



Measure Information

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

Brief Measure Information

NQF #: 2702

De.2. Measure Title: Post-Dialysis Weight Above or Below Target Weight

Co.1.1. Measure Steward: Kidney Care Quality Alliance (KCQA)

De.3. Brief Description of Measure: Percentage of patients with an average post-dialysis weight \geq 1 kg above or below the prescribed target weight.

1b.1. Developer Rationale: Increased focus on the identification and correction of post-dialysis and target weight discrepancies will help attenuate the large fluctuations in fluid balance and blood pressure that contribute to volume overload syndromes, hypertension, and cardiac hypertrophy, and will consequently decrease associated hospitalizations and mortality.

S.4. Numerator Statement: Number of patients* from the denominator with an average post-dialysis weight \geq 1 kg above or below the prescribed target weight during the calculation period.**

*To address the fact that patients may contribute varying amounts of time to the annual denominator population, results will be reported using a "patient-month" construction.

** The calculation period is defined as the same week that the monthly Kt/V is drawn.

S.7. Denominator Statement: Number of adult in-center hemodialysis patients in an outpatient dialysis facility undergoing chronic maintenance hemodialysis during the calculation period.

S.10. Denominator Exclusions: The following patients are excluded from the denominator population:

1. Patients <18 years of age (implicit in denominator definition).
2. Home dialysis patients (implicit in denominator definition).
3. Patients in a facility <30 days.
4. Patients with <7 hemodialysis treatments in the facility during the reporting month.
5. Patients without a completed CMS Medical Evidence Form (Form CMS-2728) in the reporting month.
6. Kidney transplant recipients with a functioning graft.
7. Facilities treating \leq 25 adult in-center hemodialysis patients during the reporting month.

De.1. Measure Type: Process

S.23. Data Source: Electronic Clinical Data

S.26. Level of Analysis: Facility

IF Endorsement Maintenance – Original Endorsement Date: Most Recent Endorsement Date:

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

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

De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results? Not applicable.

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

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

1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form
[KCQA_2702_MeasSubmEvidenceForm-635611775889333738.docx](#)

1b. Performance Gap

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

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

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

Increased focus on the identification and correction of post-dialysis and target weight discrepancies will help attenuate the large fluctuations in fluid balance and blood pressure that contribute to volume overload syndromes, hypertension, and cardiac hypertrophy, and will consequently decrease associated hospitalizations and mortality.

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

Not applicable—new measure; not yet in use. However, this KCQA performance measure was tested using data from three KCQA member dialysis organizations, each with the capacity to provide retrospective analyses from a data warehouse/repository. All pertinent data from all eligible (i.e., adult in-center hemodialysis) patients of the participating organizations during the testing period were included in the datasets. The study included a total of 4,252 dialysis facilities and 412,522 patients across the three organizations. The study was conducted retrospectively on data from January 1, 2013-December 31, 2013.

Performance scores obtained during testing are as follows:

Mean Score = 23.13% (lower score = better performance)

95% CI = 22.18-23.45%

Standard Deviation = 10.56

Minimum Score = 0%

Maximum Score = 100%*

Median = 22.56%

Mode = 25.00%

Interquartile Range = 14.08

Results show a significant spread between both the minimum and maximum scores, as well as the median and minimum and maximum scores, indicating that the measure identifies clinically and practically meaningful differences in performance among the measured entities.

* Participating organizations noted that scores of 100% (lower scores are better) were secondary to low census and are currently analyzing the data to determine whether these facility-months would be removed from the denominator were a census criterion incorporated into the measure specifications.

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

In addition to the above noted testing data, two publications were identified that provide further evidence of a significant

performance gap in this aspect of care:

1. Movilli E, Camerini C, Gaggia P, et al. Magnitude of end-dialysis overweight is associated with all-cause and cardiovascular mortality: A 3-year prospective study. *Am J Nephrol*. 2013;37:370–377.

