

Endorsing Cost and Resource Use Measures: Phase 3

FINAL TECHNICAL REPORT

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Introduction

This report serves as an addendum to the Cost and Resource Use phase 1 and phase 2 reports; the content of this report will focus solely on the evaluation of the Cost and Resource Use phase 3 pulmonary condition-specific measures. Details of the evaluation of each of the measures can be found in [Appendix A](#).

This project was a three-phased effort focused on evaluating and endorsing cost and resource use measures. In the [phase 1](#), noncondition-specific measures of total cost were evaluated; a noncondition-specific measure of total cost using a per-hospitalization episode approach for the Medicare population was endorsed. [Phase 2](#) focused on cardiovascular condition-specific measures, and phase 3 focuses on pulmonary condition-specific measures. A summary of the measures evaluated and endorsed for each phase is included below:

- Phase 1: Total cost noncondition-specific per-capita or per-hospitalization episodes
 - Endorsed (December 6, 2013): 2158: Medicare Spending Per Beneficiary measure (CMS)
- Phase 2: Cardiovascular condition-specific per-capita and condition-specific episodes
 - Endorsed (October 7, 2014): 1558: Relative Resource Use for People with Cardiovascular Conditions (NCQA)
 - Endorsed with conditions* (February 4, 2015):
 - 2431: Hospital-level, risk-standardized payment associated with a 30-day episode-of-care for Acute Myocardial Infarction (AMI) (CMS/Yale)
 - 2436: Hospital-level, risk-standardized payment associated with a 30-day episode-of-care for heart failure (HF) (CMS/Yale)
- Phase 3: Pulmonary condition-specific per-capita and condition-specific episodes
 - Endorsed (December 29, 2014):
 - 1560: Relative Resource Use for People with COPD (NCQA)
 - 1561: Relative Resource Use for People with Asthma (NCQA)
 - Endorsed with conditions* (February 4, 2015):
 - 2579: Hospital-level, risk-standardized payment associated with a 30-day episode-of-care for pneumonia (CMS/Yale)

****Conditions for endorsement put forth by the NQF Board of Directors included:***

- One-year look-back assessment of unintended consequences: NQF staff will work with the Cost and Resource Use Standing Committee and CMS to determine a plan for assessing potential unintended consequences of these measures in use. The evaluation of unintended consequences will begin in approximately 1 year, and possible changes to the measures based on these data will be discussed at that time.
- Consideration for the SDS trial period: The Cost and Resource Use Standing Committee will consider whether the measure should be included in the NQF trial period for consideration of sociodemographic status adjustment.
- Attribution: NQF will consider opportunities to address the attribution issue.

Cost and Resource Use Standing Committee

In an effort to remain responsive to its stakeholders' needs, NQF has been engaged in various ongoing efforts to improve and refine the Consensus Development Process (CDP). Volunteer, multistakeholder steering committees are the central component of the endorsement process, and the success of the CDP projects is due in large part to the participation of its steering committee members. In the past, NQF initiated the Steering Committee nominations process and seated new project-specific committees only when funding for a particular project had been secured; the Committees were then disbanded once the project concluded and the funding ended. Seating new committees with each project not only lengthened the project timeline, but also resulted in a loss of process continuity and consistency because committee membership changed—often quite substantially—over time.

To address these weaknesses in the CDP, NQF transitioned to the use of Standing Committees for various topic areas. These Standing Committees oversee the various measure portfolios; this oversight function will include evaluating both newly-submitted and previously-endorsed measures against NQF's measure evaluation criteria, identifying gaps in the measurement portfolio, providing feedback on how the portfolio should evolve, and serving on any ad hoc or expedited projects in their designated topic areas.

Since the completion of the first phase of cost and resource use measure evaluation, the Cost and Resource Use *Steering* Committee was transitioned to a *Standing* Committee. While many members of the current standing committee were on the prior steering committee, several new members joined the Committee as well. The Cost and Resource Use Standing Committee currently includes 23 members ([Appendix C](#)). Each member has been randomly appointed to serve an initial 2- or 3-year term, after which he/she may serve a subsequent 3-year term if desired.

NQF Portfolio of Performance Measures for Cost and Resource Use

With the completion of the third phase of cost and resource use measure evaluation, the NQF portfolio includes 9 endorsed cost and resource use measures. NQF's cost and resource use measure portfolio includes measures developed using different approaches. While there are many elements that can be compared across the approaches, the three distinguishing characteristics include whether the measure is per-capita or episode-based, condition-specific or noncondition-specific, and whether the measure uses actual prices paid or standardized prices. More specifically, per-capita measures capture costs over a 1-year period, in contrast to episode-based approaches which generally define clinically relevant start and stop periods for capturing costs or utilization. Measures can also be defined as noncondition-specific (e.g., total per member per month cost), or can be more narrowly defined for a specific condition (e.g., cost for an episode of pneumonia). The pricing approach for cost measures commonly uses actual prices paid by the health plan to the provider and a resource use measure commonly applies standard prices to the services used by the patient. The table included below compares the approaches of measures in the NQF cost and resource use measure portfolio.

Table 1. Current NQF Cost and Resource Use Measure Portfolio – Comparing Approaches

	HEALTHPARTNERS	NCQA	CMS
Measure Type	Per-capita	Per-capita	Per episode (per-hospitalization)
	Noncondition specific	Condition-specific	Noncondition specific
Costing Approach	Actual Prices Paid and Standardized Prices	Standardized Prices	Standardized Prices
Data Sources	Administrative Claims	Administrative Claims, EHR, Imaging/ Diagnostic Study, Laboratory, Pharmacy, Registry, Paper Records	Administrative Claims
Lowest Level of Analysis	Physician Group	Physician Group	Facility
Stakeholder Perspective	Patient Out-of-Pocket costs, Cost to health plan	Cost to Health Plan	Cost to Health Plan
Tested Population	Commercial	Commercial, Medicaid, Medicare	Medicare
Risk Adjustment	Johns Hopkins Adjusted Clinical Groups	Hierarchical Condition Category	Centers for Medicare & Medicaid Services Hierarchical Condition Category
Proprietary Components	Yes – Risk Adjuster Adjusted Clinical Groups (ACG)	No	No
Endorsed Measures	Total Cost of Care, Total Resource Use	Asthma, Chronic Obstructive Pulmonary Disease, Cardiovascular, Diabetes	Payment-Standardized Medicare Spending Per Beneficiary (MSPB)

Use of Measures in the Portfolio

The cost and resource use measures in the portfolio are among NQF’s newest measures. Many are in use in private sector programs such as HEDIS, NCQA’s Quality Compass and Health Plan Rankings, the HealthPartners Total Cost of Care Shared Savings Provider Incentive program, and the Partners in Excellence program. Since endorsement, many states and regional quality improvement collaboratives

have implemented the HealthPartners measures in an effort to further understand their cost and resource use in primary care. NQF #2158 Payment-Standardized Medicare Spending Per Beneficiary (MSPB) is currently in use in the Hospital Inpatient Quality Reporting (IQR) and Hospital Value-Based Purchasing (VBP) federal programs. NQF #2431 Hospital-level, Risk-standardized Payment Associated with a 30 day Episode-of-Care for Acute Myocardial Infraction (AMI) is currently used in the Hospital IQR federal program and is reported on the Hospital Compare website alongside an AMI mortality measure. NQF #2436 Hospital-level, Risk-standardized Payment Associated with a 30 day Episode-of-Care for Heart Failure (HF) has been finalized to be used in the Hospital IQR program beginning October 1, 2016; NQF #2579 Hospital-level, Risk-standardized Payment Associated with a 30 day Episode-of-Care for pneumonia has been finalized for the Hospital IQR program beginning October 1, 2017. For more information on previously endorsed NQF cost and resource use measures, see [Appendix B](#).

Improving NQF's Cost and Resource Use Measurement Portfolio

During their discussions the Committee identified high leverage areas for cost/resource use measurement for future measure development. Additionally, the Committee reviewed a proposed list of high leverage opportunities identified by the NQF-convened [Measures Application Partnership \(MAP\) Affordability Taskforce](#). The Cost and Resource Use Standing Committee concurred with the MAP Taskforce noting the importance of measuring total cost of care, variation amongst providers and clinicians for the prices charged when providing the same services, and making pricing information more transparent. Specifically, the group supported development of generic total cost measures capturing episodes of care that can be applied to high priority conditions in alignment with NQF's quality measurement topic areas.

In addition to measuring total cost of care, the Committee encouraged developers to look to Accountable Care Organizations (ACOs) to understand what those on the ground have determined to be important to measure in this topic area; this includes measure of utilization which can capture patterns of practice that may need to change in order to improve costs.

Other recommendations focused on the information that should be captured in the cost and resource use measures being developed:

- Consumer out-of-pocket expenses
 - The current portfolio of measures provides minimal information on what consumers and patients are paying for healthcare.
- Actual prices paid by patients and health plans rather than measures using standardized pricing approaches
 - Committee members stated that information on actual prices paid by various stakeholders would allow for understanding of variation within a market or across regions.
- Trends in cost performance over time at the level of analysis of the health plan
 - Committee members acknowledged that trend data for costs over time would be valuable for health plans to improve cost over time.

- Measures capturing systematic cost drivers (i.e., market share for healthcare and provider networks)
 - Committee members noted that there are few sources of information which increase transparency of the systematic drivers of cost within a market or region.
- Cascading measures that roll up costs from all levels of analysis and which can be deconstructed to understand costs at lower levels of analysis
 - Committee members stated a preference for measures that capture all costs but that allow for deconstruction to capture costs from various episodes or at lower levels of analysis.

