eMeasure Title	Diabetes: Medical Attention for Nephropathy		
eMeasure Identifier (Measure Authoring Tool)	134	eMeasure Version number	6.1.000
NQF Number	0062	GUID	7b2a9277-43da-4d99-9bee-6ac271a07747
Measurement Period	January 1, 20XX through December 31, 20XX		
Measure Steward	National Committee for Quality Assurance		
Measure Developer	National Committee for Quality Assurance		
Endorsed By	National Quality Forum		
Description	The percentage of patients 18-75 years of age with diabetes who had a nephropathy screening test or evidence of nephropathy during the measurement period		
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Measure Scoring	Proportion		
Measure Type	Process		
Stratification	None		
Risk Adjustment	None		
Rate Aggregation	None		
Rationale	As the seventh leading cause of death in the U.S., diabetes kills approximately 75,000 people a year (CDC FastStats 2015). Diabetes is a group of diseases marked by high blood glucose levels, resulting from the body's inability to produce or use insulin (CDC Statistics 2014, ADA Basics 2013). People with diabetes are at increased risk of serious health complications including vision loss, heart disease, stroke, kidney failure, amputation of toes, feet or legs, and premature death. (CDC Fact Sheet 2014). In 2012, diabetes cost the U.S. an estimated $245 billion: $176 billion in direct medical costs and $69 billion in reduced productivity. This is a 41 percent increase from the estimated $174 billion spent on diabetes in 2007 (ADA Economic 2013). In 2011, diabetes accounted for 44% of new kidney failure cases. In the same year, 49,677 diabetics started treatment for kidney failure and 228,924 people of all ages with kidney failure due to diabetes were living on chronic dialysis or with a kidney transplant (CDC Statistics, 2014).		

Clinical Recommendation Statement	American Diabetes Association (2017): Screening - At least once a year, quantitatively assess urinary albumin (eg, spot urinary albumin-to-creatinine ratio [UACR]) and estimated glomerular filtration rate (eGFR) in patients with type 1 diabetes duration of greater than or equal to 5 years in all patients with type 2 diabetes, and in all patients with comorbid hypertension. (Level of evidence: B) Treatment - An angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) is not recommended for the primary prevention of diabetic kidney disease in patients with diabetes who have normal blood pressure, normal UACR (<30 mg/g), and normal estimated glomerular filtration rate. (Level of evidence: B) - Either an ACE inhibitor or ARB is suggested for the treatment of the nonpregnant patient with modestly elevated UACR (30-299 mg/day) (Level of evidence: C) and is strongly recommended for those with urinary albumin excretion >=300 mg/day. (Level of evidence: A) - When ACE inhibitors, ARBs, or diuretics are used, monitor serum creatinine and potassium levels for the development of increased creatinine or changes in potassium. (Level of evidence: E) - Continued monitoring of UACR in patients with albuminuria treated with an ACE inhibitor or ARBs is reasonable to assess progression of diabetic kidney disease. (Level of evidence: E) American Association of Clinical Endocrinologists (2015): - Beginning 5 years after diagnosis in patients with type 1 diabetes (if diagnosed before age 30) or at diagnosis in patients with type 2 diabetes and those with type 1 diabetes diagnosed after age 30, annual assessment of serum creatinine to determine the estimated glomerular filtration rate (eGFR) and urine albumin excretion rate (AER) should be performed to identify, stage, and monitor progression of diabetic nephropathy (Grade C; best evidence level 3). - Patients with nephropathy should be counseled regarding the need for optimal glycemic control, blood pressure control, dyslipidemia control, and smoking cessation (Grade B; best evidence level 2). - In addition, they should have routine monitoring of albuminuria, kidney function electrolytes, and lipids (Grade B; best evidence level 2). - Associated conditions such as anemia and bone and mineral disorders should be assessed as kidney function declines (Grade D; best evidence level 4). - Referral to a nephrologist is recommended well before the need for renal replacement therapy (Grade D; best evidence level 4).
Improvement Notation	Higher score indicates better quality
Reference	American Diabetes Association. Microvascular complications and foot care. Sec. 10. In Standards of Medical Care in Diabetes-2017. Diabetes Care 2017;40(Suppl. 1):S88-S98.
Reference	American Diabetes Association. 2013. Diabetes Basics. www.diabetes.org/diabetes-basics/?loc=GlobalNavDB.
Reference	American Diabetes Association (ADA). April 2013. Economic Costs of Diabetes in the U.S. in 2012. Diabetes Care. Vol. 36 no. 4 1033-46. http://care.diabetesjournals.org/content/36/4/1033.full.
Reference	Centers for Disease Control and Prevention (CDC). 2014. National Diabetes Statistics Report. http://www.cdc.gov/diabetes/pdfs/data/2014-report-estimates-of-diabetes-and-its-burden-in-the-united-states.pdf
Reference	Centers for Disease Control and Prevention (CDC). 2015. FastStats: Deaths and Mortality. www.cdc.gov/nchs/fastats/deaths.htm.
Reference	Centers for Disease Control and Prevention. 2014. CDC Features. Diabetes Latest. www.cdc.gov/features/diabetesfactsheet/.
Reference	Handelsman Y, Bloomgarden ZT, Grunberger G, Umpierrez G, Zimmerman RS, Bailey TS, et al. (2015) American Association of Clinical Endocrinologists and American College of Endocrinology-Clinical Practice Guidelines for Developing a Diabetes Mellitus Comprehensive Care Plan-2015. Endocr Pract 21 Suppl 1: 1-87.
Definition	None
Guidance	Only patients with a diagnosis of Type 1 or Type 2 diabetes should be included in the denominator of this measure; patients with a diagnosis of secondary diabetes due to another condition should not be included
Transmission Format	TBD
Initial Population	Patients 18-75 years of age with diabetes with a visit during the measurement period
Denominator	Equals Initial Population
Denominator Exclusions	Exclude patients who were in hospice care during the measurement year
Numerator	Patients with a screening for nephropathy or evidence of nephropathy during the measurement period
Numerator Exclusions	Not Applicable
Denominator Exceptions	None
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity and sex

