2025 Pre-Rulemaking Measure Review
Preliminary Assessment

MUC ID	Title
MUC2025-055	Hospital 30-Day, All-Cause, Risk-Standardized Readmission Rate (RSRR) Following Sepsis Hospitalization
Measure Steward & Developer	**Proposed CMS Programs**
Centers for Medicare & Medicaid Services (CMS)	Hospital Inpatient Quality Reporting (IQR) Program Link: Hospital Inpatient Quality Reporting (IQR) Program Hospital Readmissions Reduction Program Link: Hospital Readmissions Reduction Program

Measure Overview
Rationale: This measure will support hospital efforts to further optimize quality of care for patients with sepsis, particularly the quality of transitional care, by providing a comprehensive assessment of post-discharge events. The measure will also provide detailed information about post discharge readmission rates. The measure will incentivize improved transitions of care, including easy-to-understand discharge summary and discharge instructions, medication reconciliation, and coordinated post-discharge care.
CMS-provided program rationale: Sepsis is a leading cause of death in hospitals. Each year, according to the Centers for Disease Control and Prevention (CDC), at least 1.7 million adults in the U.S. develop sepsis, and at least 350,000 die as a result. It is also one of the main reasons for hospital readmissions in the U.S.
Description: The measure estimates a hospital-level 30-day, all-cause, risk-standardized readmission rate (RSRR) for patients aged 65 and older discharged from the hospital with a principal diagnosis of sepsis including post-procedural sepsis. Readmission is defined as unplanned readmission for any cause within 30 days of the discharge date for the index admission. Readmissions are classified as planned and unplanned by applying the planned readmission algorithm. CMS will report the measure for patients who are 65 years or older and enrolled in fee-for-service (FFS) Medicare or Medicare Advantage (MA) and are hospitalized in non-federal short-term acute care hospitals.
Measure background: New measure never reviewed by the Measure Applications Partnership (MAP) workgroup or PRMR; never used in a Medicare program.
Numerator: The measure includes unplanned acute care readmissions for any cause within 30 days after discharge of the eligible index hospitalization of sepsis. **Exclusions:** This measure excludes admissions that are planned and may occur within 30 days of discharge from the hospital. Only an unplanned inpatient admission to a short-term acute care hospital can qualify as a readmission. Planned readmissions, which are generally not a signal of quality of care, are not considered readmissions in the measure outcome as defined below. The measure uses a planned readmission algorithm to determine admissions that qualify as a planned readmission. The planned readmission algorithm is a set of criteria for classifying readmissions as planned using Medicare claims and encounters. The algorithm identifies admissions that are typically planned and may occur within 30 days of discharge from the hospital.

Version 1.0 | December 2025 | *The analyses upon which this publication (or document) is based were performed under Contract Number 75FCMC23C0010, entitled, "National Consensus Development and Strategic Planning for Health Care Quality Measurement," sponsored by the Department of Health and Human Services, Centers for Medicare & Medicaid Services. Restricted:* Use, duplication, or disclosure is subject to the restrictions as stated in Contract Number 75FCMC23C0010 between the Government and Battelle.

Measure Overview
The planned readmission algorithm has three fundamental principles: • A few specific, limited types of care are always considered planned (transplant surgery, maintenance chemotherapy/ immunotherapy, rehabilitation); • Otherwise, a planned readmission is defined as a non-acute readmission for a scheduled procedure; and, • Admissions for acute illness or complications of care are never planned.
Denominator: The target population for this measure is Medicare FFS beneficiaries and MA patients aged 65 years and older hospitalized for sepsis at non-federal short-term acute care hospitals and who are discharged alive. The cohort includes hospital admissions with a discharge diagnosis of sepsis (index admission) for patients with a continuous 12-month Medicare enrollment period prior to the index admission. **Exclusions:** This measure excludes index admissions for patients who meet any of the following exclusion criteria: • Age < 65 at time of index admission; • In-hospital mortality during index admission; • Admissions resulting in transfers-out (as they are counted for the hospital that ultimately discharges the patient); • Admissions during which patients leave hospital against medical advice (AMA); • Admissions for patients without at least 30 days post-discharge enrollment in Medicare FFS and MA; • Admissions resulting in patients discharged to hospice; • Sepsis admissions captured in the pneumonia readmission measure; • Those with additional sepsis admissions within 30 days of an index admission (because they are not considered as index admissions); and • With a secondary diagnosis code of COVID-19 coded as present on admission (POA) on the index admission claim. **Note:** As the years of data used for measure development include data CMS has determined were impacted by the COVID-19 pandemic, any hospitalizations with a principal diagnosis code of COVID-19 or with a secondary diagnosis code of COVID-19 coded as POA on the index admission claims were not included in the measure cohort. However, this exclusion will be removed prior to measure's program implementation since the data will no longer include the COVID-19 public health emergency period. **Exceptions:** N/A
Substantive changes from prior version (if applicable): N/A

