PCPI eSpecification

Clinical Topic	Adult Kidney Disease
Measure Title	**Hemodialysis Adequacy: Solute**
Measure #	**AKID-10**
Measure Description	Percentage of calendar months within a 12-month period during which patients aged 18 years and older with a diagnosis of ESRD receiving hemodialysis three times a week have a spKt/V ≥ 1.2
Measurement Period	Twelve consecutive months
Initial Patient Population	Patient Age: Patient aged 18 years and older starts before the start of the measurement period Diagnosis Active: Patient has a diagnosis of ESRD starts before or during the measurement period Procedure Performed: Patient receiving hemodialysis exactly three times per week during the measurement period
Denominator Statement	All calendar months during which patients aged 18 years and older with a diagnosis of ESRD are receiving hemodialysis three times a week
Numerator Statement	Calendar months during which patients have a spKt/V ≥ 1.2 Note: Urea kinetic modeling (UKM) or the second generation Daugirdas formula (simplified multivariable equation) are the most appropriate ways to calculate spKt/V, and the two accepted methods for calculating spKt/V per the KDOQI guidelines. For more information on these methods, please refer to National Kidney Foundation's 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).
Denominator Exceptions	Documentation of medical reason(s) for patient not having a spKt/V ≥ 1.2 (eg, patient has residual kidney function, other medical reasons)

Adult Kidney Disease
Data Elements for PCPI eSpecification

Measure #10 : Hemodialysis Adequacy: Solute

QDM* Standard Category	QDM* Data Type	Standard Terminology	Constraints	Value Set Name	Value of Data Element	Data Source	Comments/Rationale
Measure Timing	N/A	N/A	TBD by measure implementer	Measurement Start Date			
Measure Timing	N/A	N/A	12 months from Measurement Start Date	Measurement End Date			
Individual Characteristic	Patient Characteristic	TBD	during measurement period	Gender		• Electronic Health Record (EHR)	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
Individual Characteristic	Patient Characteristic	TBD	during measurement period	Race		• Electronic Health Record (EHR)	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
Individual Characteristic	Patient Characteristic	TBD	during measurement period	Ethnicity		• Electronic Health Record (EHR)	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
Individual Characteristic	Patient Characteristic	TBD	during measurement period	Preferred Language		• Electronic Health Record (EHR)	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
Individual Characteristic	Patient Characteristic	LN	starts before the start of measurement period	Birth Date		• Electronic Health Record (EHR)	
Individual Characteristic	Patient Characteristic	Calculated	starts before the start of measurement period	Age	≥ 18	• Electronic Health Record (EHR)	Measurement start date minus Date of Birth must be greater than or equal to 18 years.
Condition / Diagnosis / Problem	Diagnosis, Active	I9, I10, SNM	starts before or during measurement period	End Stage Renal Disease (ESRD)		• Electronic Health Record (EHR)	
Procedure	Procedure, Performed	CPT	starts before or during measurement period / 3x per week	Hemodialysis - Adult	count=3	• Electronic Health Record (EHR)	To be eligible for this measure, patient must be receiving hemodialysis exactly 3 times per week.
Encounter	Encounter, Performed	I9, I10	starts before or during measurement period / 3x per week	Hemodialysis - Encounter	count=3	• Electronic Health Record (EHR)	To be eligible for this measure, patient must be receiving hemodialysis exactly 3 times per week.
Procedure	Procedure, Performed	SNM	starts before or during measurement period / 3x per week	Hemodialysis	count=3	• Electronic Health Record (EHR)	To be eligible for this measure, patient must be receiving hemodialysis exactly 3 times per week.
Laboratory Test	Laboratory Test, Result	SNM	last (most recent) during each calendar month during measurement period	single-pool Kt/V	≥ 1.2	• Electronic Health Record (EHR)	This concept would ideally be captured via LOINC - but is currently unable to capture at this time.
Negation Rationale	Laboratory Test, Not Done	SNM	during measurement period	Medical Reason(s)		• Electronic Health Record (EHR)	
Condition / Diagnosis / Problem	Diagnosis, Active	SNM	during measurement period	Residual Kidney Function		• Electronic Health Record (EHR)	

