NATIONAL QUALITY FORUM

Consensus Standards Approval Committee
March 7-8, 2012

National Quality Forum
1030 15th St, NW
Suite 900
Washington, DC 20005

Please use the following information to access the conference call line:

Dial-in Number: 888-318-7459
Conference ID: 4741990
Event Title: Consensus Standards Approval Committee Meeting

Link to SharePoint site: http://share.qualityforum.org/csac/meetings/default.aspx

AGENDA

Day 1 – Wednesday, March 7

9:30 am **Continental Breakfast**

10:00 am **Welcome, Introductions, Expectations and Process for the Meeting**
Timothy Ferris, MD, MPH, (Chair)
Ann Monroe (Vice-Chair)
Helen Burstin, MD, MPH, Senior Vice President

10:15 am **CSAC Review and Recommendations: Perinatal Care**
Laura Riley, MD (Co-Chair)
Carol Sakala, PhD, MSPH (Co-Chair)
- CSAC discussion
- Public Comment
- Final CSAC Recommendation

11:15 am **CSAC Review and Recommendations: All Cause Readmissions**
Sherrie Kaplan, PhD, MPH (Co-Chair)
Eliot Lazar, MD, MBA (Co-Chair)
- CSAC discussion
- Public Comment
- Final CSAC Recommendation

12:30 pm **Lunch** (lunch will be provided for CSAC members)

1:15 pm **CSAC Review and Recommendations:**
Resource Use Cycle II
Reconsideration Request
Tom Rosenthal, MD (Co-Chair)
Bruce Steinwald, MBA (Co-Chair)

- Review of measures recommended for cycle II
  - CSAC discussion
  - Public Comment
  - Final CSAC Recommendation
- Report from CSAC workgroup on Ingenix Reconsideration Request
  - CSAC discussion
  - Public Comment
- Policy discussion of regional application of national consensus standards
  - CSAC discussion
  - Public Comment
  - Final CSAC Recommendation

3:15 pm **Break**

3:30 pm **CSAC Review and Recommendations: Renal Endorsement Maintenance**
Peter Crooks, MD (Co-Chair)
Kristine Schonder, Pharm D (Co-Chair)

- CSAC discussion
- Public Comment
- Final CSAC Recommendation

4:30 pm **NQF Member/Public Comment**

4:40 pm **Day 1 Wrap Up**
Dr. Ferris
Ms. Monroe

5:00 pm **Adjourn**

5:15 pm **Reception**

6:00 pm **CSAC Working Dinner**

Day 2 – Thursday, March 8

8:30 am **Continental Breakfast**

9:00 am **Welcome, Recap of Day One**
Dr. Ferris
Ms. Monroe

9:15 am **CSAC Discussion: Two Stage Endorsement Process**
Dr. Burstin
Heidi Bossley, MSN, MBA, Vice President
- CSAC discussion
- Public comment

11:00 am **Break**

11:15 am **CSAC Review and Recommendations: Process for eMeasure Review**
Ms. Bossley
- CSAC discussion
- Public comment
- Final CSAC recommendation

12:15 pm **Lunch** (lunch will be provided for CSAC members)

12:45 pm **CSAC Discussion: Scientific Acceptability Issues**
- **Reliability testing and level of analysis**
- **Risk Adjustment (discuss CMS white paper and next steps)**

Karen Pace, PhD, MSN, Senior Director
- CSAC discussion
- Public comment

2:45 pm **NQF Member/Public Comment**

3:00 pm **CSAC Executive Session: Meeting Review**

3:30 pm **Adjourn**

NATIONAL QUALITY FORUM

TO: Consensus Standards Approval Committee

FR: Taroon Amin, MA, MPH
Alexis Forman Morgan, MPH

RE: Patient Outcomes: All-Cause Readmissions Expedited Review Voting Results

DA: March 2, 2012

CSAC ACTION REQUIRED
Pursuant to the Consensus Development Process (CDP), the CSAC may consider approval of two candidate consensus standards as specified in the "voting draft" of *Patient Outcomes: All-Cause Readmissions Expedited Review 2011* at the March 7-8 in-person meeting. This memo includes a summary of the project, recommended measures, and themes identified from and responses to the public and member comments.

This project followed the National Quality Forum's (NQF's) version 1.9 of the CDP as an expedited review. Member voting on these recommended measures ended on March 1, 2012.

Readmissions Expedited Review Measures Recommended for Endorsement:
1789: Hospital-wide all-cause unplanned readmission measure (HWR) (CMS)
1768: Plan all-cause readmissions (NCQA)

Accompanying this memo are the following documents:

1. **Readmissions Expedited Review Draft Report.** The draft report has been updated to reflect the changes made following Steering Committee discussion of public and member comments. The complete draft report and supplemental materials are available on the project page.
2. **Comment table for Readmissions Expedited Review Draft Report**. Staff has identified themes within the comments received. This table lists 117 comments received and the NQF/Steering Committee responses.

BACKGROUND
This expedited review endorsement maintenance project evaluated measures for public reporting/accountability and quality improvement that specifically address cross-cutting (not condition-specific) all-cause readmissions to hospitals. Additionally, as part of this process, all-cause hospital readmission-related consensus standards that were endorsed by NQF before June 2009 were evaluated under the maintenance process. The endorsement maintenance process provides an opportunity to harmonize measure specifications and ensures that the endorsed measure represents the best in class.

DRAFT REPORT
The Readmissions Expedited Review Draft Report presents the results of the evaluation of 3 measures considered under the National Quality Forum's CDP. Two are recommended for

endorsement as voluntary consensus standards suitable for accountability and performance improvement and one was not recommended. The measures were evaluated against the 2011 version of the measure evaluation criteria.

Measure Title	Recommendation
1789: Hospital-wide all-cause unplanned readmission measure (HWR)	Recommended for endorsement
1768: Plan all-cause readmissions	Recommended for endorsement
0329: Risk-adjusted 30-day all-cause readmission rate	Not recommended for endorsement; the measure failed the scientific acceptability of measure properties criteria due to risk adjustment concerns.

COMMENTS AND THEIR DISPOSITION

NQF received 117 comments from 43 organizations and individuals pertaining to the general draft report and to each of the 3 submitted measures.

