORE examined hospital distribution based on other characteristics such as bed size (small vs. large), location (urban vs. rural), and region. Dr. Oyeka noted that, based on these factors, there was no indication that small or rural hospitals were negatively impacted by the clustering approach.
    - A different TEP member via chat expressed that it would be helpful to know how level of maternal care influenced ability to achieve the Designation.
- Another TEP member inquired about how to interpret the tiered approach, specifically, the difference between hospitals receiving a 1-star vs. 2-star vs. 3-star rating. They noted that within the 1-star group, some hospitals may be performing better than others, and that this scoring approach could mask differences within the group. For example, a hospital with a relatively low score might be placed in the lowest tier even though it implements evidence-based practices that align with the criteria being measured. The member explained that this method uses cut points derived from the data, which is acceptable from a research or epidemiological standpoint. However, if the goal is to score hospitals and provide feedback on what they are doing well or not well, this approach may obscure that information and fail to give hospitals or consumers clear insight into performance.
- Dr. Oyeka explained that while the composite approach groups scores into clusters, hospitals will still have access to their individual measure scores. Dr. Oyeka acknowledged that the composite method may mask some performance details at the individual hospital level.
    - The TEP member expressed concern that if the scoring is intended to be public-facing and help consumers choose hospitals, the clustering methodology may be difficult to understand. Consumers may not be able to distinguish between ratings. They noted that the advanced computation behind the clustering may not be appropriate for a public-facing tool. Instead, consumers should be able to research a hospital and

understand why it received a particular star rating. While the TEP member appreciated the multimodal (tiered) approach, they questioned whether this was the best method for achieving that goal.

- Dr. Balestracci noted that the CORE team is presenting two very different approaches to scoring the Designation, each with its own pros and cons. She acknowledged that with the composite k-means clustering approach, hospitals may be placed into one of several clusters and receive that information, which may feel different than a clear "yes" or "no" Designation outcome, and noted that this approach provides less concrete information about why a hospital is in a given cluster. In contrast, the individual threshold-based approach requires hospitals to meet specific benchmarks, which are relatively easier to interpret. She noted that at the end of the meeting, members will be asked to compare both approaches—individual vs. composite—and share their perspectives.
- One TEP member agreed with previous comments and questions raised about the purpose of the Designation and emphasized the distinction between its use as a consumer-facing tool versus a performance assessment tool for hospitals. They noted that hospitals are already aware of their outcomes, but using the Designation to motivate improvement is a valuable goal. However, they pointed out that consumers may not understand factors such as how cesarean rates can vary based on hospital type, such as in rural versus quaternary care settings. The TEP member expressed support for the composite scoring approach and suggested weighting maternal morbidity (Option 2 - PC-07 favored) higher as it better accounts for acuity. They also acknowledged limited understanding of the clustering methodology but noted that star ratings tend to be more understandable for consumers.
- Another TEP member expressed concerns about the PC-07 measure, noting that PC-07a captures many non-severe complications. Drawing from experience at a small facility, they explained that their hospital often reports a high PC-07 rate due to cases such as administering a single unit of blood for anemia, which they feel does not reflect severe morbidity. They described PC-07a as flawed in this regard. While PC-07b addresses some of these issues and is more representative of SOC, it excludes maternal hemorrhage, an outcome they believe should be included, though it is difficult to capture without also including less severe anemia cases. As a result, the member expressed a preference for Option 1, which favors PC-02 and places less emphasis on PC-07. Regarding the composite scoring approach, they noted that while they like the concept of cluster scoring, it may be confusing for those without a statistical background. They added that its value depends on whether it can effectively support comparisons between similar hospitals; if not, it may contribute to further confusion.
    - A different TEP member via chat inquired about the methodology used to create the weighting for PC-07a and PC-07b.
    - Dr. Balestracci responded that the weighting of PC-07a and PC-07b was determined following feedback from this TEP and some consultants that were concerned that PC-07a (which included transfusion-only cases, which may be less serious) should be weighted less than PC-07b. The cluster approach doesn't determine the weighting; the weighting determines the composite score that is then used in the cluster approach.
- A TEP member shared via chat that they were curious about the intended purpose of the Designation, noting that the composite approach may not be easily understood by consumers or beneficial for guiding hospital improvement. They questioned who is best served by this approach

and emphasized that the Designation plays the most significant role in influencing consumer choice of birth location, particularly for individuals who do not face significant systemic inequities. However, they emphasized that these individuals should not be the primary focus of the Designation effort. Instead, the TEP member highlighted the importance of driving long-term improvements in outcomes for hospitals serving the most vulnerable populations. They suggested that the Designation should help identify year-over-year performance trends, including whether hospitals are making clear efforts to improve. They also questioned how these efforts are being recognized and supported. The member proposed that the Designation could ultimately be used to identify high-performing facilities that could serve as mentors to others. They noted alignment with previous comments that if the composite approach helps compare similar hospitals, then it would be a better approach. However, they cautioned that if it does not compare similar hospitals, it may add confusion.

- One TEP member expressed support for the clustering approach, particularly if facility groupings remain stable year over year. Regarding weighting, they shared concerns about the transfusion component of PC-07a, noting that it may capture less severe cases. Ultimately, the member leaned toward Option 3, which applies equal weighting across measures.
- Another TEP member, representing the patient/consumer perspective, shared that they found the discussion around the K-means clustering methodology difficult to follow. They asked for clarification on the tiered approach, specifically whether "one-star" would indicate the highest or lowest performing group.
    - Dr. Oyeka responded that one-star would correspond with the lowest performing group.
- One TEP member noted that they had difficulty following the discussion but supported the cluster approach for its potential to group hospitals meaningfully. Regarding weighting, they were undecided between Option 1 (favoring PC-02) and Option 3 (equal weighting). They agreed that the average consumer may not understand the methodology behind the scoring, but noted that a star ratings system could be more intuitive. They emphasized the importance of aligning the scoring approach with the overall goals of the Designation, particularly in relation to consumer decision-making.
- One TEP member, via chat, expressed concern about how consumers might interpret differences in star ratings within a tiered composite scoring approach. Specifically, they noted that a one-star versus three-star designation could create a perception of disparity that may not reflect actual differences in care quality.
- A TEP member shared via chat that, given the rise in maternity care deserts and the strong influence of insurance coverage on patient choice, they were concerned that the Designation may function less as a tool for patient decision-making and more as a mechanism for identifying "the best" hospitals. They noted that this could be counterintuitive, especially if high-acuity hospitals also have higher cesarean section rates. In their verbal comments, the TEP member expressed agreement with the importance of comparing like to like hospitals. They indicated a preference for the tiered composite approach with weight option 2 (PC-07 favored).
- One TEP member shared that prior to the discussion, they had been leaning toward the individual measure threshold approach. However, they expressed appreciation for the clarity of a three-star tiered approach, noting its ease of understanding for consumers. They emphasized that since