*The Quality Data Model (QDM), Version 2.1, was developed by National Quality Forum (NQF).
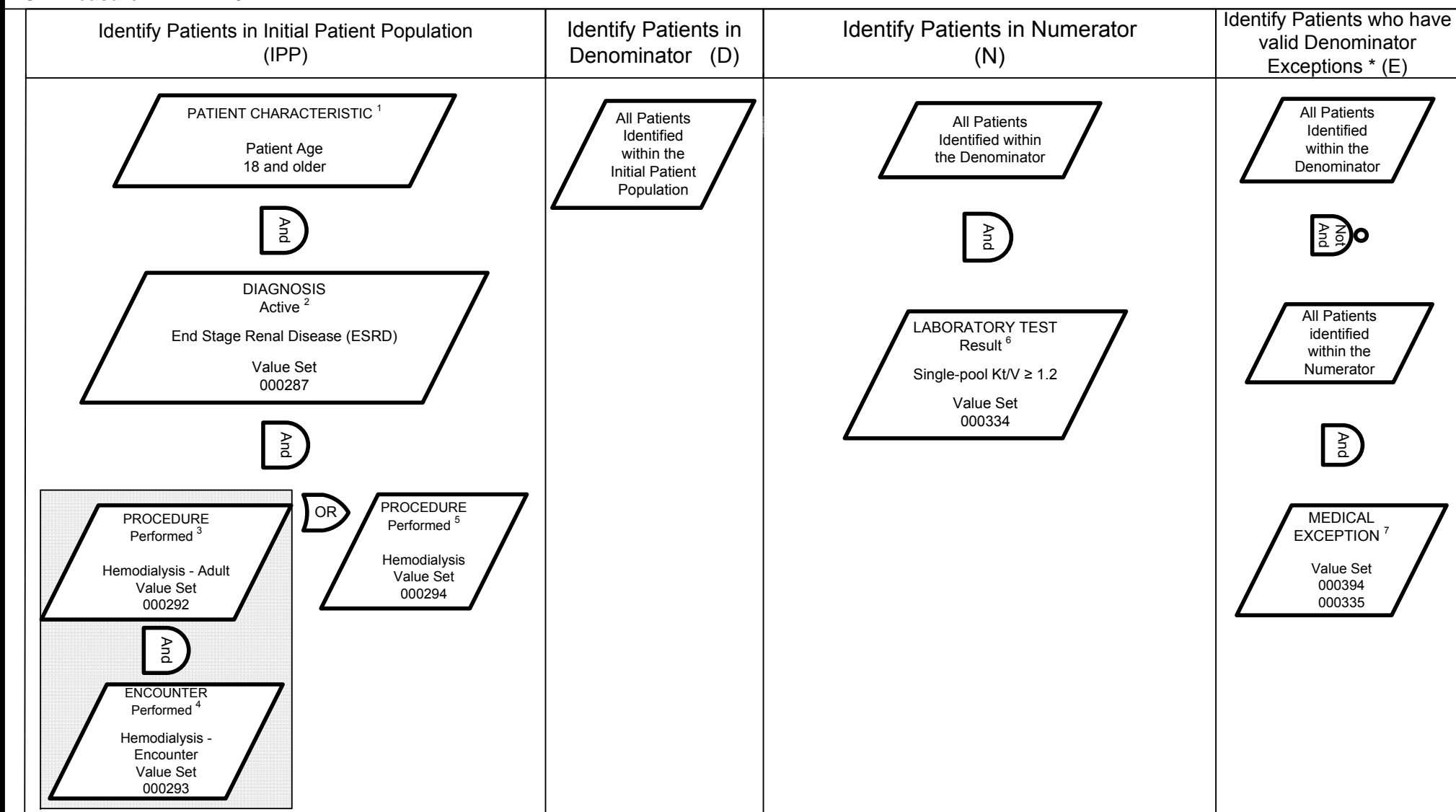
PCPI eSpecification

Measure Logic for Adult Kidney Disease : Hemodialysis Adequacy: Solute

Measure Description: Percentage of calendar months within a 12-month period during which patients aged 18 years and older with a diagnosis of ESRD receiving hemodialysis three times a week have a spKt/V ≥ 1.2

