



**National Kidney Foundation (NKF)  
Quality Measures**

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## **Guide to Understanding the Format and Information Included in the Data Requirements Table (DRT)**

The purpose of the Data Requirements Table (DRT) is to identify each of the data elements that will be needed to capture the measure, including the required attributes of each data element. The DRT does not include the Boolean logic (AND, OR, AND NOT) that is used to combine the data elements to form the measure components (Initial Population, Denominator, Denominator Exclusions, Numerator, and Denominator Exceptions) based on the measure's clinical intent. Once the measures and DRTs have been finalized, then the Health Quality Measures Format (HQMF) eMeasure, which includes the logic, will be developed.

### **Definitions for each column, from left to right, included in the DRT:**

#### **Measure Component**

Measure Component identifies where in the measure the data element is located. For proportion measures the possible options include: Initial Population, Denominator, Denominator Exclusions, Numerator or Denominator Exceptions. "Supplemental Data Elements" are also included in the measure component column, and applicable to all measures. The supplemental data elements include administrative sex, race, ethnicity, and payer, and are recommended to be collected for purposes of stratifying measure results. Additional information regarding the supplemental data elements can be found within the CMS Measures Management System Blueprint at: <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/MeasuresManagementSystemBlueprint.html>

#### **Quality Data Model (QDM) Category**

All data elements used in quality measures are classified according to the QDM, the data model used to specify electronic clinical quality measures (eCQMs). When defining a QDM element, the QDM category is the highest level of definition. There are 19 different QDM categories in the data model, including 'Medication,' 'Procedure,' and 'Diagnostic Study.' Complete documentation for the Quality Data Model can be accessed at: <https://ecqi.healthit.gov/qdm>.

#### **Quality Data Model (QDM) Datatype**

The QDM datatype provides the context in which each category is used to describe a part of the clinical care process. Examples of the QDM datatypes include 'Diagnosis, Active' and 'Procedure, Performed' as they are applied to the 'Condition/Diagnosis/Problem' and 'Procedure' categories, respectively.

#### **Value Set Name**

The Value Set Name is the title of the list of clinical concepts, or codes, that are used to represent a data element used in a quality measure. Considerations and best practices for naming a value set so that it is in alignment with the intent and purpose of the data element are located at: <http://www.nlm.nih.gov/vsac/support/authorguidelines/bestpractices.html>. 'Occurrence A' is periodically used in the Value Set Name column to further define the Data Element, indicating a specific

instance of that data element. ‘Occurrence A’ allows a specific instance of that data element to be used across multiple measure components in the measure, or used multiple times within the same measure component, and in order to meet the intent of the measure, it needs to be the same specific instance.

### **Standard Terminology**

The Standard Terminology identifies the coding system used to specify the value set. In the DRT, only the name of the standard terminology is included; specific clinical concepts (or codes) are not included. Examples of the standard terminologies used in eMeasures include SNOMED-CT®, LOINC®, CPT®, and ICD-10-CM©. The standard terminology selected to represent a value set follows the vocabulary recommendations that have been designated by the ONC Health IT Standards Committee (HITSC) for each QDM category. Both the transition vocabularies and the clinical vocabularies that were recommended by the HITSC are included in the DRT. More information about how these terminologies were selected is available at: <https://www.healthit.gov/facas/federal-advisory-committees-facas>.

A ‘GROUPING’ designation is used in this column to indicate that in addition to the individual value sets, there will be another value set that will serve as a “wrapper” for the individual value set(s) used to specify the data element. It groups together value sets that represent that same “umbrella” data element. For example, the individual value sets for Sepsis in ICD-9-CM, ICD-10-CM, and SNOMED-CT are wrapped together in a grouping value set.

### **OID**

OID is an acronym used for “object identifier” and can be thought of as a numeric label used to represent the value set. Individual value sets and GROUPING value sets all have a unique OID. Where the information included in the OID column is listed as ‘TBD,’ it means that the OID has not yet been assigned. OIDs that have been populated represent existing value sets that are currently available in the National Library of Medicine Value Set Authority Center (NLM VSAC).

### **Constraints**

The Constraints column identifies the temporal operators, and the relationship between the data element being specified and another data element(s) in the measure. The temporal operators are used to connect two data elements included in the measure. Three examples of temporal operators include ‘overlaps,’ ‘starts during,’ and ‘starts before end of.’ The QDM documentation available at <https://ecqi.healthit.gov/qdm> includes a complete list of the available temporal operators and their corresponding definitions.

Here is an example of how the temporal operators and the data element relationships are combined together and presented in the Constraints column. Data Element A *starts during* Data Element B. The Constraints column will include the italicized information (temporal operator and Data Element B).

In instances where the term, ‘Occurrence A’ is used in the Constraints column to further define Data Element B; the intent of ‘Occurrence A’ is to refer to a specific instance of Data Element B.

### **Comments/Rationale**

Additional comments relevant to the data element being specified are included in the Comments/Rationale column. During public comment, we have included some specific questions in the Comments/Rationale column. We appreciate responses to the specific questions as they will inform the final specifications of the measures.

### **How to use the information presented in the DRT to understand the intent of the data element:**

In general, each data element included in the DRT is represented in a single row. Should a data element have additional attributes that are to be applied to it, then an additional row will be added. This can be easily identified by the 'Attribute' entry in the QDM Category column; a note is included in the Comments/Rationale column that names the data element to which a given attribute is applied.

<b>eMeasure Title</b>	Consultation with Nephrologist for Patients with Reduced eGFR		
<b>eMeasure Identifier (Measure Authoring Tool)</b>	[populated by MAT]	<b>eMeasure Version number</b>	[populated by MAT]
<b>NQF Number</b>	N/A	<b>GUID</b>	[populated by MAT]
<b>Measurement Period</b>	January 1, 20XX through December 31, 20XX		
<b>Measure Steward</b>	National Kidney Foundation		
<b>Measure Developer</b>	National Kidney Foundation		
<b>Endorsed By</b>	None		
<b>Description</b>	<p>Percentage of patients aged 18 through 89 years of age with:</p> <ul style="list-style-type: none"> <li>two eGFR values &lt; 30 ml/min/1.73m<sup>2</sup> at least 90 days apart OR</li> <li>two eGFR values &lt; 45 ml/min/1.73m<sup>2</sup> at least 90 days apart AND proteinuria or albuminuria* for whom a consultation or visit with a nephrologist occurred within a 12 month period</li> </ul> <p>*see definition field</p>		
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<b>Measure Scoring</b>	Proportion		
<b>Measure Type</b>	Process		
<b>Stratification</b>	None		
<b>Risk Adjustment</b>	None		
<b>Rate Aggregation</b>	None		
<b>Rationale</b>	Mortality from and progression of chronic kidney disease (CKD) can be reduced with early		