A table of complete comments submitted during the comment period, with the responses to each comment and the actions taken by the Steering Committee and measure developers, is posted to the Readmissions Expedited Review project page under the Member Voting section.

Comment Themes and Committee Responses
Comments about specific measure specifications were forwarded to the developers, who were invited to respond.

At its review of all comments, the Steering Committee had the benefit of developer responses. Committee members focused their discussion on measures or topic areas with the most significant and recurring issues. Due to the number of comments received surrounding the issues of socioeconomic/race variables in the risk-adjustment model and usability, the Committee agreed to re-vote on whether Measures #1789 (CMS) and #1768 (NCQA) met the NQF criteria for endorsement. Following the revote, both Measures #1789 and #1768 were recommended by the Committee for NQF endorsement.

General Comments: Major Themes/Issues

1. Justification of an expedited review
2. Socioeconomic (SES)/ Race variables in the risk-adjustment model
3. Usability concerns
4. Support for harmonization
5. Inclusion/exclusion criteria

Theme 1- Justification of an expedited review

Description: Comments submitted expressed concern over the expedited nature of this project. Specifically, commenters noted that the complexity of measures submitted and the shortened timeline limited a thorough and complete evaluation by the Steering Committee. Others questioned the existence of a legislative mandate in connection with the measures submitted in this project. NQF requires a regulatory or legislative mandate for measures to qualify for expedited review.

NQF Staff Response: Decisions regarding what measures qualify for expedited review are the responsibility of the Consensus Standards Approval Committee (CSAC). The comments were referred to the CSAC for review and discussion on their February 13, 2012 conference call. CSAC members generally agreed that there was no evidence that would lead them to overturn the decision to expedite the readmission project. The Board considered this issue on February 24, 2012 and affirmed the decision on the expedited review.

Theme 2- Socioeconomic (SES)/Race variables in the risk-adjustment model
Description: Commenters agreed that SES variables should not be included in process measures; however, they recommended the inclusion of SES/race variables in the CMS/Yale hospital readmission model. Commenters argued that literature supports the relationship between a patient's SES and their likelihood to be at risk for a readmission. However, some believed that measures should be stratified to avoid masking differences related to disparities in care.

Committee Response: Many members of the Committee agreed that the socio-economic status of patients can drive the likelihood of a readmission. This relationship is driven, in part by differences in the hospital quality; but also the availability of community support to patients. Thus, many Committee members agreed that readmissions are not simply a measure of hospital quality but also community health quality. The hospital is dependent on resources available in the community, such as effective transitional care and other community level factors, including distance to the hospital. However, the use of SES at the individual patient level in a risk adjustment model would hide differences in hospital performance. Further, SES is an extremely difficult construct to measure in a reliable and valid way using administrative data. Committee members strongly encouraged measure developers to consider testing community-level SES variables (rather than patient-level SES variables) that can be used in risk-adjustment models that are reliable and valid.

After reviewing the comments submitted surrounding SES, the Committee decided to re-vote on whether the CMS/Yale measure (#1789) met the NQF criteria for endorsement. Following the re-vote, Measure #1789 was recommended for NQF endorsement with the following recommendation:

- In order to support fair and appropriate comparisons, hospital performance on this measure should be reported within like comparison groups (e.g., disproportionate share hospitals).

Theme 3- Usability concerns
Description: Commenters expressed concern over the usability of the measures submitted to this project. Specifically, they noted the difficulty with replicating the measure for quality

improvement purposes, limited information on the admitting hospital if it is not the index hospital, and the timeliness of measure results to support rapid-cycle improvements.

Committee Response: The Committee discussed concerns related to the usability noting limitations in use for quality improvement. Specifically for the CMS/Yale measure, Committee members agreed that the measure may not be able to support quality improvement within hospitals since it would be difficult to recreate the measure results without data from the readmitting hospital if it is not the same as the index hospital. The Committee also noted the limitation in rapid-cycle improvement due to the turnaround time for measure. These issues were broadly reflected in the low usability ratings for the CMS/Yale measure. While these are not limitations in the measure design, but rather measure implementation, the Committee strongly encourages CMS and other potential users to continue enhancing data platforms, timeliness of reporting and other aspects of measure implementation.

After reviewing the comments submitted surrounding the usability concerns, the Committee decided to re-vote on whether the CMS/Yale measure (#1789) met the NQF criteria for endorsement. Following the re-vote, Measure #1789 was recommended for NQF endorsement with the following recommendation:

- In order to support performance improvement and accountability, feedback to hospitals should be timely and provide information on all readmissions.

Theme 4- Support for harmonization
Description: Commenters strongly supported the Committee's recommendations for harmonization for all-cause hospital readmissions at the facility and health plan levels. Measures at various levels should be aligned in terms of their definition of a readmission, inclusion/exclusion criteria, and approach to risk adjustment. When two measures with the same measure focus and population are designed differently, they often send conflicting signals on how to improve care for patients.

Committee Response: The Committee agreed that the two recommended measures are related and not competing because the levels of analysis are different (NCQA-plan level and CMS/Yale-hospital level). As such, Members of the Committee agreed that providers and health plans face significant challenges and frustration when they receive discordant signals from reports based upon differing measurement methodologies. The Committee expressed a strong desire that the NCQA and CMS/Yale measures should be harmonized for both hospital and plan level measurement within a reasonable timeframe.

Theme 5- Inclusion/exclusion criteria
Description: Commenters provided various remarks related to the inclusion/exclusion criteria of the measures. Many agreed that the measures should include all patients, not limited to those with commercial health insurance or Medicare. Others argued that the 30-day time window is not appropriate to measure hospital performance, but rather a 15-day time window is more appropriate. One commenter believed that CMS should allow hospitals to comment on which of their facilities to include and exclude since hospital-level data may include oncology services. Another commenter argued that the exclusion criteria should allow for exclusion of patients who do not have post-discharge follow-up available.