The authors hypothesized that the difference between the prescribed end-dialysis body weight, defined end-dialysis over-weight (edOW; kg), and the body weight actually attained could impact survival in hemodialysis (HD) patients. One hundred and eighty-two patients (117 men, age 65 ± 13 years) on regular HD treatment for at least 6 months [median 48 months (range: 6–366)] were followed from January 1, 2008 to December 31, 2010. Nearly half of the study population (84 patients [46%]) did not achieve their prescribed dry body weight (dBW) over the three-year period; their median edOW was 0.4 kg (range: 0.1–1.4).

2. Passauer J, Petrov H, Schleser A, et al. Evaluation of clinical dry weight assessment in haemodialysis patients using bioimpedance spectroscopy: A cross-sectional study. *Nephrol Dial Transplant*. 2010;25(2):545-551.

The authors measured fluid overload (FO) prior to a mid-week HD session in 370 randomly selected HD patients (50% with diabetes) from five dialysis centers. A bioimpedance spectroscopy (BIS) device was applied that allows correct quantification of extracellular FO or deficiency in comparison to a healthy reference population (normal range -1.1 to 1.1 L according to the 10th and 90th percentile of measurements). Pre-dialytic FO ranged from -0.5 to 4 L and post-dialytic FO from -2.5 to 2 L (10th and 90th percentile of measurements), indicating that on average the hydration status of healthy subjects is considered as the optimal target weight in HD patients. Based on the consideration that an FO <-1.1 L before and >1.1 L after HD indicates inadequate achievement of dry weight, the authors established that 26% (n=98) of the study population fell into this category.

1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability. *(This is required for endorsement maintenance. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the subcriterion on improvement (4b.1) under Usability and Use.*
Not applicable—new measure; not yet in use.

1b.5. If no or limited data on disparities from the measure as specified is reported in 1b4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations.
Data on disparities for discrepancies between post-dialysis and prescribed target weights were not identified in the literature.

1c. High Priority (previously referred to as High Impact)

The measure addresses:

- a specific national health goal/priority identified by DHHS or the National Priorities Partnership convened by NQF; OR
- a demonstrated high-priority (high-impact) aspect of healthcare (e.g., affects large numbers of patients and/or has a substantial impact for a smaller population; leading cause of morbidity/mortality; high resource use (current and/or future); severity of illness; and severity of patient/societal consequences of poor quality).

1c.1. Demonstrated high priority aspect of healthcare

Affects large numbers, A leading cause of morbidity/mortality, Frequently performed procedure, High resource use, Patient/societal consequences of poor quality, Severity of illness

1c.2. If Other:

1c.3. Provide epidemiologic or resource use data that demonstrates the measure addresses a high priority aspect of healthcare.

List citations in 1c.4.

Despite remarkable advancements in dialysis therapies and improvements in survival on dialysis in recent years, the mortality rate of dialysis patients remains high, with only 40 percent of hemodialysis patients surviving five years after commencement of dialysis (1). The leading causes of morbidity and mortality in dialysis patients are cardiovascular in origin (1,2,3), and fluid management remains one of the most challenging aspects of dialysis care, with evidence indicating that both volume overload and excessive fluid removal are associated with adverse outcomes (4).

Volume overload and extracellular fluid expansion are associated with left ventricular hypertrophy, left ventricular dilation, and cardiac fibrosis (2,5), which are in turn associated with sudden cardiac death and other cardiovascular morbidity and mortality (6,7). Research indicates that the hemodynamic stress stemming from hemodialysis can cause a transient myocardial ischemia in persons

with ESRD, many of whom have other cardiovascular risk factors and are thus already predisposed to cardiac ischemia. This “myocardial stunning”, which is believed to occur in as many as 70% of patients during hemodialysis treatments, results in reduced intravascular volume, hypotension, and cardiac ischemia, and can persist even after reperfusion of the cardiac vasculature (8, 9,10). Repetitive stunning can lead to myocardial remodeling, fibrosis, and a reduction in cardiac function (11), and is associated with elevated mortality rates (9).

