
CBE ID

0318

Title

Delivered Dose of Peritoneal Dialysis Above Minimum

Project

Management of Acute Events, Chronic Disease, Surgery, and Behavioral Health

Endorsement Status

Endorsed

Is Under Review

No

Next Maintenance Cycle

Fall 2029

Previous Endorsement Cycle

Fall 2024

Initial Endorsement

Thu, 11/15/2007 - 11:24

Steward

Centers for Medicare & Medicaid Services

1.0 New or Maintenance

Maintenance

1.1 Measure Structure

Single Measure

1.3 Electronic Clinical Quality Measure (eCQM)

No

1.6 Measure Description

Percentage of all patient months for adult patients (≥ 18 years old) whose delivered peritoneal dialysis dose was a weekly Kt/V urea ≥ 1.7 (dialytic + residual).

1.7 Composite Measure

No

1.7 Measure Type

Intermediate Outcome

1.8 Level of Analysis

Facility

1.9 Care Setting

Other

1.9b Other Care Setting

Dialysis Facility

1.10 Measure Rationale

Evaluation of PD adequacy every four months for adults is critical to ensure timely dose adjustment as needed, and adequate dialysis doses (Kt/V urea > 1.7 for adult patients and Kt/V urea > 1.8 for pediatric patients) have been linked to improved patient outcomes. Therefore, continued implementation of this measure is needed to ensure frequent adequacy measurement and adequate dialysis dosing.

Studies have shown a Kt/V of 1.8/week or greater in adult PD patients was associated with better serum albumin levels[1] and improved survival [2]. The ADEMEX did not show clinical benefit with weekly Kt/V doses exceeding 1.7/week in adult CAPD patients [1].

1. Paniagua R, Amato D, Vonesh E, et al. "Effects of increased peritoneal clearances on mortality rates in peritoneal dialysis: ADEMEX, a prospective, randomized, controlled trial." Journal of the American Society of Nephrology: JASN (2002) 13:1307-20. PMID: 11961019.
2. Lo WK, Lui SL, Chan TM, et al. "Minimal and optimal peritoneal Kt/V targets: Results of an anuric peritoneal dialysis patient's survival analysis." Kidney international (2005) 67:2032-8. PMID: 15840054.

1.13 Data Dictionary

Not attached. I attest that all information will be provided where codes and/or value sets are needed (1.14a - 1.15c).

1.13a Attach Data Dictionary

[0318_Data_Dictionary.xlsx](#)

1.14 Numerator

Number of patient months in the denominator whose delivered peritoneal dialysis was a weekly Kt/Vurea ≥ 1.7 (dialytic + residual, measured in the last 4 months).

1.14a Numerator Details

Reporting months with weekly Kt/V urea ≥ 1.7 (dialytic + residual) are counted in the numerator. If no weekly Kt/V urea value is reported for a given patient in the reporting month, the most

recent peritoneal dialysis weekly Kt/V urea value in the prior 3 months is applied to the calculation for that month.

Missing, expired, out-of-range, and not performed are not counted as achieving the minimum weekly Kt/V urea threshold.

1.15 Denominator

To be included in the denominator for a particular reporting month, the patient must be on peritoneal dialysis for the entire month, be ≥ 18 years old at the beginning of the month, must have had ESRD for greater than 90 days at the beginning of the month, and must be assigned to that facility for the entire month.

1.15a Denominator Details

A treatment history file is the data source for the denominator calculation used for the analyses supporting this submission. This file provides a complete history of the status, location, and dialysis treatment modality of an ESRD patient from the date of the first ESRD service until the patient dies or the data collection cutoff date is reached. For each patient, a new record is created each time he/she changes facility or treatment modality. Each record represents a time period associated with a specific modality and dialysis facility. EQRS is the primary basis for placing patients at dialysis facilities and dialysis claims are used as an additional source of information in certain situations. Information regarding first ESRD service date, death, and transplant is obtained from EQRS (including the CMS Medical Evidence Form (Form CMS-2728) and the Death Notification Medicare claims, as well as the Organ Procurement and Transplant Network (OPTN).

1.15b Denominator Exclusions

Exclusions that are implicit in the denominator definition include

1. Patients not on peritoneal dialysis for the entire month
2. Pediatric patients (<18 years old)
3. Patients who have had ESRD for <91 days
4. Patients not assigned to the facility for the entire month

There are no additional exclusions for this measure.

