



Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to sub criterion 1b).

Brief Measure Information

NQF #: 2882

Corresponding Measures:

De.2. Measure Title: Excess days in acute care (EDAC) after hospitalization for pneumonia

Co.1.1. Measure Steward: Centers for Medicare & Medicaid Services

De.3. Brief Description of Measure: This measure assesses days spent in acute care within 30 days of discharge from an inpatient hospitalization for pneumonia, including aspiration pneumonia or for sepsis (not severe sepsis) with a secondary discharge diagnosis of pneumonia coded in the claim as present on admission (POA) and no secondary diagnosis of severe sepsis coded as POA. This measure is intended to capture the quality of care transitions provided to discharge patients hospitalized for an eligible pneumonia condition by collectively measuring a set of adverse acute care outcomes that can occur post-discharge: emergency department (ED) visits, observation stays, and unplanned readmissions at any time during the 30 days post-discharge. In order to aggregate all three events, we measure each in terms of days. The Centers for Medicare & Medicaid Services (CMS) annually reports the measure for patients who are 65 years or older, are enrolled in Medicare fee-for-service (FFS), and are hospitalized in non-federal short-term acute care hospitals.

1b.1. Developer 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 ED evaluation, need for observation, and readmission.

Measures of unplanned readmission already exist, but there are no current NQF-endorsed measures for ED and observation stay utilization for this condition. It is thus difficult for providers and consumers to gain a complete picture of post-discharge outcomes. Moreover, separately reporting each of these outcomes encourages "gaming," such as re-categorizing readmission stays as observation stays to avoid a readmission outcome. By capturing a range of acute care events that are important to patients, we can produce a more complete picture of post-discharge outcomes that better informs consumers about care quality and incentivizes global improvement in transitional care.

S.4. Numerator Statement: 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 hospitalization with a principal diagnosis of pneumonia, including aspiration pneumonia or a principal diagnosis of sepsis (not severe sepsis) with a secondary diagnosis of pneumonia (including aspiration pneumonia) coded as POA and no secondary diagnosis of severe sepsis coded as POA. We define days in acute care as days spent in an ED, admitted to an observation unit, or admitted as an unplanned readmission for any cause within 30 days from the date of discharge from the index pneumonia hospitalization.

Additional details are provided in S.5 Numerator Details.

S.6. Denominator Statement: The target population for this measure is Medicare FFS beneficiaries aged 65 years and older hospitalized at non-Federal and VA acute care hospitals for PN.

The cohort includes admissions for patients discharged from the hospital with a principal diagnosis of pneumonia, including aspiration pneumonia or a principal diagnosis of sepsis (not severe sepsis) with a secondary diagnosis of pneumonia (including aspiration pneumonia) coded as POA and no secondary diagnosis of severe sepsis coded as POA and with continuous 12 months Medicare enrollment prior to admission. CMS publicly reports the measure for those patients 65 years and older who are Medicare

FFS or VA beneficiaries admitted to non-federal or VA hospitals, respectively.

Additional details are provided in S.7 Denominator Details.

S.8. Denominator Exclusions: The measure excludes index hospitalizations that meet any of the following exclusion criteria:

1. Without at least 30 days of post-discharge enrollment in Medicare FFS
2. Discharged against medical advice
3. Pneumonia admissions within 30 days of discharge from a prior pneumonia index admission

De.1. Measure Type: Outcome

S.17. Data Source: Claims, Enrollment Data

S.20. Level of Analysis: Facility

IF Endorsement Maintenance – Original Endorsement Date: Dec 09, 2016 **Most Recent Endorsement Date:** Dec 09, 2016

IF this measure is included in a composite, NQF Composite#/title:

IF this measure is paired/grouped, NQF#/title:

De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results? This measure is not formally paired with any measure; however, it is harmonized with a measure of hospital-level, all-cause, 30-day, risk-standardized readmission following pneumonia hospitalization.

1. Evidence, Performance Gap, Priority – Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. **Measures must be judged to meet all sub criteria to pass this criterion and be evaluated against the remaining criteria.**

1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form

[NQF_2882_PN_EDAC_Evidence_Spring2021_010521_FINAL-637541847359032278.docx](#)

1a.1 For Maintenance of Endorsement: Is there new evidence about the measure since the last update/submission?

Do not remove any existing information. If there have been any changes to evidence, the Committee will consider the new evidence. Please use the most current version of the evidence attachment (v7.1). Please use red font to indicate updated evidence.

Yes

1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- Disparities in care across population groups.

1b.1. Briefly explain the rationale for this measure (e.g., how the measure will improve the quality of care, the benefits or improvements in quality envisioned by use of this measure)

If a COMPOSITE (e.g., combination of component measure scores, all-or-none, any-or-none), SKIP this question and answer the composite questions.

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 ED evaluation, need for observation, and readmission.

Measures of unplanned readmission already exist, but there are no current NQF-endorsed measures for ED and observation stay utilization for this condition. It is thus difficult for providers and consumers to gain a complete picture of post-discharge outcomes. Moreover, separately reporting each of these outcomes encourages “gaming,” such as re-categorizing readmission stays as observation stays to avoid a readmission outcome. By capturing a range of acute care events that are important to patients, we can produce a more complete picture of post-discharge outcomes that better informs consumers about care quality and incentivizes

global improvement in transitional care.

1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis. *(This is required for maintenance of endorsement. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.*

We show below the distribution of pneumonia EDAC across the three most recent three-year reporting periods (July 1, 2016-June 30, 2019, July 1, 2015-June 30, 2018, and July 1, 2014-June 30, 2017) for all hospitals. For the most recent reporting period, the range of performance is -65.7 to 178.5 EDAC per 100 admissions, and the median EDAC is 1.3 per 100 admissions.

We provide the results below with the measure as specified, as requested in the instructions. However, we provide additional analyses removing VA admissions in section 4b1 below to allow for comparison across performance periods for evaluation of improvement.