Committee Response: The Committee agreed that the measure should include all patients, not limited by insurance coverage. However, the Committee recognized the data limitations in measuring readmission for patients who are uninsured. For the CMS/Yale measure, PPS-exempt cancer hospitals and patients undergoing medical treatment of cancer are excluded. The Committee agreed that a 30-day time window, rather than a 15-day time window is appropriate for this application. Finally, the Committee also encouraged the development of a proxy for the lack of community-level supports available to hospitals. Both developers agreed that they would consider community-level risk-adjustment variables in future updates.

VOTING RESULTS

All recommended measures did not meet approval. Measure 1789 (CMS/Yale) received an approval of 48%, with 57% (4 out of 7 councils) approving the measure. Measure 1768 (NCQA) received an approval of 55%, with 57% (4 out of 7 councils) approving the measure. Representatives of 63 member organizations voted; no votes were received from the Supplier/Industry Council. No members who voted provided comments. Results for each measure are provided below. (Links are provided to the full measure summary evaluation tables.)

Measure #1789 Hospital-wide all-cause unplanned readmission measure (HWR) (CMS)

Measure Council	Yes	No	Abstain	Total Votes	% Approval*
Consumer	6	0	0	6	100%
Health Plan	4	2	0	6	67%
Health Professional	3	7	0	10	30%
Provider Organizations	4	17	2	23	19%
Public/Community Health Agency	1	0	0	1	100%
Purchaser	7	0	0	7	100%
QMRI	4	5	1	10	44%
Supplier/Industry	0	0	0	0	
All Councils	**29**	**31**	**3**	**63**	**48%**
Percentage of councils approving (>50%)					57%
Average council percentage approval					66%

*equation: Yes/ (Total - Abstain)

Measure #1768 Plan all-cause readmissions (NCQA)

Measure Council	Yes	No	Abstain	Total Votes	% Approval*
Consumer	6	0	0	6	100%
Health Plan	6	0	0	6	100%
Health Professional	3	6	1	10	33%
Provider Organizations	4	14	5	23	22%
Public/Community Health Agency	1	0	0	1	100%
Purchaser	7	0	0	7	100%
QMRI	4	5	1	10	44%
Supplier/Industry	0	0	0	0	
All Councils	**31**	**25**	**7**	**63**	**55%**
Percentage of councils approving (>50%)					57%
Average council percentage approval					71%

*equation: Yes/ (Total - Abstain)

Measure Evaluation Summary Tables

LEGEND: Y = Yes; N = No; H = High; M = Moderate; L = Low; I = Insufficient

1789 Hospital-wide call-cause unplanned readmissions measure (HWR)

Measure Submission and Evaluation Form

Description: This measure estimates the hospital-level, risk-standardized rate of unplanned, all-cause readmission after admission for any eligible condition within 30 days of hospital discharge (RSRR) for patients aged 18 and older. The measure reports a single summary RSRR, derived from the volume-weighted results of five different models, one for each of the following specialty cohorts (groups of discharge condition categories or procedure categories): surgery/gynecology, general medicine, cardiorespiratory, cardiovascular, and neurology, each of which will be described in greater detail below. The measure also indicates the hospital standardized risk ratios (SRR) for each of these five specialty cohorts. We developed the measure for patients 65 years and older using Medicare fee-for-service (FFS) claims and subsequently tested and specified the measure for patients aged 18 years and older using all-payer data. We used the California Patient Discharge Data (CPDD), a large database of patient hospital admissions, for our all-payer data.

Numerator Statement: (Note: This outcome measure does not have a traditional numerator and denominator like a core process measure (e.g., percentage of adult patients with diabetes aged 18-75 years receiving one or more hemoglobin A1c tests per year); thus, we use this field to define the measure outcome.)

The outcome for this measure is unplanned all-cause 30-day readmission. We defined a readmission as an inpatient admission to any acute care facility which occurs within 30 days of the discharge date of an eligible index admission. All readmissions are counted as outcomes except those that are considered planned.

Denominator Statement: This claims-based measure can be used in either of two patient cohorts: (1) admissions to acute care facilities for patients aged 65 years or older or (2) admissions to acute care facilities for patients aged 18 years or older. We have tested the measure in both age groups.

Exclusions: We exclude from the measure all admissions for which full data are not available or for which 30-day readmission by itself cannot reasonably be considered a signal of quality of care.

Exclusions:

1. Admissions for patients without 30 days of post-discharge data
   Rationale: This is necessary in order to identify the outcome (readmission) in the dataset.
2. Admissions for patients lacking a complete enrollment history for the 12 months prior to admission
   Rationale: This is necessary to capture historical data for risk adjustment.
3. Admissions for patients discharged against medical advice (AMA)
   Rationale: Hospital had limited opportunity to implement high quality care.
4. Admissions for patients to a PPS-exempt cancer hospital
   Rationale: These hospitals care for a unique population of patients that is challenging to compare to other hospitals.
5. Admissions for patients with medical treatment of cancer (See Table 3 in Section 2a1.9)
   Rationale: These admissions have a very different mortality and readmission profile than the rest of the Medicare population, and outcomes for these admissions do not correlate well with outcomes for other admissions.
   (Patients with cancer who are admitted for other diagnoses or for surgical treatment of their cancer remain in the measure).
6. Admissions for primary psychiatric disease (see Table 4 in Section 2a1.9)
   Rationale: Patients admitted for psychiatric treatment are typically cared for in separate psychiatric or rehabilitation centers which are not comparable to acute care hospitals.
7. Admissions for “rehabilitation care; fitting of prostheses and adjustment devices”
   Rationale: These admissions are not for acute care or to acute care hospitals.

Additionally, in the all-payer testing, we excluded obstetric admissions because the measure was developed among patients aged 65 years or older (approximately 500,000).

Adjustment/Stratification: Hierarchical logistic regression models are used to model the log-odds of readmission within 30 days of discharge, as a function of patient-level demographic and clinical characteristics and a random hospital-level intercept. This model specification accounts for within-hospital correlation of the observed outcomes and models the assumption that underlying differences in quality among the health care facilities being evaluated lead to systematic differences in outcomes.

In brief, the approach simultaneously models two levels (patient and hospital) to account for the variance in patient outcomes within and between hospitals [1]. At the patient level, each model adjusts the log-odds of readmission within 30-days of discharge for age and selected clinical covariates. The second level models the hospital-specific intercepts as following a normal distribution. The hospital intercept represents the underlying hospital specific risk of readmission, after accounting for patient risk. If there were no differences among hospitals, then after adjusting for patient risk, the hospital intercepts should be identical across all hospitals.