Future Considerations

Measuring Efficiency and Value

NQF has defined efficiency broadly as the resource use (or cost) associated with a ***specific level of performance*** with respect to the other five Institute of Medicine (IOM) aims of quality: safety, timeliness, effectiveness, equity, and patient-centeredness. NQF's work around cost and resource use measures has built on this concept, endorsing these cost and resource use measures with the intent that they serve as building blocks in understanding efficiency (a view of cost/resource use in conjunction with quality) and value (a view of cost/resource use in conjunction with quality, taking into account stakeholder preference).

In early 2014, NQF commissioned a [paper](#) to assess approaches to link measures of quality and cost for the purpose of measuring efficiency in healthcare. The paper was intended to serve as a foundational piece to inform the deliberations of a multistakeholder Expert Panel that will provide input on the methodological challenges to linking cost and quality measures, and highlight the considerations for combining cost and quality measures to assess efficiency of care for certain applications.

Based on the recommendations of the Linking Cost and Quality Panel, it has become apparent that there are some who believe that linking cost to a “specific level” of quality implies preference-weighting and requires a value judgment; therefore, the concepts of efficiency and value begin to overlap. The Committee agreed, acknowledging that it will be difficult to develop an objective index measure of efficiency, as efficiency is inextricably tethered to the stakeholder priorities and preferences associated with cost and quality. Consequently, the Committee recommended that NQF prioritize understanding overall value of healthcare delivery, emphasizing that stakeholder perception of value will require availability of an array of cost and quality measurement information, with variable weighting dependent upon the stakeholder. The Committee cautioned that it may not be possible to understand value in the context of condition-specific measures of cost/resource use paired with quality measures; a longitudinal picture capturing the continuum of care for a patient may be necessary.

The Committee acknowledged that significant progress has been made in the development of sound quality and cost/resource use measures. The Committee would like to see approaches to roll up the information contained in the individual measures into an overall value score or value ranking, as seen in other markets (automobile manufacturers, consumer reports, etc.) so that the information from the measures would signal the value of healthcare services provided. However, the Committee

acknowledged there are limitations to this approach, as various stakeholder groups have different use cases for understanding the linkage between cost and quality measures. For example, consumers may be more interested in markers of cost and quality related to the specific care being sought, whereas purchasers or insurers may be more interested in total per-capita cost at or above an accepted threshold of quality. The Committee stated that NQF, via its MAP activities, is well situated to signal the market on which measure properties are the most appropriate for understanding value for particular applications or stakeholders.

Considerations for Improving the Cost and Resource Use Measure Evaluation Criteria

Currently, NQF endorses cost and resource use measures as stand-alone measures under the guidance and framework that, when implemented, cost and resource use measures are used and reported with quality measures. Given the previous discussions related to the future direction of the NQF cost and resource use portfolio, specifically the push to understand value via the reporting of cost/resource use measures in conjunction with quality measures, the Committee discussed whether the current NQF [Resource Use Measure Evaluation Criteria](#) would remain relevant.

The Committee reaffirmed that, pursuant to the current NQF Resource Use Measure Evaluation Criteria, NQF-endorsed cost and resource use measures must meet the 4 major criteria (Importance to Measure and Report, Scientific Acceptability, Feasibility, Usability and Use). Specifically, the measures must be important, be demonstrated to be precisely and appropriately specified given the condition or episode being measured, be demonstrably both reliable and valid, be feasible to implement, and be submitted with plans for use for accountability or quality improvement, and also be deconstructed so that those being measured can identify areas to focus efforts on improving costs.

The Committee stated that it may become important to consider use cases, in addition to the current criteria, when evaluating a cost/resource use measure, to provide overall context when evaluating whether the measure is appropriate for accountability and/or quality improvement purposes. The Committee acknowledged that including use cases may result in variable standards for reliability and validity dependent upon the submitted use case; consequently, the Committee stated that it may be necessary to consider whether every measure is suitable for accountability and payment purposes when evaluating for NQF endorsement.

Cost and Resource Use (Phase 3): Pulmonary Measure Evaluation

The Cost and Resource Use Standing Committee considered 1 new measure and 2 measures undergoing maintenance review against NQF's [Resource Use Measure Evaluation Criteria](#). Another pulmonary cost measure, 1611 ETG-Based Pneumonia cost of care measure from Optum, was due for maintenance, however, the steward no longer wished to maintain endorsement and therefore endorsement was removed. On June 25-26, 2014 the standing Committee met to evaluate the 3 measures and a follow-up Committee call was scheduled for July 23, 2014 for members of the Committee who were unable to attend the in-person meeting to evaluate the measures and submit ratings and recommendations for endorsement. To facilitate the evaluation, a Pulmonary Technical Expert Panel (TEP) was convened (see [Appendix C](#)) to review and provide input to the Committee on the clinical specifications of the measures.

In addition to convening the TEP and Committee via conference call to discuss the TEP's analysis, a qualitative summary of the TEP's analysis of the measures was compiled and shared with the Committee for consideration during their evaluation of the scientific acceptability criteria; the TEP was not charged with providing ratings of the criteria or making recommendations for endorsement. Each member of the Committee then completed a preliminary evaluation of the measures prior to consideration by the entire Standing Committee at the in-person meeting. The Committee's discussion and ratings of the criteria are summarized in the evaluation tables in [Appendix A](#).

Table 2. Cost and Resource Use Phase 3 Summary

	Maintenance	New	Total
Measures considered	2	1	3
Measures withdrawn from consideration during evaluation	0	0	0
Measures for which endorsement was removed	1	0	1
Measures endorsed (including those with conditions)	2	1	3
Measures not endorsed	0	0	0
Reasons for not endorsing	N/A	N/A	N/A

Comments Received

NQF solicits comments on endorsed measures on an ongoing basis through [the NQF Quality Positioning System \(QPS\)](#). In addition, NQF has begun soliciting comments prior to the evaluation of the measures via an online tool located on the project webpage. For this evaluation cycle, the pre-evaluation comment period was open from May 19 through June 2, 2014 for the 3 measures under review. All submitted comments were provided to the Committee prior to their initial deliberations. A total of [7 pre-evaluation comments](#) were received for NQF #1560: Relative Resource Use for People with Asthma, NQF #1561: Relative Resource Use for People with COPD, and NQF #2579: Hospital-level, risk-standardized payment associated with a 30-day episode of care for pneumonia. The commenters emphasized the importance of viewing cost and resource use measures in the context of quality measures, and they questioned the utility of the relative resource use measures under review and the specifications for the measures under review.

The 30-day post-evaluation comment was open from August 14 to September 12. During this commenting period, NQF received 18 comments from 7 member organizations. The Committee discussed these comments and reached consensus on measure-specific comments as needed during the Committee's post-comment call that was held on September 24. While many comments were in support of the measures, there were also issues raised in the comments that echoed concerns raised by the Committee in their deliberations of these pulmonary cost measures as well as the measures focused on

cardiovascular conditions from the previous phase of this work. The comments and the Committee's response for each measure are summarized in [Appendix A](#).

The primary themes of the comments on the 2 NCQA relative resource use measures for asthma and COPD focused on reliability, validity, and usability. Commenters expressed concern about the measures' usability and limited actionability for other stakeholders like consumers and providers. The developers responded to these concerns emphasizing that the intended use of the measures is to measure health plan spending for members with asthma and COPD within a measurement year and enabling health plans to compare their performance to one another. Commenter concerns about the reliability and validity focused on the stability of the measures at smaller sample sizes and inability to adequately assess efficiency and total costs for specific conditions like asthma and COPD.

For measure #2579, Hospital-level, Risk-standardized Payment Associated with a 30-day Episode of Care for Pneumonia (CMS/Yale), the major comment themes focused on the appropriateness of the attribution approach, risk adjustment, and the validity of the exclusions. Commenters expressed concern that the current attribution approach is inappropriate as it reflects an episode of care with the hospital as the sole attributable entity and does not take into account the care of the various providers across the healthcare delivery system. Commenters further suggested that this approach would be more appropriate for an integrated system or organization accepting bundled payments. Others raised concern about the risk adjustment approach and the appropriateness of stratification of claims by sociodemographic factors. The final issue discussed by the Committee in their consideration of the comments focused on the inclusion of patients with aspiration pneumonia in the denominator, which was estimated by some to account for 15% of Medicare patients discharged with pneumonia. Based on the prevalence of the code, developers will plan to re-evaluate including aspiration pneumonia in future versions of the measure.

Overarching Issues

During the Standing Committee's discussions of the measures under review, one overarching issue was raised that was factored into the Committee's ratings and recommendations for multiple measures and is not repeated in detail with each individual measure: risk adjustment.

Risk Adjustment

Two issues came to light during the Committee discussions relating to the risk adjustment approaches. The first relates to including sociodemographic status (SDS) factors in the risk adjustment model, and the second relates to r-squared values for the risk models.

SDS factors. With respect to concerns that SDS factors should be included in the measures' risk adjustment methodology, NQF acknowledged the concerns raised by the Committee; however at the time of Committee's evaluation of these measures, the NQF's Board of Directors had not yet approved the implementation of a trial period for adjusting performance measures for SDS factors. The trial period approved by the NQF Board of Directors is designated as a 2-year period of time during which SDS factors should be considered as potential factors in the risk adjustment model if there is a conceptual reason for doing so. If there is a conceptual relationship between potential SDS risk factors and the

outcome of interest, the developer should conduct empirical analyses to determine whether such factors improve the risk adjustment model. Based on that analysis, measure developers may submit measures with SDS factors included in the risk model.