Measure type: Outcome	**Measure is a composite:** No **Measure is digital and/or an eCQM:** No **Measure is a paired or group measure:** No
Level of analysis: Facility	**Data source(s):** Digital-Administrative systems: Administrative Data (non-claims)

Measure Overview	
	Digital-Administrative systems: Claims Data
Care setting(s): Hospital inpatient acute care facility	**Risk adjustment or stratification:** Yes, risk adjustment.
CBE endorsement status: Under Endorsement Review	**CBE endorsement history:** Submitted for Fall 2025 cycle.
Is measure currently used in CMS programs? No	**Measure addresses statutorily required area?** No

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Evaluation

Meaningfulness

Importance	
Type of evidence:	Empirical data, Peer-Reviewed Original Research, Peer-Reviewed Systematic Review [MUC Entry/Review Information Tool **(**MERIT) Submission Form]
Importance: The review of published literature and empiric data provided by the developer in submission materials underscore the importance of a hospital sepsis readmission measure by demonstrating that 30-day readmissions following sepsis hospitalization are common (17-26%) and often preventable, contributing to poor patient outcomes and substantial health care costs. Sepsis survivors face elevated risks of complications, including infection, cognitive impairment, and functional decline, which can be mitigated through targeted post-discharge interventions. The measure addresses a clear gap in current quality reporting and offers an opportunity to improve care transitions, reduce avoidable readmissions, and enhance long-term outcomes. Empirical studies and a systematic review support the measure's relevance, and its implementation could drive improvements in hospital practices, care coordination, and patient safety. Patients on the technical expert panel (TEP) for this measure strongly agreed that the measure, as specified, is meaningful and generates information that is valuable for informing care decisions. This unanimous strong agreement underscores the perceived relevance and importance of the measure from the patient and caregiver standpoint.	
Rating: Met	

Conformance
Measure alignment with conceptual intent: The intent of the sepsis readmission measure is to improve the quality of care and care transitions for patients hospitalized with sepsis by providing a comprehensive assessment of post-discharge events, including detailed readmission rates. By incentivizing practices to provide clear discharge instructions, medication reconciliation, and coordinated follow-up care, the measure aims to reduce preventable readmissions and enhance patient outcomes. The measure's numerator, denominator, and exclusions are clearly defined and directly support the intent of this measure. The numerator includes unplanned acute care readmissions for any cause within 30 days after discharge of the eligible index hospitalization of sepsis among the denominator population of Medicare FFS beneficiaries and MA patients aged 65 years and older hospitalized for sepsis at non-federal short-term acute care hospitals and who are discharged alive. This measure aligns with the Hospital Inpatient Quality Reporting Program objective to improve the quality of care that hospitals provide and to distribute clearly defined and objective data about hospital performance as well as the Hospital Readmissions Reduction Program's objective of improving communication and care coordination efforts to better engage patients and caregivers on post-discharge planning.
Rating: Met

Feasibility	
eCQM feasibility testing/analysis conducted:	No, not an eCQM
Feasibility: The data elements for this measure are not captured in structured electronic fields and do not align with USCDI-defined data standards, as noted in the measure submission form. A claims-based measure for clinical quality is often highly feasible because it relies on routinely collected administrative data, which is already available across health care systems and does not require additional data entry or clinical abstraction. This allows for broad implementation, consistent data capture, and lower operational burden compared to chart-based measures. However, feasibility concerns include limitations in clinical detail, potential inaccuracies in coding, and challenges in risk adjustment due to lack of granular patient-level information.	
Rating: Met	

Validity	
Validity testing method(s):	Face validity; empiric validity [MERIT submission form; Supplemental Materials]
Testing level(s):	Facility
Was this measure tested in the same target population as the CMS program?	Yes
Validity: Thirteen subject matter experts, patients, and caregivers on the TEP voted on the face validity of the sepsis readmission measure. Twelve of respondents agreed the measure could distinguish hospital performance. Only one TEP member disagreed, noting concern with the model performance statistics and potential influence of confounders outside a hospital's control that may correlate with worse performance. Empiric validity was evaluated by examining correlations between the measure and components of CMS's Overall Hospital Star Ratings, including readmission, summary, and patient experience scores. As hypothesized, the measure showed statistically significant negative correlations with the Readmission Group Score (r = -0.35), Summary Score excluding readmissions (r = -0.25), and Patient Experience Group Score (r = -0.21), supporting its validity. These results demonstrate that the measure aligns with existing indicators of hospital quality and is capable of differentiating performance across institutions.	
Threats to validity: Measure developers address potential threats to measure validity through use of a risk adjustment model. The risk adjustment approach for the sepsis readmission measure incorporates key patient-level variables, including functional status, demographics, clinical conditions, and payer type (e.g., MA). The results of risk model performance suggest the model adequately accounts for differences in patient case mix, supporting its use for fair comparisons across hospitals.	
Rating: Met	