We use a fixed, common set of variables in all our models for simplicity and ease of data collection and analysis. However, we estimate a

1789 Hospital-wide call-cause unplanned readmissions measure (HWR)

hierarchical logistic regression model for each specialty cohort separately, and the coefficients associated with each variable may vary across specialty cohorts. To group ICD-9-CM codes into comorbid risk variables, we use CMS Condition Category (CMS-CCs) groups, the grouper used in previous CMS risk-standardized outcomes measures [2]. See Table 5 for the final list of comorbid risk variables. The models also include a condition-specific indicator for all condition categories with sufficient volume (defined as those with more than 1,000 admissions nationally each year for Medicare FFS data) as well as a single indicator for conditions with insufficient volume in each model. See Table 5, of the Measure Submission and Evaluation Worksheetfor the final list of comorbid risk variables.
Stratification: Not Applicable
Level of Analysis: Facility
Type of Measure: Outcome
Data Source: Administrative claims
Measure Steward: Centers for Medicare & Medicaid Services (CMS)

1. Importance to Measure and Report: **Y-18; N-1**

Subcriteria rating prior to in-person meeting:
(1a. High Impact: 1b. Performance Gap, 1c. Evidence)
1a. Impact: **H-17; M-2; L-0; I-0 1b.** Performance Gap: **H-15; M-4; L-0; I-0**
1c. Evidence: Not applicable; outcome measure

Rationale**:** While evaluating the measures' importance to measure and report, the Committee agreed that the subcriteria was met and provided the following rationale:

- All readmission/care transitions goals have been identified in the National Quality Strategy under Patient Safety and Care Coordination and are further elaborated upon in the Partnership for Patients.
- As a stand-alone issue, readmissions is important to measure due to (1) high economic burden and (2) a complex relationship between the different elements of utilization, health status, transitions of care, and care coordination.
- An all-cause readmission measure would provide an opportunity to improve hospital accountability and performance.
- While discussing the evidence for the measure focus, there were concerns as to whether this measure was a health outcome or if hospital readmissions are an appropriate proxy for health outcomes.
- The Committee, particularly consumer representatives, agreed that readmissions are health outcomes because it is a proxy for deterioration in health status.

2. Scientific Acceptability of Measure Properties: Y-13; N-6

Subcriteria rating prior to in-person meeting:
(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)
2a. Reliability: **H-10; M-8; L-1; I-0 2b.** Validity: **H-7; M-12; L-1; I-1**

Rationale: While evaluating the measures' scientific acceptability, the Committee agreed that the subcriteria was met and identified 3 major issues:
1) Use of Hierarchical logistic regression model (HLM)
2) Hospital volume
3) Adjusting for socioeconomic status

Use of Hierarchical logistic regression model (HLM)

- Several Committee members expressed a wide range of concerns about the use of HLM due to its treatment of smaller volume hospitals, heavily relying on the assumption that the model does not make as much of an inference from patients within a small volume hospital, effectively pulling a smaller volume hospital towards more average estimates.
- The use of HLM attempts to level the playing field by adjusting for patient comorbidities and differences in services a hospital provides.
- The developer also stated that due to the fact that this is an all-cause measure, they did not have a large number of hospitals with small volumes, as may be seen in a condition-specific measure. With an all-cause measure, every hospital will have at least 'several hundred' observations.
- Small volume hospital readmission rates are calculated with less precision than larger hospitals.

Hospital volume

- Several Committee members felt that the decision to exclude hospital volume ignores the literature that explains that smaller volume hospitals generally have higher readmission rates.
- The Committee also expressed concern that the measure results may not be a true representation of a hospital readmission. This

1789 Hospital-wide call-cause unplanned readmissions measure (HWR)

could pose an issue, when public reporting websites (i.e. Hospital Compare) use the results to educate consumers.

- Using this type of risk-adjustment in this setting may introduce bias for a small volume hospital performing well. Hospitals with low volume may appear as average, effectively removing an incentive to improve quality.
- The developers argued that they could have included volume in the model to improve the predicative power; however, it does not seem appropriate to allow quality expectations to vary based on hospital volume.
- At the request of the Committee, the CMS/Yale team presented additional information to address the question of hospital volume and quality performance. For large and small volume hospitals they demonstrated that there is no pull to the mean, a major concern expressed by the Committee.

Adjusting for socioeconomic status

- The measure was not adjusted for socio-economic status (SES).
- The Committee felt strongly those patient variables such as health literacy, access to care, dual eligibility, homelessness, domestic violence, and access to childcare drive patient's access to follow-up care.
- Committee members also expressed concern that to exclude SES might lead to an increase in cherry picking among hospitals.
- The developer pointed out that the measure was not adjusted for SES for several reasons:
    - In examining the data across hospitals with a different proportion of Medicaid patients, there was a wide range of performance on the measure due to quality of care and resource availability.
    - There is no reliable and acceptable proxy for SES using administrative data.
    - The developers did not want to adjust away differences in SES, but rather highlight the disparities seen across hospitals.
- Supplemental information was provided demonstrating that among hospitals with the highest proportion of Medicaid patients, 25 percent of them performed better than the average hospital with very few Medicaid patients.
- Calibration curves showed the CMS/Yale model was able to predict risk for aggregate groups of patients well (i.e. how well the model is able to predict a low risk patient's low risk).