For projects that were in progress before the SDS guidance and trial period were approved, like the cost and resource use project, the Committees operated under the risk adjustment criteria, guidance, and policy that was in place when the project started: the pre-existing policy specified that factors related to disparities in care should not be included in the statistical risk adjustment model and, if relevant, performance measures should be stratified for SDS factors. Since that time, the guidance put forth by the SDS Expert Panel and the NQF SDS trial period has been approved; the trial period began January 2015, and NQF is currently working with the developers of the CMS cost measures to determine the evaluation process of the measures for consideration during the trial period.

The Committee acknowledged that the timing of the NQF risk adjustment report was not ideal; however, given the NQF policy of not risk adjusting for sociodemographic variables at that time, the Committee recommended that measure results be stratified by relevant SDS factors as determined by analysis of available data.

r-squared values. Some Committee members expressed concern that r-squared values for the NCQA Relative Resource Use measures (NQF #1560 and NQF #1561) were higher than expected. The Committee members acknowledged that this issue of high r-squared values has occurred before, when a variety of diseases are included in the risk adjustment model; however, this does not allow for discrimination within a condition. For instance, a model which includes both young people who are not very sick with few comorbidities (e.g., asthma) versus older people who are quite sick and with a lot of comorbidities (e.g., COPD) may seem to offer great characteristics (e.g., high r-squared or c indices), but this means little. The goal should be to discriminate within asthma or within COPD, not across them. Based on their understanding of this approach, the members were concerned about the lack of clarity regarding what variance the r-square was capturing.

Summary of Measure Evaluation

The following brief summaries of the measures and the evaluation highlight the major issues that were considered by the Committee. Details of the Committee's discussion and ratings of the criteria are included in [Appendix A](#).

This phase of work focused on the review of 2 previously NQF-endorsed measures and 1 newly submitted measure addressing cost and resource use for pulmonary conditions. All 3 measures were recommended for endorsement by the Standing Committee.

1560: Relative Resource Use for People with Asthma (NCQA): Endorsed

Description: *The risk-adjusted relative resource use by health plan members with asthma during the measurement year; Resource Use Measure Type:* Per capita (population- or patient-based); **Level of Analysis:** Health Plan; **Target Population:** Populations at Risk; **Data Source:** Administrative Claims; **Measure Steward:** National Committee for Quality Assurance

This maintenance measure is a condition-specific, per-capita measure that was initially endorsed in January 2012 and was again recommended for endorsement in the current review cycle. The Committee was generally supportive of the intent of this measure, noting the importance of including cost measures alongside relevant HEDIS quality-of-care measures to assess health plan and physician group value. The Committee did state concern that the r-squared value for the risk adjustment model was higher than expected, which occurs when a variety of diseases are included in the risk adjustment model; this approach does not allow for discrimination within patients with asthma but instead looks across patients with several diseases. The Committee also requested clarity on what variance the r-square was measuring and how it was measuring this variance. This additional information from the measure developers was reviewed during the post-comment call with Committee members. The Committee accepted the developer's rationale for pooling patient data for health plan members across all 5 chronic conditions to estimate the regression for total annual spending, but urged the developer to reconsider the design approach in updates in the measure. NQF membership, CSAC, and the NQF Executive Committee ultimately approved this measure.

1561 Relative Resource Use for People with COPD (NCQA): Endorsed

Description: *The risk-adjusted relative resource use by health plan members with COPD during the measurement year; Resource Use Measure Type:* Per capita (population- or patient-based); **Level of Analysis:** Health Plan, Integrated Delivery System, Population: National, Population: Regional; **Target Population:** Populations at Risk; **Data Source:** Administrative Claims; **Measure Steward:** National Committee for Quality Assurance

This maintenance measure is a condition-specific, per-capita measure that was initially endorsed in January 2012 and was again recommended for endorsement in the current review cycle. The Committee was generally supportive of the intent of this measure, noting the importance of including cost measures alongside relevant HEDIS quality-of-care measures to assess health plan and physician group value. The Committee did state concern that the r-squared value for the risk adjustment model was higher than expected, which occurs when a variety of diseases are included in the risk adjustment model; this approach does not allow for discrimination within patients with COPD but instead looks across patients with several diseases. The Committee also requested clarity on what variance the r-square was measuring and how it was measuring this variance. This additional information from the measure developer was reviewed during the post-comment call with Committee; the Committee accepted the developer's rationale for pooling patient data for health plan members across all 5 chronic conditions to estimate the regression for total annual spending, but urged the developer to reconsider the design approach in updates in the measure. NQF membership, CSAC, and the NQF Executive Committee ultimately approved this measure.

2579 Hospital-level, risk-standardized payment associated with a 30-day episode-of-care for pneumonia (CMS/Yale): Endorsed [with conditions]

Description: *This measure estimates hospital-level, risk-standardized payment for a pneumonia episode of care starting with inpatient admission to a short term acute-care facility and extending 30 days post-admission for Medicare fee-for-service (FFS) patients who are 65 years of age or older with a principal discharge diagnosis of pneumonia; Resource Use Measure Type:* Per Episode; **Level of Analysis:** Facility;

Target Population: Senior Care; **Data Source:** Administrative Claims; **Measure Steward:** Centers for Medicare and Medicaid Services

This new measure is a condition-specific, per-episode measure that has been recommended for endorsement, with the Committee reaching the threshold for consensus. The Committee was supportive of this measure, noting the importance of including cost measures in conjunction with a quality measure to assess the value of care provided by hospitals for patients with pneumonia. Committee members raised concerns that the low r-squared value (.07) for the risk model may indicate that case mix is not being adjusted appropriately through the risk model. However, with further explanation from the developer on the rationale of the approach, the Committee found the rationale to be acceptable. The Committee also expressed concern regarding the attribution approach and the implications for attribution of costs if a patient were transferred to another hospital. The developers adequately addressed both concerns through empirical data implicating the probability of both concerns occurring is very small. The Committee reviewed quantitative results demonstrating empirical reliability testing at the level of the performance measure score. The Committee's deliberations and recommendation for endorsement were posted for comment and for NQF Member voting; the Member voting results indicated lack of consensus among the membership. Upon review of the measure, the CSAC endorsed the measure with same conditions put forth by the Board of Directors for the CMS cardiovascular hospital episode-based measures in phase 3. The Board of Directors Executive Committee ratified endorsement of this measure with conditions, which included a 1-year look-back assessment of unintended consequences and consideration for the sociodemographic status (SDS) trial period, and further work for NQF to explore the issues of attribution and provide guidance to stakeholders.

Appendix A: Details of Measure Evaluation

Endorsed Measures

1560 Relative Resource Use for People with Asthma.....	14
1561 Relative Resource Use for People with COPD.....	18
2579 Hospital-level, risk-standardized payment associated with a 30-day episode of care for pneumonia.....	22

**Endorsed with Conditions put forth by the NQF Board of Directors.*

Endorsed Measures

1560 Relative Resource Use for People with Asthma

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

Description: The risk-adjusted relative resource use by health plan members with asthma during the measurement year.

Resource Use Measure Type: Per capita (population- or patient-based)

Level of Analysis: Health Plan

Costing Method: Standardized pricing

Target population: Populations at Risk

Data Source: Administrative claims

Measure Steward: National Committee for Quality Assurance

STANDING COMMITTEE MEETING [06/25/2014]

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

(1a. High Priority, 1b. Opportunity for Improvement, 1c. Measure Intent)

1a. High Priority: **H-19; M-3; L-0; I-0; IE-0**; 1b. Opportunity for Improvement: **H-13; M-9; L-0; I-0**; 1c.

Measure Intent: **H-10; M-9; L-2; I-0** 1. Overall Importance: **H-16; M-5; L-1; I-0**

Rationale:

- The Committee stated that asthma is a prevalent and costly condition, affecting more than 23 million Americans and accounting for over \$20 billion spent annually on health care in the United States.
- The developer provided data on performance trends for Commercial and Medicaid plans demonstrating significant variation in health plan resource use from an overall perspective and with respect to specific service areas and regions, which the Committee agreed indicated a substantial opportunity for improvement.
- The Committee questioned whether trend data for health plans was available to enable health plans to understand which areas to investigate for potential cost reductions. The developer

stated that there is not trend data available, as that would require actual prices and patient populations to be standardized year to year.

- The Committee and the Technical Expert Panel's opinion that asthma is a condition for which disparities impact outcomes was substantiated by the evidence submitted by the developer demonstrating disparities; these studies indicated that race/ethnicity, socioeconomic class, and health insurance status impacted utilization for asthma related services.
- The Committee found that the measure intent was clear; that is, to reduce variation in risk adjusted resource use among patients with asthma. However, the Committee stated that, given that the measure captures all costs for asthma patients in a given year, and the proportion of patient costs associated with asthma is unclear, the measure may have been better specified using an episode-based approach. The developer stated that this approach was selected because parsing out which episode costs should or should not be attributed to the condition was subject to much debate and little consensus among the developer-convened experts during the development process.