	<p>referral to a nephrologist [more than 12 months prior to renal replacement therapy (RRT)] and this effect remains even as late as 5 years after initiation of RRT (Black et al 2010). The greatest improvement in outcomes is observed in CKD patients with stage 3 or worse disease after adjustment for comorbidities, age, race, smoking and proteinuria. Patients cared for by specialists tend to have improved cardiovascular health, including lower blood pressure and the receipt of more aggressive antihypertensive therapy. Late referral also has been shown to impact the number of clinic appointments with specialists, access to choice about dialysis modality and preparation for dialysis with arteriovenous vascular access established before dialysis started. In addition, there may be an increased requirement for hospitalization around the start of dialysis in those referred late to specialist services. (Black et al 2010; Chan et al 2007).</p> <p><u>Opportunity for Improvement</u></p> <p>According to the USRDS Annual Report (2014) less than one-third of all patients with a CKD claim in 2011 were seen by a nephrologist over following year. Among those with more advanced CKD (Stage 3 or higher), 40–56 percent visited a nephrologist. Thus, there is still substantial room for improvement in referral rates for patients with advanced, and less advanced CKD.</p>
<b>Clinical Recommendation Statement</b>	<p>We recommend referral to specialist kidney care services for people with CKD in the following circumstances (1B) (KDIGO 2012):</p> <ul style="list-style-type: none"> <li>• AKI or abrupt sustained fall in GFR;</li> <li>• GFR &lt;30 ml/min/1.73 m<sup>2</sup> (GFR categories G4-G5)*;</li> <li>• a consistent finding of significant albuminuria (ACR ≥300 mg/g [≥30 mg/mmol] or AER ≥300 mg/24 hours, approximately equivalent to PCR ≥500 mg/g [≥50 mg/mmol] or PER ≥500 mg/24 hours);</li> <li>• progression of CKD (see Recommendation 2.1.3 for definition);</li> <li>• urinary red cell casts, RBC &gt; 20 per high power field sustained and not readily explained;</li> <li>• CKD and hypertension refractory to treatment with 4 or more antihypertensive agents;</li> <li>• persistent abnormalities of serum potassium;</li> <li>• recurrent or extensive nephrolithiasis;</li> <li>• hereditary kidney disease.</li> </ul>
<b>Improvement Notation</b>	Higher score indicates better quality
<b>Reference</b>	<p>Black C1, Sharma P, Scotland G, McCullough K, McGurn D, Robertson L, Fluck N, MacLeod A, McNamee P, Prescott G, Smith C. Early referral strategies for management of people with markers of renal disease: a systematic review of the evidence of clinical effectiveness, cost-effectiveness and economic analysis. <i>Health Technol Assess</i>. 2010 Apr; 14(21): 1-184. doi: 10.3310/hta14210.</p> <p>Chan MR1, Dall AT, Fletcher KE, Lu N, Trivedi H. Outcomes in patients with chronic kidney disease referred late to nephrologists: a meta-analysis. <i>Am J Med</i>. 2007 Dec; 120(12):1063-70.</p> <p>KDIGO clinical practice guideline for the diagnosis, evaluation, prevention, and treatment of Chronic Kidney Disease-Mineral and Bone Disorder (CKD-MBD). <i>Kidney Int Suppl</i>. Aug 2009; (113): S1-130.</p> <p>U.S. Renal Data System, USRDS 2014 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2014.</p>
<b>Definition</b>	<p>Proteinuria/ Albuminuria:</p> <ol style="list-style-type: none"> <li>1. &gt;300mg of albumin in the urine per 24 hours OR</li> <li>2. ACR &gt;300 mcg/mg creatinine (or ACR &gt; 300mg/g creatinine) OR</li> <li>3. Total protein to creatinine ratio &gt; 0.5 mg/mg (or &gt;0.5 g/g) creatinine</li> </ol>
<b>Guidance</b>	<p>eGFR Measurements:</p> <p>1<sup>st</sup> eGFR:</p> <p>Performed during January 1 of the prior year up to June 30 of the measurement period will be considered for this measure.</p>

	<p>2<sup>nd</sup> eGFR:  Only eGFR tests performed during January 1 - September 30 of the measurement period will be considered as the second eGFR for this measure, in order to ensure the consultation happens within the measurement period. eGFR tests performed during October 1 - December 31 of the measurement period are excluded from the initial population.</p>
<b>Transmission Format</b>	TBD
<b>Initial Population</b>	<p>All patients aged 18 through 89 years with:</p> <ul style="list-style-type: none"> <li>• two eGFR values &lt; 30 ml/min/1.73m<sup>2</sup> at least 90 days apart OR</li> <li>• two eGFR values &lt; 45 ml/min/1.73m<sup>2</sup> at least 90 days apart AND proteinuria or albuminuria*</li> </ul> <p>*see definition field</p>
<b>Denominator</b>	Equals Initial Population
<b>Denominator Exclusions</b>	<p>Patients receiving hospice or palliative care  Patients with limited life expectancy  Patients with evidence of end-stage renal disease (ESRD) or renal transplant before or during the measurement period</p>
<b>Numerator</b>	Patients for whom a consultation or visit with a nephrologist occurred within a 12 month period.
<b>Numerator Exclusions</b>	Not Applicable
<b>Denominator Exceptions</b>	None
<b>Supplemental Data Elements</b>	For every patient evaluated by this measure also identify payer, race, ethnicity and sex

