

2025 Pre-Rulemaking Measure Review Preliminary Assessment

MUC ID	Title
MUC2025-031	Excess Days in Acute Care (EDAC) after Hospitalization for Heart Failure (HF)
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

Measure Overview
Rationale: The goal of this measure is to improve patient outcomes. Measurement of patient outcomes allows for a broad view of quality of care that encompasses more than what can be captured by individual process-of-care measures. Safely transitioning patients from hospital to home requires a complex series of tasks which would be cumbersome to capture individually as process measures: timely and effective communication between providers, prevention of and response to complications, patient education about post-discharge care and self-management, timely follow-up, and more. Suboptimal transitions contribute to a variety of adverse events post-discharge, including emergency department (ED) evaluation, need for observation, and readmission. This MUC submission includes an updated version of the HF EDAC measure currently reported in the Hospital Inpatient Quality Reporting (Hospital IQR) program. The updates include the addition of Medicare Advantage (MA) beneficiaries to the cohort, counting ED visits as 1 day and observation stays in rounded hours, using individual ICD-10 codes for risk adjustment, and adopting a binomial model for estimating days in acute care.
CMS-provided program rationale: Excess days in acute care after a hospitalization is an issue that affects patient outcomes and impacts the quality of care provided to patients. Measuring and reporting excess days in acute care provides transparency for consumers and informs health care providers about opportunities to improve care, strengthen incentives for quality improvement, and ultimately improve the quality of care (including better inpatient management of diabetes as well as better peri-discharge care quality) received by Medicare patients.
Description: This measure estimates days spent in acute care within 30 days post discharge from an inpatient hospitalization for heart failure (HF). The acute care outcomes include 1) Emergency Department (ED) visits, 2) observation stays (OBSs), and 3) unplanned readmissions. Unplanned readmissions are defined using the planned readmission algorithm (PRA). ED visits are counted as 1 day and OBSs are counted by hours and rounded up to 1 day. CMS annually reports the measure for patients who are 65 years or older and enrolled in fee-for-service (FFS) Medicare or Medicare Advantage (MA) and hospitalized in non-federal hospitals or Veterans Health Administration (VA) facilities.
Measure background: Measure currently used in a Medicare program, but the measure is undergoing substantive change.
Numerator: The outcome of the measure is a count of the number of days the patient spends in acute care within 30 days of discharge from an eligible index HF hospitalization. We define days in acute care as days spent in an ED, or an observation stay, or admitted as an unplanned readmission for any cause to a short-term acute care hospital, within 30 days from the date of discharge from the index HF

Measure Overview	
hospitalization.	
Exclusions: N/A	
Denominator: To be included in the measure cohort used in public reporting, patients must meet the following inclusion criteria: Have a principal discharge diagnosis of HF; Enrolled in Medicare FFS Part A and Part B or MA for 12-months prior to the date of admission and enrolled in Part A or MA during the index admission. [For VA beneficiaries hospitalized in VA hospitals, there are no Medicare FFS or MA enrollment requirements. For VA beneficiaries hospitalized in non-VA hospitals, they must be concurrently enrolled in Medicare FFS Part A or MA at the time of the index admission, to be eligible for cohort inclusions, but the 12-month Part A and B or MA enrollment prior to admission is not required]; Aged 65 or older; Discharged alive from a non-federal short-term acute care hospital or VA hospital; and Not transferred to another acute care facility. Exclusions: The measure excludes index hospitalizations that meet any of the following exclusion criteria: Without at least 30 days of post-discharge enrollment in Medicare FFS or MA (in the case of patients who are not VA beneficiaries); Discharged against medical advice; HF admissions within 30 days of discharge from a prior HF index admission; With a procedure code for left ventricular assist device (LVAD) implantation or heart transplantation either during the index admission or up to 12 months prior to the index admission. Exceptions: N/A	
Substantive changes from prior version (if applicable): Integration of MA beneficiaries into the cohort, modifying performance period from 3 years to 2 years, and changes to outcome weighting (ED visits counted as 1 day and observation stays counted by hours and rounded up to 1 day). Updates to this measure also include non-substantive changes using individual ICD-10 codes for risk adjustment and adopting a binomial model for estimating days in acute care.	
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) - Digital-Administrative systems: Claims Data
Care setting(s): Hospital inpatient acute care facility	Risk adjustment or stratification: Yes, risk adjusted.
CBE endorsement status: Endorsed	CBE endorsement history: Initial endorsement in 2016. Endorsed during maintenance review with All-Cause Admissions and Readmissions Committee in Spring 2021.