Periods//YEAR1619//YEAR1518//YEAR1417
Number of Hospitals//4697//4597//4633
Number of Admissions//1374891//1354708//1386098
Mean(SD)//4.5(25.1)//4.4(24.8)//4.4(25.2)
Range(Min to Max)//-65.7 to 178.5// -56 to 271.6// -57.8 to 164.3
Minimum// -65.7// -56.0// -57.8
10th percentile// -23.9// -23.4// -23.9
20th percentile// -16.0// -15.6// -16.1
30th percentile// -9.9// -9.8// -10.0
40th percentile// -3.8// -4.0// -4.4
50th percentile// 1.3// 1.1// 0.7
60th percentile// 7.5// 7.0// 6.8
70th percentile// 13.9// 13.6// 13.9
80th percentile// 22.8// 22.5// 22.0
90th percentile// 36.3// 35.6// 35.7
Maximum// 178.5// 271.6// 164.3

We show below the distribution of pneumonia EDAC across the three most recent three-year reporting periods (2016-2019, 2015-2018, and 2014-2017) for hospitals with at least 25 admissions. The range of performance for the most recent reporting period (2016-2019) was -65.7 to 146 EDAC per 100 admissions; the median was 2.9 EDAC per 100 admissions.

Periods//YEAR1619//YEAR1518//YEAR1417
Number of Hospitals//4210//4126//4175
Number of Admissions//1368912//1349047//1380472
Mean(SD)//5(24.7)//4.7(24.1)//4.6(24.8)
Range(Min to Max)//-65.7 to 146// -56 to 166.1// -57.8 to 148.9
Minimum// -65.7// -56.0// -57.8
10th percentile// -23.8// -23.5// -24.0
20th percentile// -15.7// -15.3// -16.1
30th percentile// -9.4// -9.5// -9.7
40th percentile// -3.2// -3.5// -4.0
50th percentile// 2.9// 2.3// 1.6
60th percentile// 8.7// 8.0// 7.8
70th percentile// 14.9// 14.4// 14.3
80th percentile// 23.8// 23.0// 22.6
90th percentile// 36.7// 35.8// 36.2
Maximum// 146.0// 166.1// 148.9

1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.

N/A

1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability. *(This is required for maintenance of endorsement. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included.) For measures that show high levels of performance, i.e., “topped out”, disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.*

Distribution of 30-day Pneumonia EDAC by Proportion of Dual Eligible Patients:

Data Source: Medicare FFS claims, VA data, and Master Beneficiary Summary File (MBSF) data

Dates of Data: July 2016 through June 2019

Variation in EDAC across hospitals (with at least 25 cases) by proportion of patients with social risk//

Description of Social Risk Variable//Dual Eligibility

Quartile//hospitals in the first quartile for the proportion patients with of dual-eligible status //Hospitals in the fourth (highest) quartile for the proportion patients with of dual-eligible status

Social Risk Proportion(%)//q1:(0-14.4%)//q4:(30.2-97.3%)

of Hospitals//1052//1052

Maximum//146.0//125.3

90th percentile//31.1//53.1

75th percentile//16.8//31.2

Median//2.9//8.3

25th percentile//-11.7//-11.3

10th percentile//-23.6//-23.9

Minimum//-65.7//-52.3

Distribution of 30-day Pneumonia EDAC by Proportion of Patients with AHRQ SES Index Scores:

Data Source: Medicare FFS claims, VA data, and The American Community Survey (2013-2017) data

Dates of Data: July 2016 through June 2019

Variation in EDAC across hospitals (with at least 25 cases) by the facilities' proportion of patients in lower and upper social risk quartiles//

Description of Social Risk Variable //AHRQ SES Index

Social Risk Proportion within hospital(%)//q1:(0-7.5%)//q4:(33.5-100%)

of Hospitals//1044//1040

Maximum//87.9//123.4

90th percentile//25.6//44.7

75th percentile//10.4//22.4

Median//-3.4//6.0

25th percentile//-17.5//-11.9

10th percentile//-26.4//-23.1

Minimum//-49.7//-52.2

1b.5. If no or limited data on disparities from the measure as specified is reported in 1b.4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in 1b.4

N/A

2. Reliability and Validity—Scientific Acceptability of Measure Properties

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. **Measures must be judged to meet the sub criteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.**

2a.1. Specifications The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

De.5. Subject/Topic Area (check all the areas that apply):

Respiratory : Pneumonia

De.6. Non-Condition Specific(check all the areas that apply):

Care Coordination, Care Coordination : Readmissions, Care Coordination : Transitions of Care, Safety, Safety : Complications

De.7. Target Population Category (Check all the populations for which the measure is specified and tested if any):

Elderly, Populations at Risk

S.1. Measure-specific Web Page (Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)

<https://www.qualitynet.org/inpatient/measures/edac/methodology>

S.2a. If this is an eMeasure, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

This is not an eMeasure Attachment:

S.2b. Data Dictionary, Code Table, or Value Sets (and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)

Attachment Attachment: NQF_datadictionary_PN-EDAC_Spring2021.xlsx

S.2c. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

No, this is not an instrument-based measure Attachment:

S.2d. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

Not an instrument-based measure

S.3.1. For maintenance of endorsement: Are there changes to the specifications since the last updates/submission. If yes, update the specifications for S1-2 and S4-22 and explain reasons for the changes in S3.2.

No

S.3.2. For maintenance of endorsement, please briefly describe any important changes to the measure specifications since last measure update and explain the reasons.

N/A

S.4. Numerator Statement (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome) DO NOT include the rationale for the measure.

IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

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 hospitalization with a principal diagnosis of pneumonia, including aspiration pneumonia or a principal diagnosis of sepsis (not severe sepsis) with a secondary diagnosis of pneumonia (including aspiration pneumonia) coded as POA and no secondary diagnosis of severe sepsis coded as POA. We define days in acute care as days spent in an ED, admitted to an observation unit, or admitted as an unplanned readmission for any cause within 30 days from the date of discharge from the index pneumonia hospitalization.