Data Requirements Table for the National Kidney Foundation

Consultation with Nephrologist for Patients with Reduced eGFR

Measure Component	QDM* Category	QDM* Datatype	Value Set Name	Standard Terminology	OID	Constraints	Comments/Rationale
Supplemental Data Elements	Individual Characteristic	Patient Characteristic	ONC Administrative Sex	Administrative Sex (HL7 v2.5)	2.16.840.1.113762.1.4.1	during Measurement Period	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
	Individual Characteristic	Patient Characteristic	Race	CDC	2.16.840.1.114222.4.11.836	during Measurement Period	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
	Individual Characteristic	Patient Characteristic	Ethnicity	CDC	2.16.840.1.114222.4.11.837	during Measurement Period	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
	Individual Characteristic	Patient Characteristic	Payer	Source of Payment Typology	2.16.840.1.113883.221.5	during Measurement Period	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
Initial Population	Measure Timing	n/a	Measurement Period	n/a	n/a	TBD by Implementer	
	Individual Characteristic	Patient Characteristic	Birth Date	LOINC	2.16.840.1.113883.3.560.100.4	starts before the start of Measurement Period	
	Individual Characteristic	Patient Characteristic	Age	Calculation	n/a	> = 18 years at: Measurement Period AND < 89 years at: Measurement Period	Measurement start date minus Birth Date must be greater than or equal to 18 years AND less than 89 years.
	Encounter	Encounter, Performed	Office Visit Occurrence A	GROUPING CPT	2.16.840.1.113883.3.464.1003.101.12.1001 2.16.840.1.113883.3.464.1003.101.11.1005	[COUNT > = 1] during Measurement Period	
	Encounter	Encounter, Performed	Outpatient Consultation Occurrence A	GROUPING CPT	2.16.840.1.113883.3.464.1003.101.12.1008 2.16.840.1.113883.3.464.1003.101.11.1040	[COUNT > = 1] during Measurement Period	
	Encounter	Encounter, Performed	Preventive Care Services - Initial Office Visit, 18 and Up Occurrence A	GROUPING CPT	2.16.840.1.113883.3.464.1003.101.12.1023 2.16.840.1.113883.3.464.1003.101.11.1115	[COUNT > = 1] during Measurement Period	
	Encounter	Encounter, Performed	Preventive Care Services-Established Office Visit, 18 and Up Occurrence A	GROUPING CPT	2.16.840.1.113883.3.464.1003.101.12.1025 2.16.840.1.113883.3.464.1003.101.11.1125	[COUNT > = 1] during Measurement Period	
	Laboratory Test	Laboratory Test, Performed	Estimated Glomerular Filtration Rate Occurrence A	GROUPING LOINC	TBD TBD	< = 18 months starts before the end of Measurement Period	
	Laboratory Test	Laboratory Test, Performed	Estimated Glomerular Filtration Rate Occurrence B	GROUPING LOINC	TBD TBD	satisfies all: - during Measurement Period - > = 90 days starts after start of [Occurrence A of Laboratory Test, Performed: Estimated Glomerular Filtration Rate] - > 92 days starts before end of Measurement Period	
	Attribute	Attribute: Result	< 30 ml/min/1.73m2	n/a	n/a	n/a	This attribute is applied to the value set titled 'Estimated Glomerular Filtration Rate'.
	Attribute	Attribute: Result	< 45 ml/min/1.73m2	n/a	n/a	n/a	This attribute is applied to the value set titled 'Estimated Glomerular Filtration Rate'.
	Laboratory Test	Laboratory Test, Performed	Protein in 24 hour Urine	GROUPING LOINC	TBD TBD	during Measurement Period AND > 92 days starts before end of Measurement Period	This laboratory test is performed if the Estimated Glomerular Filtration Rate result is <45 ml/min/1.73m2.
	Attribute	Attribute: Result	>300 mg	n/a	n/a		This attribute is applied to the value set titled 'Protein in 24 hour Urine'.
	Laboratory Test	Laboratory Test, Performed	Urine Albumin Creatinine Ratio	GROUPING LOINC	TBD TBD	during Measurement Period AND > 92 days starts before end of Measurement Period	This laboratory test is performed if the Estimated Glomerular Filtration Rate result is <45 ml/min/1.73m2.
	Attribute	Attribute: Result	>300 mcg/mg	n/a	n/a		This attribute is applied to the value set titled 'Urine Albumin Creatinine Ratio'.
	Laboratory Test	Laboratory Test, Performed	Urine Protein to Creatinine Ratio	GROUPING LOINC	TBD TBD	during Measurement Period AND > 92 days starts before end of Measurement Period	This laboratory test is performed if the Estimated Glomerular Filtration Rate result is <45 ml/min/1.73m2.
Attribute	Attribute: Result	> 0.5 mg/mg	n/a	n/a		This attribute is applied to the value set titled 'Urine Protein to Creatinine Ratio'.	
Denominator	Equals Initial Population						
Denominator Exclusions	Intervention	Intervention, Performed	Palliative Care	GROUPING SNOMED-CT	2.16.840.1.113883.3.526.3.1024 2.16.840.1.113883.3.526.2.1076	starts before end of Measurement Period AND NOT ends before end of Measurement Period	
	Condition/Diagnosis/Problem	Diagnosis	Limited Life Expectancy	GROUPING SNOMED-CT	2.16.840.1.113883.3.526.3.1259 2.16.840.1.113883.3.526.2.1353	starts before end of Measurement Period AND NOT ends before end of Measurement Period	
	Procedure	Procedure, Performed	Kidney Transplant	GROUPING CPT HCPCS SNOMED-CT	2.16.840.1.113883.3.464.1003.109.12.1012 2.16.840.1.113883.3.464.1003.109.11.1025 2.16.840.1.113883.3.464.1003.109.11.1052 2.16.840.1.113883.3.464.1003.109.11.1024	starts before end of Measurement Period	
	Condition/Diagnosis/Problem	Diagnosis	End Stage Renal Disease	GROUPING ICD-9-CM ICD-10-CM SNOMED-CT	2.16.840.1.113883.3.526.3.353 2.16.840.1.113883.3.526.2.591 2.16.840.1.113883.3.526.2.589 2.16.840.1.113883.3.526.2.590	starts before end of Measurement Period AND NOT ends before end of Measurement Period	
Numerator	Encounter	Encounter, Performed	Nephrology Consultation	GROUPING SNOMED-CT	TBD TBD	during Measurement Period	
Denominator Exceptions	There are no valid exceptions.						