institutions will receive their data, the scoring can serve as a guide for improvement. If the composite approach is selected, the member recommended that CMS provide detailed information on individual measures, similar to the approach used by U.S. News & World Report for maternity care, highlighting areas of strong and weak performance. They suggested including both PC-07a and PC-07b, and providing hospitals with comparative data to help inform patients about their risk for cesarean delivery and hospital performance in more complex care scenarios. The member expressed a preference for Option 2 (favoring PC-07).

- Another TEP member expressed support for the tiered scoring approach but raised concerns about its implications in the current landscape of perinatal care, where access remains limited. They noted concern that introducing a star methodology could be problematic, especially when outlier hospitals may not be performing significantly better or worse than those assigned a lower or higher star rating. The member agreed with previous comments that, until there is a reliable way to compare similar hospitals, the approach may not be ready for implementation.
- A TEP member explained that the Designation needs to be simple for people to understand. They noted that if the end result is a 1-,2-, or 3-star rating, that is inherently easy to grasp, and consumers do not need to understand the full methodology to interpret the results. They noted that there is value in grouping and comparing facilities in this way. The TEP member noted the importance of looking at how the data will reflect performance across hospitals that provide similar levels of care, and pointed out that many smaller hospitals do well on NTSV rates, and some larger hospitals also perform well while offering more complex, quaternary care. However, they cautioned that high-volume hospitals often serve a wide range of patients, and a significant portion may not need high-acuity care. This could affect how those hospitals are scored. The TEP member emphasized that this is a critical area where more data is needed to ensure the scoring method does not unfairly penalize certain types of facilities.
- The TEP member also inquired whether there would be any downside to using this Designation to recognize extraordinary care. They suggested that when consumers are making choices, the Designation could help guide them toward high-performing facilities, which in turn could incentivize other hospitals to improve and reach that level of care. Via chat, the TEP member added that this discussion ties back to the purpose of the Designation, and their understanding is that it was created to support consumer decision-making and incentivize hospital improvement. They noted that both goals suggest the importance of incentivizing movement in the right direction.
    - Dr. Balestracci responded via chat that the Designation aims to provide information for consumers and to incentivize improvements in maternal care delivery.
- One TEP member expressed concern about geographic disparities in access to care, noting that some hospitals across the country may not meet the Designation criteria. They questioned what this would mean for consumers in those areas and their ability to access safe maternity care. The member agreed that the purpose of the Designation should be to identify and highlight facilities providing a higher level of excellence, not to discourage individuals from seeking care or to create the perception that safe, accessible options are unavailable.
    - A different TEP member strongly agreed with the point that the Designation should not contribute to increased fear among patients, especially the perception that they cannot receive high-quality care in their own communities. They noted that patients are

already fearful about going into hospitals for deliveries.

    - Another TEP member emphasized this point via chat.

- Dr. Oyeka summarized the aspects of the individual measure threshold approach and composite K-means clustering approach related to comprehension, transparency, flexibility, future expansions, and limitations.

Discussion Session #3

Questions for TEP:

Which of the two proposed scoring approaches do you support and why?

1. **Individual measure threshold scoring approach**
2. **Composite score approach using K-means clustering approach**

TEP Discussion

- A TEP member asked whether individual measure scores will be shown regardless of the methodology used for the Designation.
- Dr. Balestracci explained that hospitals eligible for the Designation submitting data for the relevant measures will be aware of their maternal measure scores. However, the implementation details of how the Designation will appear on platforms like Care Compare have not yet been finalized.
- Considering this, the TEP member noted a preference for the individual measure threshold scoring approach, emphasizing the importance of transparency for consumers. They suggested that showing a hospital's performance on specific measures, such as PC-02, alongside established thresholds from CDC and TJC could help consumers understand where a hospital falls within an acceptable range. The TEP member also noted they remain open to other approaches.
- A TEP member expressed a preference for the K-means clustering approach, noting that it could be more informative if the public-facing site also displays individual measure scores. They added that similar concerns about public communications apply to the individual measure threshold approach, which they felt disproportionately emphasizes NTSV while underrepresenting PC-07.
- Another TEP member noted via chat that they supported the individual measure threshold scoring approach.
- A TEP member reflected on the overall purpose of the Designation, describing its greatest value as a "super gold star" aimed at consumers. They emphasized the importance of messaging that highlights high performance without unintentionally increasing fear or diminishing confidence in the healthcare system, unless such concerns are warranted. The TEP member encouraged using the Designation as an opportunity to incentivize progress toward improved health outcomes, equity, and patient experience. While recognizing the merits of both scoring approaches, they expressed uncertainty about selecting one without understanding how each would apply across different levels of care. They also cautioned against creating incentives that may be counterproductive and emphasized the need to incorporate broader values and priorities into the scoring framework.
    - A different TEP member expressed agreement with the point raised regarding framing information in a way that avoids generating fear. They also noted a lack of clarity

around which scoring approach would best support meaningful comparisons across similar hospital settings. They emphasized that the focus should extend beyond the score itself and how facilities are supported after receiving their score.

