KCQA
FUNCTIONAL AVF OR AV GRAFT OR EVALUATION FOR PLACEMENT

MEASURES CALCULATION ALGORITHM

The measure score is calculated by dividing the total number of patients included in the numerator by the total number of patients included in the denominator.

IDENTIFICATION OF DENOMINATOR CASES

To identify patients in the denominator, first calculate the following:

- Patient age = (Date of first day of most recent month of study period) – (Patient's Date of Birth)
- Patient time on dialysis = (Date of first day of most recent month of study period) – (Patient's Date Regular Chronic Dialysis Began)

Include in the denominator all patients for a given nephrologist who meet the following criteria in the most recent month of the 12-month study period and who are not enrolled in hospice:

1. Diagnosis = ESRD

   AND

2. Primary type of dialysis = hemodialysis or home hemodialysis

   AND

3. Age = ≥18 years

   AND

4. Time on dialy**sis** = >90 days

IDENTIFICATION OF NUMERATOR CASES

Include in the numerator all patients from the denominator who meet the following criteria:

1. Access type = Functional autogenous AVF (defined as 2 needles used or single-needle device) (NOTE: 1 needle used in a 2-needle device is NOT acceptable)

OR

1. Access type = Functional AV graft

OR

1. Access type = AVF combined with AV graft

OR

1. Access type (select one):

- AV fistula with a catheter
- AV graft combined with a catheter
- Catheter
- Other/unknown

AND

2. Patient referred to a vascular surgeon, other surgeon qualified in the area of vascular access, or interventional nephrologist trained in the primary placement of vascular access for an AVF or AV graft during the 12-month reporting period

   AND

3. Patient seen/evaluated by a vascular surgeon, other surgeon qualified in the area of vascular access, or interventional nephrologist trained in the primary placement of vascular access for an AVF or AV graft during the 12-month reporting period

   AND

4. Facility medical records contain the following types of documentation of the surgical evaluation:

   - A note or letter prepared by the primary nephrologist OR
   - A note or letter prepared by the vascular surgeon, other qualified surgeon, or interventional nephrologist trained in the primary placement of vascular access OR
   - A note prepared by facility personnel

   AND

   - Date of the surgical evaluation: (MM/YYYY)

   AND

   - If permanent access was not placed, the reason for this decision

MEASURE SCORE CALCULATION

Performance Rate = ([Patients with a functional AVF] + [Patients with a functional AV graft] + [Patients with a catheter who have been seen/evaluated by a vascular surgeon, other surgeon qualified in the area of vascular access, or interventional nephrologist trained in the primary placement of vascular access for a functional AVF or AV graft during the 12-month reporting period WITH documentation of the evaluation in the facility medical records]) ÷ ([Total ESRD patients ≥18 years of age receiving HD during the 12-month reporting period and on dialysis >90 days] – Patients enrolled in hospice])

KCQA MEASURE SPECIFICATIONS TABLE:
VASCULAR ACCESS—FUNCTIONAL AVF OR AV GRAFT OR EVALUATION FOR PLACEMENT

MEASURE TITLE	DESCRIPTION	NUMERATOR	DENOMINATOR	EXCLUSIONS
Vascular Access: Functional AVF or AV Graft or Evaluation for Placement	Percentage of end-stage renal disease (ESRD) patients aged 18 years and older receiving hemodialysis during the 12-month reporting period and on dialysis for greater than 90 days who: 1. Have a functional AVF (defined as two needles used or a single- needle device [NOT one needle used in a two-needle device]) (computed and reported separately); or 2. Have a functional AVG (computed and reported separately); or 3. Have a catheter but have been seen/evaluated by a vascular surgeon, other surgeon qualified in the area of vascular access, or interventional nephrologist trained in the primary placement of vascular access for a functional autogenous AVF or AVG at least once during the 12- month reporting period (computed and reported separately).	Number of patients from the denominator who: 1. Have a functional AVF (defined as two needles used or a single- needle device [NOT one needle used in a two-needle device]) (computed and reported separately); or 2. Have a functional AVG (computed and reported separately); or 3. Have a catheter but have been seen/evaluated by a vascular surgeon, other surgeon qualified in the area of vascular access, or interventional nephrologist trained in the primary placement of vascular access for a functional autogenous AVF or AVG at least once during the 12- month reporting period (computed and reported separately).	All ESRD patients aged 18 years and older receiving hemodialysis during the 12-month reporting period and on dialysis for greater than 90 days. This measure includes both in-center and home hemodialysis patients.	None.

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KCQA
VASCULAR ACCESS – FUNCTIONAL AVF OR AV GRAFT OR EVALUATION BY VASCULAR SURGEON FOR PLACEMENT
TESTING DATA

Table 1. Measure Performance, Submitted vs. Re-abstracted Data, Facility Setting

MEASURE	SUBMITTED DATA	REABSTRACTED DATA
KCQA Vascular Access (NQF 0251)	82.7% (162 of 196)	84.7% (166 of 196)

Table 2. Measure Aggregate Reliability, Facility Setting

MEASURE	Y/Y	Y/N	N/Y	N/N	KAPPA	95% CI
KCQA Vascular Access (NQF 0251)	161	5	1	29	**0.8880**	**0.7484-1.000**

X/Z=auditor/facility so that Y/N are false negatives and N/Y are false positives

Table 3. Measure Reliability Percentage and Error Type, Facility Setting

MEASURE	REABSTRACTION UNIVERSE	TOTAL DISCORDANCE	RELIABILITY PERCENTAGE	DISCORDANCE CODES*						
				1	2	3	4	5	6	7
KCQA Vascular Access (NQF 0251)	196	6	96.9%	1	5					

*** Reason for Discrepancies:** 1=Data entry/transcription error; 2=Information missed; 3=Illegible document; 4=Conflicting information; 5=Unclear element definition; 6=Not following definition; 7=Other/not determined.

Table 4. Kappa Statistics with Confidence Intervals, Physician Office Setting

MEASURE	Y/Y	Y/N	N/Y	N/N	KAPPA	95% CI
KCQA Vascular Access (NQF 0251)	70	4	0	33	**0.9152**	**0.8340-0.9964**

Table 5. Validity, Facility Setting

MEASURE	SENSITIVITY	SPECIFICTY	PPV	NPV
KCQA Vascular Access (NQF 0251)	99.38%	85.29%	96.99%	96.67%