NATIONAL QUALITY FORUM
Driving measurable health improvements together

Renal, Fall 2019 Cycle Track 2: CDP Report

TECHNICAL REPORT
FEBRUARY 8, 2020

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http://www.qualityforum.org

Contents

Executive Summary

The following report details the deliberations of the National Quality Forum (NQF) Renal Committee, one of fourteen NQF Standing Committees responsible for the management of the NQF portfolio of endorsed measures. The NQF Renal Committee concerns itself primarily with measures relating to chronic kidney disease (CKD)—or renal disease—a condition affecting 15 percent of the US adult population.[1]

For the Fall 2019 Track 2 measurement cycle, the Committee focused on one topical area: blood transfusions associated with hemodialysis. Blood transfusions are an undesirable outcome associated with the management of anemia in patients with underlying CKD. The Committee noted that while anemia is a common condition in patients with established renal failure that may necessitate some patients to receive blood transfusions, there are preventable risk factors with appropriate anemia management that can offset the frequency of blood transfusion at the population level.

Quality measurement plays a central role in facilitating improvement in the quality of care received by CKD patients, especially those on hemodialysis. NQF-endorsed kidney care measures are used in several quality and performance improvement programs administered by the Centers for Medicare & Medicaid Services (CMS), such as the End-Stage Renal Disease Quality Incentive Program (ESRD QIP).

This project sought to identify and endorse performance measures for accountability and quality improvement that address conditions, treatments, interventions, or procedures relating to kidney disease.

For this project, the Standing Committee evaluated one measure undergoing maintenance review against NQF's standard evaluation criteria. The Committee recommended one measure for endorsement. The Consensus Standards Approval Committee (CSAC) upheld the Committee's recommendation.

Endorsed Measure:

- **NQF #2979** Standardized Transfusion Ratio for Dialysis Facilities

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

Track 1: Measures That Remained in Fall 2019 Cycle:

- None of the measures in the Renal fall 2019 cycle met the criteria for a track 1 measure. Therefore, the one measure submitted for the fall 2019 Cycle was deferred to the spring 2020 Cycle.

Track 2: Measures Deferred to Spring 2020 Cycle:

- **NQF #2979** Standardized Transfusion Ratio for Dialysis Facilities

This report contains details of the evaluation of the measure assigned to track 2 and moved to the spring 2020 Cycle. A detailed summary of the Committee's discussion and ratings of the criteria for this measure is in Appendix A.

Introduction

Kidney disease has long been a leading cause of morbidity and mortality in the US. More than 36 million adults—representing 15 percent of the adult population—have chronic kidney disease (CKD).[1] Left untreated, CKD can progress to an advanced state of kidney dysfunction known as end-stage renal disease (ESRD) and a host of other health complications, such as cardiovascular disease, hyperlipidemia, anemia, and metabolic bone disease. Currently, over half a million people in the US have received a diagnosis of ESRD.[1] Considering the high mortality rates and high healthcare utilization and costs associated with ESRD, the need to focus on quality measures for patients with renal disease is particularly important.

As kidney function declines, some patients require mechanical removal of fluid through dialysis. This stage in CKD is characterized by increased risk for additional physical disease as well as increased risk for mental health conditions, such as anxiety and depression.[2] The quality of care in dialysis has been noted to vary substantially, introducing the need to ensure that quality is monitored and appropriately managed.[3] Appropriate vascular access points, filtration rates, monitoring and adjustment, among other factors, play a critical role in the quality of dialysis care that patients receive.[4] Poor dialysis care can result in undesirable consequences for patients, such as anemia and blood transfusions, hospital admission, and mortality.