- Another TEP member supported the composite scoring approach with the SOC eCQM (PC-07) weighted more heavily. They noted that if NTSV (the PC-02 measure) is weighted too heavily, hospitals with poor performance on maternal morbidity could receive a rating that sends the wrong message.
- A TEP member expressed interest in the weighing of the composite approach contingent on clear and effective communication to the public, and noted preferring that which favors the SOC measure (PC-07). They noted that if the approach is not well communicated, it could cause more harm, and in that case, they would prefer the individual measure threshold approach.
- Another TEP member preferred the composite approach, noting there are pros and cons to both, but explained that there is more flexibility with the K-means clusters, and reiterated the previous TEP comment about the importance of proper communication to consumers. The TEP member acknowledged the potential confusion around methodology for the composite approach, but noted consumers do not need to understand everything about the approach if the information is broken down in a way that consumers are able to understand how a hospital received a certain rating. The same TEP member via chat inquired whether hospitals will be scored every year, or if the Designation lasts multiple years.
- Dr. Valery Danilack-Fekete stated via chat that the current plan is for hospitals to be scored annually.
- One TEP member noted they were torn between both options, agreeing that the K-means clustering methodology is not exactly clear, and considered the importance of understanding how the ratings would impact the facilities themselves, especially considering the access to facilities.
- Another TEP member leaned toward the individual threshold scoring approach. They noted that the way the measure is currently set up does not match the same level of robustness as star ratings for hospitals, as there are only quality metrics in place, and no metrics around things like patient experience, timeliness of care, effectiveness of care, etc. Until those things can be integrated into this measure, there is not enough information to go with a k-means clustering approach. the way the measure is currently set up does not match the same level of robustness as star ratings for hospitals, as there are only quality metrics in place, and no metrics around things like patient experience, timeliness of care, effectiveness of care, etc. Until those things can be integrated into this measure, there is not enough information to go with a k-means clustering approach.
    - A different TEP member voiced support for the preceding comments via chat.
- A TEP member expressed support for the composite weighted scoring approach, noting that while it may be more complex, it is a better approach than a single measure approach, provided it is clearly explained and communicated to the public and hospitals.
    - Another TEP member voiced agreement with this preference via chat.
- A different TEP member endorsed the composite approach with the weighting option which favors SOC (PC-07) and agreed with the importance of clear consumer communication.
- Another TEP member shared that they lean toward the individual measure threshold approach.

While they expressed appreciation for the k-means clustering approach, they raised concerns about its communication and interpretability for consumers and facilities. They emphasized that for hospitals to effectively set targets and plan improvements year over year, the scoring methodology must be clearly communicated and well understood. The member noted that if hospitals are unclear about what drives performance changes from year to year, it could lead to frustration and potentially hinder improvement efforts. They concluded that while both approaches have merit, they currently favor the individual measure threshold method.
    - Another TEP member commented via chat that the process of determining ratings itself can raise concerns. They emphasized the need for more patient involvement in shaping how ratings are developed and applied.
- One TEP member noted that their perspective shifted during the meeting discussion. They indicated that they now favor the individual measure threshold approach for simplicity, as this method is more straightforward than the composite approach, and therefore more appropriate for this context. The TEP member emphasized that simplicity is important—not only for public understanding when selecting healthcare services, but also for hospitals and practitioners who need to interpret the scoring and identify areas for improvement.

Next Steps

- Ms. O'Neil-Lee thanked the participants for their feedback, and noted that team will be reviewing the feedback carefully for consideration, and summarized critical points of feedback.
- Dr. Oyeka thanked the participants and added that the feedback will be integral to finalizing the Designation scoring approach.
- Ms. O'Neil-Lee noted the next steps for CORE including:
    - Compile TEP feedback and share with CMS
    - Circulate the minutes and a TEP Summary Report of the meeting for TEP review
    - Communicate when the TEP Summary Report is posted
    - Send out a survey to gather feedback on the meeting experience
- Ms. O'Neil-Lee noted that the next TEP meeting is scheduled for November 2025 (update: next TEP will be held in December 2025).
- Ms. O'Neil-Lee noted that continued input was welcome and encouraged TEP members to send emails with additional feedback or questions to: cmsmaternalquality@yale.edu
- Ms. O'Neil-Lee thanked participants for sharing their valuable insights and ended the meeting.

Appendix F. Email Responses Following TEP Meeting 2

Following the second TEP meeting for the Birthing-Friendly Hospital Designation project, five TEP members who were unable to attend the meeting were invited to share feedback on all three discussion topics addressed during the TEP meeting. Below is a high-level summary of TEP feedback, grouped into themes.

Discussion 1 Question

If CMS were to consider an individual measure threshold scoring approach for the Designation, which PC-02 threshold would you suggest be used?

TEP Feedback on Discussion 1

- One TEP member noted that the appropriate PC-02 threshold depends on the intent of the Designation and supported a 3-level Designation using the CDC Healthy People 2030 target for the aspirational group (3-star high performers) and the TJC threshold to distinguish between 1 and 2 stars. The TEP member also raised concerns about PC-02 lacking risk adjustment and exclusion criteria, suggesting thresholds be tailored by facility volume or level of care. They recommended using a 3-year rolling average for small facilities to mitigate the impact of low denominators.
- One TEP member supported Option 1 that used the CDC threshold as it aligns with the Healthy People Target and the standard set by The Leapfrog Group. They noted the threshold would encourage hospitals to make more improvements in reducing unnecessary c-sections. They expressed concern that the other threshold would not drive improvement.
- Two TEP members supported Option 2 that uses the TJC threshold. They noted that PC-02 is not risk adjusted, and using a stricter threshold like the CDC threshold would disadvantage hospitals serving higher risk populations and the Designation should not create unintended pressure on physicians to avoid medically necessary C-sections.

Discussion 2 Questions

If a composite score approach is adopted, which of the proposed weighting options is preferred and why? What is your feedback on the 3-cluster approach?

TEP Feedback on Discussion 2:

- Four TEP members supported upweighting PC-07.
- Two TEP members expressed concern that the k-means clustering methodology is overly complex, especially if only a few measures are used. While acknowledging that hospitals are familiar with CMS Star Ratings, they felt it may not be necessary unless more measures are added beyond PC-02, PC-07, and structural measures. One member added that k-means clustering masks variation in hospitals, and makes quality improvement difficult given that there are no set targets.
    - One TEP member noted that while there was value to using a tiered approach to award the Designation, using a binary approach instead would be clearer for consumers to understand.
- One TEP expressed major reservations with the adoption of PC-07 as an indicator for the

Designation, noting it as still experimental, with no consensus on what a "good" score is. The TEP member highlighted a need for case mix adjustment of PC-07, and raised concerns with data validity, especially around transfusion coding. The same TEP member noted that some PC-07 indicators may penalize facilities that provide more thorough or careful care (ex. More comprehensive clinical assessments can lead to the detection and coding of conditions that might go unnoticed elsewhere, skewing comparisons across sights).