Additional items

- *The exclusion of patients with a primary diagnosis of a psychiatric condition*. The developer excluded patients readmitted for primary psychiatric conditions for 3 reasons: (1) the number of patients falling into this category was a 'small number' not evenly distributed across hospitals, (2) smaller volume hospitals do not code these readmissions in a consistent manner, and (3) this patient population is usually treated in rehabilitation facilities or specialized psychiatric hospitals. One Committee member argued that many psychiatric patients are treated in single units, within acute care hospitals and should be included in this measure, because exclusion has implications for the readmission rates of patients with comorbid psychiatric disorders. The developer clarified that the exclusion is for Psychiatric patients readmitted with a primary psychiatric diagnosis only, and that patients with comorbid secondary psychiatric diagnosis that are admitted for other medical conditions are still included.
- *The use of the 5 specialty cohorts.* The developers noted that in order to account for variation and service mix across hospitals, the best risk adjustment and model performance came when using the 5 cohorts. Limiting the measure to 5 cohorts also gave the measure better utility for the hospital because the measure is able to provide detailed data on each service line.
- *The surgery/gynecology cluster does not include obstetrics*. Given the limited time during the call for measures, and because the measure was initially built upon a 65+ population the developers did not include obstetrics; however they will work to update the measure.
- The model only accounts for the receiving hospitals' performance, not the transferring hospital performance. This was a particular concern for transfers from a community-based facility to a larger hospital known more for specialty care.
- An additional recommendation to add reporting stratification by SES guidance was voted down (Y-8; N-11).

3. Usability: H-1; M-8; L-11; I-0

Subcriteria rating prior to in-person meeting:
(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*
3a. Public Reporting: **H-6; M-5; L-5; I-3**
3b. QI: **H-5; M-6; L-6; I-2**

Rationale: While evaluating the measures' usability, the Committee found the usability to be low and identified 3 major issues:
1) Measurement issues regarding the model approach
2) Consumer use of the measure
3) Time lag

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Measurement issues regarding the shrinkage model

- The Committee felt that smaller volume hospitals would not receive useful information to improve quality.
- Committee members expressed concerns that smaller volume hospitals would look better than larger hospitals because their means would be pulled to an overall national average. As such, the data generated may not be meaningful for public reporting.

Consumer Use of the Measure

- Addressing the issue of consumer use, the CMS/Yale group pointed out that the rate of readmission at which the public can call something 'good' vs. 'bad' is a policy decision by CMS. CMS currently uses a 95 percent confidence interval and large confidence intervals are a genuine representation of hospital performance. Committee members felt that a wide confidence interval makes the measure less useful for consumers.
- The Committee felt that to make this measure understandable and meaningful would require more education for consumers on readmissions, specifically that reduction of readmission rates is not rationing of care but rather improved quality
- The developer reiterated that their measure was built for two purposes: (1) public reporting in order to adequately compare different types of hospitals; and (2) for quality improvement by allowing hospitals to benchmark themselves against other hospitals to identify areas in which quality improvement is necessary, and catalyze activity.

Time lag

- The Committee was concerned that for the purposes of quality improvement, the lag in data collection and reporting (approximately 12 to 18 months) would be inadequate.
- The time lag would limit the ability to apply rapid cycle improvement events.

4. Feasibility: H-14; M-5 ; L-0 ; I-0

Subcriteria rating prior to in-person meeting:

(4a. Data generated during care; 4b. Electronic sources; 4c. Susceptibility to inaccuracies/ unintended consequences identified; 4d. Data collection can be implemented)

4a. Byproduct of Care Processes: **H-14; M-5; L-0; I-0**

4b. Electronic data sources: **H-13; M-5; L-1; I-3**

4c. Susceptability to inaccuracies, consequences: **H-7; M-9; L-1; I-2**

4d. Data collection strategy: **H-11; M-6; L-0; I-2**

Rationale:

- Members discussed ability of hospitals to receive information about readmissions to other hospitals and its effect on the measure implementation.

Steering Committee Vote: Meets Criteria for Endorsement: Y-142 ; N-58

Following harmonization discussion, the measure was recommended for endorsement

Rationale:

- This measure addresses a high impact area.
- This measure can be used at the hospital level.

Public and Member Comments

- Inclusion of SES/race variables in the model
- Stratification to avoid differences related to disparities in care
- Difficulty replicating the measure for quality improvement purposes

Socioeconomic (SES)/Race variables in the risk adjustment model

Committee Response: Many members of the Committee agreed that the socio-economic status of patients can drive the likelihood of a readmission. This relationship is driven, in part by differences in the hospital quality; but also the availability of community support to patients. Thus, many Committee members agreed that readmissions are not simply a measure of hospital quality but also community health quality. The hospital is dependent on resources available in the community, such as effective transitional care and other community level factors, including distance to the hospital. However, the use of SES at the individual patient level in a risk adjustment model would hide differences in performance. Further, SES is an extremely difficult construct to measure in a reliable and valid way using administrative data. After reviewing the comments submitted surrounding SES, the Committee decided to re-vote on whether the CMS/Yale measure (#1789) met the NQF criteria for endorsement. Following the re-vote, Measure #1789 was recommended for NQF endorsement with the following recommendation: in order to support fair and appropriate comparisons, hospital performance on this

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measure should be reported within like comparison groups (e.g., disproportionate share hospitals).

CMS/Yale Developer Response: We recognize the concerns of this commentator and others that socioeconomic status confers increased risk for readmissions beyond the control of the hospital. We have considered this problem in depth and have come to the following conclusions:
1) To the extent that SES increases readmission risk by increasing severity of illness, we account for this increased risk in our readmission models. Indeed, our analyses show that the expected readmission risk per patient estimated by the model based on patient comorbidities and an average hospital intercept term is higher on average for patients treated in hospitals that treat a higher proportion of Medicaid patients than for those treated in hospitals that treat a lower proportion of Medicaid patients. Thus, our measure already substantially incorporates increased risk of low SES patients by adjusting for patient comorbidities.
2) Adding additional risk adjustment to the readmission model for low SES status both hides disparities and would potentially eliminate incentives for hospitals to invest time and resources that may be necessary to support all patients, including those of low SES, in the post-discharge period. Including some form of SES as a risk variable in the readmission model implies that it is both expected and acceptable for low SES patients to have higher readmission rates for any given level of illness. Since this measure is intended to reduce the readmission risk for all patients and is fundamentally a patient-centered outcome measure, we have elected to set one standard of care for all patients. All patients should expect to receive the same standard of care regardless of their demographic background.
3) Adjusting for SES also assumes that all of the increased risk of low SES patients is outside the control of the hospital. We do not agree. The increased risk of readmission associated with low SES comprises multiple dimensions and factors, some of which (e.g., reduced literacy) are within the control of the hospital to mitigate. The fact that one quarter of hospitals that treat the highest proportion of Medicaid patients (>30% of all hospital admissions Medicaid) have lower RSRRs than half of the hospitals with fewer than 10% Medicaid admissions is evidence that hospitals caring for low SES patients are not necessarily disadvantaged by our measure. Better quality of care is achievable regardless of the proportion of low SES patients in the hospital.
4) We recognize that many of the interventions that may improve outcomes for low SES patients are located in communities rather than inpatient settings, and we recognize that many commentators believe that these interventions are outside the scope of acute care facilities. However, we believe that this measure can help to incentivize hospitals to work together with community-based organizations to improve care for patients (both low and high SES) post-discharge. We believe that coordination and integration of care is a fundamental component of high quality care that is part of the acute care hospital mission.
5) Finally, CMS notes that there are CMS programs that provide technical and financial support that may assist hospitals in improving performance on readmission measures. In addition, CMS has indicated that it will monitor whether a pending payment program that uses other readmission measures, the Hospital Readmissions Reduction Program, will have a disparate impact on hospitals that care for large numbers of low SES patients.