Period: 12 Consecutive Months

PCPI Measure #: AKID-10

Identify Patients in Initial Patient Population (IPP)	Identify Patients in Denominator (D)	Identify Patients in Numerator (N)	Identify Patients who have valid Denominator Exceptions * (E)

PARAMETER SPECIFICATIONS (Value Sets are found in the Coding Appendices):

IPP: [1] Patient Characteristic: measurement start date minus birth date (value set 000307) ≥ 18 years starts before the start of measurement period; [2] Diagnosis, Active: starts before or during measurement period; [3] Procedure, Performed: occurring exactly three times weekly – during measurement period; [4] Encounter, Performed: occurring exactly three times weekly - during measurement period; [5] Procedure, Performed: occurring exactly three times weekly – during measurement period;

N: [6] Laboratory Test, Result: last (most recent) result during each calendar month ≥ 1.2 during measurement period;

E: [7] Medical Exception: all occur during measurement period;

*Coded examples are NOT intended to be an exhaustive list. Exceptions will vary for each patient and situation.

Basic Measure Calculation:

$$\frac{(N)}{(D) - (E)} = \%$$

The PCPI strongly recommends that exception rates also be computed and reported alongside performance rates as follows:

Exception Calculation:

$$\frac{(E)}{(D)} = \%$$

Exception Types:
E= E1 (Medical Exceptions) + E2 (Patient Exceptions) + E3 (System Exceptions)
For patients who have more than one valid exception, only one exception should be be counted when calculating the exception rate

Initial Patient Population (IPP)	Denominator (D)	Numerator (N)	Denominator Exceptions (E)
Definition: The initial patient population identifies the general group of patients that the performance measureis designed to address; usually focused on a specific clinical condition (e.g., coronary artery disease, asthma). For example, a patient aged 18 years and older with a diagnosis of CADwho has at least 2 Visits during the measurement period.	**Definition:** The denominator defines the specific group of patients for inclusion in a specific performance measure based on specific criteria (e.g., patient's age, diagnosis, prior MI). In some cases, the denominator may be I dentical to the initial patient population.	**Definition:** The numerator defines the group of patients in the denominator for whom a process or outcome of care occurs (e.g., flu vaccine received).	**Definition:** Denominator exceptions are the valid reasons why patients who are included in the denominator population did not receive a process or outcome of care (described in the numerator). Patients may have Denominator Exceptions for medical reasons (e.g., patient has an egg allergy so they did not receive flu vaccine); patient reasons (e.g., patient declined flu vaccine); or system reasons (e.g., patient did not receive flu Vaccine due to vaccine shortage). These cases are removed from the denominator population for the performance calculation, however the number of patients with valid exceptions should be calculated and reported. This group of patients constitutes the Denominator Exception reporting population – patients for whom the numerator was not achieved and a there is a valid Denominator Exception.
Find the patients who meet the Initial Patient Population criteria (IPP)	Find the patients who qualify for the denominator (D): O From the patients within the Patient Population criteria (IPP) select those people who meet Denominator selection criteria. (In some cases the IPP and D are identical).	Find the patients who qualify for the Numerator (N): O From the patients within the Denominator (D) criteria, select those people who meet Numerator selection criteria. O Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator	From the patients who did not meet the Numerator criteria, determine if the patient meets any criteria for the Denominator Exception (E1 + E2+E3). If they meet any criteria, they should be removed from the Denominator for performance calculation. As a point of reference, these cases are removed from the denominator population for the performance calculation, however the number of patients with valid exceptions should be calculated and reported.