- One member reflected on the purpose of the Designation—to ultimately improve maternal outcomes, e.g. reducing C-sections and obstetric complications. The TEP member noted the importance of a commitment to improving outcomes for common maternal complications such as post-partum hemorrhage and thus raised concern over upweighting of PC-07b over PC-07a which could unintentionally disincentivize hospital efforts to reduce post-partum hemorrhage. The TEP member encouraged a weighting approach that would reflect the priorities that could have a greater impact on outcomes.

Discussion 3 Question

Which of the two proposed scoring approaches do you support and why?

- Individual measure threshold scoring approach
- Composite score approach using the K-Means clustering approach

TEP Feedback on Discussion 3:

- Three TEP members supported the individual measure threshold approach as it is more consumer-friendly, offers more information on how a hospital performed on the individual measures, and sets concrete thresholds for hospitals to guide quality improvement efforts.
- One TEP member noted that if CMS decides to adopt the composite score approach with k-means clustering, then a weighting approach that upweights PC-07 should be employed with performance data for PC-02 presented alongside to aid in consumer choice and decision making.
- One TEP member recommended a 3-tiered approach with individual measure thresholds that sets an aspirational goal for 3-stars, recognizes adequate care with 2-stars, and alerts concerns with 1-star.

Summary:

Three of the five TEP members providing post-meeting feedback supported the individual measure threshold approach. They noted that while star rating might be easy for consumer-facing reporting, the composite score with k-means clustering approach is complex and hard to understand. One TEP member added that if the composite score with k-means clustering approach is adopted, a tiered approach to award the Designation should be applied. TEP members recommended peer grouping to ensure performance is compared across similar facilities.

Appendix G. Meeting Minutes: TEP Meeting 3

Development of the Birthing-Friendly Hospital Designation Technical Expert Panel (TEP) Meeting #3 Minutes

Tuesday, December 9, 2025, 2:00 – 4:00PM ET

Participants

- **Technical Expert Panel (TEP) Participants:** Ashley Bates, Kathryn Burggraf Stewart, Edward Chien, Lastascia Coleman, Marianne Drexler, Jodie Franzen, Ron Iverson, Ushma Patel, Stephanie Radke, Tanya Sorensen, Solaire Spelman, Nan Strauss, Andrew Williams
- **Yale New Haven Health Services Corporation — Center for Outcomes Research and Evaluation (YNHHSC/CORE):** Katie Balestracci**,** Ji Chen, Valery Danilack-Fekete, Ladan Golestaneh, Zhenqui Lin, Onyinye Oyeka, Lisa Suter, Amanda Audette Ketner, Katherine O'Hare
- Centers for Medicare and Medicaid Services (CMS): Melissa Hager, Raquel Myers, Rebekah Natanov

Administrative Items

TEP Action Items

- Vote on Face Validity during the meeting or in a follow-up survey for those unable to attend;
- Complete a brief survey about their experience at the TEP meeting report;
- Review and send any suggested edits to the meeting summary;
- Reach out via email if they have any questions; and
- Watch their email for future project updates.

CORE Action Items

- Share meeting summary report for review by the TEP; and
- Consider TEP feedback during the measure development process.

Discussion

Welcome & Introductions

- Ms. Katherine O'Hare welcomed the Technical Expert Panel (TEP) members and started the meeting with a reminder of the confidentiality agreement, a review of the funding disclosures, a walkthrough of the meeting agenda, and an introduction of the CORE project team and participating TEP members.

Project Recap

- Dr. Onyinye Oyeka provided a recap of the Birthing Friendly Hospital Designation ("the Designation") project and provided a brief overview of prior TEP meetings.
    - At the first TEP meeting, the TEP provided input on an approach for weighting the measures for scoring of the Designation [equal weighting vs. differential weighting] and the best way to incorporate the Severe Obstetric Complications (SOC) eCQM in the

Designation [considering both of the SOC eCQM outcomes].

- During the second TEP meeting, CORE presented two Designation scoring options: (1) Individual measure threshold approach, and (2) Composite score approach with k-means clustering. During that meeting, the TEP reviewed details of both scoring options and the corresponding testing results using Calendar Year (CY) 2024 maternal measure data.
- Dr. Oyeka noted that the TEP provided meaningful feedback on the proposed scoring approach and the TEP was almost evenly split on support for the two scoring approaches. However, the TEP agreed that the purpose of the Designation should be to identify high-performing hospitals that could serve as models for other hospitals, and motivate quality improvement through highlighting high performance without discouraging care-seeking behavior and support informed consumer choice.

Recommended Designation Scoring Approach

- Dr. Oyeka outlined the goals of this third TEP discussion which were to present a recommended Designation scoring approach and review a peer grouping approach for the Designation and review testing results.
- Dr. Oyeka explained that after careful consideration of the two scoring approaches (an individual measure threshold approach and the composite score approach using k-means clustering) and TEP feedback, the Centers for Medicare & Medicaid Services (CMS) decided to adopt the composite score approach using k-means clustering.
    - This approach combines the two outcome measures (Cesarean Birth and SOC eCQMs) into a composite score and applies k-means clustering to group hospitals into three clusters representing relative levels of quality.
    - For this scoring approach, the Maternal Morbidity Structural Measure (MMSM) will serve as a gateway to receiving the Designation, meaning a hospital must positively attest to the structural measure to be considered for the Designation, after which the scoring approach is applied.
- Dr. Oyeka explained that a tiered approach to the Designation using k-means clustering provides a range of and a more nuanced presentation of hospital performance and quality care, rather than a binary classification of "Birthing-Friendly" versus "Non-Birthing-Friendly."
    - This method recognizes a range of hospital performance levels, allowing high-performing hospitals to be acknowledged without excluding others.
    - Hospitals currently awarded the Designation could maintain existing “Birthing-Friendly” status, identified within a performance tier. Continuing to require positive attestation on the MMSM as a ‘gateway’ to Designation eligibility allows hospitals currently awarded the Designation to maintain that “Birthing-Friendly” status while providing additional details about tier of performance.
    - This approach also reduces the risk of discouraging patients with the inadvertent message that they cannot access good quality maternal care in their own communities.
    - The tiered Designation supports differential weighting of the individual measures.
- Dr. Oyeka presented a figure detailing the steps for calculating the composite score and assigning

the Designation. Hospitals included in the Designation scoring will have submitted data for all three component measures AND attested positively to the MMSM.