Measure Overview	
Is measure currently used in CMS programs? Hospital Inpatient Quality Reporting (IQR) Program	Measure addresses statutorily required area? No

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Evaluation

Meaningfulness

Importance	
Type of evidence:	Empirical data; Grey Literature; Peer-Reviewed Original Research; Peer-Reviewed Systematic Review [MUC Entry/Review Information Tool (MERIT) Submission Form]
Importance: The developer presents empirical data showing wide variability in days spent in acute care within 30 days after hospital discharge for patients with heart failure. Evidence from a literature review and standards of care review show hospitals can take interventional strategies to reduce days of acute care after discharge for patients with heart failure. Reducing the need for acute care post discharge in patients with heart failure aligns with national health priorities and demonstrates potential for improving outcomes. The importance of this measure was found sufficient during prior endorsement in 2021. The evidence supporting the importance of this measure was found to be sufficient during CBE endorsement review in 2021.	
Rating: Met; Prior CBE Endorsement	

Conformance	
Measure alignment with conceptual intent: This measure estimates days spent in acute care within 30 days post discharge from an inpatient hospitalization for HF. The numerator includes emergency department visits, observation stays, and unplanned readmissions. The denominator includes patients age 65 and older discharged from a hospital with a diagnosis of HF. The measure aligns with the Hospital Inpatient Quality Reporting Program goal of improving the quality of inpatient care.	
Rating: Met	

Feasibility	
eCQM feasibility testing/analysis conducted:	No, not an eCQM
Feasibility: Data for this measure come from administrative data and claims data. These data sources are standardized and widely available across care settings. The measure can be implemented without significant workflow changes. No major technical barriers were identified. The feasibility of this measure was found sufficiently demonstrated during CBE endorsement review in 2021.	
Rating: Met; Prior CBE Endorsement	

Validity	
Validity testing method(s):	Face Validity, Empiric Validity [MERIT Submission Form]
Testing level(s)	Facility
Was this measure tested in the same target population as the CMS program?	Yes
Validity: The developer assessed the empiric validity of the measure by comparing the correlations between the Heart Failure EDAC measure and components of the Overall Hospital Quality Star Rating, including the Readmission Group Score (with and without the Hospital-Wide Readmission measure), the Summary Score (with and without the entire Readmission Group), and the Patient Experience Group Score. Because the Heart Failure EDAC measure follows a lower-is-better scale while Star Rating measures follow a higher-is-better scale, the developer hypothesized a weak-to-moderate negative correlation between the Heart Failure EDAC measure and Star Rating-related measures. The Heart Failure EDAC measure showed negative correlations with the Star Rating Adjusted Readmission Group Scores (-0.256, $p < .0001$), the Star Rating Adjusted Summary Scores (-0.340, $p < .0001$), and the Star Rating Adjusted Summary Scores excluding the Readmission Measure Group Score (-0.185, $p < .0001$). These findings are consistent with expectations, reinforcing the relationship between lower Heart Failure EDAC scores and higher Star Ratings as indicators of better quality of care. The developer assessed the face validity of the measure score as an indicator of quality by surveying the technical expert panel (TEP) on their agreement on the following statement: the risk-standardized acute care days obtained from the measures as specified can be used to distinguish between better- and worse-quality hospitals. Eleven of the 12 members of the TEP agreed with the statement. However, three changes have been made to the measure since the TEP convened: the outcome weighting was simplified by assigning rounded times to observation stays and counting ED visits as 1 day, MA patients were added to the cohort, and the reporting period was shortened from 3 to 2 years. Testing in populations representative of the CMS program population supports the external validity of the measure. The validity of this measure was found sufficiently demonstrated during CBE endorsement review in 2021.	
Threats to validity: The developer considered threats to validity during measure development and testing. The measure is risk adjusted for patient functional status (frailty indicator), patient-level demographics (age), and patient-level health status and clinical conditions (case-mix adjustment, comorbidities, and severity of illness). The results of model discrimination testing and calibration using the c-statistic and examining predictive ability suggest that the model effectively differentiates excess days in acute care after hospitalization for heart failure levels and adequately adjusts for differences in patient characteristics. The measure is not recommended to be stratified.	
Rating: Met; Prior CBE Endorsement	