<b>eMeasure Title</b>	Avoidance of Prescriptions for Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) in Patients with Reduced eGFR		
<b>eMeasure Identifier (Measure Authoring Tool)</b>	[populated by MAT]	<b>eMeasure Version number</b>	[populated by MAT]
<b>NQF Number</b>	Not Applicable	<b>GUID</b>	[populated by MAT]
<b>Measurement Period</b>	January 1, 20XX through December 31, 20XX		
<b>Measure Steward</b>	National Kidney Foundation		
<b>Measure Developer</b>	National Kidney Foundation		
<b>Endorsed By</b>	None		
<b>Description</b>	<p>Percentage of patients aged 40 years and older with at least two eGFR values &lt; 45 ml/min/1.73m<sup>2</sup> at least 90 days apart who were prescribed* non-steroidal anti-inflammatory drugs (NSAIDs) or Cox-2 inhibitors, including OTC prescription</p> <p>*see definition field</p>		
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<b>Measure Scoring</b>	Proportion		
<b>Measure Type</b>	Process		
<b>Stratification</b>	None		
<b>Risk Adjustment</b>	None		
<b>Rate Aggregation</b>	None		
<b>Rationale</b>	Non-steroidal anti-inflammatory drug (NSAID) use significantly increases the risk of acute		

	<p>kidney injury in patients with chronic kidney disease (CKD) (Ungrpasert et al 2015; Leonard et al 2012; Mahmoud et al 2014). NSAID use contributed to a doubling in risk for hospitalization for acute renal failure (ARF) (Evans et al 1995). Additionally, patients taking a loop diuretic and renin-angiotensin system (RAS) inhibitors are at very high risk of AKI (Dreischulte 2015) and as CKD patients have high rates of hypertension and heart failure, there are many on this combination. Patients with concomitant AKI and CKD are far more likely to develop ESRD and have an increased future risk of needing dialysis and mortality prior to starting dialysis (Ishani et al 2009 and LaFrance 2010). Patients with eGFR &lt; 60 mL/min/1.73m may experience significant improvement in kidney function following withdrawal of NSAIDs (Wei et al 2013).</p> <p>The measure focuses on patients with an estimated GFR of less than 45 ml per minute per 1.73 m<sup>2</sup> given their higher risk of death, cardiovascular events, and hospitalization that are independent of known risk factors, a history of cardiovascular disease, and the presence of documented proteinuria. These outcomes are even higher than the risk of end-stage renal disease (Go et al 2004). The increased risk of death is found in patients with or without hypertension at GFR of less than 45 ml per minute per 1.73 m<sup>2</sup> (Mahmoodi 2012).</p> <p><b>OPPORTUNITY FOR IMPROVEMENT</b></p> <p>There is a high rate of NSAID use in the general population. NSAIDs are among the most common prescriptions in the United States with over 98 million prescriptions filled and an estimated 23 million Americans using over-the-counter (OTC) NSAIDs in 2012 (Alliance for Rational Use of NSAIDs, 2012). The rate of NSAID use is somewhat difficult to assess in the older adult secondary to OTC and as-needed use. However, over 20% of older adults over the age of 65 use prescription NSAIDs and a much larger percentage use OTC NSAIDs (Friedewald et al., 2010). A recent analysis showed that among patients with estimated glomerular filtration rates between 15 and 50 mL/min/1.73m, 5% reported using OTC NSAIDs regularly and 66.1% had used these agents for 1 year or longer (Plantinga et al 2011).</p>
<p><b>Clinical Recommendation Statement</b></p>	<p>From KDIGO 2012 and KDOQI 2014 (Inker et al 2014) Table 6. Cautionary Notes for Prescribing in People with CKD</p> <p>NSAIDS</p> <ul style="list-style-type: none"> <li>• Avoid in people with GFR &lt; 30 ml/min/1.73 m<sup>2</sup></li> <li>• Prolonged therapy is not recommended in people with GFR &lt; 60 ml/min/1.73 m<sup>2</sup></li> <li>• Should not be used in people taking lithium</li> <li>• Avoid in people taking RAAS blocking agents</li> </ul>
<p><b>Improvement Notation</b></p>	<p>Higher score = better quality (The measure is reported as an inverted rate (i.e. 1-numerator/denominator)</p>
<p><b>Reference</b></p>	<p>Alliance for Rational Use of NSAIDs. (2012). Information about an important public health initiative. Retrieved from <a href="http://www.nsaidalliance.com/downloads/NSAID-Alliance-HCP-Brochure-Web.pdf">http://www.nsaidalliance.com/downloads/NSAID-Alliance-HCP-Brochure-Web.pdf</a></p> <p>Dreischulte T1, Morales DR2, Bell S2, Guthrie B2. Combined use of nonsteroidal anti-inflammatory drugs with diuretics and/or renin-angiotensin system inhibitors in the community increases the risk of acute kidney injury. <i>Kidney Int.</i> 2015 Aug;88(2):396-403. doi: 10.1038/ki.2015.101. Epub 2015 Apr 15.</p> <p>Evans JM1, McGregor E, McMahon AD, McGilchrist MM, Jones MC, White G, McDevitt DG, MacDonald TM. Non-steroidal anti-inflammatory drugs and hospitalization for acute renal failure. <i>QJM.</i> 1995 Aug;88(8):551-7.</p> <p>Friedewald VE, Bennett JS, Christo JP, Pool JL, Scheiman JM, Simon LS, Strand V, White WB, Williams GW, Roberts WC. (2010). AJC editor's consensus: Selective and nonselective nonsteroidal anti-inflammatory drugs and cardiovascular risk. <i>American Journal of Cardiology</i>, 106(6), 873–884.</p> <p>Go AS1, Chertow GM, Fan D, McCulloch CE, Hsu CY. Chronic kidney disease and the risks of death, cardiovascular events, and hospitalization. <i>N Engl J Med.</i> 2004 Sep 23;351(13):1296-305.</p> <p>Inker LA, Astor BC, Fox CH, et al. KDOQI US commentary on the 2012 KDIGO clinical</p>