- **Step 1: Set directionality** of measure scores**,** so higher scores represent better performance on the Cesarean Birth eCQM and the two SOC eCQM outcomes.
- **Step 2: Normalize and standardize outcome scores** by applying a log transformation to correct non-normal distributions, followed by Z-score calculation to place all measure outcomes on a common scale. The two SOC eCQM outcomes were log transformed to normalize the data distribution.
- **Step 3: Apply assigned weights** to each measure outcome based on TEP feedback:
  - 45% weight assigned to the Cesarean Birth eCQM
  - 55% weight assigned to the SOC eCQM which is distributed between the two component measure outcomes:
  - 18% weight assigned to the first outcome: any severe obstetric complication (represents 33% of the 55% weight assigned to SOC eCQM)
  - 37% weight assigned to the second outcome: severe obstetric complications excluding delivery hospitalizations where blood transfusion was the only complication (represents 67% of the 55% weight assigned to SOC eCQM)
- Step 4: Aggregate weighted measure outcomes into a composite score.
- **Step 5: Apply k-means clustering and categorize** hospitals into 3 performance tiers where performance will be represented by one, two, or three "Birthing-Friendly icons. Hospitals categorized into the third cluster will have 3 icons representing highest performance.

Discussion Session #1

Questions for the TEP

Do you have questions or concerns about the recommended Designation scoring approach?

Do you have suggestions on information to communicate about the recommended Designation scoring approach to support patient understanding?

TEP Feedback:

- A TEP member noted appreciation for what the peer grouping approach is trying to achieve. They believe it will make organizations more likely to participate in the Designation. They noted the three Designation levels are self-explanatory to patients, especially given that patients are able to drill down into the performance of the underlying measures on *Care Compare.*
- Another TEP member noted that the methodology aligns with prior TEP feedback and noted that they do not have any concerns.
- A TEP member noted not having concerns regarding the scoring approach, and agreed that the three Designation levels are easily understandable for patients. However, they questioned how the consumer would understand the comparison between peer grouped hospitals, or even whether patient understanding matters.

- One TEP member supported the scoring approach, including the weighting schema, and believes the Designation levels are easy to explain to patients. They thought the current approach was optimal.
- Another TEP member stated support for the scoring approach and expressed interest in whether a communication expert could graphically explain the scale to patients. They expressed concern that patients may not understand what it means for a hospital to have one icon and whether it is out of three or five icons and recommended gold, silver, and bronze icons, or something that clearly signifies what is the better end of the scoring spectrum. They also supported representation of the weighting of the underlying measure scores on Care Compare, so a patient who is concerned about C-section as opposed to obstetric complication can better see that.
    - Two TEP members, in the chat, supported the comment regarding communication, noting ambiguity of the three-level iconography.
- A TEP member agreed with the scoring approach and echoed prior comments regarding messaging of the three levels, supporting the gold, silver, and bronze iconography. They expressed concern over the validity of the SOC eCQM as an indicator of facility quality. They noted it may be helpful to see what the first year of reporting on the SOC eCQM looks like before the updated methodology is adopted. They shared experience from their own tertiary care facility where data for the SOC eCQM was mapped incorrectly and noted that lower SOC eCQM rates may not reflect actual [hospital] performance, but rather a mapping issue. They want to ensure we are not assigning levels of care quality based on poor data, when the SOC eCQM represents 55% of the composite score.
    - In the chat, a TEP member agreed with concern about the SOC eCQM but noted that it is better than the Centers for Disease Control and Prevention's (CDC's) severe maternal morbidity measure.
- Another TEP member expressed no concerns with the scoring approach. They agreed with other TEP members on communication, that it may be difficult to discern between the three different scoring levels. They recommended providing clear examples to patients, such as what sets a 2-icon hospital apart from a 3-icon hospital. They urged clear and transparent communication about how determination of the Designation is made, using plain language when conveying measures and outcomes to patients. They stated that patients would want to know how the Designation plays into their decision-making process. Specifically for patients who live in areas with limited hospitals, they may have to go to a 2-icon hospital. The TEP member noted that we need to help patients figure out the risks and benefits when making a choice.
- A TEP member agreed that the Designation should have accompanying plain language regarding the difference and meaning behind the performance tiers. For example, "This hospital is in the X tier. This means they have lower rates of C-sections for first time births," or "This hospital performs well in X". The goal is for patients to know what the Designation means in comparison to others.
- Another TEP member agreed that consumers need more information on the Designation—perhaps, something more intuitive like gold, silver, and bronze. A benefit may be that the iconography would not deter patients from seeking care at a hospital that is still trying to improve. They liked the idea of including the Cesarean Birth eCQM score and putting the measure scores into context with patient goals.

- A TEP member supported the previous comments on communication of the Designation to patients and families.
- A TEP member supported the tiered approach and peer grouping by some means of hospital acuity. They suggested including balancing measures on C-sections and unexpected newborn complications, identifying some correlation between severe maternal morbidity and severe newborn complications.
- Another TEP member echoed prior comments regarding communication and recommended that in addition to the composite score, the underlying measure performance be available, along with consumer-friendly language including that a comparison methodology (Z-score) was used. They noted resources are certainly needed for patients who may not have a choice between facilities and shared their experience at their own institution. They stated that information on the underlying measures scores, in addition to the Designation, are important.
- A TEP member echoed concerns about performance on the SOC eCQM and accuracy, as evidenced by their own institution's issues with the measure. They asked whether there is a way to validate the measure performance.
    - Dr. Oyeka recapped that the recommendation to include information on the underlying measures, as well as the composite score, was received in the last TEP meeting and taken back to CMS.
    - Regarding concern over the reporting of the SOC eCQM, Dr. Oyeka noted that CMS is doing their best to support hospitals that are having challenges with data mapping. CORE will take TEP feedback regarding the SOC eCQM back to CMS as well.
    - Dr. Balestracci added that CMS is aware that some hospitals have experienced challenges with the SOC eCQM and is working hard to help support and provide education around addressing those issues to improve the data accuracy for those hospitals for submission in coming years. CORE expects the challenges to be resolved if and when the expansion of the Designation is implemented.
- A TEP member asked in the chat whether there is any information validating the SOC eCQM in literature.
    - Dr. Balestracci responded that the SOC eCQM is built on indicators of severe maternal morbidity that have been identified by a number of organizations, including the CDC. Because of its use of Present on Admission (POA) codes, the measure improves upon the CDC surveillance approach to monitor events that occur in a hospital. She noted that, as with other eCQMs, CORE relies on the accuracy of the data submitted by hospitals. She added that significant validation testing was carried out during measure development—CORE and CMS are confident in the measure specifications.
- A TEP member appreciated the response. They shared that, as someone who reviews numerator information at their institution, they identified flaws with the measure. They noted that the measure seems to flag as a numerator event a high number of relatively minor acute kidney injuries that are associated with preeclampsia and hemorrhage, and these events represent a significant proportion of the numerator cases. They noted that in conversations with coders and in review of coding regulations related to acute kidney injuries, there appears to be a couple of acute kidney injury codes included in the SOC eCQM numerator criteria that capture any, very minor