Additional details are provided in S.5 Numerator Details.

S.5. Numerator Details *(All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)*

IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Outcome Definition

The measure counts ED treat-and-release visits, observation stays, and readmissions to any short-term acute care hospital for any cause within 30 days of the discharge date of the index pneumonia admission, excluding planned readmissions as defined below. Each ED treat-and-release visit is counted as one half-day (0.5 days). Observation stays are recorded in terms of hours and converted for the measure into half-days (rounded up). Each unplanned readmission day is counted as one full day (1 day). We count all eligible outcomes occurring in the 30-day period, even if they are repeat occurrences. Thus, an unplanned readmission that follows a planned readmission is still counted.

Rationale: From a patient perspective, days in acute care from any cause is an adverse event. In addition, making inferences about quality issues based solely on the documented cause of an acute care event is difficult. For example, a patient with pneumonia who develops a hospital-acquired infection may ultimately be readmitted for sepsis. In this context, considering the readmission to any acute care setting to be unrelated to the care that the patient received for pneumonia during the index admission would be inappropriate. Multiple events are counted in order to capture the full patient experience in the post-discharge period. Outcomes occurring within 30 days of discharge can be influenced by hospital care. The 30-day time frame is a clinically meaningful period for hospitals to collaborate with their communities to reduce days in acute care.

All eligible outcomes occurring in the 30-day period are counted, even if they are repeat occurrences. For example, if a patient returns to the ED three times on three different days, we count each ED visit as a half-day. Similarly, if a patient has two unplanned hospitalizations within 30 days, the days spent in each are counted. Therefore, the measure may include multiple ED visits, observation stays, and/or readmissions per patient. This approach is taken in order to capture the full patient experience in the post-discharge period. If a hospitalization or observation stay extends beyond the 30-day window, only those days within the 30-day window are counted.

The measure incorporates “exposure time” (the number of days each patient survives after discharge, up to 30). This exposure time is included to account for differential risk for EDAC after discharge among those patients who do not survive the full post-discharge period.

Planned Readmission Algorithm (Version 4.0)

The Planned Readmission Algorithm is a set of criteria for classifying readmissions as planned among the general Medicare population using Medicare administrative claims data. The algorithm identifies admissions that are typically planned and may occur within 30 days of discharge from the hospital.

The Planned Readmission Algorithm has three fundamental principles:

1. A few specific, limited types of care are always considered planned (transplant surgery, maintenance chemotherapy/immunotherapy, rehabilitation);
2. Otherwise, a planned readmission is defined as a non-acute readmission for a scheduled procedure; and
3. Admissions for acute illness or for complications of care are never planned.

The algorithm was developed in 2011 as part of the Hospital-Wide Readmission measure. In 2013, CMS applied the algorithm to its other readmission measures. In applying the algorithm to condition- and procedure-specific measures, teams of clinical experts reviewed the algorithm in the context of each measure-specific patient cohort and, where clinically indicated, adapted the content of the algorithm to better reflect the likely clinical experience of each measure’s patient cohort. For the CMS 30-day PN EDAC measure, CMS used the Planned Readmission Algorithm without making any changes. The Planned Readmission Algorithm is updated annually to ensure changes in coding are captured to maintain the algorithms relevance.

For more details on the Planned Readmission Algorithm, please see the report titled “Condition-Specific Measures Updates and Specifications Report Hospital-Level 30-Day Risk-Standardized Excess Days in Acute Care Measures for pneumonia, version 3.0” posted in data field S.1 or at

<https://www.qualitynet.org/inpatient/measures/edac/methodology>.

Definition of Emergency Department Visit and Observation Stay

We defined ED visits and observation stays using specified billing codes or revenue center codes identified in Medicare hospital outpatient claims and physician carrier claims. The codes that define ED visits and observation stays are in the attached Data Dictionary.

S.6. Denominator Statement *(Brief, narrative description of the target population being measured)*

The target population for this measure is Medicare FFS beneficiaries aged 65 years and older hospitalized at non-Federal and VA acute care hospitals for PN.

The cohort includes admissions for patients discharged from the hospital with a principal diagnosis of pneumonia, including aspiration pneumonia or a principal diagnosis of sepsis (not severe sepsis) with a secondary diagnosis of pneumonia (including aspiration pneumonia) coded as POA and no secondary diagnosis of severe sepsis coded as POA and with continuous 12 months Medicare enrollment prior to admission. CMS publicly reports the measure for those patients 65 years and older who are Medicare FFS or VA beneficiaries admitted to non-federal or VA hospitals, respectively.

Additional details are provided in S.7 Denominator Details.

S.7. Denominator Details *(All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

IF an OUTCOME MEASURE, describe how the target population is identified. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

To be included in the measure cohort used in public reporting, patients must meet the following inclusion criteria:

1. Principal diagnosis of pneumonia, including aspiration pneumonia; or principal discharge diagnosis of sepsis (not including severe sepsis), with a secondary discharge diagnosis of pneumonia (including aspiration pneumonia) coded as POA but no secondary discharge diagnosis of severe sepsis coded as POA.
2. Enrolled in Medicare FFS Part A and Part B for the 12 months prior to the date of the admission, and enrolled in Part A during the index admission, or those who are VA beneficiaries;
3. Aged 65 or over;
4. Discharged alive from a non-federal short-term acute care hospital; and,
5. Not transferred from another acute care facility.

Cohort codes are included in the attached Data Dictionary.

