



## 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 #:** 2594

**De.2. Measure Title:** Optimal End Stage Renal Disease (ESRD) Starts

**Co.1.1. Measure Steward:** The Permanente Federation

**De.3. Brief Description of Measure:** Optimal End Stage Renal Disease (ESRD) Starts is the percentage of new adult ESRD patients during the measurement period who experience a planned start of renal replacement therapy by receiving a preemptive kidney transplant, by initiating home dialysis, or by initiating outpatient in-center hemodialysis via arteriovenous fistula or arteriovenous graft.

**1b.1. Developer Rationale:** Unplanned onset of ESRD has been termed "Catastrophic Onset of ESRD" and is associated with long hospitalizations and high mortality in the first year of dialysis. Unprepared and uneducated patients must be admitted to the hospital and receive urgent dialysis, usually via a central venous catheter which has been shown to cause high rates of blood stream infection and higher mortality than surgically prepared vascular access. The Optimal ESRD Starts measure quantifies the ability of a health care system to prepare patients for ESRD by identification of high risk patients, educating them and their families about the need for dialysis or kidney transplant, helping them to make appropriate and informed choices, and then successfully transitioning to dialysis or kidney transplantation as kidney function declines to the level of ESRD.

As demonstrated in the Medical Evidence Review, Optimal ESRD Starts are better for patients, who experience fewer blood stream infections, have fewer hospital days, fewer cardiovascular events and lower mortality. Optimal ESRD Starts save resources as shown by the Canadian STARRT Trial (average estimated cost \$23,965 less per patient in the first 6 months of ESRD, section 1c.3) and by KP data (average costs \$47,000 less per patient in the first 6 months of ESRD with 14.1 fewer hospital days in first 6 months of ESRD, Kaiser Permanente data in section 1c.3). This measure has been utilized successfully to improve outcomes in Kaiser Permanente Southern California for nearly 10 years and in the national Kaiser Permanente program for 3 years.

There is a significant performance gap in Optimal ESRD Starts between the estimated U.S. performance, estimated at 35.5% in 2012 as estimated from United States Renal Data Service and CMS Fistula First data (calculation in appendix) and the Kaiser Permanente national performance at 50.6% in December 2012 and 57.7% in June 2014, demonstrating the opportunity for improvement.

**S.4. Numerator Statement:** The number of new ESRD patients age 18 and over who initiate renal replacement therapy in the twelve month measurement period with an optimal ESRD therapy (specific optimal ESRD therapies are defined in section S.6).

**S.7. Denominator Statement:** The number of patients age 18 and over who receive a preemptive kidney transplant or initiate long-term dialysis therapy (do not recover kidney function by 90 days) for the first time in the twelve month measurement period

**S.10. Denominator Exclusions:** None

**De.1. Measure Type:** Process

**S.23. Data Source:** Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry

**S.26. Level of Analysis:** Clinician : Group/Practice, Clinician : Team, Health Plan, Integrated Delivery System, Population : Regional

**IF Endorsement Maintenance – Original Endorsement Date:** Oct 02, 2015 **Most Recent Endorsement Date:** Oct 02, 2015

**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**

[NQF\\_Renal\\_Measure\\_2594\\_Medical\\_Evidence\\_Review.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)**

Unplanned onset of ESRD has been termed "Catastrophic Onset of ESRD" and is associated with long hospitalizations and high mortality in the first year of dialysis. Unprepared and uneducated patients must be admitted to the hospital and receive urgent dialysis, usually via a central venous catheter which has been shown to cause high rates of blood stream infection and higher mortality than surgically prepared vascular access. The Optimal ESRD Starts measure quantifies the ability of a health care system to prepare patients for ESRD by identification of high risk patients, educating them and their families about the need for dialysis or kidney transplant, helping them to make appropriate and informed choices, and then successfully transitioning to dialysis or kidney transplantation as kidney function declines to the level of ESRD.

As demonstrated in the Medical Evidence Review, Optimal ESRD Starts are better for patients, who experience fewer blood stream infections, have fewer hospital days, fewer cardiovascular events and lower mortality. Optimal ESRD Starts save resources as shown by the Canadian STARRT Trial (average estimated cost \$23,965 less per patient in the first 6 months of ESRD, section 1c.3) and by KP data (average costs \$47,000 less per patient in the first 6 months of ESRD with 14.1 fewer hospital days in first 6 months of ESRD, Kaiser Permanente data in section 1c.3). This measure has been utilized successfully to improve outcomes in Kaiser Permanente Southern California for nearly 10 years and in the national Kaiser Permanente program for 3 years.

There is a significant performance gap in Optimal ESRD Starts between the estimated U.S. performance, estimated at 35.5% in 2012 as estimated from United States Renal Data Service and CMS Fistula First data (calculation in appendix) and the Kaiser Permanente national performance at 50.6% in December 2012 and 57.7% in June 2014, demonstrating the opportunity for improvement.