ESRD is the only healthcare condition that Medicare covers for people under the age of 65.[5] The US continues to spend significant resources on care and treatment of CKD and ESRD. Net costs associated with CKD continue to rise. According to the most recent US Renal Data System Annual Data Report from 2019, the total Medicare spend associated with CKD and ESRD in 2017 exceeded $120 billion. ESRD patients spend alone $36 billion, accounting for 7.2 percent of the overall Medicare-paid fee-for-service claims, a proportion that has remained consistent for over a decade.[6]

The management of anemia associated with CKD is one of the important focal points of good dialysis care. Anemia management does not only consist of maintenance of appropriate hemoglobin concentrations; use of other clinically meaningful outcomes, such as avoiding blood transfusion, has increasingly become key indicators.[7,8] Blood transfusions in dialysis patients are intended to ameliorate the pathophysiologic consequences of severe anemia.[9] Consensus guidelines in the US and other consensus guidelines defining appropriate use of blood transfusions are based, in large part, on the severity of anemia.[10,11] Hemoglobin markers remain an important intermediate outcome that defines anemia and forms a basis for consensus recommendations regarding the use of blood transfusion. Decreased hemoglobin concentration is a strong predictor of risk for blood transfusion in chronic dialysis.[12,13]

NQF Portfolio of Performance Measures for Renal Conditions

The Renal Standing Committee (Appendix C) oversees NQF's portfolio of Renal measures (Appendix B). This portfolio contains 23 measures: six process measures, 13 intermediate outcome measures, and four outcome and resource use measures (see table below).

Table 1. NQF Renal Portfolio of Measures

	Process	Intermediate Outcome	Outcome
Hemodialysis	1	2	0
Hemodialysis - Pediatric	0	1	0
Hemodialysis Vascular Access	1	4	0
Dialysis Monitoring	1	1	0
Dialysis Monitoring - Pediatric	2	1	0
Peritoneal Dialysis	0	4	0
Patient Safety	0	0	4
Treatment Initiation	1	0	0
Total	6	13	4

Additional measures have been assigned to other portfolios. These include various diabetes assessment and screening measures (Primary Care & Chronic Illness Standing Committee), eye care measures (Primary Care & Chronic Illness Standing Committee), angiotensin-converting enzyme inhibitors (ACEI)/angiotensin receptor blockers (ARB) medication measures (Cardiovascular and Primary Care & Chronic Illness Standing Committee), complications and outcomes measures (Cardiovascular, Patient Experience & Function, and Surgery Standing Committees), and cost and resource use measures (Cost and Efficiency project).

Renal Measure Evaluation

On January 30, 2020, the Renal Standing Committee evaluated one measure undergoing maintenance review against NQF's standard measure evaluation criteria.

Table 2. Renal Measure Evaluation Summary

	Maintenance	New	Total
Measures reviewed	1	0	1
Measures endorsed	1	0	1

Comments Received Prior to Committee Evaluation

NQF solicits comments on endorsed measures on an ongoing basis through the Quality Positioning System (QPS). In addition, NQF solicits comments for a continuous 16-week period during each evaluation cycle via an online tool located on the project webpage. For this evaluation cycle, the commenting period opened on November 26, 2019 and closed on April 9, 2020. No comments were submitted prior to the measure evaluation meetings.

Comments Received After Committee Evaluation

Considering the recent COVID-19 global pandemic, many organizations needed to focus their attention on the public health crisis. In order to provide greater flexibility for stakeholders and continue the important work in quality measurement, the NQF extended commenting periods and adjusted measure endorsement timelines for the fall 2019 Cycle.

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

Track 1: Measures Remained in Fall 2019 Cycle
Measures that did not receive public comments or only received comments in support of the Standing Committees' recommendations moved forward to the CSAC for review and discussion during its meeting on July 28-29, 2020. None of the measures in the Renal fall 2019 cycle met the criteria for a track 1 measure. Therefore, the one measure submitted for the fall 2019 Cycle was deferred to the spring 2020 Cycle.

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

Track 2: Measures Deferred to Spring 2020 Cycle
Fall 2019 measures that required further action or discussion from a Standing Committee were deferred to the spring 2020 Cycle. This includes measures where consensus was not reached or those that require a response to public comments received. Measures undergoing

maintenance review retained endorsement during that time.

