



# **All-Cause Admissions and Readmissions Fall 2019 Cycle, Track 2 Measures: CDP Report**

**TECHNICAL REPORT  
MARCH 10, 2021**

This report is funded by the Centers for Medicare & Medicaid Services  
under contract HHSM-500-2017-00060I Task Order HHSM-500-T0001

**<http://www.qualityforum.org>**

## Contents

<b>Executive Summary .....</b>	<b>3</b>
<b>Introduction.....</b>	<b>4</b>
<b>NQF Portfolio of Performance Measures for All-Cause Admissions and Readmissions Conditions .....</b>	<b>5</b>
Table 1. NQF All-Cause Admissions and Readmissions Portfolio of Measures.....	5
<b>All-Cause Admissions and Readmissions Measure Evaluation .....</b>	<b>5</b>
Table 2. All-Cause Admissions and Readmissions Measure Evaluation Summary, Fall 2019 Track II ..	5
Comments Received Prior to Committee Evaluation .....	6
Comments Received After Committee Evaluation .....	6
Summary of Measure Evaluation: Fall 2019 Measures, Track 2 .....	7
Measures Withdrawn from Consideration .....	8
Table 3. Measures Withdrawn from Consideration.....	8
<b>References.....</b>	<b>10</b>
<b>Appendix A: Details of Measure Evaluation.....</b>	<b>11</b>
Track 2 – Endorsed Measure.....	11
3495 Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit- Based Incentive Payment System (MIPS) Eligible Clinician Groups .....	11
<b>Appendix B: All-Cause Admissions and Readmissions Portfolio—Use in Federal Programs .....</b>	<b>15</b>
<b>Appendix C: All-Cause Admissions and Readmissions Standing Committee and NQF Staff.....</b>	<b>20</b>
<b>Appendix D: Measure Specifications .....</b>	<b>23</b>
3495 Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit- Based Incentive Payment System (MIPS) Eligible Clinician Groups .....	23
<b>Appendix E: Related and Competing Measures .....</b>	<b>28</b>
<b>Appendix F: Pre-Evaluation Comments .....</b>	<b>41</b>

## Executive Summary

Avoidable hospital admissions and readmissions are an important focus for healthcare quality improvement. These avoidable admissions and readmissions often represent an opportunity to improve patient care transitions and prevent the unnecessary exposure to adverse events in an acute care setting. The National Quality Forum (NQF) currently has 40 endorsed all-cause and condition-specific admissions and readmissions measures for various settings. Several federal quality improvement programs have adopted these measures to reduce unnecessary admissions and readmissions to improve communication and care transitions.

For this project, the All-Cause Admissions and Readmissions Standing Committee evaluated one new measure against NQF's measure evaluation criteria. This measure was initially submitted for review during the Spring 2019 cycle. However, due to concerns with Committee quorum and a lack of clarity on measure testing information presented during the Spring 2019 post-comment call, this measure was deferred to the Fall 2019 cycle. This measure was recommended for endorsement by the Standing Committee, which the Consensus Standards Approval Committee upheld:

- **NQF 3495** Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups

Due to circumstances around the COVID-19 global pandemic, commenting periods for all measures evaluated in the Fall 2019 cycle were extended from 30 days to 60 days. Based on the comments received during this 60-day extended commenting period, measures entered one of two tracks:

Track 1: measures that remained in Fall 2019 Cycle:

- The measure under review in the Fall 2019 cycle did not meet the criteria for a Track 1 measure.

Track 2: measures deferred to Spring 2020 Cycle:

- **NQF 3495** Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups

This report contains details of the evaluation of measures assigned to *Track 2* and moved to the Spring 2020 cycle. Detailed summaries of the Committee's discussion and ratings of the criteria for each measure are in [Appendix A](#).

## Introduction

Hospital admissions and readmissions are a major focus of quality improvement efforts in the United States. A study, conducted by the Agency for Healthcare Research and Quality (AHRQ), found that roughly 3.3 million readmissions occurred within 30 days of discharge in the United States in 2011, which contributed to a total cost of \$41.3 billion across all payers.<sup>1</sup> Although, the actual proportion of potentially avoidable hospital readmissions remains unclear<sup>1</sup>, reduction of admissions deemed potentially avoidable remains a priority across healthcare systems. To incentivize reductions in preventable hospitalizations, the Centers for Medicare & Medicaid Services (CMS) has expanded accountability for avoidable admissions and readmissions across its quality reporting and payment programs. The Hospital Readmissions Reduction Program (HRRP) reduces payment rates to hospitals with higher-than-expected readmission rates.<sup>2</sup> The Improving Medicare Post-Acute Care Transformation Act of 2014 (IMPACT Act) required CMS to implement quality measures for potentially preventable readmissions to long-term care hospitals, inpatient rehabilitation facilities, skilled nursing facilities, and home health agencies.<sup>3</sup> Finally, CMS' pay-for-performance Merit-Based Incentive Payment System (MIPS) program, which adjusts Medicare payments at the physician level, automatically applies to groups of 16 or more clinicians with at least 200 cases (or patient volume or admissions) per year.<sup>5</sup>

The increased use of measures of preventable hospital admissions and readmissions in public reporting and payment applications continues to demonstrate the importance of this healthcare quality domain. To drive improvement in admissions and readmissions, performance measures are a key element of value-based purchasing programs to incentivize collaboration in the healthcare delivery system. Shared accountability is required to improve this health outcome, as many healthcare providers have a role in ensuring a safe patient transition between care settings. While a wide variety of healthcare stakeholders support the goal of reducing unnecessary hospitalizations, debates remain on the target rate of readmissions, appropriate methods for attribution, and whether these performance measures should be linked to provider payment.

Many factors influence the rate of admissions and readmissions, including the resources available in the community to support a safe transition between care settings and the social support available to patients. While these factors have a role, poor care coordination and low-quality care also contribute to higher rates of readmission. Evidence demonstrates that provider interventions can improve these important patient outcomes, such as improved communication of patient discharge instructions, coordination with post-acute care providers and primary care physicians, and the reduction of complications such as hospital-acquired conditions.<sup>4 5</sup>

In this project, the NQF All-Cause Admissions and Readmissions Standing Committee reconsidered NQF measure #3495 *Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups* at the Clinician Group/Practice level of analysis. This measure was initially considered in the Spring 2019 cycle at both the Group and Individual Clinician level of analyses. However, throughout the Spring 2019 cycle, the Committee experienced challenges with achieving quorum during the measure evaluation webinars, leading to voting via survey after the call as per NQF's standard process. Additionally, during the Committee's post-comment call on October 2, 2019, in response to comments received during the public comment period and questions

raised by the Committee concerning reliability testing, the developer inadvertently stated incorrect measure score reliability results during the live call, potentially influencing the Committee's deliberations. After the post-comment call, the developer clarified that the reliability results were verbally reported incorrectly but the correct results were in the original submission. In consultation with the developers and the Committee co-chairs, it was determined that the measure should be returned to the Standing Committee for reevaluation during the Fall 2019 cycle, due to concerns with Committee quorum and confusion regarding testing information discussed during the post-comment call.

## NQF Portfolio of Performance Measures for All-Cause Admissions and Readmissions Conditions

The All-Cause Admissions and Readmissions Standing Committee ([Appendix C](#)) oversees NQF's portfolio of All-Cause Admissions and Readmissions measures ([Appendix B](#)) that includes measures for a number of different sites of care. This portfolio contains 40 measures.

**Table 1. NQF All-Cause Admissions and Readmissions Portfolio of Measures**

	All-Cause	Condition-Specific
Hospital	9	13
Home health	4	0
Skilled nursing facility	4	0
Long-term care facility	2	0
Inpatient rehab facility	2	0
Inpatient psychiatric facility	1	0
Population-based	1	1
Hospital outpatient/ambulatory surgery center	0	2
Accountable care organizations (ACO)	0	1
<b>Total</b>	<b>23</b>	<b>17</b>

Additional measures have been assigned to other portfolios. These include transition-of-care measures (Patient Experience and Function project), and a variety of condition-specific readmission measures (Surgery and Perinatal and Women's Health projects).

## All-Cause Admissions and Readmissions Measure Evaluation

On February 4, 2020, the All-Cause Admissions and Readmissions Standing Committee evaluated one new measure (Table 2) against NQF's [standard measure evaluation criteria](#).

**Table 2. All-Cause Admissions and Readmissions Measure Evaluation Summary, Fall 2019 Track II**

	Maintenance	New	Total
Measure under review	0	1	1
Endorsed Measure	0	1	1

## Comments Received Prior to Committee Evaluation

NQF accepts comments on endorsed measures on an ongoing basis through the [Quality Positioning System \(QPS\)](#). In addition, NQF accepts comments for a continuous 16-week period during each evaluation cycle via an online tool located on the project webpage. For this evaluation cycle, the commenting period opened on December 5, 2019 and closed on April 24, 2020. One comment was submitted and shared with the Committee prior to the measure evaluation meeting(s) ([Appendix F](#)).

## Comments Received After Committee Evaluation

The COVID-19 global pandemic led to many organizations focusing their attention on the public health crisis this past year. In order to provide greater flexibility for stakeholders and continue the important work in quality measurement, NQF extended commenting periods and adjusted measure endorsement timelines for the Fall 2019 cycle.

Commenting periods for all measures evaluated in the Fall 2019 cycle were extended from 30 days to 60 days. Based on the comments received during this 60-day extended commenting period, measures entered one of two tracks:

### **Track 1: Measures Remained in Fall 2019 Cycle**

**Measures that did not receive public comments or only received comments in support of the Standing Committee's recommendations** moved forward to the Consensus Standards Approval Committee (CSAC) for review and discussion during its meeting on July 28-29, 2020.

- **Exceptions**

Exceptions were granted to measures if non-supportive comments received during the extended post-comment period were similar to those received during the pre-evaluation meeting period and have already been adjudicated by the respective Standing Committees during the measure evaluation Fall 2019 meetings.

### **Track 2: Measures Deferred to Spring 2020 Cycle**

**Fall 2019 measures that required further action or discussion from a Standing Committee were deferred to the Spring 2020 cycle.** This includes measures where consensus was not reached or those that require a response to public comments received. Measures undergoing maintenance review retained endorsement during that time. Measures assigned to Track 2 moved forward to the CSAC for review and discussing during its meeting on November 17-18, 2020.