**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.

Performance scores across the Kaiser Permanente (KP) Regions for the last three years are shown in a table and graphically in the appendix. Over six consecutive semi-annual measurement periods the KP national mean has improved from 47.0% in December 2011 to 57.7% in June 2014. For the most recent measurement period (July 1, 2013 to June 30, 2014) the total number of new ESRD patients was 2681, ranging from 87 to 1147 patients in the six measured Kaiser Permanente regions. The initial regional minimum was 32% and maximum was 64%; most recently the regional minimum was 48% and maximum was 61%.

Performance for the U.S. population can be estimated from USRDS and CMS Fistula First data and was approximately 35.5% for 2012 (extracted data and calculation in the appendix). Thus a significant performance gap exists between this U.S. performance and what can be achieved – 57.7% KP mean, 61-64% KP Regional maximum.

Since all new ESRD patients are included (there is no sampling), and the result for each patient is either yes/Optimal or no/non-Optimal, we do not believe a descriptive standard deviation calculation applied to the total KP population is very meaningful. Variation or inaccuracy could be introduced via measurement error (missing data, incorrect reporting of initial modality, date or vascular access) which is addressed in the Reliability and Validity section.

Testing for statistical differences between KP regions and between KP and U.S. in 2012 is shown in the attachment Measure Testing (subcriteria 2a2, 2b2-2b7). Section 2b6 shows descriptive statistics including confidence intervals, and demonstrates that significant differences can be determined between KP Regions.

**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.**

Not applicable

**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 required (not endorsement maintenance) and disparity data has not been collected for this metric as specified.

**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.**

The primary foci of this measure are 1) preemptive kidney transplantation, 2) initial dialysis therapy at home by PD or HD, and 3) initial hemodialysis via AVF or AVG. An important contributing factor is 4) access to nephrology care prior to ESRD.

1) While there a number of articles addressing disparities in kidney transplantation, only a single article was located addressing disparities in preemptive kidney transplantation, concluding that preemptive deceased donor kidney transplant occurs most often among Caucasians (versus Blacks) with private insurance.

2) There were no recent articles located that address disparities impacting dialysis modality choice (PD vs. HD) in the US. An article from 1999 suggests there may be disparities, but is not specific. Also, there is great disparity in the utilization of peritoneal dialysis between different countries, with the US being one of the lower.

3) One article was located suggesting that lower initial AVF creation in African American patients may be due to differences in arm vein diameters. Another article addresses geographic variability, gender and racial disparities in hemodialysis access.

4) A single article was located suggesting that zip codes with higher black populations are associated with lower access to nephrology care, before requiring dialysis.

Focus 1) Preemptive kidney transplantation: This article addresses racial and insurance type disparity in preemptive kidney transplant, deceased donor.

Clin J Am Soc Nephrol. 2013 Apr;8(4):575-82. doi: 10.2215/CJN.05310512. Epub 2013 Jan 31. Preemptive deceased donor kidney transplantation: considerations of equity and utility. Grams ME(1), Chen BP, Coresh J, Segev DL. (conclusion above)

Articles identifying disparities in kidney transplant rates by race, age, socioeconomic status and type of insurance (not necessarily preemptive)

Clin J Am Soc Nephrol. 2012 Sep;7(9):1490-7. doi: 10.2215/CJN.13151211. Epub 2012 Jul 26. Association of race and insurance type with delayed assessment for kidney transplantation among patients initiating dialysis in the United States. Johansen KL(1), Zhang R, Huang Y, Patzer RE, Kutner NG.

CONCLUSIONS: Racial and insurance-related disparities in transplant assessment potentially delay transplantation, particularly among younger patients.

J Natl Med Assoc. 2007 Aug;99(8):923-32. Trends in kidney transplantation rates and disparities. Stolzmann KL(1), Bautista LE, Gangnon RE, McElroy JA, Becker BN, Remington PL.

CONCLUSION: These results demonstrate a growing disparity in transplantation rates by demographic characteristics and a consistent disparity in transplantation by socioeconomic characteristics.

Clin J Am Soc Nephrol. 2013 Dec;8(12):2149-57. Differences in access to kidney transplantation between Hispanic and non-Hispanic whites by geographic location in the United States. Arce CM(1), Goldstein BA, Mitani AA, Lenihan CR, Winkelmayer WC.

CONCLUSIONS: After accounting for geographic location and controlling for competing risks (e.g., Hispanic survival advantage), the disparity in access to deceased donor transplantation was markedly attenuated among Hispanics compared with non-Hispanic whites. To overcome the geographic disparities that Hispanics encounter in the path to transplantation, organ allocation policy

revisions are needed to improve donor organ equity.

Am J Transplant. 2013 Jun;13(6):1557-65. Racial differences in determinants of live donor kidney transplantation in the United States. Purnell TS(1), Xu P, Leca N, Hall YN.