	<p>practice guideline for the evaluation and management of CKD. Am J Kidney Dis. 2014;63:713-735.</p> <p>Ishani A1, Xue JL, Himmelfarb J, Eggers PW, Kimmel PL, Molitoris BA, Collins AJ. Acute kidney injury increases risk of ESRD among elderly. J Am Soc Nephrol. 2009 Jan;20(1):223-8. doi: 10.1681/ASN.2007080837. Epub 2008 Nov 19.</p> <p>Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. KDIGO 2012 clinical practice guideline for the evaluation and management of chronic kidney disease. Kidney Int Suppl. 2013;3:1-150.</p> <p>Lafrance JP1, Djurdjev O, Levin A. Incidence and outcomes of acute kidney injury in a referred chronic kidney disease cohort. Nephrol Dial Transplant. 2010 Jul;25(7):2203-9. doi: 10.1093/ndt/gfq011. Epub 2010 Feb 2.</p> <p>Leonard CE1, Freeman CP, Newcomb CW, Reese PP, Herlim M, Bilker WB, Hennessy S, Strom BL. Proton pump inhibitors and traditional nonsteroidal anti-inflammatory drugs and the risk of acute interstitial nephritis and acute kidney injury. Pharmacoepidemiol Drug Saf. 2012 Nov;21(11):1155-72. doi: 10.1002/pds.3329. Epub 2012 Aug 9.</p> <p>Mahmoodi BK, Matsushita K, Woodward M, Blankestijn PJ, Cirillo M, Ohkubo T, Rossing P, Sarnak MJ, Stengel B, Yamagishi K, Yamashita K, Zhang L, Coresh J, de Jong PE, Astor BC; Chronic Kidney Disease Prognosis Consortium. Associations of kidney disease measures with mortality and end-stage renal disease in individuals with and without hypertension: a meta-analysis. Lancet. 2012 Nov 10;380(9854):1649-61. doi: 10.1016/S0140-6736(12)61272-0. Epub 2012 Sep 24.</p> <p>Mahmoud LB, Pariente A, Kammoun K, Hakim A, Ghozzi H, Sahnoun Z, Fourrier A, Hachicha J, Zeghal K. Risk factors for acute decompensation of chronic kidney disease in hospitalized patients in the nephrology department: a case-control study. Clin Nephrol. 2014 Feb;81(2):86-92. doi: 10.5414/CN107948.</p> <p>Plantinga L, Grubbs V, Sarkar U, et al, CDC CKD surveillance team. Nonsteroidal Anti-Inflammatory Drug Use Among Persons With Chronic Kidney Disease in the United States. Ann Fam Med. 2011; 9: 423-430.</p> <p>Ungprasert P1, Cheungpasitporn W2, Crowson CS3, Matteson EL4. Individual non-steroidal anti-inflammatory drugs and risk of acute kidney injury: A systematic review and meta-analysis of observational studies. Eur J Intern Med. 2015 May;26(4):285-91. doi: 10.1016/j.ejim.2015.03.008. Epub 2015 Apr 8.</p> <p>Wei L, Macdonald TM, Jennings C, Sheng X, Flynn RW, Murphy MJ. Estimated GFR reporting is associated with decreased nonsteroidal anti-inflammatory drug prescribing and increased renal function. Kidney Int. 2013;84(1):174-8</p>
<b>Definition</b>	<p>*Prescribed may include prescription given to patient for NSAID or Cox-2 inhibitor at one or more visits in the measurement period OR patient already taking NSAID or Cox-2 inhibitor as documented in the current medication list</p>
<b>Guidance</b>	<p>To calculate performance rates:</p> <ol style="list-style-type: none"> <li>1. Find the patients who meet the initial population (ie, the general group of patients that a set of performance measures is designed to address).</li> <li>2. From the patients within the initial population criteria, find the patients who qualify for the denominator. (ie, the specific group of patients for inclusion in a specific performance measure based on defined criteria). <i>Note: in some cases the initial population and denominator are identical.</i></li> <li>3. Find the patients who qualify for denominator exclusions and subtract from the denominator.</li> <li>4. From the patients within the denominator find the patients who meet the numerator criteria (ie, the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator.</li> <li>5. Subtract the number calculated in 4 from one to invert the measure result to represent appropriate treatment (i.e. NSAID not prescribed). The measure is</li> </ol>

	<p>reported as an inverted rate (i.e. 1- numerator/denominator) to reflect the number of people that were not prescribed an NSAID.</p> <p>This measure is paired with the measure "Counseling to Avoid Non-Steroidal Anti-Inflammatory Drug (NSAID) Use in Patients with Reduced eGFR." It is recommended that the measures be used together.</p>
<b>Transmission Format</b>	TBD
<b>Initial Population</b>	All patients aged 40 years and older with at least two eGFR values < 45 ml/min/1.73m <sup>2</sup> at least 90 days apart
<b>Denominator</b>	Equals Initial Population
<b>Denominator Exclusions</b>	<p>Patients receiving hospice or palliative care</p> <p>Patients with limited life expectancy</p>
<b>Numerator</b>	<p>Patients who were prescribed* non-steroidal anti-inflammatory drugs (NSAIDs) or Cox-2 inhibitors, including OTC prescription</p> <p>For purposes of the measure, NSAIDs or Cox=2 inhibitors excludes:</p> <ul style="list-style-type: none"> <li>• Aspirin at doses ≤ 325 mg/day</li> <li>• Topical NSAIDs</li> <li>• Ophthalmic NSAIDs</li> </ul> <p>*see definition field</p> <p>The measure is reported as an inverted rate (i.e. 1- numerator/denominator) to reflect the number of people that were not prescribed an NSAID or Cox-2 inhibitor.</p>
<b>Numerator Exclusions</b>	Not Applicable
<b>Denominator Exceptions</b>	None
<b>Supplemental Data Elements</b>	For every patient evaluated by this measure also identify payer, race, ethnicity and sex

Data Requirements Table for the National Kidney Foundation

Avoidance of Prescriptions for Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) in Patients with Reduced eGFR