Usability concerns
Committee Response: The Committee discussed concerns related to the usability noting limitations in use for quality improvement. Specifically for the CMS/Yale measure, Committee members agreed that the measure may not be able to support quality improvement within hospitals since it would be difficult to recreate the measure results without data from the readmitting hospital if it is not the same as the index hospital. The Committee also noted the limitation in rapid-cycle improvement due to the turnaround time for measure. These issues were broadly reflected in the low usability ratings for the CMS/Yale measure. While these are not limitations in the measure design, but rather measure implementation; the Committee strongly encourages CMS and other potential users to continue enhancing data platforms, timeliness of reporting and other aspects of measure implementation. After reviewing the comments submitted surrounding the usability concerns, the Committee decided to re-vote on whether the CMS/Yale measure (#1789) met the NQF criteria for endorsement. Following the re-vote, Measure #1789 was recommended for NQF endorsement with the following recommendation in addition to the recommendation above concerning SES: in order to support performance improvement and accountability, feedback to hospitals should be timely and provide information on all readmissions.

CMS/Yale Developer Response: This measure is designed to enable risk-standardized comparisons of hospital performance against national norms in order to help patients and hospitals identify areas of weakness and benchmark to peers. For this purpose, it is essential to include adequate volume for comparison (at least one year of data) and to compare to contemporary performance of other institutions. By contrast, this measure is not intended for rapid cycle improvement within a hospital, for which risk-standardized rates are neither appropriate nor necessary.

1768 Plan all-cause readmissions

Measure Submission and Evaluation Form

Description: For members 18 years of age and older, the number of acute inpatient stays during the measurement year that were followed by an acute readmission for any diagnosis within 30 days and the predicted probability of an acute readmission.
Data are reported in the following categories:
1. Count of Index Hospital Stays (IHS) (denominator)
2. Count of 30-Day Readmissions (numerator)
3. Average Adjusted Probability of Readmission
4. Observed Readmission (Numerator/Denominator)
5. Total Variance
Note: For commercial, only members 18–64 years of age are collected and reported; for Medicare, only members 18 and older are collected, and only members 65 and older are reported.
Numerator Statement: At least one acute readmission for any diagnosis within 30 days of the Index Discharge Date.
Denominator Statement: For commercial health plans, ages 18-64 as of the Index Discharge Date. For Medicare and Special Needs Plans, ages 18 and older as of the Index Discharge Date.
Exclusions: Exclude hospital stays where the Index Admission Date is the same as the Index Discharge Date and any inpatient stay with a discharge date in the 30 days prior to the Index Admission Date.
Adjustment/Stratification:
Indirect standardization, using logistic regression
Uses the CC and HCC models to identify comorbidities and attaches weights to each statistically significant comorbidity by product line and age grouping.
We estimated a stepwise logistic regression. The binary dependent variable was coded 1 for index hospital stays that had a subsequent readmission within 30 days, and 0 otherwise. The independent variables in the models were:

- age-gender cohort:
Commercial: male 18-44, female 18-44, male 45-54, female 45-54, male 55-64 (reference group), female 55-64.
In year 1, the model for Medicare used:
Medicare 18 and older: male 18-44, female 18-44, male 45-54, female 45-54, male 55-64, female 55-64. male 65-74 (reference group), female 65-74, male 75-84, female 75-84, male 85+, female 85+.
In year 2, the model for Medicare will use: male 65-74 (reference group), female 65-74, male 75-84, female 75-84, male 85+, female 85+.

- Major surgery: 1=index hospital stay was for major surgery (see code list in algorithm); 0, otherwise.

- Discharge Clinical Condition (CC) from the HCC classification system: 1=index hospital stay was for the CC; 0, otherwise.
Note: each index hospital stay is coded into exactly one CC and is based only on the primary diagnosis.

- Comorbid Hierarchical Clinical Condition (HCC): 1=index hospital stay had the associated comorbidity (HCC) indicated through any diagnosis on a face to face claim/encounter for the 12 months prior to the index hospital stay discharge date; 0, otherwise.

Stratification by risk category/subgroup. The measure includes a table that stratifies the five reporting data elements by age and gender.
The five elements are:
1. Count of Index Stays
2. Count of 30-Day Readmissions
3. Average Adjusted Probability
4. Observed Readmission (Numerator/Denominator)
5. Total Variance
The age stratifications are:
Commercial: 18-44, 45-54, 55-64, Total
Medicare: 65-74, 75-84, 85+., Total
The measure is also stratified by gender.
Values are reported for each stratification.
Level of Analysis: Health Plan
Type of Measure: Outcome
Data Source: Administrative claims
Measure Steward: National Committee of Quality Assurance

1768 Plan all-cause readmissions

STEERING COMMITTEE MEETING 12/5-6/2011

1. Importance to Measure and Report: **Y-18; N-0**

Subcriteria rating prior to in-person meeting:
(1a. High Impact: 1b. Performance Gap, 1c. Evidence)
1a. Impact: **H-13; M-5; L-1; I-0** **1b.** Performance Gap: **H-5; M-8; L-2; I-2**
1c. Evidence: Not applicable; outcome measure

Rationale: While evaluating the measures' importance to measure and report, the Committee agreed that the subcriteria was met and provided the following rationale:

- This particular measure creates a standard metric for quality monitoring and accountability of the health plan, leaving it to the health plan to work with its network of hospitals, providers, medical homes, and other entities to implement quality improvement strategies to improve readmissions.
- This health plan based measure can be a complement to a hospital-based measure.
- Readmissions are important to measure due to (1) high economic burden and (2) a complex relationship between the different elements of utilization, health status, transitions of care, and care coordination.
- This all-cause readmission measure would provide an opportunity to improve hospital and health plan accountability and performance.