During the spring 2020 Consensus Standards Approval Committee (CSAC) meetings on November 17-18, 2020, the CSAC reviewed all measures assigned to track 2.

The extended public commenting period with NQF member support closed on May 14, 2020. Following the Committee's evaluation of the measures under review, NQF received one comment from one member organization pertaining to the draft report and to the measure under consideration. All comments for each measure under review have been summarized in Appendix A.

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

Summary of Measure Evaluation: Fall 2019 Measures, Track 2

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

#2979 Standardized Transfusion Ratio for Dialysis Facilities (University of Michigan Kidney Epidemiology and Cost Center): Endorsed

Description: The risk-adjusted facility level transfusion ratio "STrR" is specified for all adult dialysis patients. It is a ratio of the number of eligible red blood cell transfusion events observed in patients dialyzing at a facility to the number of eligible transfusion events that would be expected under a national norm, after accounting for the patient characteristics within each facility. Eligible transfusions are those that do not have any claims pertaining to the comorbidities identified for exclusion, in the one-year look-back period prior to each observation window. This measure is calculated as a ratio, but can also be expressed as a rate. **Measure Type**: Outcome; **Level of Analysis**: Facility; **Setting of Care**: Other; **Data Source**: Claims, Registry Data

Prior to the Standing Committee meeting, this measure was reviewed by NQF's Scientific Method Panel (SMP). The SMP passed the measure with a moderate rating for both reliability and a high rating for validity.

This outcome measure calculates a ratio of the number of eligible red blood cell transfusion events observed in patients dialyzing at a facility, to the number of eligible transfusion events that would be expected under a national norm, after accounting for the patient characteristics within each facility. The Renal Standing Committee noted that the evidence was reasonable to support the basis of the measure, and the performance gaps demonstrated in the analysis submitted were sufficient to warrant continued endorsement of this measure. The developer provided an overview of changes made to the measure specifications since the measure's previous endorsement. To address concerns about under-identification of inpatient blood transfusions using International Classification of Diseases (ICD)-10 procedure codes, the developer added revenue codes to the inpatient transfusion definition. The developer presented data demonstrating that the broader definition captures more inpatient transfusion events than were previously captured. The developer also clarified that the measure excludes Medicare Advantage patients due to incomplete claims data. Both the Committee and the developer were concerned about excluding this group of patients, as Medicare Advantage patients have been increasingly represented in the population of patients receiving dialysis. Without full claims

data, the developer stated it is impossible to accurately risk-adjust the measure results or the capture of

transfusion events and exclusions would be incomplete, threatening the validity of the measure. The Committee discussed the reliability and validity of the measure, and the changes to the specifications since the previous endorsement. The Committee determined their discussion warranted a Committee vote on both reliability and validity, and ultimately the Committee was satisfied that the measure met both criterion. The Committee did not express any concerns about the feasibility, use, and usability of the measure.

The CSAC expressed no concerns with the Committee's evaluation or recommendation and voted unanimously to endorse the measure.

Measures Withdrawn from Review

One measure previously endorsed by NQF was withdrawn during the endorsement evaluation process. Endorsement for this measure was removed.

Table 3. Measures Withdrawn from Review

Measure	Reason for withdrawal
0251 Vascular Access—Functional Arteriovenous Fistula (AVF) or AV Graft or Evaluation for Placement	Developer is not seeking re-endorsement.

References

1 Saran R, Robinson B, Abbott KC, et al. US Renal Data System 2018 Annual Data Report: Epidemiology of Kidney Disease in the United States. *Am J Kidney Dis*. 2019;73(3 Suppl 1):A7-A8.

2 Rubio AR, Asencio JMM, Raventos MEP, et al. Depression, anxiety and health-related quality of life amongst patients who are starting dialysis treatment. *Journal of Renal Care*. 2017;43(2):73-82.

3 Carroll JK, Pulver G, Dickinson LM, et al. Effect of 2 Clinical Decision Support Strategies on Chronic Kidney Disease Outcomes in Primary Care: A Cluster Randomized Trial. *JAMA Network Open*. 2018;1(6):e183377-e183377.