CONCLUSIONS: In the United States, significant disparities in rates of LDKT persist, but determinants of these disparities vary by race-ethnicity. Efforts to expand preESKD insurance coverage, to improve access to high-quality predialysis care and to overcome socioeconomic barriers are important targets for addressing disparities in LDKT.

Am J Kidney Dis. 2012 Jun;59(6):849-57. Center-level factors and racial disparities in living donor kidney transplantation. Hall EC(1), James NT, Garonzik Wang JM, Berger JC, Montgomery RA, Dagher NN, Desai NM, Segev DL.

CONCLUSIONS: Racial disparity in attainment of LDKT exists at every transplant center in the country. Centers with higher rates of LDKT attainment for all races had less disparity; these high-performing centers might provide insights into policies that might help address this disparity.

J Natl Med Assoc. 2007 Aug;99(8):923-32. Trends in kidney transplantation rates and disparities. Stolzmann KL(1), Bautista LE, Gangnon RE, McElroy JA, Becker BN, Remington PL.

CONCLUSION: These results demonstrate a growing disparity in transplantation rates by demographic characteristics and a consistent disparity in transplantation by socioeconomic characteristics. Future studies should focus on identifying specific barriers to transplantation among different subpopulations in order to target effective interventions.

Focus 2) Initial therapy is a Home Dialysis modality:

Perit Dial Int. 1999;19 Suppl 2:S419-22. Socioeconomic aspects of peritoneal dialysis in North America: role of non medical factors in the choice of dialysis. Venkataraman V(1), Nolph KD.

SUMMARY: Patients initiating dialysis therapy must make a choice between hemodialysis (HD) and peritoneal dialysis (PD). Controversy persists over the relative merits of each modality in the treatment of end-stage renal disease (ESRD). Issues relating to survival, morbidity, economics, and patient characteristics will all determine the final choice of therapy. Non-medical factors are the most important determinant of dialysis modality selection. In the United States, HD has been the more commonly used modality, while PD is underrepresented. This disparity arises from multiple factors including reactions (sometimes incorrect) to the healthcare financing structure, physician biases, and changing demographic patterns in the ESRD population. We discuss these issues and present collected evidence showing that increased use of PD may have substantial overall benefit.

J Am Soc Nephrol. 2012 Mar; 23(3): 533–544. Global Trends in Rates of Peritoneal Dialysis. Arsh K. Jain, Peter Blake, Peter Cordy and Amit X. Garg

SUMMARY: PD prevalence varies from 79.4% in Hong Kong to 0.7% in Luxembourg with 7.0% in the US. “Several economic influences, including health care financing and delivery, physician reimbursement, and resource availability, have been suggested to affect trends in use. For example, countries with private dialysis providers generally use PD for a smaller proportion of dialysis patients than countries in which public providers dominate. The proliferation of HD units in some countries has increased the availability of HD, creating an incentive to use that capacity rather than home dialysis modalities. Some have raised concerns that nephrology training programs are deficient in PD and do not adequately prepare young nephrologists to provide care for PD patients.”

Focus 3) Initial hemodialysis vascular access is an arteriovenous fistula or an arteriovenous graft:

J Vasc Surg. 2012 Aug;56(2):424-31. Ethnic differences in arm vein diameter and arteriovenous fistula creation rates in men undergoing hemodialysis access. Ishaque B(1), Zayed MA, Miller J, Nguyen D, Kaji AH, Lee JT, O’Connell J, de Virgilio C.

CONCLUSIONS: African American patients are less likely than non-African American patients to undergo AVF during first-time hemodialysis access surgery. This ethnic discrepancy appears to be due to smaller arm vein diameters in African American patients. In African American patients with appropriate vein diameters who do undergo AVF, primary and functional patencies are equivalent to non-African American patients.

J Am Soc Nephrol. 2002 Aug;13(8):2117-24. National profile of practice patterns for hemodialysis vascular access in the United States. Reddan D(1), Klassen P, Frankenfield DL, Szczech L, Schwab S, Coladonato J, Rocco M, Lowrie EG, Owen WF Jr; National ESRD CPM Work Group.

CONCLUSION: Despite translation of practice guidelines for hemodialysis vascular access into national CPMs, there is substantial

disparity in angioaccess (for hemodialysis) allocation in the United States. Quality improvement strategies to improve the prevalence of fistulae should focus on selected regions and include physician education about their practice patterns and potential biases.

Focus 4) access to nephrology care prior to ESRD

J Am Soc Nephrol. 2010 Jul;21(7):1192-9. Racial composition of residential areas associates with access to pre-ESRD nephrology care. Prakash S(1), Rodriguez RA, Austin PC, Saskin R, Fernandez A, Moist LM, O'Hare AM.