S.8. Denominator Exclusions *(Brief narrative description of exclusions from the target population)*

The measure excludes index hospitalizations that meet any of the following exclusion criteria:

1. Without at least 30 days of post-discharge enrollment in Medicare FFS
2. Discharged against medical advice
3. Pneumonia admissions within 30 days of discharge from a prior pneumonia index admission

S.9. Denominator Exclusion Details *(All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

The measure excludes index hospitalizations that meet any of the following exclusion criteria:

1. Without at least 30 days of post-discharge enrollment in Medicare FFS (in the case patients who are not VA beneficiaries), determined by examining the Medicare Enrollment Database (EDB).

Rationale: The 30-day outcome cannot be assessed in this group since claims data are used to determine whether a patient visited the ED, was placed under observation, or was readmitted.

2. Discharged against medical advice, identified using the discharge disposition indicator in claims data.

Rationale: Providers did not have the opportunity to deliver full care and prepare the patient for discharge.

3. Pneumonia admissions within 30 days of discharge from a prior pneumonia index admission, identified by comparing the discharge date from the index admission with subsequent admission dates.

Rationale: Additional pneumonia admissions within 30 days are excluded as index admissions because they are part of the outcome. A single admission is not considered both an index admission and a readmission for another index admission.

S.10. Stratification Information (Provide all information required to stratify the measure results, if necessary, including the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b.)

N/A. This measure is not stratified.

S.11. Risk Adjustment Type (Select type. Provide specifications for risk stratification in measure testing attachment)

Statistical risk model

If other:

S.12. Type of score:

Other (specify):

If other: Excess days in acute care (EDAC) per 100 discharges

S.13. Interpretation of Score (Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)

Better quality = Lower score

S.14. Calculation Algorithm/Measure Logic (Diagram or describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period for data, aggregating data; risk adjustment; etc.)

The measure estimates hospital-level 30-day all-cause EDAC following hospitalization for pneumonia using a random effects hurdle model. This model consists of the two-part logit/truncated Poisson model specifications for days in acute care and includes two random effects for hospitals – one for the logit part and one for the truncated Poisson part – with a non-zero covariance between the two random effects. This strategy accounts for within-hospital correlation of the observed outcome and accommodates the assumption that underlying differences in quality across hospitals lead to systematic differences in outcomes.

Specifically, CMS calculates EDAC, for each hospital, as the difference (“excess”) between a hospital’s predicted days and expected days per 100 discharges. “Predicted days” is the average number of days a hospital’s patients spent in acute care after adjusting for the risk factors (included in the attached data dictionary). “Expected days” is the average number of risk-adjusted days in acute care a hospital’s patients would have been expected to spend if discharged from an average performing hospital with the same case mix. We risk adjust the day count to account for age, gender, and comorbidities. The model used is appropriate for count data, and we incorporate exposure time to account for survival times shorter than 30 days. To be consistent with the reporting of the CMS 30-day AMI, HF, and pneumonia readmission measures, CMS multiplies the measure result by 100 such that the final EDAC measures represent EDAC per 100 discharges.

To assess hospital performance for each reporting period, we re-estimate the parameter estimates using the years of data in that period.

The random effects hurdle models are described fully in the original measure methodology report (Horwitz et al., 2016).

References:

1. Horwitz L, Wang C, Altaf F, et al. 2016. Excess Days in Acute Care after Hospitalization for Pneumonia; Version 1.0. Measure Methodology Report.
<https://www.qualitynet.org/inpatient/measures/edac/methodology>

S.15. Sampling (If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)

IF an instrument-based performance measure (e.g., PRO-PM), identify whether (and how) proxy responses are allowed.

N/A. This measure is not based on a sample or survey.

S.16. Survey/Patient-reported data (If measure is based on a survey or instrument, provide instructions for data collection and guidance on minimum response rate.)

Specify calculation of response rates to be reported with performance measure results.

N/A. This measure is not based on a sample or survey.

S.17. Data Source (Check ONLY the sources for which the measure is SPECIFIED AND TESTED).

If other, please describe in S.18.

Claims, Enrollment Data

S.18. Data Source or Collection Instrument (Identify the specific data source/data collection instrument (e.g. name of database, clinical registry, collection instrument, etc., and describe how data are collected.)

IF instrument-based, identify the specific instrument(s) and standard methods, modes, and languages of administration.

Data sources for the Medicare FFS measure:

1. Medicare Part A inpatient, Part B hospital outpatient claims and physician carrier claims data: This data source contains claims data for FFS inpatient and outpatient services including: Medicare inpatient hospital care, outpatient hospital services, as well as inpatient and outpatient physician claims for the 12 months prior to an index admission.

For development purposes, we obtained the Medicare Part B hospital and physician outpatient claims from the Chronic Condition Data Warehouse (CCW) 100% condition-specific datasets.

2. Medicare Enrollment Database (EDB): This database contains Medicare beneficiary demographic, benefit/coverage, and vital status information. This data source was used to obtain information on several inclusion/exclusion indicators such as Medicare status on admission as well as vital status. These data have previously been shown to accurately reflect patient vital status (Fleming et al., 1992).

Reference:

Fleming C, Fisher ES, Chang CH, Bubolz TA, Malenka DJ. Studying outcomes and hospital utilization in the elderly: The advantages of a merged data base for Medicare and Veterans Affairs hospitals. Medical Care. 1992; 30(5): 377-91. Data sources for the all-payer update

S.19. Data Source or Collection Instrument (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

S.20. Level of Analysis (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)

Facility

S.21. Care Setting (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)

Inpatient/Hospital

If other:

S.22. COMPOSITE Performance Measure - Additional Specifications (Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)

N/A

2. Validity – See attached Measure Testing Submission Form

NQF_2882_PN_EDAC_Testing_Spring2021_010521_FINAL-637541848509808976.docx

2.1 For maintenance of endorsement

Reliability testing: If testing of reliability of the measure score was not presented in prior submission(s), has reliability testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

Yes

2.2 For maintenance of endorsement

Has additional empirical validity testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

Yes

2.3 For maintenance of endorsement

Risk adjustment: For outcome, resource use, cost, and some process measures, risk-adjustment that includes social risk factors is not prohibited at present. Please update sections 1.8, 2a2, 2b1,2b4.3 and 2b5 in the Testing attachment and S.140 and S.11 in the online submission form. NOTE: These sections must be updated even if social risk factors are not included in the risk-adjustment strategy. You MUST use the most current version of the Testing Attachment (v7.1) -- older versions of the form will not have all required questions.