4 Hasanzamani B, Sabbagh MG. The relationship between anemia and Kt/V index in patients undergoing continuous ambulatory peritoneal dialysis and hemodialysis. *J Renal Inj Prev*. 2019;9(1):e06-e06.

5 CROWNWeb: History, Purpose, and Usage Video. https://mycrownweb.org/assets/intro-videos/. Last accessed January 2021.

6 United States Renal Data System. 2019 USRDS Annual Data Report: Epidemiology of kidney disease in the United States. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2019.

7 Berns JS. Moving Away From Hemoglobin-Based Anemia Performance Measures in Dialysis Patients. *American Journal of Kidney Diseases*. 2014;64(4):486-488.

8 Research C for DE and. FDA Drug Safety Communication: Modified dosing recommendations to improve the safe use of Erythropoiesis-Stimulating Agents (ESAs) in chronic kidney disease. *FDA*. January 2021. https://www.fda.gov/drugs/drug-safety-and-availability/fda-drug-safety-communication-modified-dosing-recommendations-improve-safe-use-erythropoiesis. Last accessed January 2021.

9 Whitman CB, Shreay S, Gitlin M, et al. Clinical factors and the decision to transfuse chronic dialysis patients. *Clin J Am Soc Nephrol*. 2013;8(11):1942-1951.

10 Carson JL, Grossman BJ, Kleinman S, et al. Red blood cell transfusion: a clinical practice guideline from the AABB*. *Ann Intern Med*. 2012;157(1):49-58.

11 Muñoz M, Gómez-Ramírez S, Kozek-Langeneker S, et al. “Fit to fly”: overcoming barriers to preoperative haemoglobin optimization in surgical patients. *Br J Anaesth*. 2015;115(1):15-24.

12 Dunne JR, Malone D, Tracy JK, et al. Perioperative anemia: an independent risk factor for infection, mortality, and resource utilization in surgery. *J Surg Res*. 2002;102(2):237-244.

13 Covin R, O’Brien M, Grunwald G, et al. Factors affecting transfusion of fresh frozen plasma, platelets, and red blood cells during elective coronary artery bypass graft surgery. *Arch Pathol Lab Med*. 2003;127(4):415-423.

Appendix A: Details of Measure Evaluation

Rating Scale: H=High; **M**=Moderate; **L**=Low; **I**=Insufficient; **NA**=Not Applicable Note: Quorum was met and maintained for the entirety of the NQF measure evaluation meeting scheduled on January 30, 2020; however, there were early departures and late arrivals due to pre-existing conflicts. The vote totals reflect members present and eligible to vote. Some Committee members did not cast their votes on all the questions, which resulted in variation in vote totals. Additionally, one Standing Committee member was recused due to their role in helping to develop the measure as part of the Technical Expert Panels (TEPs), and therefore quorum required was 15 out of 22 voting members during the meeting.

Track 2 – Endorsed Measure

#2979 Standardized Transfusion Ratio for Dialysis Facilities

Submission | Specifications

Description: The risk-adjusted facility level transfusion ratio "STrR" is specified for all adult dialysis patients. It is a ratio of the number of eligible red blood cell transfusion events observed in patients dialyzing at a facility, to the number of eligible transfusion events that would be expected under a national norm, after accounting for the patient characteristics within each facility. Eligible transfusions are those that do not have any claims pertaining to the comorbidities identified for exclusion, in the one year look-back period prior to each observation window.

This measure is calculated as a ratio, but can also be expressed as a rate.

Numerator Statement: Number of eligible observed red blood cell transfusion events: An event is defined as the transfer of one or more units of blood or blood products into a recipient's blood stream (code set is provided in the numerator details) among patients dialyzing at the facility during the inclusion episodes of the reporting period. Inclusion episodes are those that do not have any claims pertaining to the comorbidities identified for exclusion, in the one year look-back period prior to each observation window.