1.15c Denominator Exclusions Details

There are no additional or explicit exclusions beyond what is embedded in the denominator's definition.

1.15d Age Group

Adults (18-64 years), Older Adults (65 years and older)

1.16 Type of Score

Rate/proportion

1.17 Measure Score Interpretation

Better performance = Higher score

1.18 Calculation of Measure Score

Denominator: For the reporting month, patients are included in the denominator if:

- Patient modality is indicated as PD during the entire month
- Patient age as of the beginning of the reporting month is at least 18 years
- Patient has had ESRD for greater than 90 days at the beginning of the month
- Patient has been assigned to the facility for the entire month

Numerator: For the reporting month, patients from the denominator are also included in the numerator if they have a weekly Kt/V urea ≥ 1.7 .

If no weekly Kt/V urea value is reported for a given patient in a month, the most recent peritoneal dialysis weekly Kt/V urea value in the prior 3 months is applied to the calculation for that month.

1.18a Attach measure score calculation diagram

[0318_Flowchart_508.pdf](#)

1.19 Measure Stratification Details

The measure is not stratified.

1.20 Types of Data Sources

Claims Data, Registries

1.25 Data Source Details

For the analyses supporting this submission, the measure is calculated using EQRS as the primary data source for the Kt/V values used to determine the numerator. If a patient's Kt/V data are missing in EQRS, Kt/V values from Medicare claims are used as an additional source for obtaining that information. Please see the attached data dictionary for a list of specific data elements that are used from each data source.

EQRS is the primary basis for placing patients at dialysis facilities and dialysis claims are used as an additional source. Information regarding first ESRD service date, death, age and incident comorbidities adjustments and transplant is obtained from EQRS (including the CMS Medical Evidence Form (Form CMS-2728) and the Death Notification Form (Form CMS-2746)) and Medicare claims, as well as the Organ Procurement and Transplant Network (OPTN) and the Social Security Death Master File.

1.26 Minimum Sample Size

Public reporting of this measure on DFCC or in the ESRD QIP would be restricted to facilities with at least 11 eligible patients for the measure to comply with restrictions on reporting of potentially patient identifiable information related to small cell size. We have applied this restriction to all the reliability and validity testing reported here.

2.1 Attach Logic Model

[0318_Importance_Logic Model_508.pdf](#)

2.2 Evidence of Measure Importance

The primary evidence for this measure comes for the 2006 KDOQI Clinical Practice Guidelines and Clinical Practice Recommendations for 2006 Updates: Hemodialysis Adequacy, Peritoneal Dialysis Adequacy and Vascular Access. The guideline states:

Adult Kt/V target:

GUIDELINE 2. PERITONEAL DIALYSIS SOLUTE CLEARANCE TARGETS AND MEASUREMENTS

Data from RCTs suggested that the minimally acceptable small-solute clearance for PD is less than the prior recommended level of a weekly Kt/Vurea of 2.0. Furthermore, increasing evidence indicates the importance of RKF as opposed to peritoneal small-solute clearance with respect to predicting patient survival. Therefore, prior targets have been revised as indicated next. 2.1 For patients with RKF (considered to be significant when urine volume is > 100 mL/d): 2.1.1 The minimal "delivered" dose of total small-solute clearance should be a total (peritoneal and kidney) Kt/Vurea of at least 1.7 per week. (B)

2.1.2 Total solute clearance (residual kidney and peritoneal, in terms of Kt/Vurea) should be measured within the first month after initiating dialysis therapy and at least once every 4 months thereafter. (B)

2.1.3 If the patient has greater than 100 mL/d of residual kidney volume and residual kidney clearance is being considered as part of the patient's total weekly solute clearance goal, a 24-hour urine collection for urine volume and solute clearance determinations should be obtained at a minimum of every 2 months. (B) 2.2 For patients without RKF (considered insignificant when urine volume is ≥ 100 mL/d):

2.2.1 The minimal "delivered" dose of total small-solute clearance should be a peritoneal Kt/Vurea of at least 1.7 per week measured within the first month after starting dialysis therapy and at least once every 4 months thereafter. (B)"

KDOQI Clinical Practice Guidelines and Clinical Practice Recommendations for 2006 Updates: Hemodialysis Adequacy, Peritoneal Dialysis Adequacy and Vascular Access. Am J Kidney Dis 48:S1-S322, 2006 (suppl 1).

http://www.kidney.org/professionals/KDOQI/guidelines_commentaries

Grade: The guidelines for adult patients were graded B. Grade B: It is recommended that clinicians routinely follow the guideline for eligible patients. There is moderately strong evidence that the practice improves health outcomes.