There is evidence that improved volume control can attenuate these issues and has in fact been linked to left ventricular mass regression (12,13), making a strong case for the diligent avoidance of volume overload in dialysis patients. However, research also demonstrates that overly aggressive fluid removal can be similarly detrimental, resulting in a reduction in residual renal function, intradialytic hypotension, myocardial stunning, and other organ ischemia (2,3,4). Thus efforts to achieve euvolemia must neither be too aggressive nor too lax, with a goal of consistently bringing patients to an end-dialysis weight falling within a narrow margin of their defined target weight to achieve the optimal state of hydration crucial to improving patient outcomes (14). Given the existing lack of a standard protocol dictating how patients are to be weighed in dialysis units and recent evidence demonstrating that a clothing adjustment of approximately 0.8?kg for women and 1.2?kg for men is appropriate in clinical settings regardless of outdoor temperature (15), it was the consensus of the KCQA Steering Committee and KCQA Measure Feasibility and Testing Workgroup to define that margin as +/-1 kg above or below the prescribed target weight for the purposes of this measure.

1c.4. Citations for data demonstrating high priority provided in 1a.3

1. U.S. Renal Data System. USRDS 2014 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States. 2014.
2. Agarwal R. Hypervolemia is associated with increased mortality among hemodialysis patients. Hypertension. 2010;56(3):512-517.
3. Movilli E, Camerini C, Gaggia P, et al. Magnitude of end-dialysis overweight is associated with all-cause and cardiovascular mortality: A 3-year prospective study. Am J Nephrol. 2013;37:370–377.
4. Huang SH, Filler G, Lindsay R, and McIntyre CW. Euvolemia in hemodialysis patients: A potentially dangerous goal? Seminars in Dialysis. 2015;28(1):1-5.
5. Ritz E. Left ventricular hypertrophy in renal disease: Beyond preload and afterload. Kidney Int. 2009;75:771–773.
6. Zoccali C, Benedetto FA, Mallamaci F, et al. Left ventricular mass monitoring in the follow-up of dialysis patients: Prognostic value of left ventricular hypertrophy progression. Kidney Int. 2004;65:1492–1498.
7. Zoccali C, Benedetto FA, Mallamaci F, et al. Prognostic value of echocardiographic indicators of left ventricular systolic function in asymptomatic dialysis patients. J Am Soc Nephrol. 2004;15:1029–1037.
8. Burton JO, Korsheed S, Grundy BJ, McIntyre CW. Hemodialysis-induced left ventricular dysfunction is associated with an increase in ventricular arrhythmias. Ren Fail. 2008;30:701–709.
9. Burton JO, Jefferies HJ, Selby NM, and McIntyre CW. Hemodialysis-induced cardiac injury: Determinants and associated outcomes. Clin J Am Soc Nephrol. 2009;4:914–920.
10. McIntyre CW, Burton JO, Selby NM, et al. Hemodialysis-induced cardiac dysfunction is associated with an acute reduction in global and segmental myocardial blood flow. Clin J Am Soc Nephrol. 2008;3:19–26.
11. Burton JO, Jefferies HJ, Selby NM, and McIntyre CW. Hemodialysis-induced repetitive myocardial injury results in global and segmental reduction in systolic cardiac function. Clin J Am Soc Nephrol. 2009;4:1925–1931.
12. Lindsay RM, Leitch R, Heidenheim AP, and Kortas C. The London Daily/Nocturnal Hemodialysis Study—study design, morbidity, and mortality results. Am J Kidney Dis. 2003;42:5–12.
13. Hur E, Usta M, Toz H, et al. Effect of fluid management guided by bioimpedance spectroscopy parameters in hemodialysis patients: A randomized controlled trial. Am J Kidney Dis. 2013;61(6):957-965.

14. Chazot C, Wabel P, Chamney P, et al. Importance of normohydration for the long-term survival of haemodialysis patients. *Nephrol Dial Transplant*. 2012;27(6):2404-2410.

15. Whigham LD, Schoeller DA, Johnson LK, and Atkinson RL. Effect of clothing weight on body weight. *International Journal of Obesity*. 2013;37:160-161.

1c.5. If a PRO-PM (e.g. HRQoL/functional status, symptom/burden, experience with care, health-related behaviors), provide evidence that the target population values the measured PRO and finds it meaningful. (Describe how and from whom their input was obtained.)

Not applicable.