Denominator Statement: Number of eligible red blood cell transfusion events (as defined in the numerator statement) that would be expected among patients at a facility during the reporting period, given the patient mix at the facility. Inclusion episodes are those that do not have any claims pertaining to the comorbidities identified for exclusion, in the one-year look-back period prior to each observation window.

Exclusions: All transfusions associated with transplant hospitalization are excluded. Patients are also excluded if they have a Medicare claim for hemolytic and aplastic anemia, solid organ cancer (e.g., breast, prostate, lung, digestive tract, and others), lymphoma, carcinoma in situ, coagulation disorders, multiple myeloma, myelodysplastic syndrome and myelofibrosis, leukemia, head and neck cancer, other cancers (e.g., connective tissue, skin, and others), metastatic cancer, and sickle cell anemia within one year of their patient time at risk. Since these comorbidities are associated with higher risk of transfusion and require different anemia management practices that the measure is not intended to address, every patient's risk window is modified to have at least one (1) year free of claims that contain these exclusion eligible diagnoses.

Adjustment/Stratification: Statistical risk model N/A

Level of Analysis: Facility

Setting of Care: Other

Type of Measure: Outcome

Data Source: Claims, Registry Data

Measure Steward: Centers for Medicare & Medicaid Services

STANDING COMMITTEE MEETING January 30, 2020

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

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

1a. Evidence: **Pass-16; No Pass-2**; 1b. Performance Gap: **H-1**; **M-13**; **L-2**; **I-1**

Rationale:

- Blood transfusion may be an indicator for underutilization of treatments to increase endogenous red blood cell production (e.g., ESA, iron).
- Dialysis patients who are eligible for a kidney transplant and are transfused risk becoming sensitized to the donor pool, reducing the chances of transplant success. Blood transfusions carry a small risk of transmitting blood-borne infections and developing a transfusion reaction, and using infusion centers or hospitals to transfuse patients is expensive, inconvenient, and compromising to future vascular access.
- Monitoring the risk-adjusted transfusion rate at the facility level, relative to a national standard, allows for detection of treatment patterns in dialysis-related anemia management. This is of particular importance due to FDA guidance regarding minimizing the use of Erythropoiesis-Stimulating Agents ESAs, and economic incentives to minimize ESA use introduced by Medicare's bundling of payment for ESAs. As providers use fewer ESAs in an effort to minimize the risks associated with aggressive anemia treatment, it becomes more important to monitor for an overreliance on transfusions.
- The Committee noted that the evidence provided came from historical and observational studies, but concluded the evidence was reasonable to support the basis of the measure.
- The developer provided data from 2017, demonstrating a mean STrR of 1.058 with a range of 0.273 (10th percentile) to 1.306 (90th percentile). Parameter estimates provided for race, sex, and ethnicity indicated relatively little variation and no disparities substantial to the measure among these groups.

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

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

2a. Reliability: **H-0**; **M-13**; **L-2**; **I-1**; 2b. Validity: **H-1**; **M-10**; **L-3**; **I-2**

Rationale:

- This measure was deemed as complex and was evaluated by NQF's Scientific Methods Panel (SMP).
- The developer provided an overview of changes made to the measure specifications since the measure's previous endorsement: The developer added revenue codes to the inpatient transfusion definition to capture more inpatient transfusion events, and the measure now excludes Medicare Advantage patients due to incomplete claims data. Without full claims data, the developer stated it is impossible to accurately risk-adjust the measure results or capture of transfusion events, and exclusions would be incomplete, threatening the validity of the measure.
- The developer tested score-level reliability at the facility level using bootstrapping to evaluate inter-unit reliability (IUR). They found IURs for the one-year STrR have a range of 0.63-0.68 across the years 2014, 2015, 2016, and 2017. The developer interpreted these results as indicating a moderate level of reliability.
- The developer provided face validity assessment using a TEP . The developer conducted score-level empirical testing using a Poisson regression model. The developer indicated significant association of the STrR with hospitalization, mortality, and percent of patients with low hemoglobin levels.
- The Committee noted that removal of Medicare Advantage patients from the denominator resulted in more patients being excluded from the measure.
- The Committee discussed the reliability and validity of the measure, and the changes to the specifications since the previous endorsement. The Committee determined their discussion warranted a Committee vote on both reliability and validity instead of accepting the SMP voting

