# Technical Expert Panel (TEP) Meeting Summary: Development of Medicaid Total Cost of Care Measure

July 2026

**Prepared by:**

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

*This material was prepared by CORE under contracts to the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy.*

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## Background

The Centers for Medicare & Medicaid Services (CMS) contracted Yale New Haven Health Services Corporation – Center for Outcomes Research and Evaluation (CORE) to develop a Medicaid total cost of care (TCOC) measure for use initially in the CMS Innovation Center's Innovation in Behavioral Health (IBH) Model. The contract name is Quality Measure Development and Analytic Support. The contract number is HHSM-75FCMC18D0042, Task Order HHSM-75FCMC24F0230

As is standard with all measure development processes, CORE has convened a Technical Expert Panel (TEP) of clinicians, patient advocates, Medicaid stakeholders, researchers, and operational leaders to provide input on the proposed measure. Collectively, these TEP members bring expertise in performance measurement, quality improvement, cost measurement and methodology, Medicaid policy and data analytics, managed care and healthcare delivery, behavioral health and substance use disorder care, and patient, caregiver, and community perspectives. The panel also includes individuals with experience in care coordination, social needs navigation, and implementation of integrated behavioral and physical health care models.

This report summarizes the feedback and recommendations received from first TEP meeting hosted by CORE on May 21, 2026. The report will be updated to include feedback and recommendations from future TEP meetings as they occur.

## Measure Development Team

The CORE Measure Development Team consists of individuals with expertise in quality measure development, health services research, clinical medicine, statistics, and measurement methodology. See Table 3 in Appendix A for the full list of members of the CORE Measure Development Team.

Faseeha Altaf, MPH, leads the CORE Measure Development Team. Ms. Altaf brings expertise in cost and quality measure development and implementation, health services research, population health, and healthcare delivery innovation. Her work spans CMS programs and diverse healthcare settings, leveraging data-driven approaches to improve healthcare quality, outcomes, and value.

Valery Danilack-Fekete, PhD, MPH, serves as Project Director and brings extensive experience in epidemiologic methods, health services research, and the oversight of complex healthcare quality measurement and evaluation initiatives.

Finally, Teresa Winder-Wells, BS, the project's Contracting Officer's Representative, and the Innovation Center staff overseeing the IBH Model and Quality Vertical, provide ongoing input.

## Technical Expert Panel

In alignment with the CMS Measures Management System (MMS), CORE held a 30-day public call to convene the TEP from January 26, 2026 through February 24, 2026.

Table 1 lists the project's TEP members. The TEP is composed of 15 members with diverse perspectives and expertise in cost measurement, Medicaid policy and programs, healthcare quality and performance measurement, healthcare delivery, behavioral health and substance use disorder care, and patient perspectives. The appointment term for the TEP is from March 2026 to September 2026 with the possibility of extending to additional meetings after September 2026, if necessary.

The role of the TEP is to provide expert input and recommendations to CORE throughout the measure development process. TEP members review and provide feedback on key measure concepts, draft measure specifications, methodological approaches, and measure testing results, including the scientific

acceptability of the proposed measures. Through participation in TEP meetings and review of project materials, members help ensure that the measures are clinically meaningful, methodologically sound, and relevant to stakeholders.