SUMMARY: Referral to a nephrologist before initiation of chronic dialysis occurs less frequently for blacks than whites, but the reasons for this disparity are incompletely understood. Here, we examined the contribution of racial composition by zip code on access and quality of nephrology care before initiation of renal replacement therapy (RRT). We retrospectively studied a cohort study of 92,000 white and black adults who initiated RRT in the United States between June 1, 2005, and October 5, 2006. The percentage of patients without pre-ESRD nephrology care ranged from 30% among those who lived in zip codes with <5% black residents to 41% among those who lived in areas with >50% black residents. In adjusted analyses, as the percentage of blacks in residential areas increased, the likelihood of not receiving pre-ESRD nephrology care increased. Among patients who received nephrology care, the quality of care (timing of care and proportion of patients who received a pre-emptive renal transplant, who initiated therapy with peritoneal dialysis, or who had a permanent hemodialysis access) did not differ by the racial composition of their residential area. In conclusion, racial composition of residential areas associates with access to nephrology care but not with quality of the nephrology care received.

**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, High resource use, Patient/societal consequences of poor quality, Severity of illness, Other

**1c.2. If Other:** ESRD Optimal Starts aligns with the following priorities of the National Quality Strategy • Making care safer by reducing harm caused in the delivery of care. • Ensuring that each person and family is engaged as partners in their care. • Promoting the most effective prevention and treatment practices for the leading causes of mortality • Making quality care more affordable for individuals, families, employers, and governments by developing and spreading new health care delivery models

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

**List citations in 1c.4.**

CMS Breakthrough Initiative: Fistula First, Catheter Last (1,2,3) – CMS selected this project as its first CMS-wide “Breakthrough Initiative” and it has been ongoing for over 10 years. Therefore CMS, the primary payer for dialysis in the U.S. believes avoidance of catheters, which are non-Optimal ESRD Starts, is very important and a high priority.

Cost savings with Optimal ESRD Starts

The STARRT trial cost data (4): Canadian, multi-centre, 6 month retroactive study (n= 339). The average total cost per patient was estimated to be \$63,225 (with a 95% CI ranging from \$58,663–\$67,958) for the suboptimally initiated patients, and \$39,260 (with a 95% CI ranging from \$35,683–\$43,007) for the optimally initiated patients (p<0.001), a difference of \$23,965.

Kaiser Permanente Internal Cost and Hospitalization Analysis: Optimal ESRD Starts versus Non-Optimal ESRD Starts (unpublished and confidential, using this metric’s definition): 6-month retroactive study of costs and hospital days of all patients reaching ESRD in 2012 in the Southern California Region

Cost (95% Confidence Interval):

Non-Optimal ESRD Start \$85,954 (\$78,102-\$93,806)

Optimal ESRD Start \$38,488 (\$34,870-42,106)

Average hospital days (95% Confidence Interval):  
 Non-Optimal ESRD Start 18.7 (16.4-19.8)  
 Optimal ESRD Start 4.6 (3.6-5.6)

Harvard Business School Study of Optimal vs non-Optimal ESRD Starts in the Kaiser Permanente Georgia Region (ref 5, informally mentioned, unpublished data from their latest report):

Average 1 year spending on patients with Optimal ESRD Starts = \$54,220

Average 1 year spending on patients with non-Optimal ESRD Starts = \$73,134

Difference \$18,914

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

1) [http://www.therenalnetwork.org/data/resources/AR2009/4\\_2009AR\\_FFInitiatives.pdf](http://www.therenalnetwork.org/data/resources/AR2009/4_2009AR_FFInitiatives.pdf)

2) "Fistula First" as a CMS breakthrough initiative: improving vascular access through collaboration. Peters V, Clemons G, Augustine B. Nephrol Nurs J. 2005 Nov-Dec;32(6):686-7.

3) <http://esrdncc.org/ffcl/for-ffcl-professionals/>

4) The STARRT trial: a cost comparison of optimal vs sub-optimal initiation of dialysis in Canada, Piwko et al. Journal of Medical Economics Vol. 15, No. 1, 2012, 96–104

5) Delivering Higher Value Care Means Spending More Time with Patients, Hass D, Krosner Y, Mukerje N, Kaplan R, Harvard Business Review December 26, 2014

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 : Chronic Kidney Disease (CKD), Renal : End Stage Renal Disease (ESRD)

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

Care Coordination, Palliative Care and End of Life Care, Patient and Family Engagement, Prevention : Screening

**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.)

Planned posting on kp.org within 3 months of endorsement

**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)

This is not an eMeasure 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)

Attachment **Attachment:** [NQF\\_Renal\\_Measure\\_2594\\_Data\\_Elements.xlsx](#)

**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 submission.](#)

**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.

[The number of new ESRD patients age 18 and over who initiate renal replacement therapy in the twelve month measurement period with an optimal ESRD therapy \(specific optimal ESRD therapies are defined in section S.6\).](#)

**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 for denominator and numerator. The metric may be determined more frequently - for example, quarterly or semi-annually, using a rolling 12 month denominator.](#)