The extended public commenting period with NQF member support closed on May 24, 2020. Following the Committee's evaluation of the measures under review, NQF received 10 comments from eight member organizations and individuals pertaining to the draft report and to the measures under review. All comments for each measure under consideration have been summarized in [Appendix A](#).

Throughout the extended public commenting period, NQF members had the opportunity to express their support ("support" or "do not support") for each measure submitted for endorsement consideration to inform the Committee's recommendations. No NQF members provided their expression of support.

## Summary of Measure Evaluation: Fall 2019 Measures, Track 2

The following brief summaries of the measure evaluation highlight the major issues that the Committee considered. Details of the Committee’s discussion and ratings of the criteria for each measure are included in [Appendix A](#).

### **3495 Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups (Yale New Haven Health/Center for Outcomes Research and Evaluation): Endorsed**

**Description:** This measure is a re-specified version of the hospital-level measure, “Hospital-Wide All-Cause, Unplanned Readmission Measure” (NQF #1789), which was developed for patients who are 65 years or older, are enrolled in Fee-for-Service (FFS) Medicare, and are hospitalized in nonfederal hospitals. This re-specified measure attributes hospital-wide index admissions to up to three participating MIPS Eligible Clinician Groups (“providers”), rather than to hospitals. It assesses each provider’s rate of 30-day readmission, which is defined as unplanned, all-cause readmission within 30 days of hospital discharge for any eligible condition. The measure reports a single summary risk-adjusted readmission rate (RARR), derived from the volume-weighted results of five different models, one for each of the following specialty cohorts based on groups of discharge condition categories or procedure categories: surgery/gynecology; general medicine; cardiorespiratory; cardiovascular; and neurology, each of which will be described in greater detail below; **Measure Type:** Outcome; **Level of Analysis:** Clinician: Group/Practice; **Setting of Care:** Inpatient/Hospital; **Data Source:** Claims, Other

This is a re-specified version of the hospital-level measure, Hospital-Wide All-Cause, Unplanned Readmission Measure (NQF #1789). The Committee began the discussion by considering the evidence for the measure. Committee members asked the developers for clarification of the types of hospitalization included in the measure. The developers noted that the measure includes inpatient stays only and that observation stays, or emergency department visits are not included. After some discussion of the potential uses of the measure and whether it is appropriate for quality improvement or value-based purchasing, the co-chairs recommended that the Committee focus their evaluation on evidence that there are interventions that physician groups can make to reduce readmission rates. The Committee unanimously agreed that research supports interventions physician groups can take to influence this outcome and the measure passed evidence. The Committee agreed there is a gap in care and evidence of disparities in performance rates, and the measure passed this criterion with limited discussion, and moved on to the reliability criterion. The Committee agreed to accept the Scientific Methods Panel (SMP) rating of “moderate” for reliability. During the validity criterion discussion, the Committee noted the issue of the use of hospitalists and how that might impact validity as a primary inpatient care provider. They also raised concerns with the lack of social determinants of health (SDOH) in the risk adjustment model. Further questions concerning validity focused on appropriateness of the attribution model, the lack of a paired mortality measure, and concerns with how patients at the end of life are considered.

The Committee asked clarifying questions of NQF staff on the role of the SMP. The NQF staff mentioned that the SMP is a group of methodologists that provide input on the scientific rigor of the validity and reliability testing. The Standing Committee considers this input and can either uphold the SMP’s decision or vote separately. Due to the Standing Committee’s desire to discuss the validity testing, specifically the

measure's consideration of social risk factors, it ultimately decided not to accept the SMP's rating of "moderate" for validity. Standing Committee members continued to discuss SDOH and how this may impact the decision on whether to readmit, noting that community and personal factors can play a strong role on this decision, such as if someone lives alone or the reliability of the patient's caretaker. The developer explained that they had run the risk adjustment model using AHRQ socioeconomic Status (SES) index based on the 9-digit zip code and based on dual eligible status. The developer found limited change with both the AHRQ and dual status adjustment. The correlation was found to be 0.99. The developer continues to monitor for unintended consequences. The Standing Committee ultimately passed the measure on validity and matched the SMP's preliminary rating of "moderate". During the feasibility discussion, no major concerns were raised, as there is a very low occurrence of missing data. The Committee then turned to the use and usability criteria and revisited some of its earlier questions concerning how the measure will be used, namely how the measure is being reported publicly, whether it should be used in value-based purchasing programs such as MIPS, inclusion of 23-hour observations under unclaimed admissions, and whether use at the clinician group level and an accompanying minimum case threshold is a part of the measure. The developer confirmed that there is an existing minimum threshold of 200 cases for use at the clinical group level, and that the measure was granted conditional support by NQF's Measures Application Partnership (MAP) for use in the MIPS program pending NQF endorsement. The developer noted that they appreciated these concerns and reiterated that the measure is already in use. Further clarification by NQF staff was provided that the Consensus Development Process (CDP) Committees are expected to evaluate the measure objectively based on the measure evaluation criteria, regardless of what program the measure will be used. The Committee agreed; the measure passed both the use and usability criteria.

During the public comment period, a commenter expressed concerns related to the risk adjustment model, noting the lack of inclusion of social factors. The Standing Committee agreed that social risk factors, including community and personal factors, can have a strong impact on readmissions and are important to consider. The Committee ultimately determined that the measure should proceed and pass on validity to which risk adjustment is a component. There were no objections from Committee members to the developer responses, nor any requests to reconsider or revote on NQF #3495.

## Measures Withdrawn from Consideration

Seven measures previously endorsed by NQF have not been resubmitted for maintenance of endorsement or have been withdrawn during the endorsement evaluation process. Endorsement for these measures was removed.

**Table 3. Measures Withdrawn from Consideration**

Measure	Reason for withdrawal
<b>1768</b> Plan All-Cause Readmissions (PCR)	Developer did not seek re-endorsement.
<b>2380</b> Rehospitalization During the First 30 Days of Home Health	A new measure is in development that will supersede measure #2380.
<b>2502</b> All-Cause Unplanned Readmission Measure for 30 Days Post Discharge from Inpatient Rehabilitation Facilities (IRFs)	Developer did not seek re-endorsement.

Measure	Reason for withdrawal
<b>2505</b> Emergency Department Use without Hospital Readmission During the First 30 Days of Home Health	A new measure is in development that will supersede measure #2505.
<b>2512</b> All-Cause Unplanned Readmission Measure for 30 Days Post Discharge from Long-Term Care Hospitals (LTCHs)	Developer did not seek re-endorsement.
<b>2886</b> Risk-Standardized Acute Admission Rates for Patients with Heart Failure	Measure removed from CMS program.
<b>2887</b> Risk-Standardized Acute Admission Rates for Patients with Diabetes	Measure removed from CMS program.

## References

- <sup>1</sup> Hines AL (Truven HealthAnalytics), Barrett ML (ML Barrett, Inc.), Jiang HJ (AHRQ), and Steiner CA (AHRQ). Conditions with the Largest Number of Adult Hospital Readmissions by Payer, 2011. HCUP Statistical Brief #172. April 2014. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb172-Conditions-Readmissions-Payer.pdf>.
- <sup>2</sup> CMS. Hospital Readmissions Reduction Program (HRRP). February 11, 2020. Accessed on February 22, 2020 at: <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program>.
- <sup>3</sup> CMS. Improving Medicare Post-Acute Care Transformation Act of 2014 (IMPACT Act) Frequently Asked Questions. Accessed on February 22, 2020 at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/Downloads/IMPACT-Act-FAQs-Oct-17-March-18.pdf>
- <sup>4</sup> Boccuti C, Casillas G. Aiming for Fewer Hospital U-turns: The Medicare Hospital Readmission Reduction Program. *Henry J Kais Fam Found*. March 2017. <https://www.kff.org/medicare/issue-brief/aiming-for-fewer-hospital-u-turns-the-medicare-hospital-readmission-reduction-program/>. Accessed February 24, 2020
- <sup>5</sup> McCarthy D, Cohen A, Johnson MB. Gaining Ground: Care Management Programs to Reduce Hospital Admissions and Readmissions among Chronically Ill and Vulnerable Patients. Washington, DC: Commonwealth Fund; 2013. Commonwealth Fund pub. 1658. [https://www.pcpcc.org/sites/default/files/1658\\_McCarthy\\_care\\_transitions\\_synthesis\\_v2.pdf](https://www.pcpcc.org/sites/default/files/1658_McCarthy_care_transitions_synthesis_v2.pdf). Accessed February 24, 2020

## Appendix A: Details of Measure Evaluation

**Rating Scale:** H=High; M=Moderate; L=Low; I=Insufficient; NA=Not Applicable

**Note:** A measure is recommended for endorsement by the Standing Committee when the vote margin on all must-pass criteria (Importance, Scientific Acceptability, Use), and overall, is greater than 60 percent of voting members in favor of endorsement. A measure is not recommended for endorsement when the vote margin on any must-pass criterion or overall is less than 40 percent of voting members in favor of endorsement. The Standing Committee has not reached consensus if the vote margin on any must-pass criterion or overall is between 40 and 60 percent, inclusive, in favor of endorsement. When the Standing Committee has not reached consensus, all measures for which consensus was not reached will be released for NQF member and public comment. The Standing Committee will consider the comments and re-vote on those measures during a webinar convened after the commenting period closes.

The Standing Committee must maintain quorum in order to participate in live voting. Quorum is based on the number of current, active, and voting-eligible Standing Committee members. In order to achieve quorum, 66 percent of the total number of current, active, and voting-eligible Standing Committee members (denominator) must be present (numerator) at the meeting at any given time in order for live voting to occur. Vote totals may differ between measure criteria and between measures because of occasional attendance fluctuation, as Committee members often have to join calls late or leave calls early.

### Track 2 – Endorsed Measure

#### 3495 Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups

[Submission](#) | [Specifications](#)

**Description:** This measure is a re-specified version of the hospital-level measure, “Hospital-Wide All-Cause, Unplanned Readmission Measure” (NQF #1789), which was developed for patients who are 65 years or older, are enrolled in Fee-for-Service (FFS) Medicare and are hospitalized in non-federal hospitals.