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Population Criteria

- **Initial Population =**
    - AND: Age>= 18 year(s) at: "Measurement Period"
    - AND: Age< 75 year(s) at: "Measurement Period"
    - AND: "Diagnosis: Diabetes" overlaps "Measurement Period"
    - AND: Union of:
        - "Encounter, Performed: Office Visit"
        - "Encounter, Performed: Face-to-Face Interaction"
        - "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up"
        - "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up"
        - "Encounter, Performed: Home Healthcare Services"
        - "Encounter, Performed: Annual Wellness Visit"
        - during "Measurement Period"
- **Denominator =**
    - AND: Initial Population
- **Denominator Exclusions =**
    - OR: "Encounter, Performed: Encounter Inpatient (discharge status: Discharged to Home for Hospice Care)" ends during "Measurement Period"
    - OR: "Encounter, Performed: Encounter Inpatient (discharge status: Discharged to Health Care Facility for Hospice Care)" ends during "Measurement Period"
    - OR: Union of:
        - "Intervention, Order: Hospice care ambulatory"
        - "Intervention, Performed: Hospice care ambulatory"
        - overlaps "Measurement Period"
- **Numerator =**
    - AND:
        - OR: Union of:
            - "Medication, Active: ACE Inhibitor or ARB"
            - "Diagnosis: Hypertensive Chronic Kidney Disease"
            - "Diagnosis: Kidney Failure"
            - "Diagnosis: Glomerulonephritis and Nephrotic Syndrome"
            - "Diagnosis: Diabetic Nephropathy"
            - "Diagnosis: Proteinuria"
            - overlaps "Measurement Period"
        - OR: Union of:
            - "Procedure, Performed: Kidney Transplant"
            - "Procedure, Performed: Vascular Access for Dialysis"
            - "Procedure, Performed: Dialysis Services"
            - "Intervention, Performed: Other Services Related to Dialysis"
            - "Intervention, Performed: Dialysis Education"
            - "Encounter, Performed: ESRD Monthly Outpatient Services"
            - "Laboratory Test, Performed: Urine Protein Tests (result)"
            - during "Measurement Period"
- **Numerator Exclusions =**
    - None
- **Denominator Exceptions =**
    - None
- **Stratification =**
    - None