Value Set ID	Clinical Topic	Topic Indicator	Measure Component	Standard Concept	Standard Category	Taxonomy	Code	Code Descriptor
000307	AKID	10	IPP	Birth Date	Individual Characteristic	LN	21112-8	Birth date: TmStp:Pt:^Patient:Qn:
000287	AKID	10	IPP	End Stage Renal Disease (ESRD)	Condition / Diagnosis / Problem	I9	585.6	End Stage Renal Disease [Chronic Kidney Disease, Stage V (requiring chronic dialysis)]
000287	AKID	10	IPP	End Stage Renal Disease (ESRD)	Condition / Diagnosis / Problem	I10	N18.6	End Stage Renal Disease (chronic kidney disease requiring chronic dialysis)
000287	AKID	10	IPP	End Stage Renal Disease (ESRD)	Condition / Diagnosis / Problem	SNM	46177005	end stage renal disease
000287	AKID	10	IPP	End Stage Renal Disease (ESRD)	Condition / Diagnosis / Problem	SNM	236435004	end stage renal failure on dialysis
000292	AKID	10	IPP	Hemodialysis - Adult	Procedure	CPT	90957	
000292	AKID	10	IPP	Hemodialysis - Adult	Procedure	CPT	90958	
000292	AKID	10	IPP	Hemodialysis - Adult	Procedure	CPT	90959	
000292	AKID	10	IPP	Hemodialysis - Adult	Procedure	CPT	90960	
000292	AKID	10	IPP	Hemodialysis - Adult	Procedure	CPT	90961	
000292	AKID	10	IPP	Hemodialysis - Adult	Procedure	CPT	90962	
000292	AKID	10	IPP	Hemodialysis - Adult	Procedure	CPT	90965	
000292	AKID	10	IPP	Hemodialysis - Adult	Procedure	CPT	90966	
000292	AKID	10	IPP	Hemodialysis - Adult	Procedure	CPT	90969	
000292	AKID	10	IPP	Hemodialysis - Adult	Procedure	CPT	90970	
000293	AKID	10	IPP	Hemodialysis - Encounter	Encounter	I9	V56.0	Extracorporeal dialysis
000293	AKID	10	IPP	Hemodialysis - Encounter	Encounter	I9	V56.1	Fitting and adjustment of extracorporeal dialysis catheter
000293	AKID	10	IPP	Hemodialysis - Encounter	Encounter	I9	V56.31	Encounter for adequacy testing for hemodialysis
000293	AKID	10	IPP	Hemodialysis - Encounter	Encounter	I10	Z49.01	Encounter for fitting and adjustment of extracorporeal dialysis catheter
000293	AKID	10	IPP	Hemodialysis - Encounter	Encounter	I10	Z49.31	Encounter for adequacy testing for hemodialysis
000294	AKID	10	IPP	Hemodialysis	Procedure	SNM	302497006	Hemodialysis
000334	AKID	10	N	Single-pool Kt/V	Laboratory Test	SNM	375196010	kt/V
000334	AKID	10	N	Single-pool Kt/V	Laboratory Test	SNM	375202013	kt/V - iteration
000334	AKID	10	N	Single-pool Kt/V	Laboratory Test	SNM	375203015	kt/V - log ratio
000334	AKID	10	N	Single-pool Kt/V	Laboratory Test	SNM	10189941000046106	Single pool kt/V
000394	AKID	10	E	Renal Medical Exceptions - spKt/V ≥ 1.2	Negation Rationale	SNM	266721009	absent response to treatment (situation)
000394	AKID	10	E	Renal Medical Exceptions - spKt/V ≥ 1.2	Negation Rationale	SNM	35688006	complication of medical care (disorder)
000394	AKID	10	E	Renal Medical Exceptions - spKt/V ≥ 1.2	Negation Rationale	SNM	410536001	contraindicated (qualifier value)
000394	AKID	10	E	Renal Medical Exceptions - spKt/V ≥ 1.2	Negation Rationale	SNM	269191009	late effect of medical and surgical care complication (disorder)
000394	AKID	10	E	Renal Medical Exceptions - spKt/V ≥ 1.2	Negation Rationale	SNM	397745006	medical contraindication (finding)
000394	AKID	10	E	Renal Medical Exceptions - spKt/V ≥ 1.2	Negation Rationale	SNM	445528004	treatment changed (situation)
000394	AKID	10	E	Renal Medical Exceptions - spKt/V ≥ 1.2	Negation Rationale	SNM	371133007	treatment modification (procedure)
000394	AKID	10	E	Renal Medical Exceptions - spKt/V ≥ 1.2	Negation Rationale	SNM	407563006	treatment not tolerated (situation)
000335	AKID	10	E	Residual Kidney Function	Condition / Diagnosis / Problem	SNM	10189931000046102	Residual renal function
000335	AKID	10	E	Residual Kidney Function	Condition / Diagnosis / Problem	SNM	411000124108	Hemodialysis residual renal function (observable entity)