kidney injury, not reflective of a severe obstetric complication. They added that the bigger challenge is whether we know the data submitted by hospitals reflects the events that are actually occurring in the hospital; Noting that in their experience with the first round of mapping the measure, there were a lot of mapping issues that resulted in severe obstetric complications and POAs not being captured in the numerator. They appreciated and emphasized the weight the Designation may have in capturing quality, when a hospital may not have good performance on the underlying measures, but rather, may have mapped their data poorly such that they are not capturing events appropriately—e.g. no transfusion for a year is likely an error.

  - Dr. Balestracci shared that CORE expects the issues with the underlying measures to be resolved. CMS is aware of a number of different mapping issues to date with the SOC eCQM and are working carefully and closely with contractors on educating and supporting hospitals with: a) submitting POA indicators; and b) correct mapping.

Peer Grouping

- Dr. Oyeka reviewed concerns raised at the second TEP meeting that the Designation may inadvertently penalize high-acuity hospitals serving more complex patients. The TEP had recommended a peer grouping approach to compare hospitals within levels of maternal care. However, data on maternal levels of care currently are not comprehensive or publicly available. Dr. Oyeka noted that CORE explored hospital delivery volume as an alternate to levels of care.
  - Hospital delivery volume supports comparison of hospital obstetric units of similar scale.
  - CORE consulted with a clinical subject matter expert and reviewed the literature to inform hospital delivery volume categories. Delivery volume categories were assessed in data available from CY 2024 Severe Obstetric Complications eCQM. The four hospital delivery volume categories, measured using SOC eCQM hospital submissions, are:
    - ≤ 500 deliveries per year
    - 501 – 1,000
    - 1,001 – 2,000
    - > 2,000
- Dr. Oyeka explained that roughly 25 percent of hospitals fell into each delivery volume category. She noted that for the Designation scoring approach, peer grouping by hospital delivery volume will be implemented by first assigning hospitals to their respective delivery volume categories and then performing k-means clustering within each volume category to group hospitals into performance tiers.

Peer Grouping Testing Results

- Dr. Oyeka presented testing results using CY 2024 maternal measures data.
  - CY 2024 maternal measure data originated from 3,044 birthing hospitals that reported at least one of the maternal measures.
  - A total of 1,976 hospitals that reported all three maternal measures (and had 25 or more delivery hospitalizations were included in the test dataset.
  - Because positive response to the structural measure is required to get the Designation,

1,920 hospitals out of the 1,976 hospitals were eligible for the Designation.

- Dr. Oyeka first presented Designation data in the absence of/prior to peer grouping and then presented testing results of the Designation after applying the peer grouping approach.
    - Results showed a greater proportion of high-delivery volume hospitals (26%) assigned to the highest performing cluster 3 compared to only 17% of high-delivery volume hospitals in cluster 3 prior to peer grouping by hospital delivery volume.
- Dr. Oyeka reviewed mean composite scores with k-means clustering before peer grouping compared to mean composite scores with k-means clustering after peer grouping by hospital delivery volume categories.
    - Results show variation in the mean composite score for the Designation across delivery volume categories, most notably for the facilities with the largest delivery volumes, which had the lowest mean composite scores for all three clusters.
    - Because assignment into clusters is being performed within delivery volume categories, direct comparison to hospitals in other delivery volume categories is not meaningful. Comparison between hospitals is only meaningful within each peer group.

Discussion Session #2

Question for the TEP

Do you have questions or concerns about the recommended approach to peer grouping?

TEP Feedback:

- A TEP member, in the chat, asked whether CORE considered using maternal levels of care or neonatal intensive care unit (NICU) levels.
    - Dr. Balestracci responded that there is currently no reliable source of maternal levels of care data for all hospitals, nationally. She added that the TEP member's feedback regarding NICU levels for future consideration will be noted.
- A TEP member emphasized that higher delivery volumes are wrongly used as an indicator of success. There are often higher performing hospitals with lower birth volumes that often get lost when we take this type of approach. Using birth volume to group does not accurately depict the care that is being provided at those facilities. More hospitals are grouped into Cluster 2 across peer group categories. It may mask what is going on at smaller facilities with better outcomes.
- Another TEP member shared the concerns regarding peer grouping categories. They wondered about the underlying causes of differences in each peer group category. They identified the issue of higher acuity cases being treated at large facilities and wondered how transfers out of smaller hospitals to larger hospitals can impact the Designation. They noted not every large facility is better performing and the current peer grouping may be masking important differences. They did not have input on alternative peer grouping variables.
- Another TEP member noted appreciation that peer grouping categories by delivery volume seems to result in an even distribution, however, they wondered about the lower mean composite scores for high volume hospitals. They expressed concern over what that means in terms of the Designation, how it will be interpreted by patients, and what it is potentially masking.

    - Dr. Balestracci recapped that in prior meetings, the TEP expressed concern that higher acuity hospitals may have a harder time gaining the Designation due to more severe patient case-mix—that is, it may not be fair to assess them alongside hospitals treating a lower volume of higher acuity cases. She reiterated that there is no reliable source of hospital maternal level of care at this time; however, she noted that there are other variables, such as hospital delivery volume, that could be a useful peer grouping variable. She explained that with peer grouping, one would expect the composite score mean around which the clusters are determined will differ. In fact, if maternal levels of care were able to be utilized, similar trends would be expected. She explained that this is the purpose of peer grouping.
    - Dr. Balestracci noted that CORE sought to hear TEP feedback on whether they support the peer grouping approach and whether delivery volume is a good peer grouping variable.