**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.

[The Optimal ESRD Starts numerator is the total number of new patients age 18 and over who initiate renal replacement therapy for the first time and do not come off dialysis by 90 days, with one of the following:](#)

- [• A preemptive kidney transplant or simultaneous pancreas-kidney transplant \(SPK\). Preemptive means that the patient has never experienced out-patient dialysis, OR](#)
- [• Initial home or self-dialysis modality, including planned and "successful urgent start" peritoneal dialysis \(PD\) and home hemodialysis \(HHD\) via an arteriovenous fistula or arteriovenous graft. "Successful urgent start" peritoneal dialysis means that the patient never experienced outpatient hemodialysis via a hemodialysis catheter before starting outpatient peritoneal dialysis, OR](#)
- [• Initial outpatient hemodialysis \(HD\), including self-hemodialysis \(SHD\), via arteriovenous fistula \(AVF\) prepared surgically without use of artificial materials. The patient may have a hemodialysis catheter in place if it is not used. Do not count patient with a single needle in AVF with blood return via catheter, OR](#)
- [• Initial outpatient hemodialysis \(HD\), including self-hemodialysis \(SHD\), via arteriovenous graft \(AVG\), limited to no more than 10% of all patients starting in-center hemodialysis#. The patient may have a hemodialysis catheter if it is not used. Do not count patient with a single needle in AVG with blood return via catheter.](#)

[# An arteriovenous fistula \(AVF\) is highly preferred for hemodialysis over an arteriovenous graft \(AVG\). AVF are associated with many fewer follow-up encounters with vascular surgery and interventional radiology to remove clots, dilate and replace. CMS has recognized AVF superiority in its Fistula First Quality Initiative, which continues to collect data and promote practice improvement methods.](#)

[Nevertheless, not every patient is suitable for an AVF, and these patients require an AVG for hemodialysis which is still much better than hemodialysis by catheter. In our 3 year experience measuring Optimal ESRD Starts in Kaiser Permanente less than 5% of new hemodialysis patients start with an AVG as their initial access. The 10% of new hemodialysis patient limit for AVG was determined by an interregional Kaiser Permanente nephrologist work group to be consistent with the CMS Fistula First Initiative and in consideration of potential practice changes in the future.](#)

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

The number of patients age 18 and over who receive a preemptive kidney transplant or initiate long-term dialysis therapy (do not recover kidney function by 90 days) for the first time in the twelve month measurement period

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

Populations at Risk

**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)

The population being measured are patients age 18 and over who 1) receive a preemptive kidney transplant (having never received outpatient dialysis), including simultaneous pancreas and kidney transplant, plus 2) patients age 18 and over initiating long-term maintenance dialysis who do not recover kidney function by 90 days.

The population includes patients who start renal replacement therapy and then are lost to follow up (lose insurance, move away) and/or die.

The denominator is the number of the above patients within the measured entity during the 12-month measurement period.

Clarifications based on the above definition (not exclusions):

1. The denominator does not include patients who initiate outpatient dialysis but then recover GFR to the point where they can stop dialysis treatments by 90 days after the first outpatient dialysis.
2. The denominator does not include patients who previously reached ESRD, such as
  - Patients who previously were on dialysis 90 days or more who then recovered kidney function for a while, but then restarted dialysis
  - Patients who switch from one dialysis modality to another, for example switching from in-center hemodialysis to home dialysis.
  - Patients with failing kidney transplants starting or returning to dialysis.
3. The denominator does not include patients who died without experiencing outpatient dialysis or a kidney transplant.

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

None

**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)

None

**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)

As there is no patient sampling (all patients who reach ESRD are included), there is no stratified sampling.

For comparative purposes and tracking within Kaiser Permanente, the metric has been calculated (stratified) by geographic medical regions or areas. Results by geographic regions/areas are shown in the appendix.

**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)

n/a

**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)

n/a

**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 = Higher 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.)

1. The target population is all new ESRD patients as described in S.9. Denominator Details. There are no exclusions. Data is compiled and submitted on standardized spreadsheets.

2. Determine denominator:

- Eliminate patients who do not meet denominator definition S.9. Denominator Details

- a. Eliminate patients who recovered kidney function by day 90

- b. Eliminate patients who previously were on dialysis 90 days or more who then recovered kidney function then later restarted dialysis

- c. Eliminate patients starting dialysis after failed transplant

- d. Eliminate patients changing dialysis modality

- e. Eliminate patients who died without experiencing outpatient dialysis or a kidney transplant

- Eliminate patients with incomplete data if unavailable

3. Count patients in each category. Each denominator patient must be assigned to one and only one of the groups below. Rules are listed in S.6. Numerator Details

Group A: Preemptive kidney transplant

Group B: Peritoneal Dialysis (Home)