2. Reliability and Validity—Scientific Acceptability of Measure Properties

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

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

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

Renal, Renal : End Stage Renal Disease (ESRD)

De.6. Cross Cutting Areas (check all the areas that apply):

Safety : Complications, Safety : Readmissions

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

<http://www.kidneycarepartners.com/files2/42>

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

Attachment:

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

No data dictionary Attachment:

S.3. For endorsement maintenance, please briefly describe any changes to the measure specifications since last endorsement date and explain the reasons.

Not applicable; new measure.

S.4. Numerator Statement (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome)

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

Number of patients* from the denominator with an average post-dialysis weight ≥ 1 kg above or below the prescribed target weight during the calculation period.**

*To address the fact that patients may contribute varying amounts of time to the annual denominator population, results will be reported using a "patient-month" construction.

** The calculation period is defined as the same week that the monthly Kt/V is drawn.

S.5. Time Period for Data (What is the time period in which data will be aggregated for the measure, e.g., 12 mo, 3 years, look back to August for flu vaccination? Note if there are different time periods for the numerator and denominator.)

12 months.

S.6. Numerator Details (All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b) IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm.

Numerator Data Elements

For all patients meeting the denominator criteria in the reporting month, collect the following data elements for all dialysis sessions (including supplemental sessions) falling within the same week that the monthly Kt/V is drawn:*

- Post-Dialysis Target Weight for Session (CROWNWeb RQMT_1052)
- Post-Dialysis Weight for Session (RQMT_1323)
- Session Date

* If more than one Kt/V is drawn in a given month, the last draw for the month will be used to define the data collection period (i.e., these data elements will be collected during the week that the final Kt/V value of the month is drawn).

Numerator Case Identification

For each facility, for all dialysis sessions falling within the calculation period for all patients meeting the denominator criteria:

1. Calculate the difference between the patient's post-dialysis weight and prescribed target weight for each dialysis session falling within the calculation period (including supplemental sessions):

Patient's Post-Dialysis and Prescribed Target Weight Difference for Session X = Session X Post-Dialysis Weight – Session X Prescribed Target Weight

2. Take the sum of the differences calculated in Step 1:

Sum of Patient's Post-Dialysis and Prescribed Target Weight Differences = Session 1 Difference + Session 2 Difference +..... + Session Y Difference

3. Divide the value obtained in Step 2 by the patient's number of sessions (including supplemental sessions) in the calculation period to find the patient's average weight difference for the calculation period:

Patient's Average Post-Dialysis and Target Weight Difference = Sum of Patient's Post-Dialysis and Prescribed Target Weight Differences in Calculation Period ÷ Number of Patient's Dialysis Sessions in Calculation Period

4. For each facility, include in the numerator all patients whose average dialysis session post-dialysis and target weight difference during the calculation period (Step 3 value) was +/- >= 1 kg.

S.7. Denominator Statement (Brief, narrative description of the target population being measured)

Number of adult in-center hemodialysis patients in an outpatient dialysis facility undergoing chronic maintenance hemodialysis during the calculation period.

S.8. Target Population Category (Check all the populations for which the measure is specified and tested if any):

Populations at Risk, Populations at Risk : Dual eligible beneficiaries, Populations at Risk : Individuals with multiple chronic conditions, Senior Care

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

Denominator Data Elements and Case Identification

Identify all patients in the dialysis facility during the reporting month who meet all of the following criteria:

- Primary Type Treatment/Modality (CROWNWeb RQMT_1252 and/or _1356) = Hemodialysis.
- Primary/Current Dialysis Setting (RQMT_791, _1355, and/or _1414) = In-center.
- Date of Birth (RQMT_1310) = \geq 18 years prior to treatment date.

S.10. Denominator Exclusions *(Brief narrative description of exclusions from the target population)*

The following patients are excluded from the denominator population:

1. Patients <18 years of age (implicit in denominator definition).
2. Home dialysis patients (implicit in denominator definition).
3. Patients in a facility <30 days.
4. Patients with <7 hemodialysis treatments in the facility during the reporting month.
5. Patients without a completed CMS Medical Evidence Form (Form CMS-2728) in the reporting month.
6. Kidney transplant recipients with a functioning graft.
7. Facilities treating \leq 25 adult in-center hemodialysis patients during the reporting month.