- A TEP member believed peer grouping to be essential. They noted hospital delivery volume as the best variable available, but they would also consider NICU level. In their experience, the sicker patients go to hospitals with Level 4 NICU. This peer grouping approach is reasonable because it evens out what is considered outstanding performance. Not all large volume hospitals are high performing, and the peer grouping approach seems to make a fairer comparison than comparisons between hospitals regardless of patient acuity.
- Another TEP member agreed with the previous TEP member that we cannot assume volume equates to level of care. They did not believe that peer grouping is masking differences in care quality because hospitals still need to be in the upper third of their volume category in order to achieve 3 icons. They added that from their experience, as the only hospital in the state that cares for deliveries for patients with placenta accreta, virtually all cases require a blood transfusion, and not all of the cases are excluded from the (SOC) eCQM numerator, because they have to have an increta or greater to be excluded, so the patient with placenta accreta that have a hysterectomy and transfusion will be included. Most hospitals with <1,000 deliveries do not deliver placenta previa cases, most of which require a blood transfusion. They noted that in the absence of having actual maternal levels of care, and in the absence of implementing a highly complex risk adjustment, which may be an epidemiological data challenge, peer grouping by delivery volume is the best variable to recognize whose performance is best within their respective cluster, however imperfect.
- A TEP member agreed with the previous comment that volume is the best available variable to reflect the comorbidity index. They asked if there was available data to operationalize a more complex risk-adjustment, which the TEP member believes is not reliably built into the SOC eCQM. They asked about the Overall Hospital Quality Star Ratings on Care Compare, and whether there are lessons learned regarding peer grouping by size or location.
    - Ms. Amanda Audette Ketner responded that the Star Ratings peer groups by the number of measures reported, with the logic that larger hospitals will report more measures. She noted careful attention on Care Compare regarding messaging to promote understanding for stakeholders.
- A TEP member, in the chat, questioned whether peer grouping by delivery volume was the best way to peer group. They noted that it may not be a proxy for what we are trying to capture.

- A TEP member stated they support peer grouping because it gives tertiary centers the opportunity to have a higher rating. They noted that those hospitals have more complex patients, but they have more resources available than smaller hospitals. They did not believe delivery volume to be a perfect peer grouping variable but noted it is currently the best available. They acknowledged that NICU level may not be a feasible variable as most hospitals in their area have similar obstetric services and patient volume, but different NICU levels. They shared concern that patients are often transferred to tertiary centers due to high risk. They stated that if they were a patient having to deliver at the hospital with specialists and higher care, they could look at that hospital's score and know that the hospital will be clustered with other hospitals that are of similar size. They noted that it may be disheartening for patients who must seek care at a lower performing hospital due to proximity, which might scare some patients because the care they are receiving might not be as adequate. They claimed peer grouping by delivery volume to be fair, and a good start until there is a better variable available.
- A TEP member sought to confirm whether the Designation was part of the broader CMS reporting.
    - Dr. Oyeka confirmed that the Designation is part of CMS reporting.
    - The TEP member wondered if there was a way to determine maternal levels of care as documented by the American College of Obstetrics/ Society for Maternal Fetal Medicine (ACOG/SMFM) from other measures that are reported to CMS by hospitals.
    - Dr. Oyeka responded that the data referenced by the TEP member are currently not available.
    - The TEP member agreed that we need some way to stratify hospitals, and that volume of deliveries is currently the most straightforward.
- In the chat, a TEP member noted the benefit to patients of providing additional context regarding peer grouping by delivery volume and whether the hospital is a safety-net, serves high risk patients, etc.
    - A TEP member agreed in chat that from a patient's perspective, context is helpful. There is a balance between not providing so much detail that they are overwhelmed, but enough detail that patients can make informed decisions.
- Another TEP member agreed peer grouping by delivery volume is accessible at the moment, and it makes sense to consumers. They reiterated that the Designation should be patient-forward and provide clear messaging on peer grouping and the variables used.
- A TEP member asked a question regarding the number of hospitals within each delivery volume category. They noted that maternal levels of care are partly state legislated so there may be differences across states on how levels are defined in practice even though the levels of maternal care are defined by ACOG/SMFM. Therefore, use of levels of maternal care should be used with caution. They expressed concern that differences in performance may be driven by the SOC eCQM, and therefore, application of peer grouping in the Designation may remove the ability for consumers to compare hospitals within their own community, unless the SOC and Cesarean Birth eCQMs performances are also reported.
    - Dr. Oyeka noted that the distribution of hospitals in each volume category is approximately 25%. She thanked them for feedback on the messaging approach.
- Dr. Oyeka summarized TEP feedback, noting TEP support for the intent and goal of peer grouping

in the Designation. She noted that hospital delivery volume is the only available variable currently. If other variables become available, CMS may consider them in future iterations of the Designation. She highlighted importance of messaging for consumers and thanked TEP members for their feedback.

Discussion Session #3: Face Validity Vote and Rationale

- Ms. O'Hare introduced the face validity discussion, which focused on collecting feedback on the Designation scoring approach with peer grouping by delivery volume. The TEP were invited to complete a survey and provide rationale to the following statement using a six-point scale (1=Strongly agree, 2=Moderately agree, 3=Somewhat agree, 4=Somewhat Disagree, 5=Moderately Disagree, and 6=Strongly Disagree):
    - The recommended Designation scoring approach can differentiate hospitals that provide higher-quality maternal care from hospitals that provide lower-quality maternal care.
- TEP member votes are summarized in Appendix I.

TEP Discussion

- Ms. O'Hare invited TEP members to share their rationale.
- In the chat, a TEP member thanked CORE for showing the voting results. They echoed their support for the rationale that the Designation scoring approach does not address equity.
    - Two additional TEP members supported this statement.
- One concern expressed was that the Designation is currently limited to a few measures.

Discussion Session #4: Input on Alternative Peer Grouping Variables

- Ms. O'Hare asked the TEP if they had additional input on other maternal-related variables that could be used for peer grouping the Designation in the future?
- Dr. Oyeka recapped that suggestions such as NICU levels, and levels of maternal care were shared by the TEP throughout this meeting. She asked for any additional levels from the group that can be taken back to CMS for analysis.

TEP Discussion

- A TEP member requested implementation of an equity measure, noting it is an important problem in the country.
- A TEP member liked peer grouping and thought it to be a substitute for an observed/expected ratio. They wondered whether peer grouping could be removed and the ratio be used instead.