**Table 1: TEP Member Name, Affiliation, and Location**

| Name & Professional Role | Organizational Affiliation & Location |
|---|---|
| **Amy Aronsky**, DO, MBA, FCCP, FAASM, Chief Medical Officer | UnitedHealthcare; Princeton Junction, NJ |
| **Nelly Burdette**, PsyD, Chief Clinical Officer/Integrated Behavioral Health Psychologist | Care Transformation Collaborative of Rhode Island /Blackstone Valley Community Health Center; Warwick, RI |
| **Kathryn Connor**, MPP, AVP Analysis and Evaluation in Quality Measurement Research Group | National Committee on Quality Assurance; Pittsburgh, PA |
| **Mary Dramitinos**, MBA, Senior Director, Managed Care Analytics | IPRO; Jericho, NY |
| **Dominick Esposito**, PhD, Economist, Health Policy Researcher | Westat; Highlands Ranch, CO |
| **Carol Irwin**, PhD, Senior Fellow | Mathematica; Greenfield, NH |
| **Sharat Iyer**, MD, MS, FAPA, Physician/physician association representative | American Psychiatric Association; Long Island City, NY |
| **Chimene Liburd**, MD, CHCQM, Chief Medical Officer | District of Columbia Healthcare Finance-Medicaid; Washington, DC |
| **Karen Lynn Fortuna**, PhD, LICSW, MSW, Professor | Patient Innovation Lab, Community and Family Medicine, Geisel School of Medicine, Lebanon, NH |
| **Samuel Nordberg**, PhD, Chair of Psychiatry and Behavioral Health | Atrius Health and Reliant Medical Group; Wenham, MA |
| **Jeffrey Norris**, MD, Physician, Value-Based Payment Branch Chief | Medi-Cal; San Diego, CA |
| **William Schpero**, PhD, Health Economist, Assistant Professor of Population Health Sciences, Associate Director at the Cornell Health Policy Center and Cornell Center for Health Equity, Co-founder | Weill Cornell Medical College; New York, NY |
| **Aswita Tan-McGrory**, MBA, MSPH, Director of the Disparities Solutions Center | Massachusetts General Hospital; Boston, MA |
| **Donald Tavakoli**, MD, National Medical Director, Behavioral Health | Unitedhealthcare; Bryn Mawr, PA |
| **Patient Participant** (Name Withheld) | Not disclosed |

## TEP Meetings

CORE held its first TEP meeting on May 21, 2026 and anticipates holding one additional TEP meeting (see Appendix B for the TEP meeting schedule). This report contains a summary of the first TEP meeting.

TEP meetings follow a structured format. CORE presents key issues identified during measure development and a proposed approach to addressing them, and TEP members review, discuss, and advise on the issues.

## Overview of First TEP Meeting (May 21, 2026)

Prior to the first TEP meeting, CORE provided TEP members with materials for review. Materials included an overview of TEP member responsibilities, the project's overview, measure background, approach to and guiding principles for measure development, background on measure components (data source, cohort, outcome, and price standardization options), and discussion questions for the meeting.

During the first TEP meeting, CORE presented relevant background and focused on obtaining TEP input on the price standardization approach for the measure outcome, cohort, risk adjustment, data source, and testing strategy. Following the meeting, CORE provided TEP members with meeting minutes and invited TEP members to provide any additional feedback by email. This report summarizes CORE's presentation and TEP input from the first meeting.

### Welcoming Remarks, TEP Role and Charter, Project Overview, and Measure Development Approach

CORE Presentation to the TEP

- CORE facilitated introductions and reviewed the meeting objectives were to obtain TEP input on three topics: (1) how to standardize prices to isolate utilization-related variation; (2) preferred price standardization approach and key considerations; and (3) key considerations for cohort, data, and testing.
- CORE then reviewed the TEP Charter, which included the TEP's purpose and TEP member responsibilities, and sought the TEP's feedback on and approval of the Charter.
- CORE presented the Medicaid TCOC measure and reviewed key concepts informing measure development. CORE explained that the measure is being developed initially for the IBH Model to assess total Medicaid spending and support meaningful comparisons across providers and states, while establishing a scalable framework for potential application to other Innovation Center models.
- CORE highlighted three primary objectives: (1) improving visibility into spending variation to support resource allocation, (2) strengthening accountability for practice participants, and (3) advancing integrated, person-centered care.
- CORE also reviewed six guiding principles informing measure development: (1) whole-person accountability, (2) alignment with existing CMS methodologies, (3) feasibility, (4) fairness and risk adjustment, (5) comparability, and (6) actionability.

TEP Feedback

- The TEP unanimously approved the TEP Charter without any modifications.