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-8; M-13; L-0; I-0** 2b. Validity: **H-5; M-17; L-0; I-0**

Rationale:

- The Committee stated that overall the measure is well defined with clear inclusion and exclusion criteria.
- The Committee reiterated the TEP concern that asthma is over diagnosed and questioned whether the specifications should allow for patients with any diagnosis of asthma or the proxy of filling a prescription for a medication used to treat asthma to move a patient into the denominator. The Committee questioned if the measure specifications should include objective verification that the patient has asthma in order to be counted in the denominator. The measure developer clarified that even though the measurement period is one year, the measure uses a two-year look back period to determine whether a patient should be included in the denominator. A patient must have a diagnosis of asthma each consecutive year and/or meet the criteria for the denominator over both years to be counted in the denominator; the developer believes this will reduce the probability of false positives being included in the measure population.
- The reliability testing provided by the developer was conducted at the data element level and at the performance measure score level. Testing results indicated that at the data element level, the mean percentage of dollars with acceptable coding across plans was 92.8%. At the performance measure score level, the developer submitted testing assessing whether plan rankings by quartile were stable year to year; the data presented indicated that plan performance compared to other health plans remained generally stable over time.
- The developer presented information describing the process for and results of assessing face validity for the measure, as well as empirical evidence of validity obtained from a study demonstrating that for a given health plan and clinical category, measures of relative resource utilization were generally similar across different types of service, with only some modest variations. The Committee found the information presented related to validity of the measure to be sufficient.

- Some Committee members expressed concern that the r-squared value for the risk adjustment model was 0.48, which was considered to be somewhat high. The Committee acknowledged that this issue of high r-squared values has occurred before, when a variety of diseases are included in the risk adjustment model; however, this does not allow for discrimination within a condition. For instance, a model which includes both young people who are not very sick with few comorbidities (e.g., asthma) versus older people who are quite sick and with a lot of comorbidities (e.g., COPD) may seem to offer great characteristics (e.g., high r-squared or c indices), but this means little. What you want is discriminate within asthma or within COPD, not across them. Further, they were concerned about the lack of clarity regarding what variance the r-square was capturing and on which risk adjustment model cost was being regressed. As such, the Committee members requested clarity from the developers on both points and will consider any additional information during their call to review comments received during the NQF Member and Public comment period.
- The developer stated that the Hierarchical Clinical Conditions for Relative Resource Use (HCC-RRU) model was developed based on components of the CMS Hierarchical Clinical Conditions (CMS-HCC) risk adjustment methodology and accounts for age, gender, and HCC-RRU risk classifications that predict cost variability. The developer stated that r-squared testing was done by comparing four different risk adjustment approaches including the HCC-RRU model; from this analysis, the developer determined that their risk adjustment model yielded similar observed to expected results to the other models across health plans. The developer posited that the r-squared values would be expected to be slightly higher, as the HCC categories are based on a Medicare population, and this measure population includes a broader age range.
- The Committee questioned whether adjustments for sociodemographic status (SDS) factors should be incorporated into the risk adjustment model. NQF clarified that it is in the early stages of reviewing our policy on risk adjusting for SDS factors. The recommendations for modifying NQF's current policy on adjusting for SDS factors have not yet been finalized. As such, we ask that Committees continue to evaluate measures according to our current guidelines, that SDS factors are not included in the risk adjustment model, but are used to stratify the measure. If in the future the recommendations for adjusting for SDS factors become NQF policy, measures that may be improved from incorporating these adjustments will be updated and reviewed by the Committee through one of NQF's measure maintenance processes.

3. Feasibility: H-20; M-1; L-1; I-0

(3a. Byproduct of Care Processes; and 3b. Electronic sources; and 3c. Data Collection Strategy)

Rationale:

- The Committee stated that because the measure is already in use and is calculated using claims data at the health plan level as part of collecting HEDIS data, the measure is very feasible to implement.

4. Usability: H-7; M-13; L-2; I-0

(4a. Accountability/transparency (used in accountability w/in 3 yr, public reporting w/in 6 yr, or if new - credible plan); and 4b. Improvement – progress demonstrated (if new - credible rationale); and 4c. Unintended Consequences - benefits outweigh evidence of unintended negative consequences (to patients/populations); and 4d. Measure Deconstruction – can be deconstructed to facilitate transparency and understanding)

Rationale:

- The Committee agreed that at a high level this is a useful measure for health plans to look at their own data and see where they can make improvements.
- The Committee questioned how consumers and patients would use the measure as the data are reported at the health plan level, which may not be granular enough for these stakeholders in particular. The developer acknowledged that this measure is less usable for consumers and patients.
- The Committee questioned whether this measure would be actionable by health plans because the trend data are not available. The developer did not see this as a weakness of the measure, as the measure does allow for comparisons between health plans.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: Y-22; N-0

6. Public and Member Comment: August 14, 2014 – September 12, 2014

Comments received:

- Comments addressed the inability of both measures to adequately assess efficiency and total costs for specific conditions like asthma and COPD.
- Five comments were received regarding usability of this measure. Some commenters were in support of these measures being used by health plans; others were concerned with the limited actionability for other stakeholders and were not in support of measures used for public reporting and a decision-making tool for consumers.
- During their deliberations, the Committee raised concern regarding the risk adjustment model for this measure and reviewed the developer's response to these issues during their comment call. The concern was that the r-squared values for both measures were 0.48 and the current risk model adjustment model is unable to discriminate within a specified health condition (i.e., asthma or COPD), as opposed to discriminating across them; by testing the model on a heterogeneous population (including members with asthma, COPD and cardiovascular conditions) it becomes difficult to discern what is causing the variation.

Developer response:

- NCQA addressed the concerns of commenters and identified that these measures are not intended to measure cost or severity of asthma or COPD; therefore, these measures assess a health plan's resource use of a member with asthma or COPD and compare the resource use of the health plan's peer group.
- NCQA submitted a response to the Committee's concerns used a single regression model to define risk strata and relationship between HCCs and cost; asthma cases were assessed due to low severity, COPD cases have broader mix of severity, and for both conditions costs rise substantially with patient severity.

Committee responses:

- The Committee generally accepted the developer's rationale for pooling data for health plan members across all five chronic conditions to estimate the regression for total annual spending. The group generally agreed that since the measure seeks to profile the total cost of all medical services for health plan members that this approach was reasonable. Some members

of the Committee urged the developer to reconsider this design approach in updates to the measure.

- The Committee also weighed these benefits and challenges with the measures' usability when evaluating these measures. Given that the intent of these measures as specified is to measure the cost of care from the health plan perspective to care for asthmatics and those with COPD, and the current widespread use of these measures by health plans, the Committee ultimately recommended the measures.

7. NQF Member Voting: October 6, 2014- October 20, 2014

- Representatives of 18 member organizations voted, with 80% approval.

8. Consensus Standards Approval Committee (CSAC) Vote: November 12, 2014; Y-13, N-0

9. Board of Directors Vote: December 22, 2014

- The Executive Committee ratified endorsement.

10. Appeals: December 30, 2014 -January 28, 2015

- No appeals submitted.

1561 Relative Resource Use for People with COPD

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

Description: The risk-adjusted relative resource use by health plan members with COPD during the measurement year.

Resource Use Measure Type: Per capita (population- or patient-based)

Level of Analysis: Health Plan, Integrated Delivery System, Population : National, Population : Regional

Costing Method: Standardized pricing

Target population: Populations at Risk

Data Source: Administrative claims

Measure Steward: National Committee for Quality Assurance

STANDING COMMITTEE MEETING [06/25/2014]

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

(1a. High Priority, 1b. Opportunity for Improvement, 1c. Measure Intent)

1a. High Priority: **H-19; M-2; L-1; I-0; IE-0**; 1b. Opportunity for Improvement: **H-13; M-8; L-1; I-0**; 1c. Measure Intent: **H-11; M-9; L-2; I-0** 1. Overall Importance: **H-18; M-3; L-1; I-0**

Rationale:

- The Committee stated that COPD is a prevalent and costly condition. COPD affects more than 12 million people who have been diagnosed with COPD and another 12 million who are not aware they have the disease; it is the fourth leading cause of death in the United States. COPD also accounts for over \$18 billion spent annually on health care in the United States.
- The developer provided data on performance trends for Commercial and Medicaid plans demonstrating significant variation in health plan resource use from an overall perspective and with respect to specific service areas and regions, which the Committee agreed indicated a substantial opportunity for improvement.
- The Committee questioned whether trend data for health plans was available to enable health plans to understand which areas to investigate for potential cost reductions. The developer stated that there is not trend data available, as that would require actual prices and patient populations to be standardized year to year.
- The Committee found that the measure intent was clear; that is, to reduce variation in risk adjusted resource use among patients with COPD. However, the Committee stated that, given that the measure captures all costs for COPD patients in a given year, and the proportion of patient costs associated with COPD is unclear, the measure may have been better specified using an episode-based approach. The developer stated that this approach was selected because parsing out which episode costs should or should not be attributed to the condition was subject to much debate and little consensus.

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-6; M-14; L-2; I-0** 2b. Validity: **H-4; M-17; L-1; I-0**

Rationale:

- The Committee stated that overall the measure is well defined with clear inclusion and exclusion criteria.
- The reliability testing provided by the developer was conducted at the data element level and at the performance measure score level. Testing results indicated that at the data element level, the mean percentage of dollars with acceptable coding across plans was 92.8%. At the performance measure score level, the developer submitted testing assessing whether plan rankings by quartile were stable year to year; the data presented indicated that plan performance compared to other health plans remained generally stable over time.
- The developer presented information describing the process for and results of assessing face validity for the measure, as well as empirical evidence of validity obtained from a study demonstrating that for a given health plan and clinical category, measures of relative resource utilization were generally similar across different types of service, with only some modest variations. The Committee found the information presented related to validity of the measure to be sufficient.
- Some Committee members expressed concern that the r-squared value for the risk adjustment model was .48, which was considered to be somewhat high. The Committee acknowledged that this issue of high r-squared values has occurred before, when a variety of diseases are included in the risk adjustment model; however, this does not allow for discrimination within a condition. For instance, a model which includes both young people who are not very sick with few comorbidities (e.g., asthma) versus older people who are quite sick and with a lot of comorbidities (e.g., COPD) may seem to offer great characteristics (e.g., high r-squared or c

indices), but this means little. What you want is discriminate within asthma or within COPD, not across them. Further, they were concerned about the lack of clarity regarding what variance the r-square was capturing and on which risk adjustment model cost was being regressed. As such, the Committee members requested clarity from the developers on both points and will consider any additional information during their call to review comments received during the NQF Member and Public comment period.