#2979 Standardized Transfusion Ratio for Dialysis Facilities

3. Feasibility: H-11; M-5; L-0; I-0

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

Rationale:

- The Committee noted that all data elements are in defined fields in a combination of electronic sources, including the CROWNWeb registry, and that the data are generated, collected, and used by healthcare personnel during provision of care.

4. Use and Usability

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

4a. Use: **Pass-14; No Pass-2** *4b. Usability:* **H-3; M-11; L-1; I-0**

Rationale:

- This measure is publicly reported nationally on Dialysis Facility Compare (DFC) and is used in the ESRD QIP.
- The developer showed modeling results that demonstrated small but significant reductions in inpatient transfusion events for the years 2016-2017 compared with 2014-2015.
- During the December 2019 meeting of the Measure Applications Partnership (MAP) Hospital Workgroup, MAP considered this revised measure for inclusion in the ESRD QIP. MAP conditionally supported including the measure in ESRD QIP pending NQF endorsement of the revised measure. MAP noted that in 2021, Medicare Advantage will include dialysis that may impact the patient population captured by this measure.
- The developer indicated that it had not received any feedback indicating any unintended impacts on patients as a result of measure implementation.

5. Related and Competing Measures

- No related or competing measures noted.

6. Standing Committee Recommendation for Endorsement: **Y-14**; **N-1**

7. Public and Member Comments

- The commenter highlighted concerns associated with attribution. They noted that the dialysis facilities lack adequate information to determine if transfusions occurred at the hospital.
- The comment also noted that while dialysis facilities can influence anemia, other measures may be more appropriate to capture this.
- The comment called into question the reliability of the measure, especially for smaller facilities.

8. Consensus Standards Approval Committee (CSAC) Vote: Y-11; N-0 (November 17-28, 2020: Approved for continued endorsement)

9. Appeals

- No appeals were received.

Appendix B: Renal Portfolio—Use in Federal Programs[a]

NQF #	Title	Federal Programs
0249	Delivered Dose of Hemodialysis Above Minimum	None
0255	Measurement of Phosphorus Concentration	None
0256	Hemodialysis Vascular Access- Minimizing Use of Catheters as Chronic Dialysis	None
0257	Hemodialysis Vascular Access -Maximizing Placement of Arterial Venous Fistula (AVF)	None
0318	Peritoneal Dialysis Adequacy Clinical Performance Measure III - Delivered Dose of Peritoneal Dialysis Above Minimum	None
0369	Dialysis Facility Risk-Adjusted Standardized Mortality Ratio	None
1423	Minimum spKt/V for Pediatric Hemodialysis Patients	None
1424	Monthly Hemoglobin Measurement for Pediatric Patients	None
1425	Measurement of nPCR for Pediatric Hemodialysis Patients	None
1454	Proportion of Patients With Hypercalcemia	None
1460	Bloodstream Infection in Hemodialysis Outpatients	None
1662	Angiotensin Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy	None
1667	Pediatric Kidney Disease: ESRD Patients Receiving Dialysis: Hemoglobin Level < 10g/dL	None
2701	Avoidance of Utilization of High Ultrafiltration Rate (>=13 ml/kg/hour)	None
2706	Pediatric Peritoneal Dialysis Adequacy: Achievement of Target Kt/V	None
2978	Hemodialysis Vascular Access: Long-Term Catheter Rate	End-Stage Renal Disease Quality Incentive Program (Implemented)
2979	Standardized Transfusion Ratio for Dialysis Facilities	None

[a] Per CMS Measures Inventory Tool as of 02/01/2021

Appendix C: Renal Standing Committee and NQF Staff

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Appendix D: Measure Specifications