## Price Standardization

CORE Presentation to the TEP

- CORE presented the rationale for price standardization and reviewed how the Medicaid TCOC measure will aggregate spending from the beneficiary level to the provider and state levels, and be reported as per member per month. Since the measure is intended to compare utilization across providers and states, CORE explained differences in state payment rates may obscure underlying utilization patterns and therefore warrant consideration of a price standardization methodology.
- CORE noted that Medicare price-standardization methodologies cannot be directly applied to Medicaid because Medicaid lacks a national fee schedule, covers a broader range of services (including LTSS, HCBS, and other Medicaid-specific services that often lack Medicare analogs), and relies on state-specific payment structures and managed care arrangements.
- CORE evaluated five potential approaches (see Table 2) to price standardization against the following criteria:
    - Conceptual alignment with the measure objective of isolating utilization from payment variation; and
    - Medicaid applicability and implementation feasibility, given the structure and limitations of T-MSIS data.

**Table 2: Price standardization approaches evaluated for the Medicaid TCOC measure**

| Approach | Description | Assessment |
|---|---|---|
| 1. Actual Medicaid payments | Uses observed Medicaid payments without adjustment for state-specific reimbursement differences | Preserves actual spending but does not isolate utilization from payment variation |
| 2. T-MSIS weights | Uses T-MSIS-derived weights to standardize relative service values rather than observed payments | May reduce some payment variation but is dependent on underlying data quality and service comparability |
| 3. Medicare-based standardization | Applies Medicare pricing methodologies and standardized rates where Medicare equivalents exist | Conceptually strong and identified by CORE as the **runner-up approach**, but limited by incomplete applicability to Medicaid-specific services and populations |
| 4. Medicaid fee schedule repricing | Reprices services using Medicaid fee schedules rather than observed payment | More directly reflects Medicaid service structures but presents implementation challenges due to variation in state fee schedules and payment methodologies |
| 5. National Medicaid average prices | Applies nationally standardized Medicaid average prices for services across states | Identified by CORE as the **frontrunner approach** because it aligns with Medicaid populations and service coverage while remaining operationally feasible using available T-MSIS data |

- CORE posed these questions to the TEP and facilitated a round-robin discussion:
    - Do you agree the measure should isolate utilization by removing differences in state payment rates? If not, are there components of price that should be retained?
    - Are there any critical price standardization approaches missing from those presented?
    - Among the approaches presented, which offers the best balance between conceptual alignment and feasibility of implementation, given known Medicaid data constraints?
    - In considering the approaches presented, what key risks/limitations should be considered? Particularly given T-MSIS data constraints and service mix (e.g., LTSS, behavioral health) in specific care settings where feasibility may depend on the unit of standardization or the availability of existing CMS/commercial groupers.

TEP Feedback

*Need for Price Standardization (question 1)*

- Fourteen of 15 TEP members supported price standardization. One TEP member did not comment on the issue.
    - Many TEP members emphasized price standardization alone would not fully address important differences across states, including variation in workforce capacity, rurality, infrastructure, managed care arrangements, benefit design, waiver programs, eligibility pathways, and behavioral health service availability.
    - Some TEP members recommended supplementing price standardization with additional approaches, such as risk stratification, adjustment for state-level contextual factors, or tiered standardization methodologies, to improve comparability across states.

*Preferred Approach (Questions 2 and 3)*

National Medicaid Average Prices received the broadest support among TEP members (9 of 15). In addition, six TEP members expressed support for, or interest in exploring, a hybrid methodology. These positions were not mutually exclusive, and several TEP members supported both approaches.

- National Medicaid average prices**:** Supporters of the national Medicaid average prices approach acknowledged its alignment with Medicaid populations, inclusion of the full range of Medicaid-covered services – including LTSS and HCBS – and relative feasibility using available T-MSIS data. Two of these TEP members also suggested a hybrid methodology may warrant further exploration, while two others emphasized the importance of evaluating reimbursement variation, data quality, and state-level differences before operationalization.
    - TEP members identified concerns specifically relevant to implementing the national Medicaid average prices approach. These concerns included variability in T-MSIS data quality and encounter completeness, inconsistencies in managed care reporting practices, potential bias arising from low-volume or poorly reported services, variation in data quality across states and over time, and the possibility that state-level differences in workforce capacity, infrastructure investment, and service availability could affect comparability and distort average price calculations.
- Hybrid Medicare & Medicaid approach (novel approach suggested by TEP)**:** Six TEP members supported exploring a hybrid methodology that combines Medicare-based pricing with Medicaid-specific pricing for services lacking Medicare analogs. Supporters viewed the hybrid approach as a potential means of balancing the stability and familiarity of Medicare-based pricing with Medicaid-specific service coverage. Three of these TEP members appeared to prefer

the hybrid approach over national Medicaid average prices, citing concerns regarding data quality, comparability, and the ability to establish stable Medicaid-specific prices for certain services. TEP members also acknowledged significant implementation challenges, including the complexity of maintaining two pricing systems and reconciling Medicare and Medicaid pricing methodologies.