S.11. Denominator Exclusion Details *(All information required to identify and calculate exclusions from the denominator such as definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)*

For all patients meeting the denominator criteria in the reporting month, identify all patients meeting any of the following exclusion criteria during the calculation period and remove from the denominator population:

1. Date of Birth (RQMT_1310) = <18 years prior to treatment date (implicit in denominator definition).
2. Primary Type Treatment/Modality (CROWNWeb RQMT_1252 and/or _1356) = Peritoneal dialysis or home hemodialysis (implicit in denominator definition).
3. Date Patient Started Chronic Dialysis at Current Facility (RQMT_1360) = $>$ 30 days prior to treatment date.
4. Transient Status (RQMT_356) = Not transient OR patients with <7 hemodialysis treatments in the facility during the reporting month.
5. Patients without a completed CMS Medical Evidence Form (Form CMS-2728) in the reporting month.
6. Kidney transplant recipients with a functioning graft

Note: Facilities treating \leq 25 adult in-center hemodialysis patients during the reporting month are also excluded.

S.12. Stratification Details/Variables *(All information required to stratify the measure results including the stratification variables, definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b)*

Not applicable.

S.13. Risk Adjustment Type (Select type. Provide specifications for risk stratification in S.12 and for statistical model in S.14-15)

No risk adjustment or risk stratification

If other:

S.14. Identify the statistical risk model method and variables (Name the statistical method - e.g., logistic regression and list all the risk factor variables. Note - risk model development and testing should be addressed with measure testing under Scientific Acceptability)

Not applicable.

S.15. Detailed risk model specifications (must be in attached data dictionary/code list Excel or csv file. Also indicate if available at measure-specific URL identified in S.1.)

Note: Risk model details (including coefficients, equations, codes with descriptors, definitions), should be provided on a separate worksheet in the suggested format in the Excel or csv file with data dictionary/code lists at S.2b.

S.15a. Detailed risk model specifications (if not provided in excel or csv file at S.2b)

Not applicable.

S.16. Type of score:

Rate/proportion

If other:

S.17. Interpretation of Score (Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)

Better quality = Lower score

S.18. Calculation Algorithm/Measure Logic (Describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; aggregating data; risk adjustment; etc.)

Data are collected and scores for each facility are calculated on a monthly basis; scores are then averaged over the 12-month reporting period to obtain the facility's annual score.

Scores are calculated using the following algorithm:

1. Build the "Month 1 Raw Denominator Population".

For the Month 1 calculation period*, identify all patients in the facility whose:

a. Primary Type Treatment/Modality (CROWNWeb RQMT_1252 and/or _1356) = Hemodialysis.

b. Primary/Current Dialysis Setting (RQMT _791, _1355, and/or _1414) = In-center.

c. Date of Birth (RQMT_1310) = >18 years prior to treatment date.

* The calculation period is defined as the same week that the monthly Kt/V is drawn. If more than one Kt/V is drawn in a given month, the last draw for the month will be used to define the data collection period (i.e., these data elements will be collected during the week that the final Kt/V value of the month is drawn).

2. Remove patients with exclusions to define the "Month 1 Final Denominator Population".

For all patients meeting all of the Step 1 requirements, identify all patients meeting any of the following exclusion criteria and remove from the denominator population:

a. Date Patient Started Chronic Dialysis at Current Facility (RQMT_1360) = >30 days prior to treatment date.

b. Transient Status (RQMT_356) = Not transient OR patients with <7 hemodialysis treatments in the facility during the month.

c. Patients without a completed CMS Medical Evidence Form (Form CMS-2728) in the reporting month.

d. Kidney transplant recipients with a functioning graft.

3. Identify the “Month 1 Numerator Data Elements”.

For all patients remaining in the denominator after Step 2, collect each of the following data elements for each dialysis session (including supplemental sessions) delivered during the Month 1 calculation period:

a. Post-Dialysis Target Weight for Session (RQMT_1052).

b. Post-Dialysis Weight for Session (RQMT_1323).

c. Session Date.