	NQF #2979 Standardized Transfusion Ratio for Dialysis Facilities
Steward	Centers for Medicare & Medicaid Services (CMS)
Description	The risk-adjusted facility level transfusion ratio "STrR" is specified for all adult dialysis patients. It is a ratio of the number of eligible red blood cell transfusion events observed in patients dialyzing at a facility, to the number of eligible transfusion events that would be expected under a national norm, after accounting for the patient characteristics within each facility. Eligible transfusions are those that do not have any claims pertaining to the comorbidities identified for exclusion, in the one-year look-back period prior to each observation window. This measure is calculated as a ratio, but can also be expressed as a rate.
Type	Outcome
Data Source	Claims, Registry Data Data are derived from an extensive national ESRD patient database, which is primarily based on the CMS Consolidated Renal Operations in a Web-enabled Network (CROWN) system. The CROWN data include the Renal Management Information System (REMIS), CROWNWeb facility-reported clinical and administrative data (including CMS-2728 Medical Evidence Form, CMS-2746 Death Notification Form, and CMS-2744 Annual Facility Survey Form data), the historical Standard Information Management System (SIMS) database (formerly maintained by the 18 ESRD Networks until replaced by CROWNWeb in May 2012), the National Vascular Access Improvement Initiative's Fistula First Catheter Last project (in CROWNWeb since May 2012), Medicare dialysis and hospital payment records, transplant data from the Organ Procurement and Transplant Network (OPTN), the Nursing Home Minimum Dataset, the Quality Improvement Evaluation System (QIES) Workbench, which includes data from the Certification and Survey Provider Enhanced Report System (CASPER), the Dialysis Facility Compare (DFC) and the Social Security Death Master File. The database is comprehensive for Medicare patients. Non-Medicare patients are included in all sources, except for the Medicare payment records. CROWNWeb provides tracking by dialysis provider and treatment modality for non-Medicare patients. Information on hospitalizations is obtained from Part A Medicare Inpatient Claims Standard Analysis Files (SAFs), and past-year comorbidity is obtained from multiple Part A types (inpatient, home health, hospice, skilled nursing facility claims) and Part B outpatient types of Medicare Claims SAFs. Information on transfusions is obtained from Medicare Inpatient and Outpatient Claims Standard Analysis Files (SAFs).
Level	Facility
Setting	Other Dialysis Facility
Numerator Statement	Number of eligible observed red blood cell transfusion events: An event is defined as the transfer of one or more units of blood or blood products into a recipient's blood stream (code set is provided in the numerator details) among patients dialyzing at the facility during the inclusion episodes of the reporting period. Inclusion episodes are those that do not have any claims pertaining to the comorbidities identified for exclusion, in the one-year look-back period prior to each observation window.
Numerator Details	Transfusion events in the inpatient setting are counted in the following way. The event is identified by presence in a Medicare inpatient claim of the appropriate ICD procedure codes (99.03, 99.04, 30230H1, 30233H1, 30240H1, 30243H1, 30250H1, 30253H1, 30260H1, 30263H1, 30230N1, 30230P1, 30233N1, 30233P1, 30240N1, 30240P1, 30243N1, 30243P1, 30250N1, 30250P1, 30253N1, 30253P1, 30260N1, 30260P1, 30263N1, 30263P1), or revenue center codes (0380, 0381, 0382, 0389, 0390, 0391, 0392, 0399) or value code (37). We only count a single transfusion event for an inpatient claim regardless of the number of transfusion revenue center, procedure, and value codes reported so that the number of discrete events counted is the same whether the claim indicates 1 unit of blood or multiple