Measure Component	QDM* Category	QDM* Datatype	Value Set Name	Standard Terminology	OID	Constraints	Comments/Rationale
Supplemental Data Elements	Individual Characteristic	Patient Characteristic	ONC Administrative Sex	Administrative Sex (HL7 v2.5)	2.16.840.1.113762.1.4.1	during measurement period	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
	Individual Characteristic	Patient Characteristic	Race	CDC	2.16.840.1.114222.4.11.836	during measurement period	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
	Individual Characteristic	Patient Characteristic	Ethnicity	CDC	2.16.840.1.114222.4.11.837	during measurement period	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
	Individual Characteristic	Patient Characteristic	Payer	Source of Payment Typology	2.16.840.1.113883.221.5	during measurement period	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
Initial Population	Measure Timing	n/a	Measurement Period	n/a	n/a	TBD by Implementer	
	Individual Characteristic	Patient Characteristic	Birth Date	LOINC	2.16.840.1.113883.3.560.100.4	starts before the start of measurement period	
	Individual Characteristic	Patient Characteristic	Age	Calculation	n/a	> = 40 years at: Measurement Period □	Measurement start date minus Birth Date must be greater than or equal to 40 years.
	Encounter	Encounter, Performed	Office Visit Occurrence A	GROUPING CPT	2.16.840.1.113883.3.464.1003.101.12.1001 2.16.840.1.113883.3.464.1003.101.11.1005	[COUNT >=1] during Measurement Period	
	Encounter	Encounter, Performed	Outpatient Consultation Occurrence A	GROUPING CPT	2.16.840.1.113883.3.464.1003.101.12.1008 2.16.840.1.113883.3.464.1003.101.11.1040	[COUNT >=1] during Measurement Period	
	Encounter	Encounter, Performed	Preventive Care Services - Initial Office Visit, 18 and Up Occurrence A	GROUPING CPT	2.16.840.1.113883.3.464.1003.101.12.1023 2.16.840.1.113883.3.464.1003.101.11.1115	[COUNT >=1] during Measurement Period	
	Encounter	Encounter, Performed	Preventive Care Services-Established Office Visit, 18 and Up Occurrence A	GROUPING CPT	2.16.840.1.113883.3.464.1003.101.12.1025 2.16.840.1.113883.3.464.1003.101.11.1125	[COUNT >=1] during Measurement Period	
	Laboratory Test	Laboratory Test, Performed	Estimated Glomerular Filtration Rate Occurrence A	GROUPING LOINC	TBD TBD	< = 24 months starts before the end of Measurement Period	
	Laboratory Test	Laboratory Test, Performed	Estimated Glomerular Filtration Rate Occurrence B	GROUPING LOINC	TBD TBD	during Measurement Period AND > = 90 days starts after start of [Occurrence A of Laboratory Test, Performed: Estimated Glomerular Filtration Rate]	
	Attribute	Attribute: Result	< 45 ml/min/1.73m2	n/a	n/a	n/a	This attribute is applied to the value set titled 'Estimated Glomerular Filtration Rate'.
Denominator	Equals Initial Population						
Denominator Exclusions	Intervention	Intervention, Performed	Palliative Care	GROUPING SNOMED-CT	2.16.840.1.113883.3.526.3.1024 2.16.840.1.113883.3.526.2.1076	starts before end of Measurement Period AND NOT ends before end of Measurement Period	
Numerator	Medication	Medication, Active	NSAIDs	GROUPING RxNorm	TBD TBD	overlaps [Occurrence A of Encounter, Performed: Office Visit, Outpatient Consultation, Preventive Care Services]	This value set does not include Aspirin < = 325 mg; topical NSAIDs, and ophthalmic NSAIDs.
	Medication	Medication, Order	NSAIDs	GROUPING RxNorm	TBD TBD	during [Occurrence A of Encounter, Performed: Office Visit, Outpatient Consultation, Preventive Care Services]	This value set does not include Aspirin < = 325 mg; topical NSAIDs, and ophthalmic NSAIDs.
	Medication	Medication, Active	Cox 2 Inhibitors	GROUPING RxNorm	TBD TBD	overlaps [Occurrence A of Encounter, Performed: Office Visit, Outpatient Consultation, Preventive Care Services]	
	Medication	Medication, Order	Cox 2 Inhibitors	GROUPING RxNorm	TBD TBD	during [Occurrence A of Encounter, Performed: Office Visit, Outpatient Consultation, Preventive Care Services]	
Denominator Exceptions	There are no valid denominator exceptions.						



<b>eMeasure Title</b>	Counseling to Avoid Non-Steroidal Anti-Inflammatory Drug (NSAID) Use in Patients with Reduced eGFR		
<b>eMeasure Identifier (Measure Authoring Tool)</b>	[populated by MAT]	<b>eMeasure Version number</b>	[populated by MAT]
<b>NQF Number</b>	N/A	<b>GUID</b>	[populated by MAT]
<b>Measurement Period</b>	January 1, 20XX through December 31, 20XX		
<b>Measure Steward</b>	National Kidney Foundation		
<b>Measure Developer</b>	National Kidney Foundation		
<b>Endorsed By</b>	None		
<b>Description</b>	Percentage of patients aged 40 years and older with at least two eGFR values < 45 ml/min/1.73m <sup>2</sup> at least 90 days apart who were counseled to avoid NSAID use		
<b>Copyright</b>	Copyright 2016 National Kidney Foundation. All Rights Reserved.		
<b>Disclaimer</b>	<p>The Measures are not clinical guidelines, do not establish a standard of medical care, and have not been tested for all potential applications.</p> <p>The Measures, while copyrighted, can be reproduced and distributed, without modification, for noncommercial purposes, eg, use by health care providers or practices.</p> <p>Commercial use is defined as the sale, license, or distribution of the Measures for commercial gain, or incorporation of the Measures into a product or service that is sold, licensed or distributed for commercial gain.</p> <p>Commercial uses of the Measures require a license agreement between the user and the National Kidney Foundation.</p> <p>Neither the National Kidney Foundation nor its officers, directors, employees or agents shall be responsible for the consequences of any use of the Measures.</p> <p>The National Kidney Foundation encourages use of the Measures by other health care professionals, where appropriate.</p> <p>The measures and specifications are provided "as is" without warranty of any kind.</p> <p>Limited proprietary coding is contained in the Measure specifications for convenience. Users of the proprietary code sets should obtain all necessary licenses from the owners of these code sets. The National Kidney Foundation disclaims all liability for use or accuracy of any coding contained in the specifications.</p>		
<b>Measure Scoring</b>	Proportion		
<b>Measure Type</b>	Process		
<b>Stratification</b>	None		
<b>Risk Adjustment</b>	None		
<b>Rate Aggregation</b>	None		
<b>Rationale</b>	<p>Non-steroidal anti-inflammatory drug (NSAID) use significantly increases the risk of acute kidney injury in patients with chronic kidney disease (CKD) (Ungrpasert et al 2015; Leonard et al 2012; Mahmoud et al 2014). NSAID use contributed to a doubling in risk for hospitalization for acute renal failure (ARF) (Evans et al 1995). Additionally, patients taking a loop diuretic and renin-angiotensin system (RAS) inhibitors are at very high risk of AKI (Dreischulte 2015) and as CKD patients have high rates of hypertension and heart failure, there are many on this combination. Patients with concomitant AKI and CKD are far more likely to develop ESRD and have an increased future risk of needing dialysis and mortality prior to starting dialysis (Ishani et al 2009 and LaFrance 2010). Patients with eGFR &lt; 60</p>		