The body of evidence included 20 studies, ranging from 1998-2004. The KDOQI panel noted that the body of evidence shows a correlation between total solute clearance for urea and patient mortality and morbidity. Thus, this evidence supports that the delivered dose of dialysis should be measured frequently for assessment of adequate treatment, and treatment should be set accordingly. In particular, of the 20 studies considered in the body of evidence, the results from two randomized clinical trials were used to justify the KDOQI guidelines [2,3]. The results from additional observational studies also supported the KDOQI recommendations [see, e.g. 1,6].

In the adult population, among the studies showing any improvement in mortality in high total clearance versus low total clearance, relative risks ranged from 0.6 to 0.99. In one study, Kt/V was measured as continuous and found a relative risk of 0.94 per 0.1 mL/min increase in Kt/V (95% CI = 0.88, 1.02). The majority of the studies showed a benefit of higher total clearance in PD patients.

1. Bargman JM, Thorpe KE, Churchill DN: Relative contribution of residual renal function and peritoneal clearance to adequacy of dialysis: A reanalysis of the CANUSA Study. J Am Soc

- Nephrol 12:2158-2162, 2001
2. Paniagua R, Amato D, Vonesh E, et al: Effects of increased peritoneal clearances on mortality rates in peritoneal dialysis: ADEMEX, a prospective, randomized, controlled trial. *J Am Soc Nephrol* 13:1307-1320, 2002
3. Lo WK, Ho YW, Li CS, et al: Effect of Kt/V on survival and clinical outcome in CAPD patients in a randomized prospective study. *Kidney Int* 64:649-656, 2003
4. Szeto CC, Wong TY, Leung CB, et al: Importance of dialysis adequacy in mortality and morbidity of Chinese CAPD patients. *Kidney Int* 58:400-407, 2000
5. Diaz-Buxo JA, Lowrie EG, Lew NL, Zhang SM, Zhu X, Lazarus JM: Associates of mortality among peritoneal dialysis patients with special reference to peritoneal transport rates and solute clearance. *Am J Kidney Dis* 33:523-534, 1999
6. Rocco MV, Frankenfield DL, Prowant B, Frederick P, Flanigan MJ: Risk factors for early mortality in U.S. peritoneal dialysis patients: Impact of residual renal function. *Perit Dial Int* 2002 22:371-379
7. Termorshuizen F, Korevaar JC, Dekker FW, van Manen JG, Boeschoten EW, Krediet RT: The relative importance of residual renal function compared with peritoneal clearance for patient survival and quality of life: An analysis of the Netherlands Cooperative Study on the Adequacy of Dialysis (NECOSAD)-2. *Am J Kidney Dis* 41:1293-1302, 2003
8. Chung SH, Heimbürger O, Stenvinkel P, Qureshi AR, Lindholm B: Association between residual renal function, inflammation and patient survival in new peritoneal dialysis patients. *Nephrol Dial Transplant* 18:590-597, 2003
9. Jager KJ, Merkus MP, Dekker FW, et al: Mortality and technique failure in patients starting chronic peritoneal dialysis: Results of The Netherlands Cooperative Study on the Adequacy of Dialysis. NECOSAD Study group. *Kidney Int* 55:1476-1485, 1999
10. Ates K, Nergizoglu G, Keven K, et al: Effect of fluid and sodium removal on mortality in peritoneal dialysis patients. *Kidney Int* 60:767-776, 2001
11. Wang AY, Wang M, Woo J, et al: Inflammation, residual kidney function, and cardiac hypertrophy are interrelated and combine adversely to enhance mortality and cardiovascular death risk of peritoneal dialysis patients. *J Am Soc Nephrol* 15:2186-2194, 2004
12. Szeto CC, Wong TY, Chow KM, Leung CB, Law MC, Li PK: Independent effects of renal and peritoneal clearances on the mortality of peritoneal dialysis patients. *Perit Dial Int* 24:58-64, 2004
13. Szeto CC, Wong TY, Chow KM, et al: Impact of dialysis adequacy on the mortality and morbidity of anuric Chinese patients receiving continuous ambulatory peritoneal dialysis. *J Am Soc Nephrol* 12:355-360, 2001
14. Bhaskaran S, Schaubel DE, Jassal SV, et al: The effect of small solute clearances on survival of anuric peritoneal dialysis patients. *Perit Dial Int* 20:181-187, 2000
15. Rocco M, Soucie JM, Pastan S, McClellan WM: Peritoneal dialysis adequacy and risk of death. *Kidney Int* 58:446-457, 2000
16. Lo WK, Tong KL, Li CS, et al: Relationship between adequacy of dialysis and nutritional status, and their impact on patient survival on CAPD in Hong Kong. *Perit Dial Int* 21:441-447, 2001
17. Davies SJ, Phillips L, Russell GI: Peritoneal solute transport predicts survival on CAPD independently of residual renal function. *Nephrol Dial Transplant* 13:962-968, 1998
18. Perez RA, Blake PG, Spanner E, et al: High creatinine excretion ratio predicts a good outcome in peritoneal dialysis patients. *Am J Kidney Dis* 36:362-367, 2000