Yes - Updated information is included

3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

3a. Byproduct of Care Processes

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

3a.1. Data Elements Generated as Byproduct of Care Processes.

Coded by someone other than person obtaining original information (e.g., DRG, ICD-9 codes on claims)

If other:

3b. Electronic Sources

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

3b.1. To what extent are the specified data elements available electronically in defined fields (i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields) Update this field for **maintenance of endorsement**.

ALL data elements are in defined fields in a combination of electronic sources

3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources. For **maintenance of endorsement**, if this measure is not an eMeasure (eCQM), please describe any efforts to develop an eMeasure (eCQM).

3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL. Please also complete and attach the NQF Feasibility Score Card.

Attachment:

3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

3c.1. Required for maintenance of endorsement. Describe difficulties (as a result of testing and/or operational use of the measure) regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.

If instrument-based, consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.

This measure uses administrative claims and enrollment data and as such, offers no data collection burden to hospitals or providers.

3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm).

N/A

4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

4.1. Current and Planned Use

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.

Specific Plan for Use	Current Use (for current use provide URL)
Not in use	Public Reporting https://www.medicare.gov/care-compare/ Care Compare Payment Program Hospital Inpatient Quality Reporting (IQR) Program https://qualitynet.cms.gov/inpatient/iqr

4a1.1 For each CURRENT use, checked above (update for maintenance of endorsement), provide:

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included
- Level of measurement and setting

Public Reporting

Program Name, Sponsor: Care Compare, Centers for Medicare and Medicaid Services (CMS)

Purpose: Under Care Compare and other CMS public reporting websites, CMS collects quality data from hospitals, with the goal of driving quality improvement through measurement and transparency by publicly displaying data to help consumers make more informed decisions about their health care. It is also intended to encourage hospitals and clinicians to improve the quality and cost of inpatient care provided to all patients. The data collected are available to consumers and providers on the Care Compare website at: <https://www.medicare.gov/care-compare/>.

Payment Program

Program Name, Sponsor: Hospital Inpatient Quality Reporting (IQR) Program, Centers for Medicare and Medicaid Services (CMS)

Purpose: The Hospital Inpatient Quality Reporting (IQR) program was originally mandated by Section 501(b) of the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003. This section of the MMA authorized CMS to pay hospitals that successfully report designated quality measures a higher annual update to their payment rates. Initially, the MMA provided for a 0.4 percentage point reduction in the annual market basket (the measure of inflation in costs of goods and services used by hospitals in treating Medicare patients) update for hospitals that did not successfully report. The Deficit Reduction Act of 2005 increased that reduction to 2.0 percentage points.

In addition to giving hospitals a financial incentive to report the quality of their services, the hospital reporting program provides CMS with data to help consumers make more informed decisions about their health care. Some of the hospital quality of care information gathered through the program is available to consumers on the Care Compare website at: <https://www.medicare.gov/care-compare/>.

Geographic area and number and percentage of accountable entities and patients included:

The IQR program includes all IPPS non-federal acute care hospitals and Veteran Affairs (VA) hospitals in the United States. The number and percentage of accountable hospitals included in the program, as well as the number of patients included in the measure, varies by reporting year.

4a1.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons? (e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?)

N/A. This measure is currently publicly reported.

4a1.3. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement. (Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.)

N/A. This measure is currently publicly reported.

4a2.1.1. Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.

How many and which types of measured entities and/or others were included? If only a sample of measured entities were included, describe the full population and how the sample was selected.

The exact number of measured entities (acute care hospitals) varies with each new measurement period; for the period between July 1, 2016 – June 30, 2019, 4,697 hospitals were included in measurement. All non-federal short-term acute care hospitals (including Indian Health Service hospitals), critical access hospitals, and VA hospitals were included in the measure calculation. However, only those hospitals with at least 25 pneumonia admissions were included in public reporting.

Each hospital generally receives their measure results in April/May of each calendar year through CMS's QualityNet website. The results are then publicly reported on CMS's public reporting websites in the summer of each calendar year. Since the measure is risk-standardized using data from all hospitals, hospitals cannot independently calculate their score.

However, CMS provides each hospital with several resources that aid in the interpretation of their results (described in detail below). These include Hospital-Specific Reports with details about every patient from their facility that was included in the measure calculation (for example, dates of admission and discharge, discharge diagnoses, outcome [total days] and type of post-discharge event). These reports facilitate quality improvement activities such as review of the number of days for each event and patterns of care, make visible to hospitals post-discharge outcomes that they may otherwise be unaware of, and allow hospitals to look for patterns that may inform quality improvement (QI) work. CMS also provides measure frequently asked questions (FAQs), webinars, and provides a mechanism for stakeholders to ask specific questions.

The Hospital-Specific Reports also provide hospitals with more detailed benchmarks with which to gauge their performance relative to peer hospitals and interpret their results, including comorbidity frequencies for their patients relative to other hospitals in their state and the country.

Additionally, the programming code used to process the claims data and calculate measure results is written in Statistical Analysis System (SAS) (Cary, NC) and is provided each year to hospitals upon request.

4a2.1.2. Describe the process(es) involved, including when/how often results were provided, what data were provided, what educational/explanatory efforts were made, etc.