Group C: Home Hemodialysis

Group D: In-center HD with AVF

Group E: In-center HD with AVG

Group F: In-center HD with Catheter

4. Note: Denominator = A + B + C + D + E + F

5. Calculate Adjusted AVG (E') = Smaller of [E] or [(C + D + E + F) ÷ 10]

6. Calculate Optimal ESRD Starts = ((A + B + C + D + E'))/Denominator) x 100%

7. Calculate Modality Sub-metrics

- Preemptive Kidney Transplant Starts = (A/Denominator) x 100%

- Home Dialysis Starts = ((B + C)/Denominator) x 100%

- Optimal AVF & AVG Starts = ((D + E'))/Denominator) x 100%

- Non-Optimal ESRD Starts = 100% - Optimal ESRD Starts

**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.

There is no sampling. All patients who reach ESRD and start dialysis or have a preemptive kidney transplant are included.

**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.

The measure is not based on a survey.

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

Required for Composites and PRO-PMs.

Not required – Not a Composite or PRO-PM measure.

While a formal mechanism is not required for a new process measure submission, we suggest the following steps to minimize the risk of missing data:

1) Compare the new ESRD patient list with claims for dialysis treatments and kidney transplant. In addition to ensuring all patients are included in the denominator, this should be done periodically to ensure that all ESRD patients are in the group of patients followed by the renal care coordinator.

2) Review the Data Submission Form for missing or questionable information and enquire back to the submitting renal coordinator for correction.

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

If other, please describe in S.24.

Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry

**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.

The data collection instrument is in the appendix. It can be completed from records maintained by the renal care team as patients reach ESRD, and submitted to the measure analyst every 6 months.

CMS 2728 Form: Within KP we do not have access to this data, but all the essential data elements are available on the CMS 2728 Form which is submitted for every new ESRD patient in the US (whether they have Medicare coverage or not). The only missing data is the date of stopping dialysis if recover from acute renal failure by 90 days, and in most cases, a 2728 Form is not submitted for these patients. Patients who recover kidney function and stop dialysis by 90 days are not included in the denominator or numerator. We anticipate that this will be the source of data for organizations outside of KP in the future.

**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 in attached appendix at A.1

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

Clinician : Group/Practice, Clinician : Team, Health Plan, Integrated Delivery System, Population : Regional

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

Ambulatory Care : Clinician Office/Clinic

If other:

**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.)

**2a. Reliability** – See attached Measure Testing Submission Form

**2b. Validity** – See attached Measure Testing Submission Form

NQF\_Renal\_Measure\_2594\_Measure\_Testing.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*)

Some data elements are in defined fields in electronic sources

**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.**

Near-term path to electronic capture: All the essential data elements are available on the CMS 2728 Form which is submitted electronically via Crown Web (since mid-2012) for every new ESRD patient in the US (whether they have Medicare coverage or not).

The only missing data element which applies to around 5% of patients (KP Southern California experience) is the date of stopping dialysis as they recover from acute renal failure by 90 days; such a patient would not meet the inclusion criteria. In some cases, a 2728 Form is not submitted for these patients who recover kidney function.

Within Kaiser Permanente, the data elements needed to compute Optimal ESRD Starts are all recorded in the electronic health records or electronic authorization records although not necessarily in defined fields. In our current process, transferring data onto the submission form reliably does require some extra knowledge (e.g. was the first treatment by catheter or arteriovenous fistula?), but when utilizing 2728 Form data, completed at the dialysis facility, that information is known by the personnel entering the data.

**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.**

Collecting and submitting data: Despite the need to transcribe electronically stored information onto the submission form, determining Optimal ESRD Starts has been feasible within Kaiser Permanente. Since the metric outcomes are viewed by medical group leadership as well as by nephrologists and their teams, there has been motivation to maintain accurate data lists and to verify data before submitting for measure calculation.

When deciding to utilize this measure, it is important to consider the size of the denominator. A minimum of 50 new ESRD patients is required to decrease the impact of random variation in patients needing to start dialysis. At the level of analysis specified (health plans, integrated delivery systems, large nephrologist groups) this should usually not be a problem. In some circumstances. It would be reasonable to extend the time period for data collection to insure there are a 50 or more denominator patients. Even if a period of 18-24 months were needed, overlapping time periods can allow for more frequent reporting, such as every 6 months.

Operational use: The success of measuring and improving Optimal ESRD Starts has been enhanced by the sponsorship and follow

through of leadership. Use of this measure has been demonstrated to improve health outcomes for patient members and to reduce the use of health care resources, goals shared by all health care systems.

**Useful Sub-metrics:** In addition to providing the percentage of patients with Optimal ESRD Starts, the metric yields the numbers and percentages of patients in each category: preemptive kidney transplant, home peritoneal dialysis, home hemodialysis and successful AVF/AVG placement for in-center hemodialysis. Teams can determine how they are doing in each of these categories in comparison to peer groups, and understand where they have the best opportunities for improvement.