19. Park HC, Kang SW, Choi KH, Ha SK, Han DS, Lee HY: Clinical outcome in continuous ambulatory peritoneal dialysis patients is not influenced by high peritoneal transport status. *Perit Dial Int* 21:S80-S85, 2001 (suppl 3)
20. Aslam N, Bernardini J, Fried L, Piraino B: Peritoneal dialysis clearance can replace residual renal function. *Perit Dial Int* 21:263- 268, 2001

In May 2014, an additional literature search was performed. Additional pieces of evidence supporting the relationship between PD clearance and outcomes are included in the citations below as a result of that search.

1. Krediet RT1, Struijk DG. Peritoneal changes in patients on long-term peritoneal dialysis. *Nat Rev Nephrol*. 2013 Jul;9(7):419-29. doi: 10.1038/nrneph.2013.99. Epub 2013 May 14.
2. Fissell R1, Schulman G, Pfister M, Zhang L, Hung AM. Novel dialysis modalities: do we need new metrics to optimize treatment? *J Clin Pharmacol*. 2012 Jan;52(1 Suppl):72S-8S. doi: 10.1177/0091270011414576.

For the Fall 2024 maintenance submission, we conducted an additional literature review. We note that there are updated Guidelines from the International Society for Peritoneal Dialysis (ISPD) with commentary from KDOQI shortly thereafter [1, 2] which called for a holistic approach to determination of PD adequacy, documenting both philosophical and technical concerns with an adequacy definition solely focused on small solute-based calculations (e.g. Kt/V). However, they do recommend regular collection and analysis of those results as part of their recommendations (ungraded).

1. Nourse P, Cullis B, Finkelstein F, Numanoglu A, Warady B, Antwi S, McCulloch M. ISPD guidelines for peritoneal dialysis in acute kidney injury: 2020 Update (paediatrics). *Perit Dial Int*. 2021 Mar;41(2):139-157. doi: 10.1177/0896860820982120. Epub 2021 Feb 1. PMID: 33523772.
2. Teitelbaum I, Glickman J, Neu A, Neumann J, Rivara MB, Shen J, Wallace E, Watnick S, Mehrotra R. KDOQI US Commentary on the 2020 ISPD Practice Recommendations for Prescribing High-Quality Goal-Directed Peritoneal Dialysis. *Am J Kidney Dis*. 2021 Feb;77(2):157-171. doi: 10.1053/j.ajkd.2020.09.010. Epub 2020 Dec 16. PMID: 33341315.

2.4 Performance Gap

Analysis of EQRS and Medicare claims data from January to December 2022 indicated the mean percentage of patients with PD adequacy measurements that achieved the target was 91.5% (SD=10.5%, N=2504 Mean scores by decile are shown in Table 1 below.. These results indicate that, on average, facilities are meeting the weekly Kt/V urea guidelines in 91% of PD patients.

Note about Table 1: Deciles were defined differently between Tables 1 and 2. In Table 1, facilities are grouped and ranked according to ascending performance score. In Table 2, ranking is

calculated on the basis of ascending facility size.