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Reliability	
Reliability testing method(s):	Random Split-Half Correlation [MERIT Submission Form]
Testing level:	Facility
Reliability discussion: The developer conducted permutation resampling to calculate the intraclass correlation coefficient (ICC) at the accountable entity level. The overall ICC for hospitals with at least 25 admissions was 0.831. When at least 70% of the entities have a reliability >0.6, a measure is considered capable of differentiating entities by quality of performance. During collaboration on this PA, the developer shared that they calculated reliability results using 2 years of data (2022-2023) from 3,268 facilities with at least 25 admissions. The developer also provided the minimum, maximum, median, and 25th and 75th percentiles. Among hospitals with at least 25 admissions, the minimum reliability was 0.823, the median reliability was 0.831 (IQR: 0.829-0.833), and the maximum reliability was 0.841. All facilities exceeded the recommended minimum reliability threshold of 0.6. The reliability of this measure was found sufficiently demonstrated during CBE endorsement review in 2021.	
Additional reliability analyses: No additional analyses were conducted.	
Rating: Met; Prior CBE Endorsement	

Usability	
Usability considered in application:	Yes, the submission materials briefly discuss the measure's usability within the current program.
Usability discussion: The measure is currently used in the Hospital Inpatient Quality Reporting Program and has demonstrated actionable insights for providers in the intended setting. The measure developer reported that they have not seen any unintended consequences from implementing the measure within the program. The developer briefly discussed usability implications of the substantive changes to this measure. The measure is highly usable from both clinical and patient perspectives. It captures all acute care events within 30 days of discharge—an adverse outcome for patients—and reflects the full post-discharge experience, including ED visits, observation stays, and readmissions. This broader scope, combined with updates like inclusion of Medicare Advantage beneficiaries and refined risk adjustment, makes the measure clinically meaningful, actionable for providers, and aligned with CMS goals to improve safety, reduce readmissions, and enhance care coordination. The use/usability of this measure was found sufficiently demonstrated during CBE endorsement review in 2021.	
Rating: Met; Prior CBE Endorsement	

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Appropriateness of Scale

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Similar or related measures in program(s):	Excess Days in Acute Care (EDAC) after Hospitalization for Pneumonia is a related measure in the Hospital IQR Program and Hospital Readmissions Reduction Program. Excess Days in Acute Care (EDAC) after Hospitalization for AMI is a related measure in the Hospital IQR Program and Bundled Payment for Care Improvement Advanced Model Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate Following Heart Failure (HF) Hospitalization is a related measure in the Hospital IQR Program and the Hospital Value-Based Purchasing Program. Hospital 30-Day, All-Cause, Risk-Standardized Readmission Rate (RSRR) Following Heart Failure (HF) Hospitalization is a related measure in the Hospital Readmission Reduction Program.
Measure balance, burden and value across target populations/measured entities: The measure is well-suited for use across diverse populations and care settings, with minimal burden and high value. While there are several similar measures in the program, there are no competing measures. The measure captures EDAC from ED visits and observation stays as well as readmissions. This represents an important construct to patients. The EDAC measures each capture excess days in acute care following hospitalizations for different conditions. The 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Heart Failure (HF) Hospitalization measure captures mortality outcomes. These measures complement one another to achieve program goals. Considerations for the committee: Based on clinical and professional experience, the committee should consider how different populations might benefit from use of the measure, and whether the measure will have the same impact in rural or low-resource settings.	

Time-to-Value Realization

Time-to-Value Realization	
Plan for near- and long-term impacts after implementation:	The submission materials briefly discuss near-term impacts.
Measure implementation impacts over time: From a patient perspective, days in acute care from any cause is an adverse event. The purpose of this measure is to encourage hospitals to collaborate with their communities to reduce days in acute care. The measure also supports CMS's goals of enhancing patient safety, reducing readmissions, and improving overall health care efficiency. Considerations for the committee: What are the potential near- and long-term impacts of this measure on measured entities, the Hospital IQR Program, and patient	

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Time-to-Value Realization

populations?

- Will benefits and burdens associated with this measure be realized within an appropriate implementation time frame?
- How will this measure continue to mature through revisions in the Hospital IQR Program?