Reliability	
Reliability testing method(s):	Random Split-Half Correlation
Testing level:	Facility
Reliability discussion: The developer assessed the reliability of the sepsis readmission measure using split-half methodology, which evaluates consistency by comparing scores from two randomly divided halves of hospital data. To ensure accuracy, the process was repeated multiple times and adjusted for sample size using the Spearman-Brown formula. In collaboration on this PA, the measure developer provided the additional context that they calculated reliability results using 2 years of data (2022-2023) from 3,053 facilities with at least 25 admissions. The developer provided the minimum, maximum, median, and 25th and 75th percentiles. Among hospitals with at least 25 admissions, the minimum reliability was 0.205, the median reliability was 0.682, and the maximum reliability was 0.986. Reliability results reported by the developer show that 69% of accountable entities met the split-half reliability threshold of ≥ 0.60.	
Additional reliability analyses: No additional analyses were conducted.	
Rating: Met	

Reliability Table

The following table was provided by the measure developer to demonstrate reliability estimates by decile.

Table 1. MUC2025-055 Accountable Entity-Level Reliability Estimate (January 1, 2022-December 31, 2023)

-	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Mean Reliability	0.682	0.205	0.254	0.384	0.521	0.642	0.727	0.782	0.826	0.862	0.894	0.932	0.986
Mean Score	18.085	18.107	17.944	17.984	17.939	18.037	18.064	18.155	18.074	18.177	18.264	18.21	20.756
Number of Entities	3,053	21	312	296	309	305	306	302	308	305	306	304	1
Number of Persons/ Encounters/ Episodes	1,315,690	525	10,421	18,064	33,027	53,529	79,658	105,855	142,821	186,672	253,832	431,811	6,769

Usability	
Usability considered in application:	Yes, the submission materials briefly discuss the measure's usability within relevant programs.
Usability discussion: This measure has high usability in both the Hospital IQR and Readmission Reduction programs. It provides a standardized, claims-based approach to identifying unplanned 30-day readmissions following sepsis hospitalization, enabling hospitals to monitor performance and target improvement efforts. By highlighting post-discharge outcomes, the measure supports interventions such as enhanced discharge planning, medication reconciliation, and coordinated follow-up care. Its alignment with existing data systems and public reporting thresholds makes it feasible to implement, while its focus on preventable readmissions helps hospitals prioritize high-impact strategies to improve patient outcomes and reduce costs. The developer did not identify any unintended consequences during measure development or model testing. However, they note that they are committed to monitoring this measure's use and assessing potential unintended consequences over time, such as the inappropriate shifting of care, increased patient morbidity and mortality, and other negative unintended consequences for patients.	
Rating: Met	

Appropriateness of Scale

Appropriateness of Scale	
Similar or related measures in program(s):	None
Measure balance, burden, and value across target populations/measured entities: This measure offers meaningful benefits across facilities by enabling standardized tracking of post-discharge outcomes and identifying opportunities to reduce preventable readmissions. However, the burden may vary depending on hospital resources, infrastructure, and patient populations. Facilities with robust care coordination programs or resources may find implementation easier and more beneficial, while those with limited staffing or technical capacity may face challenges in intervention development. Additionally, hospitals serving more populations that have more comorbidities or challenges accessing care may experience higher baseline readmission rates, which could affect performance unless adequately adjusted for in the model and recalibrated over time as the measure matures. While a condition-related measure, Severe Sepsis and Shock: Management Bundle, in Hospital IQR (SEP-1) assesses early and timely sepsis treatment, this Sepsis Readmission measure focuses on discharge planning and coordination of post-discharge ambulatory care. **Considerations for the committee:** Based on clinical and professional experience, the committee should consider the distribution of benefit and risks/burdens of the measure within the proposed program population.	

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Time-to-Value Realization

Time-to-Value Realization	
Plan for near- and long-term impacts after implementation:	None specified

Measure implementation impacts over time: While the measure developer briefly mentions potential outcomes for their measure to improve care transition quality and patient outcomes in the long-term, there may be need for further examination of near- and long-term impacts of this measure after implementation across provider and patient populations.

Considerations for the committee:

- What are the potential near- and long-term impacts of this measure on measured entities, proposed CMS programs, and patient populations?
- Will benefits and burdens associated with this measure be realized within an appropriate implementation time frame?
- How will this measure mature through revisions in the future if added to these programs' measure sets?

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