During the Spring of each year, hospitals have access to the following list of updated resources related to the measure which is provided directly or posted publicly for hospitals to use:

1. Hospital-Specific Reports (HSR): available for hospitals to download from QualityNet in April/May of each calendar year; includes information on the index admissions included in the measure calculation for each facility, detailed measure results, and state and national results.
2. HSR User Guide: available with the HSR and posted on QualityNet; provides instructions for interpreting the results and descriptions of each data field in the HSR.
3. Mock HSR: posted on QualityNet; provides real national results and simulated state and hospital results for stakeholders who do not receive an HSR.
4. HSR Tutorial Video: A brief animated video to help hospitals navigate their HSR and interpret the information provided.
5. Public Reporting Preview and Preview Help Guide: available for hospitals to view from QualityNet in Spring of each calendar year; includes measure results that will be publicly reported on CMS's public reporting websites.
6. Annual Updates and Specification Reports: posted in April/May of each calendar year on QualityNet with detailed measure specifications, descriptions of changes made to the measure specifications with rationale and impact analysis (when appropriate), updated risk variable frequencies and coefficients for the national cohort, and updated national results for the new measurement period.
7. FAQs: posted in April of each calendar year on QualityNet; includes general and measure-specific questions and responses, as well as infographics that explain complex components of the measure's methodology.
8. SAS Code: used to calculate the measure with documentation describing what data files are used and how the SAS code works. This code and documentation are updated each year and are released upon request beginning in July of each year.
9. Measure Fact Sheets: provide a brief overview of measures and measure updates; posted in April/May of each calendar year on QualityNet.

During the summer of each year, the publicly-reported measure results are posted on CMS's public reporting websites, a tool to find hospitals and compare their quality of care that CMS created in collaboration with organizations representing consumers, hospitals, doctors, employers, accrediting organizations, and other federal agencies. Measure results are updated in July of each calendar year.

4a2.2.1. Summarize the feedback on measure performance and implementation from the measured entities and others described in 4d.1.

Describe how feedback was obtained.

Questions and Answers (Q&A)

The measured entities (acute care hospitals) and other stakeholders or interested parties submit questions or comments about the measure through an online portal. Experts on measure specifications, calculation, or implementation prepare responses to those inquiries and reply directly to the sender. We consider issues raised through the Q&A process about measure specifications or measure calculation in measure reevaluation.

Literature Reviews

In addition, we routinely scan the literature for scholarly articles describing research related to this measure. We summarize new information obtained through these reviews every three years as a part of comprehensive reevaluation as mandated by the Measure Management System (MMS) Blueprint.

4a2.2.2. Summarize the feedback obtained from those being measured.

Summary of Questions or Comments from Hospitals submitted through the Q&A process:

For the Pneumonia EDAC measure, we have received the following inquiries from hospitals since the last endorsement maintenance cycle, regarding:

1. The overlap between the EDAC and Readmission measures.
2. How to interpret the credible intervals that are generated with each point estimate, and the relationship to the performance categories.
3. How to validate the measure score results they received in their preview report.
4. Questions about inclusion and exclusion criteria, including specific questions about admissions at their hospital, and how measure takes into account principal and secondary diagnoses of pneumonia when defining the cohort.
5. How to interpret a negative measure score.
6. Why patients transferred to another facility that bills an elective procedure as an outpatient is still included in the denominator.

7. The use of both physician and facility claims and use of the claim with the longer duration when both claims are present.
8. Requests for the SAS pack.
9. The difference between EDAC measures and HRRP.
11. Clarification on the performance period for the measure.

4a2.2.3. Summarize the feedback obtained from other users

Summary of Question and Comments from Other Stakeholders:

For the Pneumonia EDAC measure, we have received the following feedback from other stakeholders since the last endorsement maintenance cycle:

1. Requests for the SAS code used to calculate measure results.
2. A clarification of measure specifications, specifically on cohort definition using ICD-10 codes.

Summary of Relevant Publications from the Literature Review:

Since the last endorsement cycle, we have reviewed several articles related to EDAC following pneumonia admissions. Relevant articles shared key themes related to: the impact of the Hospital Readmission Reduction Program (HRRP) on observation stays, which while relevant to the study, are nullified by CMS's shift to using a 'two midnight' definition of observation stays; the need for measuring EDAC, due to hospitals shifting return care away from inpatient admission to ED or observation stays; the relationship between readmission rates and rates of ED visits and observation stays; trends in readmission rates, ED visits, and observation stays. We provide more detail about these studies in the paragraph below.

We reviewed three studies that reinforce the importance of studying trends in ED visits and observation stays along with readmissions in order to get a complete picture of health care utilization. One study found an increase in overall returns to hospitals driven by an increase in observation stays and ED visits using three years of Medicare data [1]. This increase was greater than reduction in readmissions as a result of HRRP. Although no association between the reduced readmissions and increased observation stays or ED visits was determined, these findings imply a shift in return care from readmissions to ED or observation stays. In contrast, another study using HCUP data and hospital-level data from four states found a decreasing trend in overall hospital return rates driven by declining readmission rates with only a slight increase in observation stays and ED visits [2]. Yet another study found that while more than half of their patients returned to the hospital, only 25% were readmitted indicating a gap in measurement [3]. Our literature review also yielded two studies that provided evidence that the EDAC measures and readmissions measures are correlated and that adding observation stays to the outcome will allow for more in-depth analysis of the association between hospital characteristics and the outcome [4,5].

1. Wadhera RK, Joynt Maddox KE, Kazi DS, Shen C, Yeh RW. Hospital revisits within 30 days after discharge for medical conditions targeted by the Hospital Readmissions Reduction Program in the United States: national retrospective analysis. *BMJ*. 2019;366:l4563.
2. Nuckols TK, Fingar KR, Barrett ML, et al. Returns to Emergency Department, Observation, or Inpatient Care Within 30 Days After Hospitalization in 4 States, 2009 and 2010 Versus 2013 and 2014. *J Hosp Med*. 2018;13(5):296-303.
3. Shammass NW, Kelly R, Lemke J, et al. Assessment of Time to Hospital Encounter after an Initial Hospitalization for Heart Failure: Results from a Tertiary Medical Center. *Cardiol Res Pract*. 2018;2018:6087367.
4. Venkatesh AK, Wang C, Ross JS, et al. Hospital Use of Observation Stays: Cross-sectional Study of the Impact on Readmission Rates. *Med Care*. 2016;54(12):1070-1077.
5. Horwitz LI, Wang Y, Altaf FK, et al. Hospital Characteristics Associated With Postdischarge Hospital Readmission, Observation, and Emergency Department Utilization. *Med Care*. 2018;56(4):281-289.