2. Scientific Acceptability of Measure Properties: Y-12; N-7

Subcriteria rating prior to in-person meeting:
(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)
2a. Reliability: **H-4; M-9; L3-; I-3** **2b.** Validity: **H-3; M-10; L-5; I-1**

Rationale: While evaluating the measures' scientific acceptability, the Committee agreed that the subcriteria was met, and identified 3 major issues:
1) Use of Health Plan level data
2) Risk Adjustment
3) Adjusting for Socioeconomic Status

Use of Health Plan level data

- In this measure, the data collected are at the health plan level. This measure focus shifts from the hospital as the unit of accountability, to a more population based approach.
- There are no current plans to develop this measure for use at a hospital level.
- The data are collected at the health plan level. The plans take NCQA specifications and implement them either themselves or through their software vendors that perform various calculations on the number of hospitalizations, transfers, etc.
- The Committee expressed concern that underperforming hospitals would not be seen in the plan level data. Plans seeking to reduce readmissions can work with hospitals and provide selective contracting or other value based payment arrangements.

Risk Adjustment

- This measure uses indirect standardization through a logistic model.
- The data are not nested since patients are extremely cross classified. Data are clustered across multiple hospitals and across multiple health plans.
- The measure accounts for a service mix of patients in a given setting by adjusting for patient attributes such as demographic information, age, comorbid conditions, and index condition.
- This measure uses CC's from the CMS HCC system.
- The Committee expressed concern regarding selection bias between health plans, and hospitals being unfairly penalized due to variability in the patients that they treat.
- This measure has modified the risk adjustment model to have separate risk adjusters and weights for the Medicare under 65 and the Medicare 65 and older population.
- The developer presented calibration curves demonstrating that the expected versus actual risk deciles plots had adequate discriminate ability. Actual differences between expected and actual risk were less than 1 percent in each decile.

Adjusting for Socioeconomic Status

- This measure does not adjust for socioeconomic status (SES). The developers feel there is not a suitable proxy for SES within a

1768 Plan all-cause readmissions

community, as the health plans do not report that information. NCQA feels that health plan comparisons are done on a local scale, and they have no reason to believe there is an SES difference between health plans. The Committee challenged this assumption.

- NCQA argued that the measure takes SES into account to a certain degree through measurement of each health plan product line; Commercial and Medicare.

Additional Items

- Behavioral health and planned admissions are included in this measure.

3. Usability: H-5; M-4; L-9; I-1

Subcriteria rating prior to in-person meeting:
(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*
3a. Public Reporting: **H-7; M-5; L-6; I-1**
3b. QI: **H-6; M-6; L-5; I-2**

Rationale: While evaluating the measures' usability, the Committee found the usability to be low and identified the following issues:
The health plan is in a greater position to deal with the coordination issues between primary care and the care team (i.e. nurse care manager, etc.) and to follow up with the patient (i.e. about making follow up appointment, adhering to medication regiments, or other access issues).

- Coordination of care can be done by the payer within a given market.
- Useful to the health plan in setting up quality improvement methods that would affect individual institutions that are contracted with that plan.
- Consumer representatives on the Committee felt that this measure was extremely useful for purchasers and consumers, especially upon implementation of health insurance exchanges.
- There is added utility to having a health plan perspective in combination with and in complement to a hospital-based measure.

4. Feasibility: H-14; M-5; L-0; I-0

Subcriteria rating prior to in-person meeting:
(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)
4a. Byproduct of Care Processes: **H-11; M-7; L-1; I-0**
4b. Electronic data sources: **H-10; M-6; L-2; I-1**
4c. Susceptibility to inaccuracies, consequences: **H-4; M-9; L-5; I-1**
4d. Data collection strategy: **H-7; M-9; L-3; I-0**

Rationale:

- Initial testing and development of this measure began in 2009, using commercial and Medicare Advantage plan based data from 2008 and 2009. NCQA has also collected first year measurement from Medicare Advantage commercial health plans. Those data are already in use at CMS.
- Data and evidence have been collected for one year
- The measure is already in implementation among several health plans.
- CMS is already in the process of using the measure within the STAR system for use in both health plan choice and incentive processes.

Steering Committee Vote: Meets Criteria for Endorsement : Y-13~~0~~; N-6~~9~~
Following harmonization discussion, the measure was recommended for endorsement.
Rationale:

- This measure demonstrated a high impact area.
- This measure can be used at the plan level.
- This measure is useful for consumers.

Public and Member Comment

- Inclusion of SES/race variables in the model
- Inclusion of a readmission as an index admission

Socioeconomic (SES)/Race variables in the risk adjustment model
Committee Response: Many members of the Committee agreed that the socio-economic status of patients can drive the likelihood of a readmission. This relationship is driven, in part by differences in the hospital quality; but also the availability of community support to

1768 Plan all-cause readmissions
patients. However, since this measure is at the health plan level, inclusion of SES variable was not as prominent of a concern. *NCQA Developer Response:* When considering the inclusion of SES in the model, NCQA's expert panels cited the following limitations/barriers: a) Health plans do not currently have a reliable way to identify and report information on SES; b) Attributing SES to each health plan is complicated and prone to measurement error; additionally, SES may vary widely across a health plan, undermining the impact of a generic risk adjustment method; and c) Adding SES may risk adjust away important differences in populations and can imply that different levels of performance are acceptable for populations with differing SES. **Readmission as an index admission** *Committee Response:* The Committee agrees that readmissions should be considered index events. The Committee also agrees that index events for unplanned non-maternity readmissions should not be included because identifying planned maternity readmissions would be difficult using administrative data. *NCQA Developer Response*: Over the next year, NCQA will test counting readmissions as index events on the overall model integrity.