	<p>mL/min/1.73m may experience significant improvement in kidney function following withdrawal of NSAIDs (Wei et al 2013).</p> <p>The measure focuses on patients with an estimated GFR of less than 45 ml per minute per 1.73 m<sup>2</sup> given their higher risk of death, cardiovascular events, and hospitalization that are independent of known risk factors, a history of cardiovascular disease, and the presence of documented proteinuria. These outcomes are even higher than the risk of end-stage renal disease (Go et al 2004). The increased risk of death is found in patients with or without hypertension at GFR of less than 45 ml per minute per 1.73 m<sup>2</sup> (Mahmoodi 2012).</p> <p><b><u>OPPORTUNITY FOR IMPROVEMENT</u></b></p> <p>There is a high rate of NSAID use in the general population. NSAIDs are among the most common prescriptions in the United States with over 98 million prescriptions filled and an estimated 23 million Americans using over-the-counter (OTC) NSAIDs in 2012 (Alliance for Rational Use of NSAIDs, 2012). The rate of NSAID use is somewhat difficult to assess in the older adult secondary to OTC and as-needed use. However, at least 20% of older adults over the age of 65 use prescription NSAIDs and a much larger percentage use OTC NSAIDs (Friedewald et al., 2010). A recent analysis showed that among patients with estimated glomerular filtration rates between 15 and 50 mL/min/1.73m, 5% reported using OTC NSAIDs regularly and 66.1% had used these agents for 1 year or longer (Plantinga et al 2011).</p>
<p><b>Clinical Recommendation Statement</b></p>	<p>From KDIGO 2012 and KDOQI 2014 (Inker et al 2014) Table 6. Cautionary Notes for Prescribing in People with CKD</p> <p>NSAIDS</p> <ul style="list-style-type: none"> <li>• Avoid in people with GFR &lt; 30 ml/min/1.73 m<sup>2</sup></li> <li>• Prolonged therapy is not recommended in people with GFR &lt; 60 ml/min/1.73 m<sup>2</sup></li> <li>• Should not be used in people taking lithium</li> <li>• Avoid in people taking RAAS blocking agents</li> </ul>
<p><b>Improvement Notation</b></p>	<p>Higher score indicates better quality</p>
<p><b>Reference</b></p>	<p>Alliance for Rational Use of NSAIDs. (2012). Information about an important public health initiative. Retrieved from <a href="http://www.nsaidalliance.com/downloads/NSAID-Alliance-HCP-Brochure-Web.pdf">http://www.nsaidalliance.com/downloads/NSAID-Alliance-HCP-Brochure-Web.pdf</a></p> <p>Dreischulte T1, Morales DR2, Bell S2, Guthrie B2. Combined use of nonsteroidal anti-inflammatory drugs with diuretics and/or renin-angiotensin system inhibitors in the community increases the risk of acute kidney injury. <i>Kidney Int.</i> 2015 Aug;88(2):396-403. doi: 10.1038/ki.2015.101. Epub 2015 Apr 15.</p> <p>Evans JM1, McGregor E, McMahon AD, McGilchrist MM, Jones MC, White G, McDevitt DG, MacDonald TM. Non-steroidal anti-inflammatory drugs and hospitalization for acute renal failure. <i>QJM.</i> 1995 Aug;88(8):551-7.</p> <p>Friedewald VE, Bennett JS, Christo JP, Pool JL, Scheiman JM, Simon LS, Strand V, White WB, Williams GW, Roberts WC. (2010). AJC editor's consensus: Selective and nonselective nonsteroidal anti-inflammatory drugs and cardiovascular risk. <i>American Journal of Cardiology</i>, 106(6), 873–884.</p> <p>Go AS1, Chertow GM, Fan D, McCulloch CE, Hsu CY. Chronic kidney disease and the risks of death, cardiovascular events, and hospitalization. <i>N Engl J Med.</i> 2004 Sep 23;351(13):1296-305.</p> <p>Inker LA, Astor BC, Fox CH, et al. KDOQI US commentary on the 2012 KDIGO clinical practice guideline for the evaluation and management of CKD. <i>Am J Kidney Dis.</i> 2014;63:713-735.</p> <p>Ishani A1, Xue JL, Himmelfarb J, Eggers PW, Kimmel PL, Molitoris BA, Collins AJ. Acute kidney injury increases risk of ESRD among elderly. <i>J Am Soc Nephrol.</i> 2009 Jan;20(1):223-8. doi: 10.1681/ASN.2007080837. Epub 2008 Nov 19.</p> <p>Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. KDIGO 2012 clinical practice guideline for the evaluation and management of chronic kidney disease. <i>Kidney Int Suppl.</i> 2013;3:1-150.</p>