Data Criteria (QDM Variables)

- None

Data Criteria (QDM Data Elements)

- "Diagnosis: Diabetes" using "Diabetes Grouping Value Set (2.16.840.1.113883.3.464.1003.103.12.1001)"
- "Diagnosis: Diabetic Nephropathy" using "Diabetic Nephropathy Grouping Value Set (2.16.840.1.113883.3.464.1003.109.12.1004)"
- "Diagnosis: Glomerulonephritis and Nephrotic Syndrome" using "Glomerulonephritis and Nephrotic Syndrome Grouping Value Set (2.16.840.1.113883.3.464.1003.109.12.1018)"
- "Diagnosis: Hypertensive Chronic Kidney Disease" using "Hypertensive Chronic Kidney Disease Grouping Value Set (2.16.840.1.113883.3.464.1003.109.12.1017)"
- "Diagnosis: Kidney Failure" using "Kidney Failure Grouping Value Set (2.16.840.1.113883.3.464.1003.109.12.1028)"
- "Diagnosis: Proteinuria" using "Proteinuria Grouping Value Set (2.16.840.1.113883.3.526.3.1003)"
- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit Grouping Value Set (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient SNOMEDCT Value Set (2.16.840.1.113883.3.666.5.307)"

- "Encounter, Performed: ESRD Monthly Outpatient Services" using "ESRD Monthly Outpatient Services Grouping Value Set (2.16.840.1.113883.3.464.1003.109.12.1014)"
- "Encounter, Performed: Face-to-Face Interaction" using "Face-to-Face Interaction Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1048)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Office Visit" using "Office Visit Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Intervention, Order: Hospice care ambulatory" using "Hospice care ambulatory SNOMEDCT Value Set (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Dialysis Education" using "Dialysis Education Grouping Value Set (2.16.840.1.113883.3.464.1003.109.12.1016)"
- "Intervention, Performed: Hospice care ambulatory" using "Hospice care ambulatory SNOMEDCT Value Set (2.16.840.1.113762.1.4.1108.15)"
- "Intervention, Performed: Other Services Related to Dialysis" using "Other Services Related to Dialysis Grouping Value Set (2.16.840.1.113883.3.464.1003.109.12.1015)"
- "Laboratory Test, Performed: Urine Protein Tests" using "Urine Protein Tests Grouping Value Set (2.16.840.1.113883.3.464.1003.109.12.1024)"
- "Medication, Active: ACE Inhibitor or ARB" using "ACE Inhibitor or ARB Grouping Value Set (2.16.840.1.113883.3.526.3.1139)"
- "Procedure, Performed: Dialysis Services" using "Dialysis Services Grouping Value Set (2.16.840.1.113883.3.464.1003.109.12.1013)"
- "Procedure, Performed: Kidney Transplant" using "Kidney Transplant Grouping Value Set (2.16.840.1.113883.3.464.1003.109.12.1012)"
- "Procedure, Performed: Vascular Access for Dialysis" using "Vascular Access for Dialysis Grouping Value Set (2.16.840.1.113883.3.464.1003.109.12.1011)"
- Attribute: "Discharge status: Discharged to Health Care Facility for Hospice Care" using "Discharged to Health Care Facility for Hospice Care SNOMEDCT Value Set (2.16.840.1.113883.3.117.1.7.1.207)"
- Attribute: "Discharge status: Discharged to Home for Hospice Care" using "Discharged to Home for Hospice Care SNOMEDCT Value Set (2.16.840.1.113883.3.117.1.7.1.209)"

Supplemental Data Elements

- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity CDCREC Value Set (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer SOP Value Set (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race CDCREC Value Set (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex AdministrativeGender Value Set (2.16.840.1.113762.1.4.1)"

Risk Adjustment Variables

- None

Measure Set	None