- The developer stated that the Hierarchical Clinical Conditions for Relative Resource Use (HCC-RRU) model was developed based on components of the CMS Hierarchical Clinical Conditions (CMS-HCC) risk adjustment methodology and accounts for age, gender, and HCC-RRU risk classifications that predict cost variability. The developer stated that r-squared testing was done by comparing four different risk adjustment approaches including the HCC-RRU model; from this analysis, the developer determined that their risk adjustment model yielded similar observed to expected results to the other models across health plans. The developer posited that the r-squared values would be expected to be slightly higher, as the HCC categories are based on a Medicare population, and this measure population includes a broader age range.
- The Committee questioned whether adjustments for sociodemographic status (SDS) factors should be incorporated into the risk adjustment model. NQF clarified that it is in the early stages of reviewing our policy on risk adjusting for SDS factors. The recommendations for modifying NQF's current policy on adjusting for SDS factors have not yet been finalized. As such, we ask that Committees continue to evaluate measures according to our current guidelines, that SDS factors are not included in the risk adjustment model, but are used to stratify the measure. If in the future the recommendations for adjusting for SDS factors become NQF policy, measures that may be improved from incorporating these adjustments will be updated and reviewed by the Committee through one of NQF's measure maintenance processes.

3. Feasibility: H-18; M-4; L-0; I-0

(3a. Byproduct of Care Processes; and 3b. Electronic sources; and 3c. Data Collection Strategy)

Rationale:

- The Committee stated that because the measure is already in use and is calculated using claims data at the health plan level as part of collecting HEDIS data, the measure is very feasible to implement.

4. Usability: H-8; M-13; L-1; I-0

(4a. Accountability/transparency (used in accountability w/in 3 yr, public reporting w/in 6 yr, or if new - credible plan); and 4b. Improvement – progress demonstrated (if new - credible rationale); and 4c. Unintended Consequences - benefits outweigh evidence of unintended negative consequences (to patients/populations); and 4d. Measure Deconstruction – can be deconstructed to facilitate transparency and understanding)

Rationale:

- The Committee agreed that at a high level this is a useful measure for health plans to look at their own data and see where they can make improvements.
- The Committee questioned how consumers and patients would use the measure as the data are reported at the health plan level, which may not be granular enough for these stakeholders in particular. The developer acknowledged that this measure is less usable for consumers and patients.

- The Committee questioned whether this measure would be actionable by health plans because the trend data are not available. The developer did not see this as a weakness of the measure, as the measure does allow for comparisons between health plans.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: Y-20; N-2

6. Public and Member Comment: August 14, 2014 – September 12, 2014

Comments received:

- Comments addressed the inability of both measures to adequately assess efficiency and total costs for specific conditions like asthma and COPD, as well as the stability of the measures at smaller sample sizes. .
- Five comments were received regarding usability of this measure. Some commenters were in support of these measures being used by health plans; others were concerned with the limited actionability for other stakeholders and were not in support of measures used for public reporting and a decision-making tool for consumers.
- During their deliberations, the Committee raised concern regarding the risk adjustment model for this measure and reviewed the developer's response to these issues during their comment call. The concern was that the r-squared values for both measures were 0.48 and the current risk model adjustment model is unable to discriminate within a specified health condition (i.e., asthma or COPD), as opposed to discriminating across them; by testing the model on a heterogeneous population (including members with asthma, COPD and cardiovascular conditions) it becomes difficult to discern what is causing the variation.

Developer response:

- NCQA addressed the concerns of commenters and identified that these measures are not intended to measure cost or severity of asthma or COPD; therefore, these measures assess a health plan's resource use of a member with asthma or COPD and compare the resource use of the health plan's peer group.
- NCQA submitted a response to the Committees concerns used a single regression model to define risk strata and relationship between HCCs and cost; asthma cases were assessed due to low severity, COPD cases have broader mix of severity, and for both conditions costs rise substantially with patient severity.

Committee responses:

- The Committee generally accepted the developer's rationale for pooling data for health plan members across all five chronic conditions to estimate the regression for total annual spending. The group generally agreed that since the measure seeks to profile the total cost of all medical services for health plan members that this approach was reasonable. Some members of the Committee urged the developer to reconsider this design approach in updates to the measure.
- The Committee also weighed these benefits and challenges with the measures' usability when evaluating these measures. Given that the intent of these measures as specified is to measure the cost of care from the health plan perspective to care for asthmatics and those with COPD,

and the current widespread use of these measures by health plans, the Committee ultimately recommended the measures.

7. NQF Member Voting: October 6, 2014- October 20, 2014

- Representatives of 18 member organizations voted, with 80% approval.

8. Consensus Standards Approval Committee (CSAC) Vote: November 12, 2014; Y-13, N-0**9. Board of Directors Executive Committee Vote: December 22, 2014**

- The Executive Committee ratified endorsement.

10. Appeals: December 30, 2014 -January 28, 2015

- No appeals submitted.

2579 Hospital-level, risk-standardized payment associated with a 30-day episode of care for pneumonia[Submission](#) | [Specifications](#)

Description: This measure estimates hospital-level, risk-standardized payment for a pneumonia episode of care starting with inpatient admission to a short term acute-care facility and extending 30 days post-admission for Medicare fee-for-service (FFS) patients who are 65 years of age or older with a principal discharge diagnosis of pneumonia.

Resource Use Measure Type: Per episode

Level of Analysis: Facility

Costing Method: Standardized pricing

Target population: Senior Care

Data Source: Administrative claims

Measure Steward: Centers for Medicare & Medicaid Services

STANDING COMMITTEE MEETING [06/25/2014]**1. Importance to Measure and Report: The measure meets the Importance criteria**

1a. High Priority: **H-17; M-5; L-0; I-0; IE-0**; 1b. Opportunity for Improvement: **H-19; M-2; L-1; I-0**; 1c. Measure Intent: **H-18; M-4; L-0; I-0** 1. Overall Importance: **H-18; M-4; L-0; I-0**

Rationale:

- The Committee stated that the measure is high priority given that pneumonia is one of the leading causes of hospitalization for Medicare patients sixty-five years of age and older, with Medicare paying roughly ten billion dollars in aggregate costs for hospitalized beneficiaries with pneumonia.

- The developer presented evidence indicating that there is a threefold variation in cost for the medical treatment of pneumonia patients, which the Committee agreed signified that there is a substantial opportunity for improving the overall costs for pneumonia patients.
- The Committee stated that by using this measure in conjunction with a measure capturing the quality of care for pneumonia patients, there is an opportunity to begin to understand the value of the care provided by the hospitals and other providers in treating this condition.

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-10; M-11; L-1; I-0** 2b. Validity: **H-3; M-18; L-1; I-0**

Rationale:

- The Committee stated that the measure specifications were precise and that the measure was well-constructed. This measure captures risk-standardized payments for a thirty-day episode of care for Medicare patients diagnosed admitted to the hospital with a diagnosis of pneumonia through administrative claims data.
- The developer provided reliability testing at the level of the performance measure score; testing was performed by calculating the Intraclass Correlation Coefficient (ICC) score by calculating the risk standardized payment using a split-sample of the combined 2008-2009 data from hospitals. The ICC score was 0.825, indicating significant agreement between the two samples, which the Committee found sufficient.
- The Committee questioned the validity of specifying the measure for a thirty-day episode triggered by admission for pneumonia, as the treatment of pneumonia may require care coordination post-discharge that may extend past thirty days. The Committee stated that this could affect payments captured during the post-discharge period, artificially inflating or deflating the costs for some patients simply because of the construct of the measure.
- The Committee raised concerns regarding the attribution approach and the implications for attribution of costs if a patient were transferred to another hospital. The developer clarified that only 0.4 percent of cohorts are transferred for pneumonia, which represents a small number of beneficiaries. In the case of transfer patients, costs for the patient will be attributed to the initial admitting hospital, as hospitals are increasingly responsible for care delivered up to 30 days after discharge. The Committee found this approach to attribution to be acceptable.
- The Committee stated concern that the low r-squared value (.07) for the risk model may indicate that case mix is not being appropriately adjusted for through the risk model. The developer clarified that at lower patient volumes, there is less certainty when estimating cost. The measure uses a continuous outcome which results in a more accurate estimate than would result from a binary outcome. Additionally, the measure uses hierarchical risk modeling that adjusts hospitals with low patient volume towards the mean. The Committee found this explanation to be sufficient.
- The Committee questioned whether adjustments for sociodemographic status (SDS) factors should be incorporated into the risk adjustment model. NQF clarified that it is in the early stages of reviewing our policy on risk adjusting for SDS factors. The recommendations for modifying NQF's current policy on adjusting for SDS factors have not yet been finalized. As such, we ask that Committees continue to evaluate measures according to our current guidelines, that SDS factors are not included in the risk adjustment model, but are used to stratify the measure. If in the future the recommendations for adjusting for SDS factors become NQF policy, measures

that may be improved from incorporating these adjustments will be updated and reviewed by the Committee through one of NQF's measure maintenance processes.