	<p>Lafrance JP1, Djurdjev O, Levin A. Incidence and outcomes of acute kidney injury in a referred chronic kidney disease cohort. <i>Nephrol Dial Transplant</i>. 2010 Jul;25(7):2203-9. doi: 10.1093/ndt/gfq011. Epub 2010 Feb 2.</p> <p>Leonard CE1, Freeman CP, Newcomb CW, Reese PP, Herlim M, Bilker WB, Hennessy S, Strom BL. Proton pump inhibitors and traditional nonsteroidal anti-inflammatory drugs and the risk of acute interstitial nephritis and acute kidney injury. <i>Pharmacoepidemiol Drug Saf</i>. 2012 Nov;21(11):1155-72. doi: 10.1002/pds.3329. Epub 2012 Aug 9.</p> <p>Mahmoodi BK, Matsushita K, Woodward M, Blankestijn PJ, Cirillo M, Ohkubo T, Rossing P, Sarnak MJ, Stengel B, Yamagishi K, Yamashita K, Zhang L, Coresh J, de Jong PE, Astor BC; Chronic Kidney Disease Prognosis Consortium. Associations of kidney disease measures with mortality and end-stage renal disease in individuals with and without hypertension: a meta-analysis. <i>Lancet</i>. 2012 Nov 10;380(9854):1649-61. doi: 10.1016/S0140-6736(12)61272-0. Epub 2012 Sep 24.</p> <p>Mahmoud LB, Pariente A, Kammoun K, Hakim A, Ghazzi H, Sahnoun Z, Fourrier A, Hachicha J, Zeghal K. Risk factors for acute decompensation of chronic kidney disease in hospitalized patients in the nephrology department: a case-control study. <i>Clin Nephrol</i>. 2014 Feb;81(2):86-92. doi: 10.5414/CN107948.</p> <p>Plantinga L, Grubbs V, Sarkar U, et al, CDC CKD surveillance team. Nonsteroidal Anti-Inflammatory Drug Use Among Persons With Chronic Kidney Disease in the United States. <i>Ann Fam Med</i>. 2011; 9: 423-430.</p> <p>Ungprasert P1, Cheungpasitporn W2, Crowson CS3, Matteson EL4. Individual non-steroidal anti-inflammatory drugs and risk of acute kidney injury: A systematic review and meta-analysis of observational studies. <i>Eur J Intern Med</i>. 2015 May;26(4):285-91. doi: 10.1016/j.ejim.2015.03.008. Epub 2015 Apr 8.</p> <p>Wei L, Macdonald TM, Jennings C, Sheng X, Flynn RW, Murphy MJ. Estimated GFR reporting is associated with decreased nonsteroidal anti-inflammatory drug prescribing and increased renal function. <i>Kidney Int</i>. 2013;84(1):174-8</p>
<b>Definition</b>	None
<b>Guidance</b>	<p>Counseling for avoidance of NSAIDs should include a recommendation to continue aspirin at doses <math>\leq</math> 325 mg/day for stroke prophylaxis. However, aspirin at higher doses should be avoided.</p> <p>This measure is paired with the measure "Avoidance of Prescriptions for Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) in Patients with Reduced eGFR." It is recommended that the measures be used together.</p>
<b>Transmission Format</b>	TBD
<b>Initial Population</b>	All patients aged 40 years and older with at least two eGFR values < 45 ml/min/1.73m <sup>2</sup> at least 90 days apart
<b>Denominator</b>	Equals Initial Population
<b>Denominator Exclusions</b>	<p>Patients receiving hospice or palliative care</p> <p>Patients with limited life expectancy</p>
<b>Numerator</b>	Patients who were counseled to avoid non-steroidal anti-inflammatory drug (NSAID) use
<b>Numerator Exclusions</b>	Not Applicable
<b>Denominator Exceptions</b>	None
<b>Supplemental Data Elements</b>	For every patient evaluated by this measure also identify payer, race, ethnicity and sex

Data Requirements Table for the National Kidney Foundation

Counseling to Avoid Non-Steroidal Anti-Inflammatory Drug (NSAID) Use in Patients with Reduced eGFR

Measure Component	QDM* Category	QDM* Datatype	Value Set Name	Standard Terminology	OID	Constraints	Comments/Rationale
Supplemental Data Elements	Individual Characteristic	Patient Characteristic	ONC Administrative Sex	Administrative Sex (HL7 v2.5)	2.16.840.1.113762.1.4.1	during measurement period	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
	Individual Characteristic	Patient Characteristic	Race	CDC	2.16.840.1.114222.4.11.836	during measurement period	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
	Individual Characteristic	Patient Characteristic	Ethnicity	CDC	2.16.840.1.114222.4.11.837	during measurement period	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
	Individual Characteristic	Patient Characteristic	Payer	Source of Payment Typology	2.16.840.1.113883.221.5	during measurement period	This data element is collected for the purpose of stratifying results in an effort to highlight disparities.
Initial Population	Measure Timing	n/a	Measurement Period	n/a	n/a	TBD by Implementer	
	Individual Characteristic	Patient Characteristic	Birth Date	LOINC	2.16.840.1.113883.3.560.100.4	starts before the start of measurement period	
	Individual Characteristic	Patient Characteristic	Age	Calculation	n/a	> = 40 years at: Measurement Period	Measurement start date minus Birth Date must be greater than or equal to 40 years.
	Encounter	Encounter, Performed	Office Visit Occurrence A	GROUPING CPT	2.16.840.1.113883.3.464.1003.101.12.1001 2.16.840.1.113883.3.464.1003.101.11.1005	[COUNT >=1] during Measurement Period	
	Encounter	Encounter, Performed	Outpatient Consultation Occurrence A	GROUPING CPT	2.16.840.1.113883.3.464.1003.101.12.1008 2.16.840.1.113883.3.464.1003.101.11.1040	[COUNT >=1] during Measurement Period	
	Encounter	Encounter, Performed	Preventive Care Services - Initial Office Visit, 18 and Up Occurrence A	GROUPING CPT	2.16.840.1.113883.3.464.1003.101.12.1023 2.16.840.1.113883.3.464.1003.101.11.1115	[COUNT >=1] during Measurement Period	
	Encounter	Encounter, Performed	Preventive Care Services-Established Office Visit, 18 and Up Occurrence A	GROUPING CPT	2.16.840.1.113883.3.464.1003.101.12.1025 2.16.840.1.113883.3.464.1003.101.11.1125	[COUNT >=1] during Measurement Period	
	Laboratory Test	Laboratory Test, Performed	Estimated Glomerular Filtration Rate Occurrence A	GROUPING LOINC	2.16.840.1.113883.3.1564.2739 2.16.840.1.113883.3.1564.2738	< = 24 months starts before the end of Measurement Period	
	Laboratory Test	Laboratory Test, Performed	Estimated Glomerular Filtration Rate Occurrence B	GROUPING LOINC	2.16.840.1.113883.3.1564.2739 2.16.840.1.113883.3.1564.2738	during Measurement Period AND > = 90 days starts after start of [Occurrence A of Laboratory Test, Performed: Estimated Glomerular Filtration Rate]	
	Attribute	Attribute: Result	< 45 ml/min/1.73m2	n/a	n/a	n/a	This attribute is applied to the value set titled 'Estimated Glomerular Filtration Rate'.
Denominator	Equals Initial Population						
Denominator Exclusions	Intervention	Intervention, Performed	Palliative Care	GROUPING SNOMED-CT	2.16.840.1.113883.3.526.3.1024 2.16.840.1.113883.3.526.2.1076	starts before end of Measurement Period AND NOT ends before end of Measurement Period	
Numerator	Intervention	Intervention, Performed	Medication Counseling	GROUPING SNOMED-CT	TBD TBD	during [Occurrence A of Encounter, Performed: Office Visit, Outpatient Consultation, Preventive Care Services]	
	Attribute	Attribute: Reason	NSAID Contraindicated	GROUPING SNOMED-CT	TBD TBD	n/a n/a	This attribute is applied to the value set titled 'Medication Counseling'.
Denominator Exceptions	There are no valid exceptions.						