4. Build the “Month 1 Numerator Population”.

For each patient, for all dialysis sessions included in the final Month 1 Numerator Data Set:

a. Calculate the difference between the patient’s post-dialysis weight and prescribed target weight for each dialysis session (including supplemental sessions) included in the Month 1 calculation period:

Patient’s Post-Dialysis and Prescribed Target Weight Difference for Session = Session X Post-Dialysis Weight – Session X Prescribed Target Weight

b. Take the sum of the differences calculated in 4.a.:

Sum of Patient’s Post-Dialysis and Prescribed Target Weight Differences = Session 1 Difference + Session 2 Difference +..... + Session Y Difference

c. Divide the value obtained in 4.b. by the patient’s number of sessions (including supplemental sessions) in the Month 1 calculation period to find the patient’s average weight difference:

Patient’s Average Post-Dialysis and Target Weight Difference = Sum of Patient’s Post-Dialysis and Prescribed Target Weight Differences ÷ Number of Patient’s Dialysis Sessions in Calculation Period

d. For each facility, include in the Month 1 numerator all patients whose average dialysis session post-dialysis and target weight difference (4.c. value) was +/- >= 1 kg.

5. Calculate the facility’s Month 1 performance score:

Month 1 Performance Score = Month 1 Numerator Population ÷ Month 1 Denominator Population

6. Repeat Steps 1 through 5 for each of the remaining 11 months of the reporting year.

7. Calculate the facility’s annual performance score:

Facility’s Average Annual Performance Score = (Facility’s Month 1 Score + Month 2 Score +..... + Month 12 Score) ÷ 12

S.19. Calculation Algorithm/Measure Logic Diagram URL or Attachment (You also may provide a diagram of the Calculation Algorithm/Measure Logic described above at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1) Available in attached appendix at A.1

S.20. Sampling (If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)

IF a PRO-PM, identify whether (and how) proxy responses are allowed.

Not applicable.

S.21. Survey/Patient-reported data (If measure is based on a survey, provide instructions for conducting the survey and guidance on

minimum response rate.)

IF a PRO-PM, specify calculation of response rates to be reported with performance measure results.

Not applicable.

S.22. Missing data (specify how missing data are handled, e.g., imputation, delete case.)

Required for Composites and PRO-PMs.

- All facilities are to be included in the measure calculations, regardless of the magnitude of missing data.
- Remove all treatments with any missing data elements necessary for the calculation of the measure score from the pool.

S.23. Data Source (Check ONLY the sources for which the measure is SPECIFIED AND TESTED).

If other, please describe in S.24.

Electronic Clinical Data

S.24. Data Source or Collection Instrument (Identify the specific data source/data collection instrument e.g. name of database, clinical registry, collection instrument, etc.)

IF a PRO-PM, identify the specific PROM(s); and standard methods, modes, and languages of administration.

CROWNWeb Electronic Data Interchange, available at URL: <http://www.projectcrownweb.org/crown/index.php>.

S.25. Data Source or Collection Instrument (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

Available at measure-specific web page URL identified in S.1

S.26. Level of Analysis (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)

Facility

S.27. Care Setting (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)

Other

If other: Dialysis facility

S.28. COMPOSITE Performance Measure - Additional Specifications (Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)

Not applicable.

2a. Reliability – See attached Measure Testing Submission Form

2b. Validity – See attached Measure Testing Submission Form

[KCQA_2702_MeasTestingForm.docx](#)

3. Feasibility

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

3a. Byproduct of Care Processes

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

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

Generated or collected by and used by healthcare personnel during the provision of care (e.g., blood pressure, lab value, diagnosis, depression score)

If other:

3b. Electronic Sources

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

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

ALL data elements are in defined fields in electronic clinical data (e.g., clinical registry, nursing home MDS, home health OASIS)

3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources.

3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL.

Attachment:

3c. Data Collection Strategy

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

3c.1. Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.

IF a PRO-PM, consider implications for both individuals providing PROM data (patients, service recipients, respondents) and those whose performance is being measured.