This re-specified measure attributes hospital-wide index admissions to up to three participating MIPS Eligible Clinician Groups (“providers”), rather than to hospitals. It assesses each provider’s rate of 30-day readmission, which is defined as unplanned, all-cause readmission within 30 days of hospital discharge for any eligible condition. The measure reports a single summary risk-adjusted readmission rate (RARR), derived from the volume-weighted results of five different models, one for each of the following specialty cohorts based on groups of discharge condition categories or procedure categories: surgery/gynecology; general medicine; cardiorespiratory; cardiovascular; and neurology, each of which will be described in greater detail below.

**Numerator Statement:** The outcome for this measure is readmission within 30 days of a hospital discharge. We define readmission as an inpatient admission for any cause, except for certain planned readmissions, within 30 days from the date of discharge from an eligible index admission.

Additional details are provided in S.5 Numerator Details.

**Denominator Statement:** The measure includes admissions for Medicare beneficiaries who are 65 years and older and are discharged from any non-federal, acute care inpatient U.S. hospitals (including territories) with Medicare Part A enrollment for the 12 months prior to admission and Part A enrollment for the 30 days after discharge. These are called “index admissions.”

Outcome attribution:

There are three eligible clinician groups for attribution: 1) the Primary Inpatient Care Provider, 2) the Discharge Clinician and 3) the Outpatient Primary Care Physician.

### 3495 Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups

**Exclusions:** From the cohort, we exclude admissions if:

1. The patient is discharged against medical advice (AMA)
2. The patient is discharged from a PPS-exempt cancer hospital
3. The patient is admitted primarily for the medical treatment of cancer
4. The patient is admitted primarily for the treatment of psychiatric disease
5. The patient is admitted primarily for “rehabilitation care; fitting of prostheses and adjustment devices” (CCS 254)
6. Admissions without 30 Days of Post-Discharge Enrollment are excluded
7. Admissions cannot be identified in IDR database
8. The admission cannot be attributed to an eligible clinician.

**Adjustment/Stratification:** Statistical risk model

**Level of Analysis:** Clinician: Group/Practice

**Setting of Care:** Inpatient/Hospital

**Type of Measure:** Outcome

**Data Source:** Claims, Other

**Measure Steward:** Centers for Medicare & Medicaid Services (CMS)

#### STANDING COMMITTEE MEETING 02/04/2020

##### 1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **Pass-17; No Pass-0** (17/17 - 100%, Pass) 1b. Performance Gap: **H-2; M-14; L-1; I-0** (16/17 – 94%, Pass)

##### Rationale:

- This is a re-specified version of the hospital-level measure, “Hospital-Wide All-Cause, Unplanned Readmission Measure” (NQF #1789). NQF #1789 was developed for patients who are 65 years or older, are enrolled in FFS Medicare and are hospitalized in nonfederal hospitals. This specified measure attributes admissions to up to three participating MIPS eligible clinicians.
- The Standing Committee reviewed the logic model presented by the developer demonstrating that physician group interventions can reduce the risk of unplanned hospital visits.
- The Committee reviewed the range of performance for clinician groups from 13.1 in the first decile to 18.0 in the tenth decile.
- Committee members requested clarification of the types of hospitalization included in the measure. The developer confirmed that the measure only accounts for inpatient stays and not observation stays or emergency department visits.
- The Committee agreed that the evidence provided supported that interventions can be undertaken to reduce the risk of unplanned hospital visits and there is a gap in care that warrants a national performance measure.

##### 2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity

2a. Reliability: **H-0, M-5, L-1, I-0 (SMP)**; 2b. Validity: **H-0; M-14; L-3; I-0** (14/17 – 82%, Pass)

##### Rationale:

- This measure was deemed as complex and was evaluated by the NQF Scientific Methods Panel in Spring 2019. The SMP rated the measure as moderate on reliability and validity.
- The Committee voted (Y-17, N-0) to uphold the SMP’s rating on reliability but agreed to have a further discussion of validity.
- The Committee discussed several considerations for validity, including: the use of hospitalists as a primary inpatient care provider, the appropriateness of the attribution model, the lack of a paired mortality measure, and how patients at the end of life are considered.

### 3495 Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups

- The Committee also noted that social risk factors were excluded from the risk model. The developer noted that they had found limited change in the distribution of measure score performance based on social risk factors but would continue to monitor for unintended consequence.
- The Committee acknowledged public comments noting concerns of the attribution model and reliability score performance.
- While several considerations were noted on the validity of the measure, the Committee generally agreed that the measure passed validity based on the developer's responses.

#### 3. Feasibility: H-7; M-7; L-1; I-1 (14/16 – 88%, Pass)

*(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c. Susceptibility to inaccuracies/unintended consequences identified; 3d. Data collection strategy can be implemented)*

##### Rationale:

- The Standing Committee agreed that the measure uses claims data that can be operationalized; however, the measure is not yet in use. There are no fees, licensing, or requirements to use the measure.

#### 4. Use and Usability

*4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients*

4a. Use: **Pass-15; No Pass-2** (15/17 – 88%, Pass) 4b. Usability: **H-3; M-12; L-2; I-0** (15/17 – 88%, Pass)

##### Rationale:

- The Standing Committee acknowledged that this measure is planned for use in the CMS Merit-Based Incentive Payment System (MIPS) program.
- The Committee noted that this is a new measure and there is no information available on performance improvement. This measure is not currently used in a program, but a primary goal of the measure is to provide information necessary to implement focused quality improvement efforts. Once the measure is implemented, the developer plans to examine trends in improvements by comparing RSRR over time.

#### 5. Related and Competing Measures

- This measure is related to the following measure:
  - NQF 1789 Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
- The developer notes that this measure is aligned with #1789, but the attribution is to a clinician or clinician group rather than a facility. Further harmonization is not needed at this time.

#### 6. Standing Committee Recommendation for Endorsement: Y-18; N-0 (18/18 – 100%, Yes)

#### 7. Public and Member Comment

Three major themes were identified in the post-evaluation comments, as follows:

- Reliability at minimum case volumes
- Evidence to support attribution
- Risk adjustment testing and social risk factors

The Committee reviewed all comments and discussed the developer responses. The Committee ultimately determined that the measure should proceed and pass on reliability to which the minimum case volume addresses, evidence to which attribution is a component, and validity to which risk adjustment is a component. There were no objections from Committee members to the developer responses, nor any requests to reconsider or revote on NQF 3495.

#### 8. Consensus Standards Approval Committee (CSAC) Endorsement Decision (November 17-18, 2020): Y-11; N-0

The CSAC upheld the Standing Committee's decision to recommend the measure for endorsement.

#### 10. Appeals: No appeals were received



## Appendix B: All-Cause Admissions and Readmissions Portfolio—Use in Federal Programs<sup>a</sup>

NQF #	Title	Federal Programs: Finalized or Implemented as of June 22, 2020
0171	Acute Care Hospitalization During the First 60 Days of Home Health	Home Health Quality Reporting (Implemented)
0173	Emergency Department Use without Hospitalization During the First 60 Days of Home Health	Home Health Quality Reporting (Implemented)
0275	Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate (PQI 5)	Medicaid (Implemented)
0227	Heart Failure Admission Rate (PQI 8)	Medicaid (Implemented)
0330	Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following heart failure (HF) hospitalization	Hospital Readmissions Reduction Program (Implemented)
0505	Hospital 30-day all-cause risk-standardized readmission rate (RSRR) following acute myocardial infarction (AMI) hospitalization	Hospital Readmissions Reduction Program (Implemented)
0506	Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following pneumonia hospitalization	Hospital Readmissions Reduction Program (Implemented)

<sup>a</sup> Per CMS Measures Inventory Tool as of 2/5/2021

NQF #	Title	Federal Programs: Finalized or Implemented as of June 22, 2020
0695	Hospital 30-Day Risk-Standardized Readmission Rates following Percutaneous Coronary Intervention (PCI)	N/A
0727	Gastroenteritis Admission Rate (PDI 16)	N/A
0728	728 Asthma Admission Rate (PDI 14)	N/A
1463	Standardized Hospitalization Ratio for Dialysis Facilities (SHR)	End-Stage Renal Disease Quality Incentive Program (Implemented)
1551	Hospital-level 30-day, all-cause risk standardized readmission rate (RSRR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)	Hospital Readmissions Reduction Program (Implemented)
1789	Hospital-Wide All-Cause Unplanned Readmission Measure (HWR) - ACO Level	N/A
1789	Hospital-Wide All-Cause Unplanned Readmission (HWR)	Hospital Inpatient Quality Reporting (Implemented)
1891	Hospital 30-Day, All-Cause, Risk-Standardized Readmission Rate (RSRR) following Chronic Obstructive Pulmonary Disease (COPD) Hospitalization	Hospital Readmissions Reduction Program (Implemented)
2375	PointRight® Pro 30™	N/A

NQF #	Title	Federal Programs: Finalized or Implemented as of June 22, 2020
2393	Pediatric All-Condition Readmission Measure	N/A
2414	Pediatric Lower Respiratory Infection Readmission Measure	N/A
2496	Standardized Readmission Ratio (SRR)	End Stage Renal Disease-Quality Incentive Program (Implemented)
2503	Hospitalizations per 1000 Medicare fee-for-service (FFS) Beneficiaries	N/A
2504	30-day Rehospitalizations per 1000 Medicare fee-for-service (FFS) Beneficiaries	N/A
2510	Skilled Nursing Facility 30-Day All-Cause Readmission Measure	Skilled Nursing Facility Value-Based Purchasing (Implemented)
2513	Hospital 30-Day All-Cause Risk-Standardized Readmission Rate (RSRR) following Vascular Procedures	N/A
2514	Risk-Adjusted Coronary Artery Bypass Graft (CABG) Readmission Rate	N/A
2515	Hospital 30-day, all-cause, unplanned, risk-standardized readmission rate (RSRR) following coronary artery bypass graft (CABG) surgery	Hospital Readmissions Reduction Program (Implemented)
2539	Facility 7-Day Risk-Standardized Hospital Visit Rate	Ambulatory Surgical Center Quality Reporting (Implemented), Hospital Outpatient Quality Reporting (Implemented)