4a2.3. Describe how the feedback described in 4a2.2.1 has been considered when developing or revising the measure specifications or implementation, including whether the measure was modified and why or why not.

Each year, issues raised through the Q&A process or in the literature related to this measure are considered by measure and clinical experts. Any issues that warrant additional analytic work due to potential changes in the measure specifications are addressed as a part of annual measure reevaluation. If small changes are indicated after additional analytic work is complete, those changes are usually incorporated into the measure in the next measurement period. If the changes are substantial, CMS may propose the changes through rulemaking and adopt the changes only after CMS received public comment on the changes and finalizes those changes in the Inpatient Prospective Payment System (IPPS) or other rule.

For example, based on stakeholder feedback, we revised the methodology used to count the number of observation stay days in the EDAC outcome. The use of both physician and facility claims (and use of the claim with the longer duration when both claims are present) was changed to use of physician claims only in cases when a facility claim is not available. This change, however, had minimal impact on measure results.

Improvement

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

4b1. Refer to data provided in 1b but do not repeat here. Discuss any progress on improvement (trends in performance results, number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities and patients included.)

If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

To compare performance on the pneumonia EDAC measures across performance periods, we show the distribution of measure scores for hospitals with at least 25 admission for Medicare FFS admissions only. We removed VA admissions as they only became part of the cohort during the most recent reporting period (2016-2019) and therefore we do not have trend information for VA admissions.

Unlike the other two EDAC measures (AMI, HF), we do not see improvement in the pneumonia EDAC measure across the three performance periods. While we are investigating the reasons for this, a contributing factor could be the particularly severe 2017-2018 influenza season [1] (that would have impacted the 2015-2018 and 2016-2019 reporting periods but not the 2014-2017 reporting period), which resulted in an increase in ED visits and inpatient admissions across all age groups, including ages 65 and over.

Periods//YEAR1619//YEAR1518//YEAR1417
 Number of Hospitals//4082//4126//4175
 Number of Admissions//1326837//1349047//1380472
 Mean(SD)//4.9(24.7)//4.7(24.1)//4.6(24.8)
 Range(Min to Max)//-52.3 to 146// -56 to 166.1// -57.8 to 148.9
 Minimum// -52.3// -56.0// -57.8
 10th percentile// -23.8// -23.5// -24.0
 20th percentile// -15.8// -15.3// -16.1
 30th percentile// -9.4// -9.5// -9.7
 40th percentile// -3.2// -3.5// -4.0
 Median// 2.8// 2.3// 1.6
 60th percentile// 8.6// 8.0// 7.8
 70th percentile// 14.6// 14.4// 14.3
 80th percentile// 23.5// 23.0// 22.6
 90th percentile// 36.3// 35.8// 36.2
 Maximum// 146.0// 166.1// 148.9

Reference: <https://www.cdc.gov/flu/about/season/flu-season-2017-2018.htm>

4b2. Unintended Consequences

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

4b2.1. Please explain any unexpected findings (positive or negative) during implementation of this measure including unintended impacts on patients.

We did not identify any unintended consequences during measure development or model testing. However, we 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.

4b2.2. Please explain any unexpected benefits from implementation of this measure.

N/A

5. Comparison to Related or Competing Measures

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.

Yes

5.1a. List of related or competing measures (selected from NQF-endorsed measures)

0229 : Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Heart Failure (HF) Hospitalization

0230 : Hospital 30-day, all-cause, risk-standardized mortality rate (RSMR) following acute myocardial infarction (AMI) hospitalization

0330 : Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following heart failure (HF) hospitalization

0505 : Hospital 30-day all-cause risk-standardized readmission rate (RSRR) following acute myocardial infarction (AMI) hospitalization.

0506 : Hospital 30-day, All-Cause, Risk-Standardized Readmission Rate (RSRR) Following Pneumonia Hospitalization

1551 : Hospital-level 30-day risk-standardized readmission rate (RSRR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)

1789 : Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)

1891 : Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following chronic obstructive pulmonary disease (COPD) hospitalization

2515 : Hospital 30-day, all-cause, unplanned, risk-standardized readmission rate (RSRR) following coronary artery bypass graft (CABG) surgery

2880 : Excess days in acute care (EDAC) after hospitalization for heart failure (HF)

2881 : Excess days in acute care (EDAC) after hospitalization for acute myocardial infarction (AMI)

5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.

N/A

5a. Harmonization of Related Measures

The measure specifications are harmonized with related measures;

OR

The differences in specifications are justified

5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):

Are the measure specifications harmonized to the extent possible?

No

5a.2. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.

Measure harmonization: We developed the measure in the Medicare Fee-for-Service (FFS) population and completely harmonized the cohort definition and risk-adjustment strategy with those of the existing CMS 30-day Pneumonia readmission measure. Key differences: EDAC measures are based on the count of excess days spent in acute care whereas the readmission measures focus on the dichotomous presence of any readmission within the 30 days past discharge. In addition to readmission, the EDAC measure also counts observation stays and ED visits as acute care time. This difference in the outcome measure imposes differences on the statistical modeling and reporting format. The interpretations of the measures are also based on relative differences in excess days in acute care based on variations in case mix. There are no differences in data collection burden.

5b. Competing Measures

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);

OR

Multiple measures are justified.

5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed measure(s):

Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)

N/A

Appendix

A.1 Supplemental materials may be provided in an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.