3. Feasibility: H-20; M-2; L-0; I-0

(3a. Byproduct of Care Processes; and 3b. Electronic sources; and 3c. Data Collection Strategy)

Rationale:

- The Committee stated that this measure is feasible to implement because the measure is specified using administrative claims data which is created as a byproduct of care delivery and available electronically.

4. Usability: H-10; M-11; L-1; I-0

(4a. Accountability/transparency (used in accountability w/in 3 yr, public reporting w/in 6 yr, or if new - credible plan); and 4b. Improvement – progress demonstrated (if new - credible rationale); and 4c. Unintended Consequences - benefits outweigh evidence of unintended negative consequences (to patients/populations); and 4d. Measure Deconstruction – can be deconstructed to facilitate transparency and understanding)

Rationale:

- The Committee found the measure to be useful for providers, giving them access to detailed data of cost for hospital care for pneumonia.
- The Committee questioned the availability of information on costs for providers other than the hospital to which the patient has been attributed, stating that for this measure to be most useful there needs to be documentation of the reimbursement amounts for each provider treating the patient.

5. Related and Competing Measures

- No related or competing measures identified.

Standing Committee Recommendation for Endorsement: Y-21; N-1

6. Public and Member Comment: August 14, 2014 - September 12, 2014

Comments received:

- One measure-specific comment was received regarding the appropriateness of the attribution approach for measure #2579. The commenter suggested that the current attribution approach is inappropriate and only reflects an episode-of-care attributed to a hospital as the responsible entity and does not account for the care of multiple providers across the health care delivery system. The commenter suggested this approach would be more appropriate for an integrated health system or an organization accepting bundled payments.
- Two comments regarding risk adjustment for sociodemographic status for this measure. Some commenters believed that it would be appropriate to stratify claims by sociodemographic factors and document non-clinical elements that negatively impact patient outcomes when calculating risk adjusted costs.
- One measure-specific comment was received regarding validity of exclusions for measure this measure. A commenter proposed the inclusion of ICD-9 code 507.0 in the denominator for

aspiration pneumonia, which was estimated to account for 15% of Medicare patients discharged with pneumonia.

Developer response:

- Yale addressed the concern of integrating the ICD-9 code 507.0 in the denominator for aspiration pneumonia and based on the prevalence of the code, developers will plan to reevaluate including aspiration pneumonia in future versions of the measure.

Committee responses:

- The Committee acknowledged and many shared the concerns with the attribution approach used in this measure; however, they also stated that hospitals are increasingly responsible for care delivered up to 30 days after discharge. Consequently, hospitals are in the unique position of being able to push coordination of care, and this measure may serve as an impetus for this to occur.
- The Committee recognizes the importance of adequately adjusting for sociodemographic status in the appropriate applications. While NQF continues to work on their implementation of the guidance from the SDS Expert Panel, measures currently under review have been recommended with additional guidance to stratify for SDS, as appropriate.
- Based on the NQF criteria for validity, the Committee has agreed that this measure has met the criteria for validity and has recommended it for endorsement. A few committee members support the inclusion of ICD-9 code 507.0 within this measure, which will assist with documenting the presence of pneumonia aspiration among admission.

7. NQF Member Voting: October 6, 2014- October 20, 2014

- Representatives of 18 member organizations voted, with 50% approval; consensus was not reached.

8. Consensus Standards Approval Committee (CSAC) Vote: November 12, 2014; Y-13, N-0

- Endorsed with the same conditions the CMS cardiovascular hospital level episode-based measures from phase II.

9. Board of Directors Executive Committee Vote: December 22, 2014

- Ratified endorsement with the following conditions:
 - **One- year Look Back Assessment of Unintended Consequences:** NQF staff will work with Cost and Resource Standing Committee and CMS to determine a plan for assessing potential unintended consequences of this measure in use. The evaluation of unintended consequences will be initiated in approximately one year and possible changes to the measures based on this data.
 - **Consideration for SDS trial period:** The Cost and Resource Use Standing Committee will consider whether the measure should be included in the NQF trial period for sociodemographic status adjustments.
 - **Attribution:** NQF will consider opportunities to address the attribution issue.

10. Appeals: December 30, 2014 -January 28, 2015

- No appeals submitted.

Appendix B: Measures Endorsed in Cost and Resource Use Since April 2012

NQF Number	Title	Steward
1557	Relative Resource Use for People with Diabetes	National Committee for Quality Assurance (NCQA)
1558	Relative Resource Use for People with Cardiovascular Conditions	National Committee for Quality Assurance (NCQA)
1560	Relative Resource Use (RRU) for People with Asthma	National Committee for Quality Assurance (NCQA)
1561	Relative Resource Use for People with Chronic Obstructive Pulmonary Disease (COPD)	National Committee for Quality Assurance (NCQA)
1598	Total Resource Use Population-based PMPM Index	HealthPartners
1604	Total Cost of Care Population-based PMPM Index	HealthPartners
2431	Hospital-level, Risk-standardized Payment Associated with a 30-day episode-of-care for Acute Myocardial Infarction (AMI)	Centers for Medicare & Medicaid Services (CMS) and Yale
2436	Hospital-level, Risk-standardized Payment Associated with a 30-day episode-of-care for Heart Failure (HF)	Centers for Medicare & Medicaid Services (CMS) and Yale
2158	Medicare Spending per Beneficiary (MSPB)	Centers for Medicare & Medicaid Services (CMS)

Appendix C: Cost and Resource Use Standing Committee, Technical Expert Panel, and NQF Staff

Standing Committee

Brent Asplin, MD, MPH (Co-Chair)

Catholic Health Partners
Cincinnati, OH

Lisa Latts, MD, MSPH, MBA, FACP (Co-Chair)

LML Health Solutions, LLC
Denver, CO

Ariel Bayewitz, MPH

WellPoint, Inc.
New York, NY

Lawrence Becker

Xerox Corporation
Rochester, NY

Mary Ann Clark, MHA

Intralign
Washington, DC

Cheryl Damberg, PhD

RAND Corporation
Santa Monica, CA

Jennifer Eames-Huff, MPH

Pacific Business Group on Health
San Francisco, CA

Nancy Garrett, PhD

Hennepin County Medical Center
St. Paul, MN

Andrea Gelzer, MD, MS, FACP

AmeriHealth Mercy Family of Companies
Philadelphia, PA

Stanley Hochberg, MD

Boston Medical Center
Boston, MA

Matthew McHugh, PhD, JD, MPH, RN, CRNP, FAAN

University of Pennsylvania
Philadelphia, PA

Martin Marciniak, MPP, PhD

GlaxoSmithKline
Research Triangle Park, NC

James Naessens, ScD, MPH

Mayo Clinic
Rochester, MN

Jack Needleman, PhD

UCLA Fielding School of Public Health
Los Angeles, CA

Janis Orlowski, MD, MACP

Association of American Medical Colleges
Washington, DC

Carolyn Pare

Minnesota Health Action Group
Bloomington, MN

John Ratliff, MD, FACS, FAANS

American Association of Neurological Surgeons
Stanford, CA

Andrew Ryan, PhD

University of Michigan School of Public Health
Ann Arbor, MI

Joseph Stephansky, PhD

Michigan Health & Hospital Association
East Tawas, MI

Lina Walker, PhD

AARP – Public Policy Institute
Washington, DC

William Weintraub, MD, FACC

Christiana Care Health System
Newark, DE

Herbert Wong, PhD

Agency for Healthcare Research and Quality
Rockville, MD

Dolores Yanagihara, MPH

Integrated Healthcare Association
Oakland, CA

Pulmonary Technical Expert Panel

Dale Bratzler, DO, MPH (Chair)

Oklahoma University Health Sciences Center
Oklahoma City, OK

Peter Almenoff, MD, FCCP

Department of Veterans Affairs
Kansas City, MO

Alan Baptist, MD, MPH

University of Michigan
Ann Arbor, MI

Rubin, Cohen, MD, FACP, FCCP, FCCM

The Hofstra-North Shore-LIJ School of Medicine
New Hyde Park, NY

William Brendle Glomb, MD, FCCP, FAAP

Superior Health Plan
Austin, TX

Stephen Grossbart, PhD

Catholic Health Partners
Cincinnati, OH

David Lang, MD

Cleveland Clinic
Cleveland, OH

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Lindsey Tighe, MS

Senior Project Manager
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Quintin Dukes, MSHA

Project Manager
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Ann Phillips, MHA

Project Analyst
Quality Measurement

Appendix D: NQF Related Cost and Resource Use Work

Episode Grouper Evaluation Criteria

Episode groupers are software tools programmed to create condition-specific episodes of care (EOC) from administrative claims data to determine the cost of care associated with those claims. Groupers enable the analysis of services delivered by providers over a defined period of time and for specific clinical conditions, to generate an overall picture of the services used to treat and manage that condition for a given patient. Through this project NQF seeks to:

- Define the characteristics and purpose of an episode grouper versus other measurement systems (e.g., risk adjustment systems);
- Identify guiding principles and considerations for constructing and evaluating episode groupers;
- Understand the challenges in constructing groupers;
- Determine the key elements of episode groupers that should be considered in their evaluation and the criteria by which they should be evaluated; and
- Identify key considerations and implications for endorsing episode groupers.