- Medicare-based standardization**:** Three TEP members raised concerns regarding Medicare-based standardization as a standalone approach. These concerns included misalignment with Medicaid populations, limited applicability to Medicaid-specific services, and the potential exclusion of key behavioral health, LTSS, HCBS, habilitative, and community-based services that are central to the Medicaid benefit structure. One TEP member recommended Medicaid fee schedule repricing as a more appropriate alternative to Medicare-based standardization, while also acknowledging the practical difficulty of harmonizing state Medicaid fee schedules.

*Cross-Cutting Risks and Considerations (Question 4)*

- Data quality and completeness emerged as one of the most frequently cited implementation concerns across approaches. TEP members highlighted variability in T-MSIS data quality across states, incomplete encounter data, inconsistencies in reporting capitated services and zero-dollar claims, and known limitations in LTSS and behavioral health data.
- TEP members emphasized structural differences across states – including Medicaid program design, benefit coverage, delivery systems, workforce capacity, rurality, infrastructure, waiver programs, and access constraints – may limit comparability even after price standardization.
- Several TEP members noted that utilization and price are not fully separable because reimbursement levels influence provider participation, access to care, service availability, and utilization patterns. Two TEP members specifically questioned whether the proposed methodology reflects a true TCOC measure or a price-standardized utilization construct and recommended clearly defining the measure's intended purpose. These members noted that combining utilization and price effects within a single measure may reduce interpretability and limit the ability to generate actionable insights.
- Additional concerns raised across approaches included variability in service coding and definitions, incomplete capture of social, habilitative, community-based, and other non-traditional services, managed care carve-outs, waiver programs, capitation, value-based payment arrangements, and integrated behavioral health activities that may not be fully reflected in claims data.

## Measure Cohort & Data Source

CORE Presentation to the TEP

- CORE described the proposed measure cohort as adult Medicaid beneficiaries ages 18 and older, including dual eligibles, with Medicaid spending limited to the Medicaid portion of coverage. CORE noted member months will be based on enrollment during the month, including partial-month enrollment and operationally, the cohort will include beneficiaries attributed or assigned to participating IBH Model providers within participating states.
- CORE reviewed that the primary data source for the measure is T-MSIS including coverage across the full continuum of care relevant to this measure and covers both FFS claims and managed care encounters. Key T-MSIS limitations are variation in data completeness across states, differences in encounter reporting practices, and timing and submission variability across states.
- CORE posed the following discussion questions to the TEP and facilitated an open discussion:
    - Which beneficiary subpopulations are likely to make a Medicaid TCOC measure non-comparable across Practice Participants and/or states? (e.g., partial-year enrollment, duals, LTSS-heavy populations)
    - Which of these subpopulations are true comparability problems versus expected case-mix differences?
    - How might known T-MSIS data limitations systematically bias results across states or subpopulations, and how can we account for them?
    - What validation checks or benchmarks would strengthen confidence in findings?