Table 1. Performance Scores by Decile

	Performance Gap												
	Overall	Minimum	Decile_1	Decile_2	Decile_3	Decile_4	Decile_5	Decile_6	Decile_7	Decile_8	Decile_9	Decile_10	Maximum
Mean Performance Score	91.54%	0%	67.86%	85.57%	89.71%	92.19%	93.86%	95.13%	96.18%	97.18%	98.26%	99.43%	100%
N of Entities	2504	2	250	250	250	252	250	252	249	252	249	250	77
N of Persons / Encounters / Episodes	77765	31	8202	7273	8059	8294	7842	8016	8616	8823	7356	6284	1378

2.6 Meaningfulness to Target Population

In response to the question, we provide two examples:

Direct evidence: when CMS held a Star Ratings TEP (comprised of approximately equal numbers of providers and patients) to discuss the fate of Kt/V inclusion in the Star Ratings composite reported on DFCC, the patients overwhelmingly voted to retain Kt/V as one important determinant of quality care in the dialysis facilities. Many individually expressed a high degree of comfort in being able to see the Kt/V monthly, to be reassured that at least that component of their dialysis treatments was at or above a minimum standard

Indirect evidence: most US dialysis patients achieve a Kt/V above 1.2 (HD) and 1.7 (PD). This achievement requires the cooperation of the patient, as they MUST provide consent for the length of treatment and other ordered dialysis parameters involved in achieving these targets. It is well documented in the literature that shortened dialysis treatments, for example, often result in lower Kt/V results. Thus, implicit consent from the patient, a member of the CMS-defined Interdisciplinary Team responsible for dialysis plan of care, is required to complete dialysis as ordered by the provider and executed by the interdisciplinary dialysis team.

3.1 Contributions Towards Closing Care Gaps

We are not providing a response to this optional question.

4.1 Feasibility Assessment

Data collection for Kt/V values is accomplished via EQRS, web-based and electronic batch submission platform maintained and operated by CMS contractors. Publicly reported measures like this one are reviewed on a regular basis by dialysis facility providers and rare instances of inaccurate or missing data are present (based on comments received during facility previews).

4.3 Feasibility Informed Final Measure

No changes were necessary.

4.4 Proprietary Information

Not a proprietary measure and no proprietary components

5.1.1 Data Used for Testing

For the Fall 2024 maintenance submission, calendar year 2022 EQRS and Medicare claims data were used.

5.1.2 Differences in Data

None

5.1.3 Characteristics of Measured Entities

For the Fall 2024 maintenance submission, 2,504 facilities that had at least 11 eligible adult peritoneal dialysis patients during January 2022 – December 2022 were included in the analyses. Public reporting of this measure on DFCC or in the ESRD QIP would be restricted to facilities with at least 11 eligible patients for the measure to comply with restrictions on reporting of potentially patient identifiable information related to small sample size.

5.1.4 Characteristics of Units of the Eligible Population

For the Fall 2024 maintenance submission, 75,135 adult peritoneal dialysis patients were included. Out of all included patients, 55.4% were aged 18 - 65, 44.6% were aged 65 or older, 42.7% were female, 1.3% were Native American, 7.8% were Asian, 1.4% were Pacific Islander, 24.5% were Black, 64.7% were White, 0.3% were Other/Multi-Racial, and 17.7% were Hispanic. Please note, the number of patients listed here may not match the total number of patients in Tables 1 and 2 due to patients being counted multiple times if they switched providers during the year.

5.2.1 Level(s) of Reliability Testing Conducted

Accountable entity level (i.e., measure score) (e.g., signal-to-noise analysis)

5.2.2 Method(s) of Reliability Testing

We used January 2022 – December 2022 EQRS and Medicare claims data to calculate the inter-unit reliability (IUR) for the overall 12 months, minimum, maximum, and within each decile to assess the reliability of this measure. The inter-unit reliability (IUR) measures the proportion of the measure variability that is attributable to the between-facility variance. The yearly based IUR was estimated using a bootstrap approach, which uses a resampling scheme to estimate the within facility variation that cannot be directly estimated by ANOVA. We note that the method for

calculating the IUR was developed for measures that are approximately normally distributed across facilities. Since this measure is not normally distributed, the IUR value should be interpreted with some caution.

5.2.3 Reliability Testing Results

For the Fall 2024 maintenance submission, the annual IUR was 0.876 across 12 reporting months, which is high and suggests 88% of variation in the measure is attributed to between facility variation and approximately 12% to within facility variation.