**Missing/incomplete data:** Missing denominator patients has not been an issue as authorization for dialysis or kidney transplant is required in order to receive payment. The same will be true when 2728 Forms are utilized as the data source, since they are required for Medicare Payment and are a routine part of dialysis admission and preemptive kidney transplant care. The process for any inconsistent or questionable data submitted has been to contact the patient's renal care team for clarification. This process has been shown to be feasible when carried out by a data analyst with proper training and program support. The additional cost of determining Optimal ESRD starts may not be great if it is carried out by a previously established quality program already employing data analysts.

**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).**

No outside fees or licensing are required.

#### 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	Quality Improvement (Internal to the specific organization) Kaiser Permanente
Quality Improvement with Benchmarking (external benchmarking to multiple organizations)	<a href="http://www.kp.org">www.kp.org</a>

##### 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

Name of program and sponsor:

Optimal ESRD Starts is currently utilized by the Permanente Federation (sponsor for this NQF submission) to track the performance of 6 Kaiser Permanente Regions.

Purpose:

1) Quality improvement by comparing results from the various Kaiser Permanente Regions and sharing these results with the regional nephrologists and renal teams, leading to operational comparisons, physician and health care team education, and appropriate resource allocation.

2) Accountability to the Regional Executive Medical Directors. The measure for all 6 participating KP regions is reported every 6 months to each Executive Medical Director. Executive Medical Directors control medical group resources and hold the physicians and administrative teams accountable for improving Optimal ESRD Starts.

Geographic area and number and percentage of accountable entities and patients included:

KP Regions participating (with patient counts from last measure) are Northern (1100) and Southern (1147) California, Northwest/Oregon and Southern Washington State (128), Hawaii (110), Colorado (109) and Georgia (87).

NOTE: ESRD Optimal Starts is intended to be used to measure and improve performance in health plans, integrated delivery systems, large nephrology provider groups, and broad geographic Regions with large numbers of ESRD patients. It is not specified for individual practitioners, or small provider groups with fewer than 50 new ESRD patients during the measurement period. It is not intended for use by dialysis providers.

**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?)

At the time of submission, Kaiser Permanente has not sought to extend the use of the Optimal ESRD Starts for public reporting (outside of KP) or accountability (outside of KP). Once NQF endorsement is achieved, there are several potential uses, discussed in the next section. It is the organization's hope that the measure will be utilized to improve ESRD patient outcomes in the US and beyond.

No barriers to wider implementation are apparent at this time.

NOTE: ESRD Optimal Starts is intended to be used to measure and improve performance in health plans, integrated delivery systems, large nephrology provider groups, and broad geographic Regions with large numbers of ESRD patients. It is not specified for individual practitioners, or small provider groups with fewer than 50 new ESRD patients during the measurement period. It is not intended for use by dialysis providers.

**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.)

#### Accountability

- As of 2015, six Permanente Medical Groups are collecting data and evaluating their performance on Optimal ESRD Starts semiannually, and using it for accountability/benchmarking/quality improvement.
- CMS is currently collecting the data elements required for calculating Optimal ESRD starts (2728 Form). While it is not reasonable to hold individual doctors accountable, and it does not apply to dialysis providers, CMS could utilize the measure to hold accountable Health Plans with Medicare Plus Choice, ACOs that manage patients with CKD, and other health care entities that manage CKD patients not compensated by FFS.
- The Permanente Federation will approach a health plan accreditation organization (NCQA or URAC) to consider the use of the Optimal ESRD Starts measure as a Health Plan accreditation criteria.

#### Public Reporting

- Beginning in January 2016, Kaiser Permanente will commit to exploring the feasibility of reporting performance results on the Quality section of kp.org, a website accessible to the public, by January 2021.
- Beginning in January 2016, Kaiser Permanente will commit to an effort to work with CMS and physician and industry groups to make Optimal ESRD Starts a formal PQRS measure. The focus should be on group practices rather than individual physicians.
- By January 2021, at least one of the Permanente Medical Groups will plan to report Optimal ESRD Starts performance results on kp.org.

NOTE: ESRD Optimal Starts is intended to be used to measure and improve performance in health plans, integrated delivery systems, large nephrology provider groups, and broad geographic Regions with large numbers of ESRD patients. It is not specified for individual practitioners, or small provider groups with fewer than 50 new ESRD patients during the measurement period. It is not intended for use by dialysis providers.

#### 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

Optimal ESRD Starts have been measured across the KP National Program 6 times since 2011 (every 6 months) and there has been a steady trend of improvement in the overall measure from 47.0% to 57.7% (table in appendix). The estimated percentage of 2012 Optimal ESRD Starts in the US was 35.5% (appendix).

KP Regions participating (with patient counts from last measure) are Northern (1100) and Southern (1147) California, Northwest/Oregon and Southern Washington State (128), Hawaii (110), Colorado (109) and Georgia (87).

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.

#### 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.

Unintended negative consequences of measuring Optimal ESRD Starts were not identified during testing or implementation.