TEP Feedback

*Beneficiary Subpopulations (Question 1)*

- Dual-eligible beneficiaries were the most frequently cited comparability concern, identified by seven TEP members. Members noted duals receive a substantial portion of their acute and specialty care through Medicare rather than Medicaid, complicating attribution of costs and limiting comparability with Medicaid-only populations. Additional complexity was noted for Veterans Affairs-affiliated duals, where overlapping coverage may introduce measurement gaps and unintended incentives. Recommendations varied and included exclusion from certain analyses, separate evaluation, stratification, and risk adjustment.
- Four TEP members highlighted partial-year enrollment and Medicaid churn as significant challenges for attribution and cost measurement. Members noted intermittent enrollment complicates attribution of services and costs, particularly when beneficiaries cycle in and out of coverage. They also noted more frequent redetermination cycles may further exacerbate these challenges.
- TEP members identified several high-need populations as both important to include and challenging to compare, including individuals with serious mental illness (SMI), serious and persistent mental illness (SPMI), substance use disorders (SUD), homelessness, rural residence, and co-occurring physical and behavioral health conditions. Populations with intellectual and developmental disabilities (IDD) and autism were also identified as warranting consideration because of potentially distinct utilization and spending patterns. While members noted these populations may contribute to variation in utilization and spending, several members also

emphasized that many of these characteristics may reflect expected case-mix differences that could be addressed through risk adjustment or stratification rather than exclusion.

- Two TEP members identified LTSS-heavy populations and waiver participants as major sources of variation because of differences in program design, service availability, and spending across states. Two TEP members also highlighted Applied Behavior Analysis (ABA) services as a rapidly growing and highly variable expenditure category that may disproportionately influence cost measures. Additional discussion reflected concern that ABA utilization and spending vary substantially across states and markets.
- One TEP member raised concerns regarding undocumented populations because state eligibility policies vary substantially. One TEP member also identified American Indian and Alaska Native (AIAN) populations as a potential comparability challenge because Indian Health Service (IHS) utilization may not be consistently captured in Medicaid claims data.

*Distinguishing True Comparability Issues vs. Expected Case-Mix Differences (Question 2)*

- TEP members emphasized the importance of distinguishing between true comparability limitations and appropriate variation due to case mix. Dual eligibility, partial-year enrollment and churn, state-level eligibility and coverage policies, incomplete or inconsistent data capture, and variation in service definitions and coding practices were generally viewed as comparability challenges that may limit valid comparisons across providers or states.
- In contrast, TEP members generally viewed clinical complexity, behavioral health diagnoses (e.g., SUD, SMI/SPMI), chronic conditions (e.g., ESRD, CKD, and sickle cell anemia), social risk factors (e.g., housing instability), and eligibility categories (e.g., expansion adults vs. disability-based eligibility groups) as appropriate case-mix differences that should be addressed through risk adjustment or stratification rather than exclusion. Several members cautioned that excluding high-need populations – including dual-eligible beneficiaries, individuals with SMI, and individuals with SUD – could undermine the measure's relevance to the IBH Model by removing populations central to the model's target population.

*T-MSIS Data Limitations (Question 3)*

- TEP members consistently identified T-MSIS data limitations as a major source of potential bias. Frequently cited concerns included incomplete or inconsistent encounter data, variation in managed care reporting practices, inconsistent reporting of capitated services and zero-dollar claims, and differences in the inclusion of LTSS and behavioral health services.
- TEP members also highlighted gaps in the capture of certain populations and services, including underreporting of IHS services for AIAN beneficiaries, inconsistent coding of non-traditional services such as peer support, community health workers, housing stabilization, and community-based interventions, and limited capture of social determinants of health despite their potential influence on utilization and spending.
- Additional concerns included variation in data quality and completeness across states and over time, coding and classification challenges that may obscure interpretation of utilization and spending, and differences in payment structures, including capitation, Medicaid's role as a secondary payer, and value-based payment arrangements.
- To mitigate these risks, TEP members recommended conducting sensitivity analyses to assess the impact of data limitations, excluding or flagging states with unreliable data, and performing supplemental analyses to evaluate variation in reporting practices. One TEP member also

encouraged continued exploration of validation strategies and targeted sensitivity analyses for dual-eligible beneficiaries, partial-year enrollment, and variation in T-MSIS data quality across states.