Patient Outcomes: All-Cause Readmissions Expedited Review

Presentation to the Consensus Standards Approval Committee

March 7, 2012

NATIONAL QUALITY FORUM

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Agenda

- Project scope/status
- Overarching issues
- Comments received/Actions taken
- Voting results

Project Scope

- Project Goals:
  1. Identification and endorsement of additional cross-cutting, non condition-specific measures for accountability and quality improvement that address all-cause readmissions to hospitals
  2. All-cause hospital readmissions-related consensus standards that were endorsed by NQF before June 2009 will be evaluated under the maintenance process
- Expedited Review Process

  Three criteria must be met prior to consideration by the Consensus Standards Approval Committee (CSAC) for an expedited review:
  1. The extent to which the measures under consideration have been sufficiently tested and/or in widespread use
  2. The scope of the project/measure set is relatively narrow
  3. There is a time-sensitive legislative/regulatory mandate for measures
- The submitted measures were evaluated according to NQF evaluation criteria

Measures Recommended

Two measures were recommended for endorsement:

- **1789: Hospital-wide all-cause unplanned readmissions measure (HWR)** (CMS/Yale)

  (Yes—14, No—5)

- **1768: Plan all-cause readmissions** (NCQA)

  (Yes—13, No—6)

Measure Comparison

	#1789 (CMS/Yale)	#1768 (NCQA)
Readmission Type	All-Cause	All-Cause
Measure Type	Unplanned	Planned* and unplanned
Level of Analysis	Hospital	Health plan

Tested Population	Medicare FFS/Commercial
	• Condition categories (CCs)
	• 5 clinical cohorts
	  • Medicine
	  • Surgery/Gynecology
	  • Cardiorespiratory
	  • Cardiovascular
	  • Neurology
		Medicare/Commercial
		• Hierarchical condition category (HCC)
		  • Risk weights
		  • Commercial under 65 (collected and reported)
		  • Medicare under 65 (collected)
		  • Medicare over 65 (reported)
		Note: Commercial over 65 is excluded

Risk Adjustment Method	Hierarchical logistic regression	Logistic

***Steering Committee recommended harmonization with CMS/Yale by annual update**

Project Status

- Member and public comment period closed on January 20, 2012
- All 117 comments were addressed by the Steering Committee and developers had an opportunity to respond to comments on their measures
- Voting closed on Thursday, March 1, 2012 with two measures recommended for endorsement
  - **Draft report and comment table available on the project page**

Overarching Issues

- **Modeling approaches**
  - Statistical modeling and use of HLM
  - Selection of Covariates
    - Hospital volume
    - Adjusting for socioeconomic status
- **Usability for quality improvement**

Overarching Issues

- **Related and competing measures**
  - Hierarchical condition category vs. condition categories
  - Logistic or hierarchical modeling
  - Inclusion of structured cohorts
  - Exclusion of planned readmissions
  - Exclusion of cancer patients with planned readmissions
  - Counting readmissions as index admissions

Public and Member Comments

- 117 comments received from 43 organizations/individuals
- Major Themes:
  - Justification of an expedited review
  - Socioeconomic (SES) variables in the risk-adjustment model
  - Usability concerns
  - Support for harmonization
  - Inclusion/exclusion criteria
- Comment responses from NQF staff, measure developers & Steering Committee

Impact of Comments

The Committee members:

- encouraged measure developers to consider testing community-level SES variables (instead of patient level) that can be used in risk adjustment models that are reliable and valid
- encouraged CMS and other potential users to continue enhancing data platforms, timeliness of reporting and other aspects of measure implementation
- expressed a strong desire that the NCQA and CMS/Yale measures should be harmonized for both hospital and plan level measurement within a reasonable timeframe

Impact of Comments

- Due to the number of comments surrounding the issues of SES and usability, the Committee agreed to re-vote on whether Measures #1789 (CMS/Yale) and #1768 (NCQA) met the NQF criteria for endorsement
- Following the re-vote, both Measures #1789 and #1768 were recommended by the Committee for NQF endorsement
- Measure #1789 was recommended with the following recommendations:
  - *In order to support fair and appropriate comparisons, hospital performance on this measure should be reported within like comparison groups (e.g., disproportionate share hospitals); and*
  - *In order to support performance improvement and accountability, feedback to hospitals should be timely and provide information on all readmissions*

Impact of Comments

- 0329: Risk-adjusted 30-day all-cause readmission rate (UnitedHealthCare)
  - After the January 31st call, the Committee voted not to rediscuss Measure #0329 (Yes—7, No—12)
  - The Committee's recommendation to not recommend will remain

NQF Member Voting Results:
1789: Hospital-wide all-cause unplanned readmissions measure (HWR) (CMS/Yale)

Measure Council	Yes	No	Abstain	Total Votes	% Approval*
Consumer	6	0	0	6	100%
Health Plan	4	2	0	6	67%
Health Professional	3	7	0	10	30%
Provider Organizations	4	17	2	23	19%
Public/Community Health Agency	1	0	0	1	100%
Purchaser	7	0	0	7	100%
QMRI	4	5	1	10	44%
Supplier/Industry	0	0	0	0	
All Councils	**29**	**31**	**3**	**63**	**48%**
Percentage of councils approving (>50%)					57%
Average council percentage approval					66%

*equation: Yes/ (Total - Abstain)

NQF Member Voting Results:
1768: Plan all-cause readmissions (NCQA)

Measure Council	Yes	No	Abstain	Total Votes	% Approval*
Consumer	6	0	0	6	100%
Health Plan	6	0	0	6	100%
Health Professional	3	6	1	10	33%
Provider Organizations	4	14	5	23	22%
Public/Community Health Agency	1	0	0	1	100%
Purchaser	7	0	0	7	100%
QMRI	4	5	1	10	44%
Supplier/Industry	0	0	0	0	
All Councils	**31**	**25**	**7**	**63**	**55%**
Percentage of councils approving (>50%)					57%
Average council percentage approval					71%

*equation: Yes/ (Total - Abstain)