This measure was initially specified to include all dialysis sessions for all eligible patients during the reporting month in the performance score calculations. The measure has since been limited to a calculation period that is defined as the same week that the monthly Kt/V is drawn. This revision significantly reduces burden for manual data submitters and, as importantly, harmonizes this measure with KCQA's other measure submitted for endorsement consideration, Avoidance of Utilization of High UFR (≥ 13 ml/kg/hour).

Use of an average for the calculation period obviates potential uneven-ness in performance that could arise depending on the particular day of the week any given facility is using for the Kt/V data. The use of multiple dialysis sessions in the measurement month minimizes the potential for gaming when a single event is used and creates a more accurate representation of performance.

One of the three testing dialysis organizations tested this abbreviated construct and found the average score per facility was 2.7% higher (lower score is better performance). Reliability and validity were comparable to the "every session" construct.

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

Not applicable.

4. Usability and Use

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

4a. Accountability and Transparency

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

4.1. Current and Planned Use

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

Planned	Current Use (for current use provide URL)
Public Reporting	
Payment Program	
Quality Improvement with Benchmarking (external benchmarking to multiple organizations)	
Not in use	

4a.1. For each CURRENT use, checked above, provide:

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

Not applicable; new measure and not currently in use.

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

This is a new measure, developed and tested in 2014/2015.

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

The measure was developed for use by CMS in its public reporting initiatives. All necessary data elements already exist and are collected through the CROWNWeb data repository with one exception--Post-Dialysis Target Weight for Session (CROWNWeb RQMT_1052). This CROWNWeb data element currently requires only a yes/no response indicating whether a patient was prescribed a post-dialysis target weight for the dialysis session. KCQA will propose to CMS that the data element be revised in the next CROWNWeb update to instead require the numerical value of that target weight.

4b. Improvement

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

4b.1. Progress on Improvement. (Not required for initial endorsement unless available.)

Performance results on this measure (current and over time) should be provided in 1b.2 and 1b.4. Discuss:

- Progress (trends in performance results, number and percentage of people receiving high-quality healthcare)
- Geographic area and number and percentage of accountable entities and patients included

Not applicable; new measure.

4b.2. If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

The measure is new and is not yet in use; however, performance results will help providers expeditiously identify and correct post-dialysis and target weight discrepancies to attenuate large fluctuations in fluid balance and blood pressure that contribute to volume overload syndromes, hypertension, and cardiac hypertrophy. Associated hospitalizations and mortality will consequently be minimized.

4c. Unintended Consequences

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

evidence exists).

4c.1. Were any unintended negative consequences to individuals or populations identified during testing; OR has evidence of unintended negative consequences to individuals or populations been reported since implementation? If so, identify the negative unintended consequences and describe how benefits outweigh them or actions taken to mitigate them.

No unintended consequences were identified during testing. Concerns of increased provider burden associated with requiring data from all dialysis sessions have been addressed by limiting the measure to a calculation period defined as the same week that the monthly Kt/V is drawn. (See Section 3c.1.)

The revised measure specifications still minimize the potential for gaming and create a more accurate representation of performance than when a single event is used, but will also significantly reduce burden for manual data submitters. Use of a three-to four-session average in the measure score calculation also obviates potential uneven-ness in performance that could arise depending on the particular day of the week any given facility is using for the Kt/V data.

5. Comparison to Related or Competing Measures

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

5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.
No

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

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

5a. Harmonization

The measure specifications are harmonized with related measures;

OR

The differences in specifications are justified

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

Are the measure specifications completely harmonized?

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

Not applicable; no currently endorsed NQF measures addressing post-dialysis and target weight discrepancies.

5b. Competing Measures

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

OR

Multiple measures are justified.

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

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

Not applicable; no currently endorsed NQF measures addressing post-dialysis and target weight discrepancies.