There can be complications from creating an arteriovenous fistula or graft, such as surgical complications or heart failure from circulatory overload. Such complications would not be the result of using the measure.

A hypothetical negative consequence could be an increase in the number of arteriovenous fistulas created for hemodialysis that are never used due to patient death, recovery or stabilization of kidney function, or a later decision to forego dialysis treatment. To the extent to which that occurs, this should be outweighed by an increase in the number of patients prepared for starting hemodialysis who will not require a dialysis catheter with its high risks for infection and early mortality.

### 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.

Yes

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

0256 : Minimizing Use of Catheters as Chronic Dialysis Access

0257 : Maximizing Placement of Arterial Venous Fistula (AVF)

1460 : Bloodstream Infection in Hemodialysis Outpatients

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?**

No

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

There are two related measures, 0256 and 0257, but no competing measures. These measures and Optimal ESRD Starts are complementary with different rationale and different data collection methods. Optimal ESRD Starts focuses on patients who need to start renal replacement therapy, including hemodialysis, whereas measures 0256 and 0257 both focus on improving vascular access for patients already on hemodialysis. The Measure 0256 Hemodialysis Vascular Access – Minimizing use of catheters as Chronic Dialysis Access metric is a percentage of patients currently on maintenance hemodialysis with a chronic catheter in place continuously for 90 days or more. As opposed to Optimal ESRD Starts, which is an incidence rate for new ESRD patients, measure 0256 is a prevalence measure of the existing hemodialysis population. Another difference is that even a single first treatment with a catheter is a negative Optimal ESRD Start outcome, whereas measure 0256 requires a catheter to be present for 90 days or longer. While the denominator populations are not harmonized, Optimal ESRD Starts is complimentary as more Optimal ESRD Start without a hemodialysis catheter will lower chronic catheter prevalence. The Measure 0257 Hemodialysis Vascular Access – Maximizing Placement of Arterial Venous Fistula metric is a percentage of patients on maintenance hemodialysis using an autogenous arteriovenous fistula (AVF). Like optimal ESRD Starts, it focuses on increasing the use of arteriovenous fistulas as the best type of vascular access for hemodialysis. As opposed to Optimal ESRD Starts, which is an incidence rate for new ESRD patients, measure 0257 is a prevalence measure of the existing hemodialysis population. While the denominator populations are not harmonized, Optimal ESRD Starts is complimentary. An Optimal ESRD Start with an AVF will result in higher AVF prevalence. In summary, Optimal ESRD starts is quite different in focus (Pre-ESRD patient planning versus managing patients already on hemodialysis), covers home dialysis and transplant as well as inpatient hemodialysis, and is the only metric to impact patients before and as they transition to ESRD. It is an incidence rate at the point of reaching ESRD as opposed to a prevalence rate in patients already on hemodialysis. Optimal ESRD Starts tells how a health care entity is performing in the build up to ESRD to optimize each patient's modality choice, and the other two measures address how an organization is doing after patients reach ESRD, limited only to hemodialysis.

**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.)**

**Appendix**

**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.

[Attachment Attachment: NQF\\_Renal\\_Measure\\_2594\\_Appendix.pdf](#)

**Contact Information**

<b>Co.1 Measure Steward (Intellectual Property Owner):</b> <a href="#">The Permanente Federation</a> <b>Co.2 Point of Contact:</b> <a href="#">Linda, Radler, Amy.L. Compton-Phillips, 510-271-2364-</a> <b>Co.3 Measure Developer if different from Measure Steward:</b> <a href="#">Kaiser Permanente Southern California</a> <b>Co.4 Point of Contact:</b> <a href="#">Peter, Crooks, MD, Peter.W.Crooks@kp.org, 626-405-4116-</a>
<b>Additional Information</b>
<b>Ad.1 Workgroup/Expert Panel involved in measure development</b> <b>Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.</b> <a href="#">Peter Crooks, MD - Steward Contact and Measure Lead</a> <a href="#">Andy Amster - Measure Developer</a> <a href="#">Linda Radler - Measure Developer</a> <a href="#">David Selevan - Measure Developer</a> <a href="#">Dexter L Jung, PhD - Measure Developer and Testing</a> <a href="#">Dennis Famularo - Measure Developer and Project Management</a>
<b>Measure Developer/Steward Updates and Ongoing Maintenance</b> <b>Ad.2 Year the measure was first released:</b> <a href="#">2011</a> <b>Ad.3 Month and Year of most recent revision:</b> <a href="#">01, 2011</a> <b>Ad.4 What is your frequency for review/update of this measure?</b> <a href="#">Annual</a> <b>Ad.5 When is the next scheduled review/update for this measure?</b> <a href="#">01, 2016</a>
<b>Ad.6 Copyright statement:</b> <b>Ad.7 Disclaimers:</b>
<b>Ad.8 Additional Information/Comments:</b>