Attachment [Attachment: Pneumonia_Excess_Days_in_Acute_Care_Appendix_to_NQF_Application_01-29-16_v1.0.pdf](#)

Contact Information

Co.1 Measure Steward (Intellectual Property Owner): Centers for Medicare & Medicaid Services

Co.2 Point of Contact: James, Poyer, James.Poyer@cms.hhs.gov, 410-786-2261-

Co.3 Measure Developer if different from Measure Steward: Yale New Haven Health Services Corporation – Center for Outcomes Research and Evaluation (CORE)

Co.4 Point of Contact: Jacqueline, Grady, jacqueline.grady@yale.edu, 203-764-5700-

Additional Information

Ad.1 Workgroup/Expert Panel involved in measure development

Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

Yale New Haven Health Services Corporation/Center for Outcomes Research (YNHHSC/CORE) Measure Reevaluation Team Members

1. Faseeha K. Altaf, MPH- Lead Project Coordinator. Provided experience relevant to performance measurement.
2. Susannah Bernheim, MD, MHS- Project Director. Provided experience relevant to clinical content and performance measurement.
3. Nihar Desai, MD, MPH- Clinical Consultant. Provided experience relevant to clinical content and performance measurement.
4. Jacqueline Grady, MS- Supporting Analyst. Provided experience relevant to performance measurement.
5. Jeph Herrin, PhD- Statistician. Provided experience relevant to performance measurement.
6. Leora Horwitz, MD, MHS- Project Lead. Provided experience relevant to clinical content and performance measurement.
7. Zhenqiu Lin, PhD- Director of Analytics. Provided experience relevant to performance measurement.
8. Shuling Liu, PhD- Statistical Consultant. Provided experience relevant to performance measurement.
9. Chi Ngo, MPH- Research Associate. Provided experience relevant to performance measurement.
10. Arjun Venkatesh, MD, MBA- Clinical Consultant. Provided experience relevant to clinical content and performance measurement.
11. Changqin Wang, MD, MS- Co-Lead Analyst. Provided experience relevant to performance measurement.
12. Yongfei Wang- Supporting Analyst. Provided experience relevant to performance measurement.
13. Sharon-Lise Normand, Ph.D.* - Statistical Consultant. Provided statistical expertise for the project.

*Harvard Medical School

Technical Expert Panel (TEP) Members

1. Anonymous Patient- Patient Representative. Provided patient perspective.
2. Kevin E. Driesen, PhD, MPH, MA- Assistant Professor, Mel and Enid Zuckerman College of Public Health; Director, Arizona Rural Hospital Flexibility Program. Provided experience relevant to performance measurement.
3. David Engler, PhD- Senior Vice President for Leadership and Innovation, America's Essential Hospitals. Provided experience relevant to clinical content, performance measurement, and coding and informatics.

4. Timothy Farrell, MD- Assistant Professor of Medicine, Adjunct Professor of Family Medicine, Physician Investigator; University of Utah School of Medicine. Provided experience relevant to clinical content and performance measurement.
5. Karen Farris, PhD- Charles R. Walgreen III Professor of Pharmacy Administration, Director of the Social and Administrative Pharmacy Graduate Program; University of Michigan College of Pharmacy. Provided experience relevant to performance measurement.
6. Maura C. Feldman, MSW- Director for Hospital Performance Measurement and Improvement, Blue Cross Blue Shield of Massachusetts. Provided consumer perspective.
7. Jay A. Gold, MD, JD, MPH- Senior Vice President and Chief Medical Officer, MetaStar. Provided experience relevant to clinical content and performance measurement.
8. Sally Hinkle, DNP, MPA, RN- Director of Performance Improvement and Clinical Value, Temple University Hospital. Provided experience relevant to performance measurement.
9. Amy Jo Haavisto Kind, MD, PhD - Assistant Professor of Geriatrics, University of Wisconsin School of Medicine and Public Health; Attending Physician, William S. Middleton VA. Provided experience relevant to clinical content and performance measurement.
10. Marjorie King, MD, FACC, MAACVPR- Director of Cardiac Services, Helen Hayes Hospital. Provided experience relevant to clinical content and performance measurement.
11. Eugene Kroch, PhD- Vice President and Chief Scientist, Premier. Provided experience relevant to performance measurement.
12. Keith D. Lind, JD, MS, BSN- Senior Policy Advisor, American Association of Retired Persons (AARP) Public Policy Institute. Provided consumer perspective.
13. Grace McConnell, PhD- Patient Representative. Provided patient perspective.
14. Michael A. Ross, MD, FACEP- Medical Director, Professor of Emergency Medicine; Emory University School of Medicine. Provided experience relevant to clinical content and performance measurement.
15. Mark Louis Sanz, MD- Interventional Cardiologist, International Heart Institute of Montana. Provided experience relevant to clinical content and performance measurement.
16. Paul Takahashi, MD- Associate Professor of Medicine, Mayo Clinic College of Medicine. Provided experience relevant to performance measurement.

Methodology Work Group Members

1. Arlene Ash, PhD- Professor and Division Chief, University of Massachusetts Medical School. Provided experience relevant to performance measurement.
2. Jeremiah Brown, PhD, MS- Assistant Professor of Health Policy and Clinical Practice, The Dartmouth Institute for Health Policy and Clinical Practice. Provided experience relevant to performance measurement.
4. Grant Ritter, PhD, MS, MA- Senior Scientist, Schneider Institute for Health Policy & Heller Graduate School. Provided experience relevant to performance measurement.
5. Patrick Romano, MD, MPH- Professor of Medicine and Pediatrics, University of California Davis School of Medicine. Provided experience relevant to performance measurement.

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released: 2015

Ad.3 Month and Year of most recent revision: 11, 2019

Ad.4 What is your frequency for review/update of this measure? Annual

Ad.5 When is the next scheduled review/update for this measure? 2021

Ad.6 Copyright statement: N/A

Ad.7 Disclaimers: N/A

Ad.8 Additional Information/Comments: N/A