Note about Table 2: Deciles were defined differently between Tables 1 and 2. In Table 1, facilities are grouped and ranked according to ascending performance score. In Table 2, ranking is calculated on the basis of ascending facility size.

5.2.4 Interpretation of Reliability Results

For the Fall 2024 maintenance submission, the IUR suggests this measure is reliable. However, since the distribution of performance scores is skewed, the IUR value should be interpreted with some caution.

Table 2. Accountable Entity Level Reliability Testing Results by Denominator, Target Population Size

Accountable Entity-Level Reliability Testing Results													
	Overall	Minimum	Decile_1	Decile_2	Decile_3	Decile_4	Decile_5	Decile_6	Decile_7	Decile_8	Decile_9	Decile_10	Maximum
Reliability	0.876	0.714	0.724	0.753	0.785	0.808	0.830	0.853	0.873	0.894	0.914	0.953	0.953
Mean													
Performance Score	91.54%	92.17%	90.96%	90.57%	90.72%	90.17%	91.03%	93.06%	92.81%	92.26%	92.42%	91.30%	96.54%
N of Entities	2504	126	261	204	305	201	293	231	258	245	262	244	1
N of Persons / Encounters / Episodes	77765	1386	3006	2741	4892	3715	6276	5870	7820	9080	12739	21626	259

5.3.1 Level(s) of Validity Testing Conducted

Accountable entity level (i.e., measure score) (e.g., criterion validity)

5.3.3 Method(s) of Validity Testing

Validity was assessed by calculating the Spearman correlation between this measure (using January 2022 – December 2022 EQRS and Medicare Claims data) and the 2022 SMR and SHR. Correlations were calculated to assess the association of this measure with clinical outcome quality measures expected to be markers of quality care. The measures represent an important subset of core clinical quality measures for this patient population.

We expected the following correlations with this measure:

- SMR: We anticipated a negative correlation with this measure
- SHR: We anticipated a negative correlation with this measure

Kt/V is a marker of dialysis adequacy; if targets are not being met, one would anticipate this being reflected in worse patient outcomes such as morbidity and mortality.

5.3.4 Validity Testing Results

The Spearman correlation between the PD Kt/V measure and SMR is -0.00291, and statistically insignificant ($p=0.89$). The Spearman correlation between PD Kt/V measure and SHR is -0.131, and statistically significant ($p<.0001$).

5.3.5 Interpretation of Validity Results

The Spearman correlation coefficients indicate higher facility level percentages of patients that achieve the Kt/V target is associated with lower standardized mortality and hospitalization. The direction of the association was as expected and the association for SHR was statistically significant. Although a very weak association between facility level percentages of patients achieving the Kt/V target and lower standardized mortality was observed, it is in the expected direction. The lack of statistical significance with SMR is likely related to the relatively small number of PD patients that are in a given facility, relative to the number of patients who receive in-center hemodialysis.

5.3.2 Type of Accountable Entity Level Validity Testing Conducted (derived)

Empirical validity testing at the accountable entity-level (e.g., criterion validity, construct validity, known groups analysis)

5.4.1 Methods Used to Address Risk Factors

No risk adjustment or stratification

6.1.1 Current Status

In use

6.1.3 Current Use(s)

Public Reporting, Payment Program

6.1.3 Program Details

Name of the program and sponsor

Dialysis Facility Care Compare, CMS

URL of the program

<http://www.medicare.gov/>

Purpose of the program

Dialysis Facility Care Compare helps patients find detailed information about Medicare-certified dialysis facilities. They can compare the services and the quality of care that facilities provide.

Geographic area and percentage of accountable entities and patients included

United States

Applicable level of analysis and care setting

All Medicare-certified dialysis facilities who are eligible for the measure, and have at least 11 patients (due to public reporting requirements).

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Name of the program and sponsor

ESRD QIP

URL of the program

<http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/...>

Purpose of the program

The ESRD QIP will reduce payments to ESRD facilities that do not meet or exceed certain performance standards. The measure was added to the program for PY2015. In PY2019, the QIP began reporting a comprehensive Kt/V measure, for which this the data used i

Geographic area and percentage of accountable entities and patients included

United States

Applicable level of analysis and care setting

All Medicare-certified dialysis facilities who are eligible for the measure, and have at least 11 patients (due to public reporting requirements).