*Validation Checks and Benchmarks to Strengthen Confidence (Question 4)*

TEP members identified several strategies to improve confidence in measure results through validation and benchmarking approaches:

- Utilization-based benchmarking:
  - Compare utilization patterns across states and populations as an initial step.
  - Assess whether utilization distributions align with clinical expectations.
  - Use utilization as a baseline to detect anomalies in cost patterns.
- Data quality and completeness checks:
  - Evaluate completeness of encounter data across service categories and states.
  - Identify outlier states with unusually low or high reporting rates.
  - Assess consistency and stability in data over time.
- Cohort sensitivity analyses:
  - Evaluate the impact of including versus excluding dual-eligible beneficiaries.
  - Assess alternative enrollment thresholds and minimum exposure periods.
  - Evaluate the impact of including or excluding high-cost service categories and populations, such as ABA services, LTSS, and waiver participants.
- Benchmark comparisons:
  - Compare results against appropriate external benchmarks (e.g., CMS-64, where feasible and interpreted cautiously).
  - Conduct within-state comparisons, such as IBH participants versus non-participants.
  - Consider peer-group comparisons based on similar populations, program structures, or delivery-system characteristics.
- Attribution and matching validation:
  - Evaluate whether populations being compared are sufficiently comparable.
  - Consider matching approaches to construct comparable cohorts while acknowledging data limitations (e.g., incomplete housing-status data).
- Temporal validation:
  - Assess whether observed cost patterns align with expected clinical trajectories.
  - Account for the minimum period of model exposure needed to observe meaningful effects.
- Program penetration checks:
  - Assess proportion of the Medicaid population participating in the IBH Model.
  - Ensure comparisons are not made between small, targeted populations and broader state populations without appropriate adjustment.

## Next Steps

### Ongoing Measure Development

CORE greatly appreciates the enthusiastic and thoughtful contributions of the TEP. Based on this feedback, we will:

- Select the approach to price standardization the measure will utilize; and
- Develop a proposed approach to measure testing.

### TEP & Stakeholder Engagement

Prior to the second TEP meeting, CORE will continue to engage with the TEP for feedback and/or respond to questions via email as needed.

## Conclusion

In summary, TEP members strongly supported the need to remove variation in state payment rates as a foundational step toward measuring utilization by isolating utilization-related variation across providers and states. The national Medicaid average prices approach emerged as the preferred method due to its alignment, feasibility, and comprehensiveness, with a hybrid Medicare & Medicaid approach suggested as an alternative. Measure design requires careful consideration of data quality, structural differences across states, and service coverage. Articulating the measure's purpose will be critical to ensuring that the resulting metric is understandable, valid, and actionable.

Additionally, TEP feedback underscores that beneficiary comparability in a Medicaid TCOC measure is inherently complex, driven by both population heterogeneity and data limitations. While certain subpopulations – such as dual eligibles and partial-year enrollees – pose fundamental comparability challenges, many differences reflect appropriate variation in case mix and should be addressed through risk adjustment and stratification rather than exclusion. At the same time, T-MSIS data limitations present a significant risk of bias, particularly where data completeness varies systematically across states or service categories. To address these challenges, TEP members emphasized the importance of robust validation strategies, including utilization benchmarking, sensitivity analyses, and data quality assessments. Ultimately, ensuring the validity and interpretability of the TCOC measure will require a balanced approach that combines methodological rigor, transparent assumptions, and ongoing validation.

TEP feedback will inform CORE's revisions to the Medicaid TCOC measure, risk model development, and testing strategy. CORE will continue to engage and seek input from the TEP throughout measure development.

## Appendix A. CORE Measure Development Team

**Table 3: Center for Outcomes Research and Evaluation (CORE) Team Members**

| Name | Team Role |
|---|---|
| **Faseeha Altaf, MPH** | Project Lead |
| **Leianna Dolce, BS, PMP** | Project Coordinator |
| **Valery Danilack-Fekete, PhD, MPH** | Project Director |
| **Erica Norton, BS** | Contract Manager |
| **Jennifer Falcone, BA** | Project Manager |
| **Yongfei Wang, MS** | Analyst |
| **Li Qin, PhD** | Analyst |
| **Shu-Xia Li, PhD, MS** | Analytic Director |

## Appendix B. TEP Meeting Schedule

**TEP Meeting #1:**

Thursday, May 21, 2026 – 12:00-1:00PM EST (Teleconference held via Microsoft Teams)

**TEP Meeting #2:**

To be determined; anticipated for Fall 2026