Measuring Efficiency: Linking Cost and Quality

Measuring efficiency presents special challenges as there is currently no standardized and transparent way to assess cost in the context of quality. With funding from the Robert Wood Johnson Foundation (RWJF), and the guidance of an expert panel, the National Quality Forum (NQF) will produce a white paper exploring:

- The current approaches in the field used for measuring and understanding efficiency
- The methodological challenges to linking cost and quality measures for an efficiency signal
- Best practices for combining cost measures with clinical quality measures to assess efficiency of care
- The white paper produced through this work of this project will provide guidance and a pathway toward efficiency measures that matter.

Measuring Affordability

A first step in addressing cost of care is defining “cost to whom” and how it should be measured. With funding from the Robert Wood Johnson Foundation (RWJF), with the guidance of an expert panel, NQF will examine measurement concepts for affordability from the patient perspective. With the guidance of an expert panel, NQF will produce a white paper to explore more patient-oriented cost measures. Key questions include:

- What types of measures are most important to consumers?
- What types of data will be needed?
- How can we best leverage patient-reported data?
- What factors influence a consumer’s perceptions of whether care is affordable?
- How can this information be reported to address consumer needs for discerning affordable and efficient providers?

Measures Application Partnership (MAP) Affordability Task Force

Advise the MAP Coordinating Committee on an Affordability Family of Measures, including: recommendations for measures to include in the family, identification of gaps and recommendations for filling gaps, and analyze barriers to using the measures within the affordability family. The MAP has defined a family of measures as related available measures and measure gaps for specific topic areas that span programs, care settings, levels of analysis, and populations” (e.g., care coordination family of measures, diabetes care family of measures).

The goals of this effort are to:

- Promote alignment across settings and sectors
- Create a comprehensive picture of affordability considering all perspectives
- Include measures related to cost drivers and other key components of cost
 - Use to identify high-leverage opportunities and available measures
- Build on existing measures of quality, cost, and efficiency
- Lay out a path forward to build on these initial measures and consider barriers to measurement

Appendix E: Measure Specifications

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1560 Relative Resource Use for People with Asthma

STEWARD

National Committee for Quality Assurance

DESCRIPTION

The risk-adjusted relative resource use by health plan members with asthma during the measurement year.

RESOURCE USE MEASURE TYPE

Per capita (population- or patient-based)

DATA SOURCE

Administrative claims

LEVEL OF ANALYSIS

Health Plan

CONSTRUCTION LOGIC DESCRIPTION

An organization counts all services listed in the SPTs rendered to members in the eligible population during the measurement year. The unit prices are calculated to represent data derived from a single source, using a single approach for classifying and pricing services. Pricing algorithms represent average service pricing levels for organizations for the most recent period. Standard prices support consistent comparisons of “weighted utilization” across all members, organizations and geographic areas and protect individual proprietary pricing and fee schedules. First the eligible population is defined using the clinical and eligibility criteria outlined in Section S8.2 and below:

Step 1: Identify members or patients eligible within the specified clinical condition. Members must meet the following eligibility criteria to be included in the data set for reporting RRU measures:

- 5–64 years of age as of December 31 of the measurement year
- They must be continuously enrolled throughout the measurement year and the year prior to the measurement year.
- They may not have more than one gap in enrollment (of up to 45 days) anytime during the measurement year. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the member may not have more than a 1-month gap in coverage (i.e., a member whose coverage lapses for 2 months [60 days] is not considered continuously enrolled).
- They must have medical and pharmacy benefits for the measurement year

Exclusion criteria are then applied to the eligible population as detailed in Section S.9.1.

Member months are then calculated for each measure’s eligible population after all exclusion criteria has been applied to the eligible population data set using the following steps:

Step 1: Determine member months using a pre-specified day (e.g., the 15th or the last day of the month), determined according to the organization’s administrative processes. The day selected must be consistent from month to month and year to year. For example, if the

organization tallies membership on the 15th of the month and Ms. X is enrolled in the organization on January 15, Ms. X contributes one member month in January. Organizations may count any month in which members were enrolled retrospectively and the organization received a retroactive capitation payment.

Step 2: Use the member's age on the last day of the treatment period to determine the age group where member months will be counted.

Step 3: Attribute all member months to the product line in which the member is enrolled on the last day of the treatment period. (Pharmacy member months are the number of months during the treatment period when the member is covered by a pharmacy benefit. Calculate pharmacy member months with the same method described in steps 1–3).

In order to calculate outpatient procedures and services, organizations count the number of specified services the organization paid for, or expects to pay for, during the treatment period. The organization is responsible for reporting all services under the member's age and product on the last day of the treatment period.

In order to calculate inpatient services, organizations categorize member services into services for pricing and services for frequency:

1) In services for standard pricing, each organization identifies all inpatient stays that occurred during the treatment period, even if the inpatient admission was prior to the treatment period or the inpatient discharge was after the end of the treatment period. Include all services billed for any inpatient facility, E&M; surgery and procedure, and pharmacy service. Include multiple billings that have the same date of service in the member/patient record.

2) To determine frequency of services, each organization identifies all inpatient utilization and reports by discharge date (rather than admission date) using the member's age and product on the last day of the treatment period. Include all discharges that occurred during the treatment period. For inpatient discharges, ED visits and condition-specific frequencies, count discharges, not the frequency of procedure codes billed. Transfers between institutions are treated as separate admissions especially when the transfer is between acute and nonacute levels of service or between mental health/chemical dependency services and non-mental health/chemical dependency services. Only one admission is counted when the transfer takes place within the same service category but to a different level of care.

When calculating inpatient services length of stay, organizations should use the following formula to report length of stay (LOS).

$$\text{LOS} = \text{discharge date} - \text{admit date} - \text{denied days}$$

LOS includes all paid days from admission up to discharge except the last day of the stay unless the admission and discharge date are the same. For inpatient stays that start before the treatment period and end during the treatment period, or that start during the treatment period and end after the treatment period, count all paid days during the inpatient stay, even if they occur outside of the treatment period. When an inpatient revenue code (i.e., UB Revenue code or equivalent) is associated with a stay, the LOS must equal at least one day. If the discharge date and the admission date are the same, the discharge date minus admission date equals 1 day, not 0 days. If the inpatient stay falls completely within the treatment period, the total number of paid days is used as the per diem multiplier. If the inpatient stay does not fall completely inside the treatment period, or all days are not paid for or expected to be paid for, only the days within the treatment period (including the last day in the treatment period) that are paid for or expected to be paid for, are counted to compute the per diem multiplier.

Step 4-Calculate total cost: Sum the total standard cost for each eligible member. Within each service category, if a member's standard cost exceeds the service category cap amount, report the total standard cost specified in the NCQA Cost Cap Amounts table (released with the SPTs). Sum and report the total standard cost for the eligible population in each service category by member cohort.

Service frequency counts are reported for all services for which the organization has paid or expects to pay for the eligible population during the treatment period. Organizations capture each eligible member's services rendered during the treatment period for the following utilization categories.

- Total Inpatient Facility: Discharges, Days and ALOS
- Acute Inpatient: Discharges, Days, ALOS
- Acute Medicine: Discharges, Days, ALOS
- Acute Surgery: Discharges, Days, ALOS
- Nonacute: Discharges, Days, ALOS
- ED Discharges
- Pharmacy Utilization:

Step 5: For each of the RRU reporting services categories, if a member's standard cost exceeds the set cap amount (<http://www.ncqa.org/HEDISQualityMeasurement/HEDISMeasures/HEDIS2014/HEDIS2014PCRAandRRUSupportiveTables.aspx>), only the total standard cost, including the truncated amount taken from the NCQA Member Cost Cap Amounts table, is reported. Members are not excluded from the data set when the capped amount is reached.

Service Category Cap Amount

Inpatient Facility \$75,000

E&M – Outpatient \$2,500

E&M – Inpatient \$2,500

Surgery – Outpatient \$7,500

Surgery – Inpatient \$15,000

Pharmacy - \$15,000

Laboratory - \$4,000

Imaging - \$4,000

CLINICAL FRAMEWORK DESCRIPTION

This measure addresses the resource use of members identified as having asthma. Both encounter and pharmacy data are used to identify members for inclusion in the eligible population, and the results are adjusted to account for age, gender, and HCC-RRU risk classifications that predict cost variability (Refer to Attachment S8_RAS_Clinical Logic for additional information).

COSTING METHOD

Standardized pricing

TESTED POPULATION

Populations at Risk

RESOURCE USE SERVICE CATEGORIES

Inpatient services: Inpatient facility services; Inpatient services: Evaluation and management; Inpatient services: Procedures and surgeries; Inpatient services: Imaging and diagnostic; Inpatient services: Lab services; Inpatient services: Admissions/discharges; Ambulatory services: Outpatient facility services; Ambulatory services: Emergency Department; Ambulatory services: Pharmacy; Ambulatory services: Evaluation and management; Ambulatory services: Procedures and surgeries; Ambulatory services: Imaging and diagnostic; Ambulatory services: Lab services

ATTRIBUTION APPROACH

Using administrative claims data submitted by all organizations, NCQA estimates the expected RRU amounts for each clinical condition for each organization. RRU index amounts are based on the ratio of observed to expected amounts. Results can be assessed at an overall basis, across all members and major clinical conditions, by service category or for a member cohort within a condition. Relative resource use is calculated at the plan-level and no attribution of resource use is made below this level. Attribution of resource use to a particular NCQA submission is based on the product line and reporting type of the plan that the member was enrolled in as of the end of the measure year.