NQF #	Title	Federal Programs: Finalized or Implemented as of June 22, 2020
	after Outpatient Colonoscopy	
2827	PointRight® Pro Long Stay (TM) Hospitalization Measure	N/A
2858	Discharge to Community	N/A
2860	30-day all-cause unplanned readmission following psychiatric hospitalization in an inpatient psychiatric facility (IPF)	Inpatient Psychiatric Facility Quality Reporting (Implemented)
2879e	Hybrid Hospital-Wide Readmission (HWR) Measure with Claims and Electronic Health Record Data	N/A
2880	Excess days in acute care (EDAC) after hospitalization for heart failure (HF)	Hospital Inpatient Quality Reporting (Implemented)
2881	Excess days in acute care (EDAC) after hospitalization for acute myocardial infarction (AMI)	Hospital Inpatient Quality Reporting (Implemented)
2882	Excess days in acute care (EDAC) after hospitalization for pneumonia	Hospital Inpatient Quality Reporting (Implemented)
2888	Risk-Standardized Acute Admission Rates for Patients with Multiple Chronic Conditions	Medicare Shared Savings Program (Finalized)
3188	30-Day Unplanned Readmissions for Cancer Patients	Prospective Payment System-Exempt Cancer Hospital Quality Reporting (Implemented)
3366	Hospital Visits after Urology Ambulatory Surgical Center Procedures	Ambulatory Surgical Center Quality Reporting (Finalized)

NQF #	Title	Federal Programs: Finalized or Implemented as of June 22, 2020
3449	Hospitalization for Ambulatory Care Sensitive Conditions for Dual Eligible Beneficiaries	N/A
3457	Minimizing Institutional Length of Stay	Medicaid (Implemented)
3470	Hospital Visits after Orthopedic Ambulatory Surgical Center Procedures	Ambulatory Surgical Center Quality Reporting (Finalized)
3495	Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	N/A

## Appendix C: All-Cause Admissions and Readmissions Standing Committee and NQF Staff

### STANDING COMMITTEE

**John Bulger, DO, MBA (Co-chair)**

Chief Quality Officer, Geisinger Health System  
Danville, Pennsylvania

**Cristie Travis, MSHHA (Co-chair)**

Chief Executive Officer, Memphis Business Group on Health  
Memphis, Tennessee

**Frank Briggs, PharmD, MPH**

Vice President, Quality and Patient Safety, West Virginia University Healthcare  
Morgantown, West Virginia

**Mae Centeno, DNP, RN, CCRN, CCNS, ACNS-BC**

Director Chronic Disease Care, Baylor Health Care System  
Dallas, Texas

**Helen Chen, MD**

Chief Medical Officer, Hebrew SeniorLife  
Boston, Massachusetts

**Edward Davidson, PharmD, MPH, FASCP**

Partner, Insight Therapeutics  
Norfolk, Virginia

**Richard James Dom Dera, MD, FAAFP**

Medical Director, Ohio Family Practice Centers and NewHealth Collaborative  
Akron, Ohio

**Paula Minton Foltz, RN, MSN**

Assistant Administrator, Patient Care Services; Associate Director, Patient Safety and Quality Operations  
Seattle, Washington

**Brian Foy, MHA**

Vice President, Product Development, Q-Centrix, LLC  
Chicago, Illinois

**Lisa Freeman**

Executive Director, Connecticut Center for Patient Safety  
Fairfield, Connecticut

**Faith Green, MSN, RN, CPHQ, CPC-A**

Director, Humana  
Louisville, Kentucky

**Leslie Kelly Hall**

SVP Policy, Healthwise  
Boise, Idaho

**Michelle Lin, MD, MPH, MS**

Assistant Professor, Attending Physician Emergency Medicine, Icahn School of Medicine at Mount Sinai  
New York, New York

**Dheeraj Mahajan, MD, CIC, CMD**

CEO, Chicago Internal Medicine Practice and Research (CIMPAR, SC)  
Chicago, Illinois

**Kenneth McConnochie, MD, MPH**

Professor of Pediatrics, University of Rochester Medical Center  
Rochester, New York

**Zeyno Nixon, PhD, MPH**

Senior Epidemiologist, Washington State Health Care Authority  
Olympia, Washington

**Amy O'Linn, DO, FHM, FACP**

Physician Lead, Cleveland Clinic Enterprise Readmissions Reduction  
Cleveland, Ohio

**Gaither Pennington, RN, BSN**

Product Owner, Bravado Health  
West Palm Beach, Texas

**Pamela Roberts, PhD, MHSA, ORT/L, SCFES, FAOTA, CPHQ, FNAP, FACRM**

Executive Director Chief Medical Officer Office and Professor and Executive Director of Physical  
Medicine and Rehabilitation, Cedars-Sinai Medical Center  
Los Angeles, California

**Sheila Roman, MD, MPH**

Independent Healthcare Consultant  
Associate Professor of Medicine, part-time  
Johns Hopkins Medical Institutions  
Baltimore, Maryland

**Teri Sholder, RN, BSN, MHA, CPHQ, CPC**

Senior Vice President/Chief Quality Officer, BayCare Health System  
Clearwater, Florida

**Anthony White**

Patients Partnering with Health Systems  
Redondo Beach, California

NQF STAFF

**Sheri Winsper, RN**

Senior Vice President, Quality Measurement

**Apryl Clark, MHSA**

Acting Vice President, Quality Measurement

**Michael Katherine Haynie**

Senior Managing Director, Quality Measurement

**Matthew Pickering, PharmD**

Senior Director, Quality Measurement

**Poonam Bal, MHSA**

Director, Quality Innovation

**Oroma Igwe, MPH**

Manager, Quality Measurement

**Funmilayo Idaomi**

Analyst, Quality Measurement

**Yemsrach Kidane, PMP**

Project Manager, Quality Measurement

**Taroon Amin, PhD, MPH**

NQF Consultant

## Appendix D: Measure Specifications

	<b>3495 Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups</b>
Steward	Centers for Medicare & Medicaid Services (CMS)
Description	<p>This measure is a re-specified version of the hospital-level measure, “Hospital-Wide All-Cause, Unplanned Readmission Measure” (NQF #1789), which was developed for patients who are 65 years or older, are enrolled in Fee-for-Service (FFS) Medicare and are hospitalized in non-federal hospitals.</p> <p>This re-specified measure attributes hospital-wide index admissions to up to three participating MIPS Eligible Clinician Groups (“providers”), rather than to hospitals. It assesses each provider’s rate of 30-day readmission, which is defined as unplanned, all-cause readmission within 30 days of hospital discharge for any eligible condition.</p> <p>The measure reports a single summary risk adjusted readmission rate (RARR), derived from the volume-weighted results of five different models, one for each of the following specialty cohorts based on groups of discharge condition categories or procedure categories: surgery/gynecology; general medicine; cardiorespiratory; cardiovascular; and neurology, each of which will be described in greater detail below.</p>
Type	Outcome
Data Source	Claims, Other Medicare administrative claims and enrollment data
Level	Clinician: Group/Practice
Setting	Inpatient/Hospital
Numerator Statement	<p>The outcome for this measure is readmission within 30-days of a hospital discharge. We define readmission as an inpatient admission for any cause, except for certain planned readmissions, within 30 days from the date of discharge from an eligible index admission. Additional details are provided in S.5 Numerator Details</p>
Numerator Details	<p>The measure counts readmissions to any acute care hospital for any cause within 30 days of the date of discharge of the index admission, excluding planned readmissions as defined below. The measure outcome is a dichotomous yes or no of whether each discharged patient has an unplanned readmission within 30 days. However, if the first readmission after discharge is considered planned, any subsequent unplanned readmission is not counted as an outcome for that index admission because the unplanned readmission could be related to care provided during the intervening planned readmission rather than during the index admission.</p> <p>Numerator Time Window: The outcome is defined as an unplanned readmission within 30 days of discharge from an index admission.</p> <p>Planned Readmission Algorithm (Version 4.0)</p> <p>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.</p> <p>The Planned Readmission Algorithm has three fundamental principles:</p> <ol style="list-style-type: none"> <li>1. A few specific, limited types of care are always considered planned (obstetric delivery, transplant surgery, maintenance chemotherapy/immunotherapy, rehabilitation);</li> <li>2. Otherwise, a non-acute readmission for a procedure that is typically scheduled in advance is considered planned; and</li> <li>3. Admissions for acute illness or for complications of care are never planned.</li> </ol> <p>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.</p>

	<b>3495 Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups</b>
	The Planned Readmission Algorithm and associated code tables are attached in data field S.2b (Data Dictionary or Code Table).
Denominator Statement	<p>The measure includes admissions for Medicare beneficiaries who are 65 years and older and are discharged from any non-federal, acute care inpatient U.S. hospitals (including territories) with Medicare Part A enrollment for the 12 months prior to admission and Part A enrollment for the 30 days after discharge. These are called “index admissions”.</p> <p>Outcome attribution:</p> <p>There are three eligible clinician groups for attribution: 1) the Primary Inpatient Care Provider, 2) the Discharge Clinician and 3) the Outpatient Primary Care Physician.</p> <p>1) Primary Inpatient Care Provider: All patient-facing claims for the patient filed during the stay are identified and totaled by clinicians identified on each claim; the admission is attributed to the clinician with the greatest charges billed. The cost of charges billed (as opposed to number of charges) better reflects the appropriate clinician, especially for the surgical specialty cohort. The identified primary inpatient care provider may also be the discharge clinician.</p> <p>2) Discharge Clinician: Identified by Current Procedural Terminology [CPT®] code 99238 or 99239 within the last three days of admission OR CPTs 99231, 99232, 99233 billed on the last day of admission. If none of these codes found, a Discharge Clinician is not assigned.</p> <p>3) Outpatient Primary Care Physician: The clinician who provides the greatest number of claims for primary care services during the 12 months prior to the hospital admission date.</p> <p>Eligible clinician groups are defined by grouping eligible clinicians who use the same Taxpayer Identification Number (TIN). Index admissions are attributed to a clinician group by each of these rules. Though an admission may be attributed to three distinct eligible clinician groups, it will often be the case that two or even all three of the above listed roles for a given patient are filled by clinicians assigned to the same clinician group. In the case of multiple assignments of an admission to the same eligible clinician group, each admission is included only once when measuring the eligible clinician group.</p> <p>Importantly, this implies that while there are three different rules for attribution, these are not distinguished when measuring clinician group performance. While a clinician group can have admissions attributed to them in multiple capacities – for instance, a clinician from the same group may be both a Discharge Clinician for some patients and a Primary Inpatient Care Provider for others – all attributed admissions are used to construct a single score for that eligible clinician group. Thus, while we report some results by attribution role, we report measure scores only for “unique eligible clinician groups”.</p> <p>Additional details are provided in S.7 Denominator Details.</p>
Denominator Details	<p>Admissions are eligible for inclusion in the measure if:</p> <ol style="list-style-type: none"> <li>1. Patient is 65 or older Rationale: Younger Medicare patients represent a distinct population with dissimilar characteristics and outcomes.</li> <li>2. Patient survives index admission Rationale: Patients who die during the initial admission cannot be readmitted.</li> <li>3. Patient is not transferred to another hospital Rationale: In an episode of care in which the patient is transferred between hospitals, responsibility for the readmission is assigned to the final discharging hospital. Therefore, intermediate admissions within a single episode of care are not eligible for inclusion.</li> <li>4. Patient is continuously enrolled in FFS Medicare Part A for the 12 months prior to the index admission and Part A for 30 days after discharge; FFS Medicare Part B for 12 months prior to index admission.</li> </ol>