6.2.1 Actions of Measured Entities to Improve Performance

Most U.S. chronic dialysis facilities perform quite well on both the hemodialysis Kt/V as well as the PD Kt/V metric. Given this performance, most dialysis facilities are not required to “do more” in order to avoid flagging as underperforming. The greatest utility of the Kt/V measure is as a minimum standard to provide ongoing information about the effectiveness of small solute clearance, one technical outcome of dialysis treatments that contributes to the overall assessment of dialysis success. As the ISPD Guidelines for PD adequacy point out, it is not the only metric that should be used to assess dialysis adequacy, but one important minimum standard for assessment of one aspect of the therapy. In addition to providing this minimum dialytic clearance of small metabolic solutes, the dialysis facility has multiple other aspects of holistic care to monitor and address for optimal dialysis care. Unfortunately, quality metrics that assess these components of dialysis adequacy are either in development , or not yet available based on the current standards of the underlying scientific evidence.

6.2.2 Feedback on Measure Performance

We reviewed the comments and questions submitted during the DFC preview periods that have taken place since the last maintenance (2019-present). Outside of questions about facility-specific

results (such as questioning the Kt/V value on record for a particular patient), we receive a handful of questions each preview period regarding the measure specifications, such as the determination of thrice weekly dialysis.

Note that since UM-KECC is not the contractor responsible for the ESRD Quality Incentive Program, we do not have access to the detailed comments/requested that are submitted during the annual preview period for that program.

Since PY 2019, the ESRD QIP has been reporting a combined Kt/V measure in order to allow for more reporting of data for pediatric and peritoneal dialysis patients. Most of the recent comments addressed in the rule have to do with that decision, and a desire to return to reporting the four measures separately. The ESRD QIP NPRM for PYX includes a proposal to return to the four separate measures.

For DFCC, feedback can be provided any time through contacting the dialysisdata.org helpdesk. Preview periods allow for specific times for facilities review and comment on measure calculations, and provide an opportunity to request a patient list.

For the ESRD QIP, feedback can be provided any time through contacting the QIP helpdesk. Preview periods allow for specific times for facilities review and comment on measure calculations. Comments can also be submitted in response to the Notice of Proposed Rulemaking for each QIP payment year.

6.2.3 Consideration of Measure Feedback

The measure specifications have not been revised since the last maintenance cycle in 2019. Feedback received during DFCC preview periods has resulted in more detailed and accurate documentation available to the public, primarily via the ESRD Measures Manual and the Guide to the Quarterly Dialysis Facility Reports.

6.2.4 Progress on Improvement

The following reports the performance scores for this measure at the yearly level for 2015 - 2022. This analysis shows a slight increase in performance across seven years for the measure as implemented on DFCC. Calendar year 2020 was not reported due to CMS's COVID Extraordinary Circumstances Exception (ECE) data policy that restricted the use of EQRS clinical data from a portion of that year.

Year 2015: N = 1799, Mean = 84.0%, Std Dev = 13.4%, Min = 0.0%, Max = 100.0%

Year 2016: N = 1898, Mean = 89.0%, Std Dev = 11.9%, Min = 0.0%, Max = 100.0%

Year 2017: N = 1984, Mean = 90.8%, Std Dev = 10.9%, Min = 0.0%, Max = 100.0%

Year 2018: N = 2085, Mean = 91.3%, Std Dev = 11.1%, Min = 0.0%, Max = 100.0%

Year 2019: N = 2217, Mean = 91.3%, Std Dev = 10.2%, Min = 0.0%, Max = 100.0%

Year 2021: N = 1894, Mean = 93.1%, Std Dev = 9.3%, Min = 0.0%, Max = 100.0%

Year 2022: N = 2504, Mean = 91.5%, Std Dev = 10.5%, Min = 0.0%, Max = 100.0%

6.2.5 Unexpected Findings

We have been encouraged by the magnitude of improvement in measure results after implementation noted in 6.2.4 above.

We have not been notified of documented unintended impacts on patients as a result of measure implementation.

Developer POC email

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Measure Developer POC

Jennifer Sardone
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United States

The measure developer is different from the measure steward

Yes

Steward Address

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Steward Organization

Centers for Medicare & Medicaid Services

Steward Organization URL

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Steward POC email

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