RISK ADJUSTMENT

Stratification by risk category/subgroup

STRATIFICATION

NCQA collects resource measures at the plan level and summarizes across reporting cohorts along the following dimensions:

1. Product line (3 levels): commercial, Medicaid, and Medicare;
2. Reporting type (2 levels): HMO and PPO;
3. Area level (2 levels): national and region;
4. Resource use or utilization (11 levels): inpatient facility, procedure and surgery (inpatient and outpatient), evaluation and management (inpatient and outpatient), laboratory services, imaging services, ambulatory pharmacy, inpatient discharges, emergency department discharges.

Although the HCC-RRU risk adjustment accounts for confounding variables such as age and gender, in order to assist organizations in using their results to identify opportunities to improve, NCQA reports RRU results using the HCC-RRU cohorts as reporting strata by age and gender cohorts. Reporting the measure results by these strata increases the ability of the reporting organizations to target areas for improvement without having to reverse engineer their measure results.

1561 Relative Resource Use for People with COPD

STEWARD

National Committee for Quality Assurance

DESCRIPTION

The risk-adjusted relative resource use by health plan members with COPD during the measurement year.

RESOURCE USE MEASURE TYPE

Per capita (population- or patient-based)

DATA SOURCE

Administrative claims

LEVEL OF ANALYSIS

Health Plan, Integrated Delivery System, Population : National, Population : Regional

CONSTRUCTION LOGIC DESCRIPTION

The measure reports total standard costs for all included services for which the organization has paid or expects to pay for the eligible population during a pre-specified measurement year. The eligible population for RCO includes all health plan members 42 years and older with Chronic Obstructive Pulmonary Disease (COPD) that were continuously enrolled for the measurement year. Total standard costs are assigned to each service the member received during the measurement year by matching codes for services rendered to codes listed in the NCQA Standardized Price Tables (SPTs). Standard costs are calculated and reported for the following service categories:

- Inpatient Facility
- Surgery and Procedure (inpatient and outpatient service categories)
- E&M (inpatient and outpatient service categories)
- Diagnostic Laboratory Services
- Diagnostic Imaging Services
- Pharmacy, Ambulatory

Service frequency counts are reported for all services for which the organization has paid or expects to pay for the eligible population during the treatment period. Organizations capture each eligible member's services rendered during the treatment period, reports these data to NCQA which then generates a service frequency report for the following:

1. Total Inpatient Facility: Discharges, Days, ALOS
2. Total Acute Inpatient: Discharges, Days, ALOS
3. Total Acute Medicine: ALOS
4. Total Acute Surgery: ALOS
5. Total Nonacute: Discharges, ALOS
6. ED Discharges
7. Pharmacy Utilization

8. Generic Utilization, given the existence of a generic option
9. Generic Substitution Rate
10. Overall Generic Utilization

CLINICAL FRAMEWORK DESCRIPTION

This measure addresses the resource use of members identified as having COPD. Both encounter and pharmacy data are used to identify members for inclusion in the eligible population, and the results are adjusted to account for age, gender, and HCC-RRU risk classifications that predict cost variability

COSTING METHOD

Standardized pricing

TESTED POPULATION

Populations at Risk

RESOURCE USE SERVICE CATEGORIES

Inpatient services: Inpatient facility services; Inpatient services: Evaluation and management; Inpatient services: Procedures and surgeries; Inpatient services: Imaging and diagnostic; Inpatient services: Lab services; Inpatient services: Admissions/discharges; Ambulatory services: Outpatient facility services; Ambulatory services: Emergency Department; Ambulatory services: Pharmacy; Ambulatory services: Evaluation and management; Ambulatory services: Procedures and surgeries; Ambulatory services: Imaging and diagnostic; Ambulatory services: Lab services

ATTRIBUTION APPROACH

Using administrative claims data submitted by all organizations, NCQA estimates the expected RRU amounts for each clinical condition for each organization. RRU index amounts are based on the ratio of observed to expected amounts. Results can be assessed at an overall basis, across all members and major clinical conditions, by service category or for a member cohort within a condition. Relative resource use is calculated at the plan-level and no attribution of resource use is made below this level. Attribution of resource use to a particular NCQA submission is based on the product line and reporting type of the plan that the member was enrolled in as of the end of the measure year.

RISK ADJUSTMENT

Stratification by risk category/subgroup

STRATIFICATION

NCQA collects resource measures at the plan level and summarizes across reporting cohorts along the following dimensions:

1. Product line (3 levels): commercial, Medicaid, and Medicare;
2. Reporting type (2 levels): HMO and PPO;
3. Area level (2 levels): national and region;
4. Resource use or utilization (11 levels): inpatient facility, procedure and surgery (inpatient and outpatient), evaluation and management (inpatient and outpatient), laboratory services, imaging services, ambulatory pharmacy, inpatient discharges, emergency department discharges.

Although the HCC-RRU risk adjustment accounts for confounding variables such as age and gender, in order to assist organizations in using their results to identify opportunities to improve, NCQA reports RRU results using the HCC-RRU cohorts as reporting strata by age and gender cohorts. Reporting the measure results by these strata increases the ability of the reporting organizations to target areas for improvement without having to reverse engineer their measure results.

2579 Hospital-level, risk-standardized payment associated with a 30-day episode of care for pneumonia

STEWARD

Centers for Medicare and Medicaid Services (CMS)

DESCRIPTION

This measure estimates hospital-level, risk-standardized payment for a pneumonia episode of care starting with inpatient admission to a short term acute-care facility and extending 30 days post-admission for Medicare fee-for-service (FFS) patients who are 65 years of age or older with a principal discharge diagnosis of pneumonia.

RESOURCE USE MEASURE TYPE

Per episode

DATA SOURCE

Administrative claims

LEVEL OF ANALYSIS

Facility

CONSTRUCTION LOGIC DESCRIPTION

This measure estimates hospital-level, risk-standardized payments for a 30-day episode of care for pneumonia. To this end, we constructed a cohort of pneumonia patients by examining the primary discharge diagnosis in administrative claims data. Specifically, we included Medicare fee-for-service patients 65 or older with a primary discharge diagnosis of codes 480.0, 480.1, 480.2, 480.3, 480.8, 480.9, 481, 482.0, 482.1, 482.2, 482.30, 482.31, 482.32, 482.39, 482.40, 482.41, 482.42, 482.49, 482.81, 482.82, 482.83, 482.84, 482.89, 482.9, 483.0, 483.1, 483.8, 485, 486, 487.0, and 488.11. We then applied several exclusion criteria as detailed in S.9.1. Once our cohort was finalized we examined all payments for these patients (including co-pays, co-insurance, and deductibles) that occurred within 30 days of the index admission. We included payments for all care settings, except Part D. We standardized payments across providers by removing or averaging geographic differences and removing policy adjustments from the total payment for that service. These payments were then assigned to the initial admitting hospital. As part of our model, we risk adjusted these payments for patient comorbidities listed in outpatient and inpatient claims in the 12 months prior to the index admission as well as the secondary diagnoses included in the index admission. We then used hierarchical generalized linear regression models to calculate a risk-standardized payment for each hospital.

CLINICAL FRAMEWORK DESCRIPTION

Pneumonia is a common condition in the elderly with substantial variability in payments due to different practice patterns. Quality measures for pneumonia such as 30-day pneumonia risk-standardized mortality rate (RSMR) are already publicly reported. In the context of its publicly reported quality measures, pneumonia is an ideal condition in which to assess payments for Medicare patients and relative hospital value. Therefore we created a measure of payments for a 30-day episode of care for pneumonia that could be aligned with CMS's 30-day pneumonia mortality and readmission measures. This will allow CMS to assess the value of care provided for these episodes.

The measure uses Condition Categories (CCs) to adjust for patient case-mix across hospitals. Details of our risk-adjustment strategy can be found in our attached technical report.

This measure is for patients who are admitted with pneumonia. We determine this by examining the primary discharge diagnosis code in the administrative data. If a patient has a primary discharge diagnosis of any other condition, even if this includes a secondary diagnosis of pneumonia, this admission is not considered as an index admission. Therefore, the concurrency of clinical events is not applicable for this measure. However, the model does risk adjust for comorbidities listed in outpatient and inpatient claims in the 12 months prior to the index admission as well as the secondary diagnoses included in the index admission that are not considered complications of care.

COSTING METHOD

Standardized pricing

TESTED POPULATION

Senior Care

RESOURCE USE SERVICE CATEGORIES

Inpatient services: Inpatient facility services; Inpatient services: Evaluation and management; Inpatient services: Procedures and surgeries; Inpatient services: Imaging and diagnostic; Inpatient services: Lab services; Inpatient services: Admissions/discharges; Inpatient services: Labor (hours, FTE, etc.); Other inpatient services; Ambulatory services: Outpatient facility services; Ambulatory services: Emergency Department; Ambulatory services: Evaluation and management; Ambulatory services: Procedures and surgeries; Ambulatory services: Imaging and diagnostic; Ambulatory services: Lab services; Ambulatory services: Labor (hours, FTE, etc.); Durable Medical Equipment (DME); Other services not listed If other: See S.7.8 for a full list of care settings included See S.7.8 for a full list of care settings included

ATTRIBUTION APPROACH

The measure attributes all payments incurred during the 30-day episode to the original admitting hospital. We assign all payments to the admitting hospital because decisions made at the admitting hospital affect payments for care in the inpatient setting as well as the immediate post-discharge period. Furthermore, attributing payments for a continuous episode of care to admitting hospitals may reveal practice variations in the full care of the illness that can result in increased payments. For patients who are admitted and then transferred to another hospital during the original index admission, we assign all payments to the original admitting hospital since this hospital is responsible for the initial care decisions and the decision to transfer the patient.

RISK ADJUSTMENT

Statistical risk model

STRATIFICATION

The measure is not stratified.

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