	<b>3495 Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups</b>
	Rationale: This is necessary to ensure complete data for risk adjustment, attribution, and outcome determination.
Exclusions	<p>From the cohort, we exclude admissions if:</p> <ol style="list-style-type: none"> <li>1. The patient is discharged against medical advice (AMA)</li> <li>2. The patient is discharged from a PPS-exempt cancer hospital</li> <li>3. The patient is admitted primarily for the medical treatment of cancer</li> <li>4. The patient is admitted primarily for the treatment of psychiatric disease</li> <li>5. The patient is admitted primarily for “rehabilitation care; fitting of prostheses and adjustment devices” (CCS 254)</li> <li>6. Admissions without 30 Days of Post-Discharge Enrollment are excluded</li> <li>7. Admissions cannot be identified in IDR database</li> <li>8. The admission cannot be attributed to an eligible clinician.</li> </ol> <p>Further exclusion details can be found in S.9 Denominator Exclusion Details</p>
Exclusion details	<p>From the cohort, we exclude admissions for which:</p> <ol style="list-style-type: none"> <li>1. Patients discharged against medical advice (AMA) Rationale: Clinicians have limited opportunity to implement high quality care</li> <li>2. Admissions for patients to a PPS-exempt cancer hospital Rationale: These hospitals care for a unique population of patients that cannot reasonably be compared to the patients admitted to other hospitals.</li> <li>3. Admissions primarily for medical treatment of cancer are excluded Rationale: These admissions have a very different mortality and readmission profile compared to the rest of the Medicare population (higher rates of planned readmissions and higher rates of competing mortality), and outcomes for these admissions do not correlate well with outcomes for other admissions. Patients with cancer who are admitted for other diagnoses or for surgical treatment of their cancer remain in the measure.</li> <li>4. Admissions primarily for psychiatric disease are excluded Rationale: Patients admitted principally for psychiatric treatment are typically cared for in separate psychiatric centers which are not comparable to acute care hospitals. See Data Dictionary for excluded CCSs.</li> <li>5. Admissions for “rehabilitation care; fitting of prostheses and adjustment devices” (CCS 254) are excluded Rationale: These admissions are not typically admitted to an acute care hospital for acute care.</li> <li>6. Admissions without 30 Days of Post-Discharge Enrollment are excluded Rationale: The 30-day readmission outcome cannot be assessed in patients who do not maintain enrollment for at least 30 days following discharge.</li> <li>7. Admissions cannot be identified in IDR database Rationale: Information from the attribution cannot be applied for patients without data of physician information, which we extracted from IDR database.</li> <li>8. Patients cannot be attributed to a clinician group. Rationale: Only patients assigned to eligible clinician groups should be included in the measure.</li> </ol> <p>Note that a readmission within 30-days will also be eligible as an index admission if it meets all other eligibility criteria. This allows our measure to capture repeated admissions for the same patient, whether with the same clinician(s) or not. Since there are few patients with</p>

	<b>3495 Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups</b>
	multiple admissions in the same year and in the same specialty cohort, we chose to treat multiple admissions as statistically independent.
Risk Adjustment	Statistical risk model
Stratification	N/A
Type Score	Rate/proportion better quality = lower score
Algorithm	<p>The index admissions are identified as described above in S.5-S.9.</p> <p><b>Specialty Cohorts</b></p> <p>The measure uses an algorithm identical to that of the hospital level measure (NQF #1789) to group index admissions into subgroups for risk adjustment. The measure aggregates the ICD-9 and ICD-10 principal diagnosis and all procedure codes of the index admission into clinically coherent groups of conditions and procedures (condition categories or procedure categories) using the AHRQ CCS. There is a total of 285 mutually exclusive AHRQ condition categories, most of which are single, homogenous diseases such as pneumonia or acute myocardial infarction. Some are aggregates of conditions, such as “other bacterial infections.” There is a total of 231 mutually exclusive procedure categories. Using these AHRQ CCS procedure and condition categories, the measure assigns each index hospitalization to one of five mutually exclusive specialty cohorts: surgery/gynecology, cardiorespiratory, cardiovascular, neurology, and medicine. The rationale behind this organization is that conditions typically cared for by the same team of clinicians are expected to experience similar added (or reduced) levels of readmission risk.</p> <p>Step 1. The measure first assigns admissions with qualifying AHRQ procedure categories to the Surgery/Gynecology Cohort. This cohort includes admissions likely cared for by surgical or gynecological teams.</p> <p>Step 2. The measure then sorts admissions into one of the four remaining specialty cohorts based on the AHRQ diagnosis category of the principal discharge diagnosis:</p> <p>The Cardiorespiratory Cohort: includes several condition categories with very high readmission rates such as pneumonia, chronic obstructive pulmonary disease, and heart failure. These admissions are combined into a single cohort because they are often clinically indistinguishable and patients are often simultaneously treated for several of these diagnoses.</p> <p>The Cardiovascular Cohort: includes condition categories such as acute myocardial infarction, that in large hospitals, might be cared for by a separate cardiac or cardiovascular team.</p> <p>The Neurology Cohort: includes neurologic condition categories such as stroke, that in large hospitals, might be cared for by a separate neurology team.</p> <p>The Medicine Cohort: includes all non-surgical patients who were not assigned to any of the other cohorts.</p> <p>The full list of the specific diagnosis and procedure AHRQ CCS categories used to define the specialty cohorts are attached in data field S.2b (Data Dictionary or Code Table).</p> <p><b>Risk adjustment</b></p> <p>Risk adjustment is done separately for each specialty cohort using a logistic regression model with 30-day readmission as the outcome. Risk adjusters in each model are identical to those used in the specialty cohorts for the hospital level measure (NQF #1789) and include the CCS for the principle diagnosis. The full list of risk adjusters can be found in the Data Dictionary.</p> <p><b>Measure Score</b></p> <p>Because the same admission may be attributed to more than one unique Eligible Clinician group, we could not apply the method used by the existing hospital-level HWR measure (NQF#1789) to construct risk standardized readmission rates. Instead, we adopted a</p>

	<b>3495 Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups</b>
	<p>method that, while requiring an assumption of independence across entities, allowed us to account for correlation within entity. The measure uses instead an approach similar to that used by the Patient Safety and Adverse Events Composite measure (NQF #0531).</p> <p>Reference the attached Intent to Submit form for the complete response.</p> <p>Creating Credible Interval Estimates</p> <p>For purposes of estimating confidence intervals, we used bootstrapping. Because of overlapping assignment of patients, bootstrapping was at the specialty cohort level. Specifically, we select <math>m=1, \dots, M</math> random samples of discharges with replacement from each specialty cohort. Using the existing attribution, we calculated (1), (2) and (3) above for each provider. The 95% credible interval estimate of the RARRj for each provider was used as the estimated 95% confidence interval. 146637   110639   141015   149320</p>
Copyright / Disclaimer	N/A

## Appendix E: Related and Competing Measures

### Comparison of NQF 3495 and NQF 1789

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
Steward	Centers for Medicare & Medicaid Services (CMS)	Centers for Medicare & Medicaid Services
Description	<p>This measure is a re-specified version of the hospital-level measure, “Hospital-Wide All-Cause, Unplanned Readmission Measure” (NQF #1789), which was developed for patients who are 65 years or older, are enrolled in Fee-for-Service (FFS) Medicare and are hospitalized in non-federal hospitals.</p> <p>This re-specified measure attributes hospital-wide index admissions to up to three participating MIPS Eligible Clinician Groups (“providers”), rather than to hospitals. It assesses each provider’s rate of 30-day readmission, which is defined as unplanned, all-cause readmission within 30 days of hospital discharge for any eligible condition.</p> <p>The measure reports a single summary risk adjusted readmission rate (RARR), derived from the volume-weighted results of five different models, one for each of the following specialty cohorts based on groups of discharge condition categories or procedure categories: surgery/gynecology; general medicine; cardiorespiratory; cardiovascular; and neurology, each of which will be described in greater detail below.</p>	<p>This measure estimates a hospital-level, risk-standardized readmission rate (RSRR) of unplanned, all-cause readmission within 30 days of discharge from an index admission with an eligible condition or procedure. The measure reports a single summary RSRR, derived from the volume-weighted results of five different models, one for each of the following specialty cohorts based on groups of discharge condition categories or procedure categories: surgery/gynecology, general medicine, cardiorespiratory, cardiovascular, and neurology. The measure also indicates the hospital-level standardized readmission ratios (SRR) for each of these five specialty cohorts. The outcome is defined as unplanned readmission for any cause within 30 days of the discharge date from the index admission (the admission included in the measure cohort). A specified set of readmissions are planned and do not count in the readmission outcome. CMS annually reports the measure for Medicare fee-for-service (FFS) patients who are 65 years or older and are hospitalized in non-federal short-term acute care hospitals.</p> <p>For the All-Cause Readmission (ACR) measure version used in the Shared Savings Program (SSP) beginning in 2017, the measure estimates an Accountable Care Organization (ACO) facility-level RSRR of unplanned, all-cause readmission after admission for any eligible condition or procedure within 30 days of hospital discharge. The ACR measure is calculated using the same five specialty cohorts and estimates an ACO-level standardized risk ratio for each. CMS annually reports the measure for patients who are 65 years or older, are enrolled in Medicare FFS, and are ACO assigned beneficiaries.</p> <p>The updates in this form reflect changes both to the original HWR measure and the ACS measure version. For instances where the two versions differ, we provide additional clarifications below the original description.</p>
Type	Outcome	Outcome

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
Data Source	<p>Claims, Other Medicare administrative claims and enrollment data</p> <p>No data collection instrument provided Attachment Del18dHOP5MIPSHWRDataDictionary12172018-637086294768821435.xlsx</p>	<p>Claims Data sources for the Medicare FFS measure:</p> <p>HWR</p> <p>1. Medicare Part A claims data for calendar years 2007 and 2008 were combined and then randomly split into two equal subsets (development sample and validation sample). Risk variable selection was done using the development sample, the risk models for each of the five specialty cohorts in the measure were applied to the validation sample and the models' performance was compared. In addition, we re-tested the models in Medicare Part A claims data from calendar year 2009 to look for temporal stability in the models' performance. The number of measured entities and index admissions are listed below by specialty cohort.</p> <p>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 and following discharge from index admission</p> <p>ACR</p> <p>1. Medicare Part A claims data for calendar years 2013, 2014, and 2015.</p> <p>2. Medicare Enrollment Database (EDB).</p> <p>Reference:</p> <p>Fleming C., Fisher ES, Chang CH, Bubolz D, Malenda J. 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.</p> <p>Available in attached appendix at A.1 Attachment DelAP_4-107f_NQF1789HWR_DataDictionary_Final082819.xlsx</p>
Level	Clinician : Group/Practice	Facility
Setting	Inpatient/Hospital	Inpatient/Hospital, Outpatient Services
Numerator Statement	The outcome for this measure is readmission within 30-days of a hospital discharge. We define readmission as an inpatient admission for any cause, except for certain	The outcome for both the original HWR and ACR measures is 30-day readmission. We define readmission as an inpatient admission for any cause, except for certain planned readmissions, within 30 days from the

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
	<p>planned readmissions, within 30 days from the date of discharge from an eligible index admission.</p> <p>Additional details are provided in S.5 Numerator Details</p>	<p>date of discharge from an eligible index admission. If a patient has more than one unplanned admission (for any reason) within 30 days after discharge from the index admission, only one is counted as a readmission. The measure looks for a dichotomous yes or no outcome of whether each admitted patient has an unplanned readmission within 30 days. However, if the first readmission after discharge is considered planned, any subsequent unplanned readmission is not counted as an outcome for that index admission because the unplanned readmission could be related to care provided during the intervening planned readmission rather than during the index admission.</p>
Numerator Details	<p>The measure counts readmissions to any acute care hospital for any cause within 30 days of the date of discharge of the index admission, excluding planned readmissions as defined below. The measure outcome is a dichotomous yes or no of whether each discharged patient has an unplanned readmission within 30 days. However, if the first readmission after discharge is considered planned, any subsequent unplanned readmission is not counted as an outcome for that index admission because the unplanned readmission could be related to care provided during the intervening planned readmission rather than during the index admission.</p> <p>Numerator Time Window: The outcome is defined as an unplanned readmission within 30 days of discharge from an index admission.</p> <p>Planned Readmission Algorithm (Version 4.0)</p> <p>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.</p> <p>The Planned Readmission Algorithm has three fundamental principles:</p>	<p>Outcome definition</p> <p>The measure counts readmissions to any short-term acute care hospital for any cause within 30 days of the date of discharge from an eligible index admission, excluding planned readmissions as defined below.</p> <p>Rationale</p> <p>From a patient perspective, an unplanned readmission from any cause is an adverse event. Outcomes occurring within 30 days of discharge can be influenced by hospital care and the early transition to the non-acute care setting. The 30-day time frame is a clinically meaningful period for hospitals to collaborate with their communities to reduce readmissions. However, planned readmissions are generally not a signal of quality of care. Including planned readmissions in a readmission measure could create a disincentive to provide appropriate care to patients who are scheduled for elective or necessary procedures within 30 days of discharge.</p> <p>It is important to note that for the HWR measure, a readmission is included as an index admission if it meets all other eligibility criteria. This differs from the publicly reported condition-specific and procedure-specific readmission measures, which do not consider a readmission as a new index admission within the same measure.</p> <p>Planned Readmission Algorithm (Version 4.0)</p> <p>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</p>

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
	<p>1. A few specific, limited types of care are always considered planned (obstetric delivery, transplant surgery, maintenance chemotherapy/immunotherapy, rehabilitation);</p> <p>2. Otherwise, a non-acute readmission for a procedure that is typically scheduled in advance is considered planned; and</p> <p>3. Admissions for acute illness or for complications of care are never planned.</p> <p>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. The Planned Readmission Algorithm and associated code tables are attached in data field S.2b (Data Dictionary or Code Table).</p>	<p>that are typically planned and may occur within 30 days of discharge from the hospital.</p> <p>The Planned Readmission Algorithm has three fundamental principles:</p> <p>1. A few specific, limited types of care are always considered planned (obstetric delivery, transplant surgery, maintenance chemotherapy/radiotherapy/immunotherapy, rehabilitation);</p> <p>2. Otherwise, a planned readmission is defined as a non-acute readmission for a scheduled procedure; and</p> <p>3. Admissions for acute illness or for complications of care are never planned.</p> <p>The algorithm was developed in 2011 as part of the HWR measure. In 2013, CMS applied the algorithm to its other readmission measures.</p> <p>For more details on the Planned Readmission Algorithm, please see Appendix E of the report titled “2019 All-Cause Hospital-Wide Measure Updates and Specifications Report: Hospital-Wide Readmission” Wallace Lori, Grady J, Djordjevic Darinka, et al. 2019 All-Cause Hospital Wide Measure Updates and Specifications Report.  <a href="https://www.qualitynet.org/dcs/ContentServer?c=Page&amp;pagename=QnetPublic%2FPages%2FQnetTier4&amp;cid=1219069855841">https://www.qualitynet.org/dcs/ContentServer?c=Page&amp;pagename=QnetPublic%2FPages%2FQnetTier4&amp;cid=1219069855841</a></p> <p>The measure includes admissions for Medicare beneficiaries who are 65 years and older and are discharged from all non-federal, acute care inpatient US hospitals (including territories) with a complete claims history for the 12 months prior to admission.</p> <p>ACR-Specific: The measure at the ACO level includes all relevant admissions for ACO assigned beneficiaries who are 65 and older and are discharged from all non-Federal short-stay acute care hospitals, including critical access hospitals.</p> <p>Additional details are provided in S.7 Denominator Details.</p>
Denominator Statement	The measure includes admissions for Medicare beneficiaries who are 65 years and older and are discharged from any non-federal, acute care inpatient U.S. hospitals (including territories) with Medicare Part A enrollment for the 12 months prior to admission and Part	The measure includes admissions for Medicare beneficiaries who are 65 years and older and are discharged from all non-federal, acute care inpatient US hospitals (including territories) with a complete claims history for the 12 months prior to admission.

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
	<p>A enrollment for the 30 days after discharge. These are called “index admissions”.</p> <p>Outcome attribution:</p> <p>There are three eligible clinician groups for attribution: 1) the Primary Inpatient Care Provider, 2) the Discharge Clinician and 3) the Outpatient Primary Care Physician.</p> <p>1) Primary Inpatient Care Provider: All patient-facing claims for the patient filed during the stay are identified and totaled by clinicians identified on each claim; the admission is attributed to the clinician with the greatest charges billed. The cost of charges billed (as opposed to number of charges) better reflects the appropriate clinician, especially for the surgical specialty cohort. The identified primary inpatient care provider may also be the discharge clinician.</p> <p>2) Discharge Clinician: Identified by Current Procedural Terminology [CPT®] code 99238 or 99239 within the last three days of admission OR CPTs 99231, 99232, 99233 billed on the last day of admission. If none of these codes found, a Discharge Clinician is not assigned.</p> <p>3) Outpatient Primary Care Physician: The clinician who provides the greatest number of claims for primary care services during the 12 months prior to the hospital admission date.</p> <p>Eligible clinician groups are defined by grouping eligible clinicians who use the same Taxpayer Identification Number (TIN). Index admissions are attributed to a clinician group by each of these rules. Though an admission may be attributed to three distinct eligible clinician groups, it will often be the case that two or even all three of the above listed roles for a given patient are filled by clinicians assigned to the same clinician group. In the case of multiple assignments of an admission to the same eligible clinician group, each admission is included only once when measuring the eligible clinician group.</p>	<p>ACR-Specific: The measure at the ACO level includes all relevant admissions for ACO assigned beneficiaries who are 65 and older and are discharged from all non-Federal short-stay acute care hospitals, including critical access hospitals.</p> <p>Additional details are provided in S.7 Denominator Details.</p>

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
	<p>Importantly, this implies that while there are three different rules for attribution, these are not distinguished when measuring clinician group performance. While a clinician group can have admissions attributed to them in multiple capacities – for instance, a clinician from the same group may be both a Discharge Clinician for some patients and a Primary Inpatient Care Provider for others – all attributed admissions are used to construct a single score for that eligible clinician group. Thus, while we report some results by attribution role, we report measure scores only for “unique eligible clinician groups”.</p> <p>Additional details are provided in S.7 Denominator Details.</p>	
Denominator Details	<p>Admissions are eligible for inclusion in the measure if:</p> <ol style="list-style-type: none"> <li>1. Patient is 65 or older Rationale: Younger Medicare patients represent a distinct population with dissimilar characteristics and outcomes.</li> <li>2. Patient survives index admission Rationale: Patients who die during the initial admission cannot be readmitted.</li> <li>3. Patient is not transferred to another hospital Rationale: In an episode of care in which the patient is transferred between hospitals, responsibility for the readmission is assigned to the final discharging hospital. Therefore, intermediate admissions within a single episode of care are not eligible for inclusion.</li> <li>4. Patient is continuously enrolled in FFS Medicare Part A for the 12 months prior to the index admission and Part A for 30 days after discharge; FFS Medicare Part B for 12 months prior to index admission. Rationale: This is necessary to ensure complete data for risk adjustment, attribution, and outcome determination.</li> </ol>	<p>To be included in the measure cohort, patients must meet the following inclusion criteria:</p> <ol style="list-style-type: none"> <li>1. Enrolled in Medicare FFS Part A for the 12 months prior to the date of admission and during the index admission;</li> <li>2. Aged 65 or older;</li> <li>3. Discharged alive from a non-federal short-term acute care hospital; and</li> <li>4. Not transferred to another acute care facility.</li> </ol> <p>ACR- Specific: An additional criterion for the ACO version of this measure is that only hospitalizations for ACO-assigned beneficiaries that meet all of the other criteria listed above are included. The cohort definition is otherwise identical to that of the HWR described below.</p> <p>The measure first assigns admissions with qualifying Agency for Healthcare Research and Quality (AHRQ) Clinical Classifications Software (CCS) procedure categories to the Surgery/Gynecology Cohort. This cohort includes admissions likely cared for by surgical or gynecological teams.</p> <p>The measure then sorts admissions into one of the four remaining specialty cohorts based on the AHRQ CCS diagnosis category of the principal discharge diagnosis:</p>

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
		<p>The Cardiorespiratory Cohort includes several condition categories with very high readmission rates such as pneumonia, chronic obstructive pulmonary disease, and heart failure. These admissions are combined into a single cohort because they are often clinically indistinguishable, and patients are often simultaneously treated for several of these diagnoses.</p> <p>The Cardiovascular Cohort includes condition categories such as acute myocardial infarction that in large hospitals might be cared for by a separate cardiac or cardiovascular team.</p> <p>The Neurology Cohort includes neurologic condition categories such as stroke that in large hospitals might be cared for by a separate neurology team.</p> <p>The Medicine Cohort includes all non-surgical patients who were not assigned to any of the other cohorts.</p> <p>The full list of the specific diagnosis and procedure AHRQ CCS categories used to define the specialty cohorts can be found in the attached data dictionary.</p>
Exclusions	<p>From the cohort, we exclude admissions if:</p> <ol style="list-style-type: none"> <li>1. The patient is discharged against medical advice (AMA)</li> <li>2. The patient is discharged from a PPS-exempt cancer hospital</li> <li>3. The patient is admitted primarily for the medical treatment of cancer</li> <li>4. The patient is admitted primarily for the treatment of psychiatric disease</li> <li>5. The patient is admitted primarily for “rehabilitation care; fitting of prostheses and adjustment devices” (CCS 254)</li> <li>6. Admissions without 30 Days of Post-Discharge Enrollment are excluded</li> <li>7. Admissions cannot be identified in IDR database</li> <li>8. The admission cannot be attributed to an eligible clinician.</li> </ol>	<p>Both the original HWR and ACR versions of the measure exclude index admissions for patients:</p> <ol style="list-style-type: none"> <li>1. Admitted to Prospective Payment System (PPS)-exempt cancer hospitals;</li> <li>2. Without at least 30 days post-discharge enrollment in Medicare FFS;</li> <li>3. Discharged against medical advice;</li> <li>4. Admitted for primary psychiatric diagnoses;</li> <li>5. Admitted for rehabilitation; or</li> <li>6. Admitted for medical treatment of cancer.</li> </ol>

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
	Further exclusion details can be found in S.9 Denominator Exclusion Details	
Exclusion Details	<p>From the cohort, we exclude admissions for which:</p> <ol style="list-style-type: none"> <li>1. Patients discharged against medical advice (AMA) Rationale: Clinicians have limited opportunity to implement high quality care</li> <li>2. Admissions for patients to a PPS-exempt cancer hospital Rationale: These hospitals care for a unique population of patients that cannot reasonably be compared to the patients admitted to other hospitals.</li> <li>3. Admissions primarily for medical treatment of cancer are excluded Rationale: These admissions have a very different mortality and readmission profile compared to the rest of the Medicare population (higher rates of planned readmissions and higher rates of competing mortality), and outcomes for these admissions do not correlate well with outcomes for other admissions. Patients with cancer who are admitted for other diagnoses or for surgical treatment of their cancer remain in the measure.</li> <li>4. Admissions primarily for psychiatric disease are excluded Rationale: Patients admitted principally for psychiatric treatment are typically cared for in separate psychiatric centers which are not comparable to acute care hospitals. See Data Dictionary for excluded CCSs.</li> <li>5. Admissions for “rehabilitation care; fitting of prostheses and adjustment devices” (CCS 254) are excluded Rationale: These admissions are not typically admitted to an acute care hospital for acute care.</li> <li>6. Admissions without 30 Days of Post-Discharge Enrollment are excluded</li> </ol>	<p>Both the original HWR and ACR versions of the measure exclude index admissions for patients:</p> <ol style="list-style-type: none"> <li>1. Admitted to PPS-exempt cancer hospitals; identified by the Medicare provider ID Rationale: These hospitals care for a unique population of patients that cannot reasonably be compared to patients admitted to other hospitals.</li> <li>2. Without at least 30 days of post-discharge enrollment in Medicare FFS; determined using data captured in the Medicare Enrollment Database (EDB) Rationale: The 30-day readmission outcome cannot be assessed in this group since claims data are used to determine whether a patient was readmitted.</li> <li>3. 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.</li> <li>4. Admitted for primary psychiatric diagnoses Rationale: Patients admitted for psychiatric treatment are typically cared for in separate psychiatric or rehabilitation centers that are not comparable to short-term acute care hospitals.</li> <li>5. Admitted for rehabilitation Rationale: These admissions are not typically to a short-term acute care hospital and are not for acute care.</li> <li>6. Admitted for medical treatment of cancer Rationale: These admissions have a different mortality and readmission profile than the rest of the Medicare population, and outcomes for these admissions do not correlate well with outcomes for other admissions. Patients with cancer admitted for other diagnoses or for surgical treatment of their cancer remain in the measure.</li> </ol>

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
	<p>Rationale: The 30-day readmission outcome cannot be assessed in patients who do not maintain enrollment for at least 30 days following discharge.</p> <p>7. Admissions cannot be identified in IDR database</p> <p>Rationale: Information from the attribution cannot be applied for patients without data of physician information, which we extracted from IDR database.</p> <p>8. Patients cannot be attributed to a clinician group.</p> <p>Rationale: Only patients assigned to eligible clinician groups should be included in the measure.</p> <p>Note that a readmission within 30-days will also be eligible as an index admission if it meets all other eligibility criteria. This allows our measure to capture repeated admissions for the same patient, whether with the same clinician(s) or not. Since there are few patients with multiple admissions in the same year and in the same specialty cohort, we chose to treat multiple admissions as statistically independent.</p>	
Risk Adjustment	Statistical risk model	Statistical risk model
Stratification	N/A	N/A
Type Score	Rate/proportion    better quality = lower score	Rate/proportion    better quality = lower score
Algorithm	<p>The index admissions are identified as described above in S.5-S.9.</p> <p>Specialty Cohorts</p> <p>The measure uses an algorithm identical to that of the hospital level measure (NQF #1789) to group index admissions into subgroups for risk adjustment. The measure aggregates the ICD-9 and ICD-10 principal diagnosis and all procedure codes of the index admission into clinically coherent groups of conditions and procedures (condition categories or procedure</p>	<p>The measure estimates hospital-level 30-day all-cause RSRRs using hierarchical logistic regression models. In brief, the approach simultaneously models data at the patient and hospital levels to account for variance in patient outcomes within and between hospitals (Normand et al., 2007). At the patient level, it models the log-odds of hospital readmission within 30 days of discharge using age, selected clinical covariates, and a hospital-specific effect. At the hospital level, the approach models the hospital-specific effects as arising from a normal distribution. The hospital effect represents the underlying risk of a readmission at the hospital, after accounting for patient risk. The</p>

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
	<p>categories) using the AHRQ CCS. There is a total of 285 mutually exclusive AHRQ condition categories, most of which are single, homogenous diseases such as pneumonia or acute myocardial infarction. Some are aggregates of conditions, such as “other bacterial infections.” There is a total of 231 mutually exclusive procedure categories. Using these AHRQ CCS procedure and condition categories, the measure assigns each index hospitalization to one of five mutually exclusive specialty cohorts: surgery/gynecology, cardiorespiratory, cardiovascular, neurology, and medicine. The rationale behind this organization is that conditions typically cared for by the same team of clinicians are expected to experience similar added (or reduced) levels of readmission risk.</p> <p>Step 1. The measure first assigns admissions with qualifying AHRQ procedure categories to the Surgery/Gynecology Cohort. This cohort includes admissions likely cared for by surgical or gynecological teams.</p> <p>Step 2. The measure then sorts admissions into one of the four remaining specialty cohorts based on the AHRQ diagnosis category of the principal discharge diagnosis:</p> <p>The Cardiorespiratory Cohort: includes several condition categories with very high readmission rates such as pneumonia, chronic obstructive pulmonary disease, and heart failure. These admissions are combined into a single cohort because they are often clinically indistinguishable and patients are often simultaneously treated for several of these diagnoses.</p> <p>The Cardiovascular Cohort: includes condition categories such as acute myocardial infarction, that in large</p>	<p>hospital-specific effects are given a distribution to account for the clustering (non-independence) of patients within the same hospital (Normand et al., 2007). If there were no differences among hospitals, then after adjusting for patient risk, the hospital effects should be identical across all hospitals.</p> <p>Admissions are assigned to one of five mutually exclusive specialty cohort groups consisting of related conditions or procedures. For each specialty cohort group, the SRR is calculated as the ratio of the number of “predicted” readmissions to the number of “expected” readmissions at a given hospital. For each hospital, the numerator of the ratio is the number of readmissions within 30 days, predicted based on the hospital’s performance with its observed case mix and service mix, and the denominator is the number of readmissions expected based on the nation’s performance with that hospital’s case mix and service mix. This approach is analogous to a ratio of “observed” to “expected” used in other types of statistical analyses. It conceptually allows a particular hospital’s performance, given its case mix and service mix, to be compared to an average hospital’s performance with the same case mix and service mix. Thus, a lower ratio indicates lower-than-expected readmission rates or better quality, while a higher ratio indicates higher-than-expected readmission rates or worse quality.</p> <p>For each specialty cohort, the “predicted” number of readmissions (the numerator) is calculated by using the coefficients estimated by regressing the risk factors and the hospital-specific effect on the risk of readmission. The estimated hospital-specific effect for each cohort is added to the sum of the estimated regression coefficients multiplied by patient characteristics. The results are log-transformed and summed over all patients attributed to a hospital to calculate a predicted value. The “expected” number of readmissions (the denominator) is obtained in the same manner, but a common effect using all hospitals in our sample is added in place of the hospital-specific effect. The results are log-transformed and summed over all patients attributed to a hospital to calculate an expected value. To assess hospital performance for each reporting period, we re-estimate the model coefficients using the data in that period.</p>

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
	<p>hospitals, might be cared for by a separate cardiac or cardiovascular team.</p> <p>The Neurology Cohort: includes neurologic condition categories such as stroke, that in large hospitals, might be cared for by a separate neurology team.</p> <p>The Medicine Cohort: includes all non-surgical patients who were not assigned to any of the other cohorts.</p> <p>The full list of the specific diagnosis and procedure AHRQ CCS categories used to define the specialty cohorts are attached in data field S.2b (Data Dictionary or Code Table).</p> <p>Risk adjustment</p> <p>Risk adjustment is done separately for each specialty cohort using a logistic regression model with 30-day readmission as the outcome. Risk adjusters in each model are identical to those used in the specialty cohorts for the hospital level measure (NQF #1789) and include the CCS for the principle diagnosis. The full list of risk adjusters can be found in the Data Dictionary.</p> <p>Measure Score</p> <p>Because the same admission may be attributed to more than one unique Eligible Clinician group, we could not apply the method used by the existing hospital-level HWR measure (NQF#1789) to construct risk standardized readmission rates. Instead, we adopted a method that, while requiring an assumption of independence across entities, allowed us to account for correlation within entity. The measure uses instead an approach similar to that used by the Patient Safety and Adverse Events Composite measure (NQF #0531).</p> <p>Reference the attached Intent to Submit form for the complete response.</p>	<p>The specialty cohort SRRs are then pooled for each hospital using a volume-weighted geometric mean to create a hospital-wide combined SRR. The combined SRR is multiplied by the national observed readmission rate to produce the RSRR. The statistical modeling approach is described fully in the original methodology report (Horwitz et al., 2012).</p> <p>ACR-specific: The ACR quality measure was adapted from the HWR quality measure. The unit of analysis was changed from the hospital to the ACO. This was possible because both the HWR and ACR measures assess readmission performance for a population that clusters patients together (either in hospitals or in ACOs). The goal is to isolate the effects of beneficiary characteristics on the probability that a patient will be readmitted from the effects of being in a specific hospital or ACO. In addition, planned readmissions are excluded for the ACR quality measure in the same way that they are excluded for the HWR measure. The ACR measure is calculated identically to what is described above for the HWR measure.</p> <p>References:</p> <p>Horwitz L, Partovian C, Lin Z, et al. Hospital-Wide All-Cause Unplanned Readmission Measure: Final Technical Report. 2012;  <a href="https://www.qualitynet.org/dcs/ContentServer?c=Page&amp;pagename=QnetPublic%2FPage%2FQnetTier4&amp;cid=1219069855841">https://www.qualitynet.org/dcs/ContentServer?c=Page&amp;pagename=QnetPublic%2FPage%2FQnetTier4&amp;cid=1219069855841</a></p> <p>Normand S-LT, Shahian DM. 2007. Statistical and Clinical Aspects of Hospital Outcomes Profiling. Stat Sci 22(2): 206-226.</p>

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
	<p>Creating Credible Interval Estimates</p> <p>For purposes of estimating confidence intervals, we used bootstrapping. Because of overlapping assignment of patients, bootstrapping was at the specialty cohort level. Specifically, we select <math>m=1, \dots, M</math> random samples of discharges with replacement from each specialty cohort. Using the existing attribution, we calculated (1), (2) and (3) above for each provider. The 95% credible interval estimate of the RARRj for each provider was used as the estimated 95% confidence interval.</p>	
Submission items	<p>5.1 Identified measures:</p> <p>5a.1 Are specs completely harmonized? Yes</p> <p>5a.2 If not completely harmonized, identify difference, rationale, impact: For the NQF #1789 All-Cause Unplanned Readmission Measure, attribution is to a facility, with measurement at the hospital level. If used to assess clinician groups, attribution of facility-based groups would be the hospital at which the plurality of facility-based clinicians were attributed. There would be no attribution to outpatient providers. In contrast to facility-based measures, the current measure is an eligible clinician group-level measure that is aligned with, but not identical to, the original hospital-level measure (#1789). The current measure was developed with input from a diverse Technical Expert Panel (TEP) that included patients and clinicians to ensure the resulting measure is as meaningful as possible to all stakeholders. The TEP members strongly advocated attributing the measure to multiple clinicians, including outpatient providers, to create incentives for shared accountability for patient readmissions.</p>	<p>5.1 Identified measures: 0695: Hospital 30-Day Risk-Standardized Readmission Rates following Percutaneous Coronary Intervention (PCI)</p> <p>0329: Risk-Adjusted 30-Day All-Cause Readmission Rate</p> <p>0330: Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following heart failure (HF) hospitalization</p> <p>0505: Hospital 30-day all-cause risk-standardized readmission rate (RSRR) following acute myocardial infarction (AMI) hospitalization.</p> <p>0506: Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following pneumonia hospitalization</p> <p>1551: Hospital-level 30-day risk-standardized readmission rate (RSRR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)</p> <p>1768: Plan All-Cause Readmissions (PCR)</p> <p>1891: Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following chronic obstructive pulmonary disease (COPD) hospitalization</p> <p>5a.1 Are specs completely harmonized? No</p> <p>5a.2 If not completely harmonized, identify difference, rationale, impact: This measure and the National Committee for Quality Assurance (NCQA) Plan All-Cause Readmissions (PCR) Measure #1768 are related measures, but are not competing because they do not have the same measure</p>

	3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission Rate (HWR) for the Merit-Based Incentive Payment System (MIPS) Eligible Clinician Groups	1789: Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)
	<p>5b.1 If competing, why superior or rationale for additive value: Clinicians, especially those with key roles in caring for the patient, can influence the risk of readmission both directly and through their influence on hospital culture and programs. Therefore, many of the best practices and strategies adopted by hospitals for reducing readmissions can be supported and promoted by clinician groups to improve patient outcomes. Further, by attributing each index admission to multiple clinicians, this measure encourages and incentivizes care coordination among the clinicians with key roles in reducing the risk that the patient returns for unplanned acute care.</p>	<p>focus and same target population. In addition, both have been previously harmonized to the extent possible under the guidance of the National Quality Forum Steering Committee in 2011. Each of these measures has different specifications. NCQA's Measure #1768 counts the number of inpatient stays for patients aged 18 and older during a measurement year that were followed by an acute readmission for any diagnosis to any hospital within 30 days. It contrasts this count with a calculation of the predicted probability of an acute readmission. NCQA's measure is intended for quality monitoring and accountability at the health plan level. This measure estimates the risk-standardized rate of unplanned, all-cause readmissions to a hospital or ACO for any eligible condition within 30 days of hospital discharge for patients aged 18 and older. The measure will result in a single summary risk-adjusted readmission rate for conditions or procedures that fall under five specialties: surgery/gynecology, general medicine, cardiorespiratory, cardiovascular, and neurology. This measure is specified for evaluating hospital or ACO performance. However, despite these differences in cohort specifications, both measures under NQF guidance have been harmonized to the extent possible through modifications such as exclusion of planned readmissions. We did not include in our list of related measures any non-outcome (e.g., process) measures with the same target population as our measure. Because this is an outcome measure, clinical coherence of the cohort takes precedence over alignment with related non-outcome measures. Furthermore, non-outcome measures are limited due to broader patient exclusions. This is because they typically only include a specific subset of patients who are eligible for that measure (for example, patients who receive a specific medication or undergo a specific procedure).</p> <p>5b.1 If competing, why superior or rationale for additive value: N/A</p>

## Appendix F: Pre-Evaluation Comments

Comments received as of January 31, 2020.

Topic	Commenter	Comment
3495: Hospital-Wide 30-Day, All-Cause, Unplanned Readmission (HWR) Rate for the Merit-Based Incentive Payment System (MIPS) Eligible Clinicians and Eligible Clinician Groups	American Medical Association	<p>The American Medication Association (AMA) appreciates the updated information provided by the developer on this measure, but we continue to believe that the evidence and testing provided do not meet the NQF Measure Evaluation Criteria.</p> <p>The additional information within the evidence submission outlining the justification for attribution to the three types of clinician groups relies on general statements and only two additional studies are cited specific to attribution to the discharging clinician. One article focuses on individuals with a diagnosis of heart failure and while it is a meta-analysis of multiple studies, it does not directly demonstrate that clinician action is what leads to decreased readmission rates. The second study is one that shows that the use of a decision support tool by physicians can assist in better discharge processes and ultimately reduced readmission rates. While this finding is encouraging, it is not broadly applicable since the intervention was only implemented across four medical units in one urban, university medical center. Interestingly, while the researchers were able to reduce referral or high-risk patients' readmissions, the rates (even when improved) are around 17%, which is similar to the current performance data provided in 1b. Performance Gap. Therefore, raising a question that we have asked and highlighted in previous reviews of the hospital level measure (NQF 1789) on whether there are any additional reductions in rates to be gained.</p> <p>In addition, the measure score reliability across the 5 specialty cohorts continues to be below a minimum acceptable threshold of 0.7 when a case minimum of 25 patients is applied. The results continue to remain less than optimal when a minimum sample of 200 patients is applied.</p> <p>The AMA believes that this additional information, while helpful, does not alleviate any of our concerns and encourage the Standing Committee to not recommend the measure for endorsement.</p>

National Quality Forum  
1099 14th Street NW, Suite 500  
Washington, DC 20005  
<http://www.qualityforum.org>