Wrap Up and Next Steps

- Ms. O'Hare thanked the TEP for the thoughtful feedback and outlined the next steps, stating that feedback from the discussion will be summarized and returned to CMS for consideration as the Designation moves through the development lifecycle, including evaluation and implementation.
    - CORE will share the TEP's feedback with CMS.
    - Meeting minutes and Summary Report will be circulated to the TEP for review.
    - CORE will keep all TEP members informed of when the summary report is publicly

posted.

- Additionally, CORE will send a follow up survey to attendees for feedback on the TEP meeting experience.

Appendix H. Email Responses Following TEP Meeting 3

Following the third TEP meeting for the Birthing-Friendly Hospital Designation project, two TEP members who were unable to attend the meeting provided feedback via email on all three discussion topics addressed during the TEP meeting. Below is a high-level summary of TEP feedback, grouped into themes.

Discussion 1 Questions

Do you have questions or concerns about the recommended Designation scoring approach?

Do you have suggestions on information to communicate about the recommended Designation scoring approach to support patient understanding?

TEP Feedback:

- One TEP member shared no concerns with the approach and supported the move from a binary approach to awarding the Designation to a more inclusive system with performance tiers.
- Another TEP member expressed concern over reporting issues associated with the SOC eCQM.

Discussion 2 Question

Do you have questions or concerns about the recommended approach to peer grouping?

TEP Feedback:

- One TEP member expressed concern that the peer grouping is too tight at smaller volume facilities and capping ceiling at 2,000 births seems too low. They recommended stratification across larger facilities, and to peer group by hospital characteristics, e.g. academic vs non-academic, teaching, etc.

Appendix I. Face Validity Votes During and Following TEP Meeting 3

During the third TEP meeting for the Birthing-Friendly Hospital Designation project, CORE invited the TEP to complete and respond to a survey and provide rationale to the following statement using a six-point scale (1=Strongly agree, 2=Moderately agree, 3=Somewhat agree, 4=Somewhat Disagree, 5=Moderately Disagree, and 6=Strongly Disagree):

- The recommended Designation scoring approach can differentiate hospitals that provide higher-quality maternal care from hospitals that provide lower-quality maternal care.

A total of 17 TEP members voted on face validity for the Designation, which included 12 votes collected during the TEP meeting and 5 votes collected via email. 94% of TEP members voted in agreement that the Designation could differentiate hospitals providing higher-quality maternal care from hospitals that provide lower-quality maternal care.

- Strongly agree = 6% (1)
- Moderately agree = 59% (10)
- Somewhat agree = 29% (5)
- Somewhat disagree = 6% (1)

Overall, the majority of TEP members agreed that the Designation could differentiate good from poor quality care among accountable entities.

Appendix J. Measure Specifications for Measures Included in the Expanded Birthing-Friendly Hospital Designation

Maternal Morbidity Structural Measure

Table 3: Maternal Morbidity Structural Measure

Measure Description
Attestation Question: Does your hospital or health system participate in a Statewide and/or National Perinatal Quality Improvement Collaborative Program aimed at improving maternal outcomes during inpatient labor, delivery and post-partum care, and has implemented patient safety practices or bundles related to maternal morbidity to address complications, including, but not limited to, hemorrhage, severe hypertension/preeclampsia or sepsis?
Answer Choices: (A) Yes, (B) No, or (C) N/A (our hospital does not provide inpatient labor/delivery care)

Cesarean Birth Electronic Clinical Quality Measure

Table 4: Cesarean Birth Electronic Clinical Quality Measure

Measure Information	Description
Measure Denominator	Nulliparous patients delivering a live term singleton newborn in the vertex position at or beyond 37 weeks' gestation
Measure Denominator Exclusion	The measure excludes patients with abnormal presentation or placenta previa during the encounter
Measure Numerator	Patients who deliver by cesarean section
Risk-adjustment	No
Measure score	The hospital-level score is calculated as the proportion of cesarean section among live, term, nulliparous, singleton deliveries in vertex presentation, expressed as a percentage
Data Source(s)	Electronic health record (EHR) data

Severe Obstetric Complications Electronic Clinical Quality Measure

Table 5: Severe Obstetric Complications Electronic Clinical Quality Measure

Measure Information	Description
Measure Denominator	Inpatient hospitalizations for patients greater than or equal to eight years and less than 65 years of age delivering stillborn or a live birth with >= 20 weeks, 0 days gestation completed at the time of delivery
Measure Denominator Exclusions	Patients are excluded from the denominator if they have a confirmed diagnosis of COVID with a COVID-related respiratory complication, as noted by a diagnosis or procedure

Measure Numerator	Inpatient delivery hospitalizations for patients who experience any of the following numerator events. Note that only diagnoses not present on admission are considered a numerator event
	• Severe maternal morbidity diagnoses and procedures
	  ○ Acute myocardial infarction
	  ○ Aortic aneurysm
	  ○ Cardiac arrest/ventricular fibrillation
	  ○ Heart failure/arrest during procedure or surgery
	  ○ Disseminated intravascular coagulation
	  ○ Shock
	  ○ Acute renal failure
	  ○ Adult respiratory distress syndrome
	  ○ Pulmonary edema/Acute heart failure
	  ○ Sepsis
	  ○ Air and thrombotic embolism
	  ○ Amniotic fluid embolism
	  ○ Eclampsia
	  ○ Severe anesthesia complications
	  ○ Puerperal cerebrovascular disorder
	  ○ Sickle cell disease with crisis
	  ○ Blood transfusion
	  ○ Conversion of cardiac rhythm
	  ○ Hysterectomy
	  ○ Temporary tracheostomy
	  ○ Ventilation
	• Patients who expire (die) during the inpatient encounter
	(Based on the Based on the Centers for Disease Control and Prevention's [CDC's] 21 indicators of severe maternal morbidity [SMM])

Risk-adjustment	Yes
Measure Outcome	Two outcomes for the measure are reported: 1) the rate per 10,000 hospital deliveries of any severe obstetric complications and 2) the rate per 10,000 hospital deliveries of severe obstetric complications excluding encounters for which blood transfusion was the only numerator event
Measure Score	Hospital-level measure score represents the risk-standardized obstetric complication rate (RSOCR) reported as a rate per 10,000 delivery hospitalizations
Data Sources	Electronic health record (EHR) data, and data from other electronic clinical systems