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	units of blood. This results in a more conservative estimate of blood transfusions from inpatient claims. Transfusion events are less common in the outpatient setting. Transfusion events in the outpatient setting are counted in the following way. Events derived from outpatient claims are identified by claims with HCPCS code (P9010, P9011, P9016, P9021, P9022, P9038, P9039, P9040, P9051, P9054, P9056, P9058, 36430) with revenue center codes in (0380, 0381, 0382, 0389, 0390, 0391, 0392, 0399) or value code (37). One or more transfusion-related HCPCS codes with at least one transfusion-related revenue center codes, or one or more transfusion-related value codes listed on an outpatient claim are counted as a single transfusion event regardless of the number of units of blood recorded. In other words, three (3) units of blood would be counted as a single transfusion event. If there are more than one transfusion events identified from inpatient or outpatient claims in the same day, we only count one transfusion event per day. The detailed procedures to determine unique transfusion events at the claim level are presented in a flow chart in the Appendix (S.19. Calculation Algorithm/Measure Logic Diagram).
Denominator Statement	Number of eligible red blood cell transfusion events (as defined in the numerator statement) that would be expected among patients at a facility during the reporting period, given the patient mix at the facility. Inclusion episodes are those that do not have any claims pertaining to the comorbidities identified for exclusion, in the one-year look-back period prior to each observation window.
Denominator Details	Starting with day 91 after onset of ESRD, a patient is attributed to a facility once the patient has been treated there for the past 60 days and for the following 60 days after transfer to another dialysis facility. Based on a risk adjustment model for overall national transfusion rates, we compute the expected number of red blood cell transfusion events for each patient attributed to a given facility. The sum of all such expectations over patients in a facility yields the overall expected number of transfusions for the facility given its specific patient mix. This forms the denominator of the measure. This measure is based on Medicare administrative claims and databases and is applied to patients covered by Medicare.
Exclusions	All transfusions associated with transplant hospitalization are excluded. Patients are also excluded if they have a Medicare claim for hemolytic and aplastic anemia, solid organ cancer (e.g., breast, prostate, lung, digestive tract, and others), lymphoma, carcinoma in situ, coagulation disorders, multiple myeloma, myelodysplastic syndrome and myelofibrosis, leukemia, head and neck cancer, other cancers (e.g., connective tissue, skin, and others), metastatic cancer, and sickle cell anemia within one year of their patient time at risk. Since these comorbidities are associated with higher risk of transfusion and require different anemia management practices that the measure is not intended to address, every patient's risk window is modified to have at least one year free of claims that contain these exclusion eligible diagnoses.
Exclusion details	We performed multivariate logistic regression demonstrating that a one-year look-back period for the exclusion comorbidities was more predictive of transfusion events compared to longer look-back periods. The figure in the Appendix describes the inclusion and exclusion period of a hypothetical patient. In the figure included in the exclusion section of the testing form (Sec. 2b2.1), a hypothetical patient has patient-years at risk at a facility from 1/1/2008 to 12/31/2011. Review of Medicare claims identified presence of one or more exclusion comorbidities in 2007 (Claim1), 2008 (Claim2) and 2010 (Claim3). Each claim is followed by a one-year exclusion period. The revised inclusion periods are defined as risk windows with at least a 1-year claim-free period (Inclusion1 and Inclusion2 in the figure). This patient has two transfusion events, marked as T1 and T2 in late 2008 and late 2011 respectively. However, since T1 falls in the exclusion period, it will not be counted toward the facility's

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	within the one-year look-back period, which might have increased the risk of transfusion unrelated to dialysis facility anemia management practices. However, T2, which occurs in late 2011 and in Inclusion2 period, will be counted since there is greater than a one-year gap between this transfusion event and the last claim observed with the exclusion
Risk Adjustment	Statistical risk model
Stratification	N/A
Type Score	Ratio better quality = lower score
Algorithm	The numerator is the observed number of transfusion events for a facility and the denominator for the same facility is the expected number of transfusion events adjusted for patient mix. The measure for a given facility is calculated by dividing the numerator by the denominator. See flowchart for further detail (available in attached appendix). 139029| 122107
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Appendix E: Related and Competing Measures

No related or competing measures were identified.

Appendix F: Pre-Evaluation Comments

No pre-evaluation comments were received.

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