Appendix
<p>A.1 Supplemental materials may be provided in an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.</p> <p>Attachment Attachment: KCQA_2702_CalcAlgorithmSpecsTestingData.pdf</p>
Contact Information
<p>Co.1 Measure Steward (Intellectual Property Owner): Kidney Care Quality Alliance (KCQA)</p> <p>Co.2 Point of Contact: Lisa, McGonigal, lmcgon@msn.com, 203-530-9524-</p> <p>Co.3 Measure Developer if different from Measure Steward: Kidney Care Quality Alliance (KCQA)</p> <p>Co.4 Point of Contact: Lisa, McGonigal, lmcgon@msn.com, 203-530-9524-</p>
Additional Information
<p>Ad.1 Workgroup/Expert Panel involved in measure development</p> <p>Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.</p> <p>The KCQA Steering Committee guides the measure development process and decision-making. Steering Committee members include:</p> <ul style="list-style-type: none"> • Edward Jones, MD, KCQA Co-Chair—Renal Physicians Association • Allen Nissenson, MD, KCQA Co-Chair—DaVita • Akhtar Ashfaq, MD—Amgen • Donna Bednarski, RN, MSN—American Nephrology Nurses Association • Barbara Fivush, MD—American Society of Pediatric Nephrology • Raymond Hakim, MD, PhD—American Society of Nephrology • Eduardo Lacson, Jr., MD, MPH—Fresenius Medical Care North America • Chris Lovell, RN, MSN—Dialysis Clinics, Inc. • Thomas Manley, RN, BSN—National Kidney Foundation • Gail Wick, MHSA, BSN, RN—American Kidney Fund • Shari M. Ling, MD, Chief Medical Officer, Centers for Medicare and Medicaid Services, Center for Clinical Standards and Quality (CCSQ)—CMS Liaison Member <p>The KCQA Measure Feasibility/Testing Workgroup provided technical expertise and guidance during the measure development process. Workgroup members include:</p> <ul style="list-style-type: none"> • Scott Bieber, DO—Northwest Kidney Centers • Steven Brunelli, MD, MSCE—DaVita • Maggie Carey—Forum of ESRD Networks • Allan Collins, MD—NxStage Medical • Joseph Flynn, MD—American Society of Pediatric Nephrology • Lori Hartwell—Renal Support Network • Jeffrey Hymes, MD—Fresenius Medical Care North America • Mahesh Krishnan, MD, MPH, MBA, FASN—DaVita • Jay-r Lacson, MD, MPH—Fresenius Medical Care North America • Klemens Meyer, MD—Dialysis Clinics, Inc. • Paul Miller, MD—Renal Physicians Association • Donald Molony, MD—Forum of ESRD Networks • Tom Parker, MD—Renal Ventures Management • Glenda Payne, MS, RN, CNN—American Nephrology Nurses Association • Daniel Weiner, MD, MS—National Kidney Foundation

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released: 2015

Ad.3 Month and Year of most recent revision: 02, 2015

Ad.4 What is your frequency for review/update of this measure? Annually and as needed with changes or additions to the evidence base.

Ad.5 When is the next scheduled review/update for this measure? 02, 2016

Ad.6 Copyright statement: © 2015 Kidney Care Quality Alliance. All Rights Reserved.

Ad.7 Disclaimers: Dialysis facility performance measures (Measures) and related data specifications, developed by the Kidney Care Quality Alliance (KCQA), primarily funded by Kidney Care Partners, are intended to facilitate quality improvement activities by dialysis providers.

These Measures are intended to assist dialysis facilities in enhancing quality of care. Measures are designed for use by any dialysis facility. These performance Measures are not clinical guidelines and do not establish a standard of medical care. KCQA has not tested its Measures for all potential applications. KCQA encourages the evaluation of its Measures.

Measures are subject to review and may be revised or rescinded at any time by KCQA. The Measures may not be altered without the prior written approval of KCQA. Measures developed by KCQA, while copyrighted, can be reproduced and distributed, without modification, for noncommercial purposes, e.g., use by dialysis providers in connection with their care delivery or for research. Commercial use is defined as the sale, license, or distribution of the Measures for commercial gain, or incorporation of the Measures into a product or service that is sold, licensed or distributed for commercial gain. Commercial uses of the Measures require a license agreement between the user and Kidney Care Partners, on behalf of KCQA.

Neither KCQA nor its members shall be responsible for any use of these Measures.

THE MEASURES ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND

Ad.8 Additional Information/Comments: