Diabetes: Urine Screening (NQF 0062)

EMeasure Name	Diabetes: Urine Screening	EMeasure Id	Pending
Version Number	1	Set Id	Pending
Available Date	No information	Measurement Period	January 1, 20xx through December 31, 20xx
Measure Steward	National Committee for Quality Assurance		
Endorsed by	National Quality Forum		
Description	The percentage of patients 18–75 years of age with diabetes (type 1 or type 2) who had a nephropathy screening test or evidence of nephropathy .		
Measure scoring	Proportion		
Measure type	Process		
Rationale	This measure assesses the percentage of patients in a specific age demographic who were diagnosed with type 1 or type 2 diabetes and who are susceptible to developing kidney disease as a comorbidity. Diabetes mellitus (diabetes) is a group of diseases characterized by high blood glucose levels caused by the body's inability to correctly produce or utilize the hormone insulin (NIDDK 2007). It is recognized as a leading cause of death and disability in the U.S. and is highly underreported as a cause of death (NIDDK 2007). Diabetes of either type may cause life-threatening, life-ending or life-altering complications, including end-stage kidney disease. Diabetes is the primary cause of kidney failure, accounting for 44% of newly diagnosed cases in 2005 (NIDDK 2007). Clinical guidelines recommend regular testing to evaluate urine albumin excretions and serum creatinine and the estimated glomerular filtration rate derived from serum creatinine, in addition to comparing measurements when screening for chronic kidney disease (ADA 2009; ACCE 2007). This measure facilitates the prevention and long-term management of kidney disease for patients diagnosed with diabetes.		
Clinical Recommendation Statement	American Diabetes Association – 2009 • Perform an annual test to assess urine albumin excretion in type 1 diabetic patients with diabetes duration of ≥5 years and in all type 2 diabetic patients, starting at diagnosis. (E) • Measure serum creatinine at least annually in all adults with diabetes regardless of the degree of urine albumin excretion. The serum creatinine should be used to estimate GFR and stage the level of chronic kidney disease (CKD), if present. (E) • In the treatment of the nonpregnant patient with micro- or macroalbuminuria, either ACE inhibitors or ARBs should be used. (A) American Association of Clinical Endocrinologists (AACE) – 2007 • Screen all patients with diabetes mellitus for chronic kidney disease annually; screening should begin 5 years after diagnosis in patients with T1DM and at the time of diagnosis in patients with T2DM. Testing includes:		

	o Measurement of albumin-to-creatinine ratio in a spot urine specimen and measurement of the estimated glomerular filtration rate derived from serum creatinine
	o The following are diagnostic criteria for chronic kidney disease:
	    ▪ Estimated glomerular filtration rate <60 mL/min/1.73 m2 or albumin-to-creatinine ratio ≥30 mg albumin/g creatinine
	    ▪ Microalbuminuria ≥30 mg albumin/g creatinine
	    ▪ Macroalbuminuria ≥300 mg albumin/g creatinine (Grade A)
	• Prescribe an angiotensin-converting enzyme inhibitor or an angiotensin receptor blocker in the antihypertensive regimen in the absence of contraindications. (Grade A)
	
	American Geriatrics Society (AGS) – 2003: A test for the presence of microalbumin should be performed at diagnosis in patients with type 2 diabetes mellitus. After the initial screening and in the absence of previously demonstrated macro- or microalbuminuria, a test for the presence of microalbumin should be performed annually. (Level III, Grade A)

References	American Association of Clinical Endocrinologists and American College of Endocrinology. The American Association of Clinical Endocrinologists Medical Guidelines for the Management of Diabetes Mellitus: The AACE System of Intensive Diabetes Self-Management 2002. American Diabetes Association: Clinical Practice Recommendations 2004. Hypertension Management in Adults with Diabetes (Position Statement). Diabetes Care. 2004;27 (suppl 1):65-67. California Healthcare Foundation/American Geriatrics Society (AGS) Improving Care of Elders with Diabetes. Guidelines for Improving the Care of the Older Person with Diabetes Mellitus. J Am Geriatr Soc 2003;51:S265-S280. Available at http://ww.americangeriatrics.org/education/diabetes_executive_summary.shtml Accessed September 2004.
Definitions	

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Please refer to the spreadsheet for this measure for detail regarding data criteria and code lists.

Population criteria

- **Initial Patient Population =**

  - AND: "Patient characteristic: birth date" (age) >=17 years and <=74 years to capture all patients who will reach the ages between 18 and 75 years during the "measurement period";

- **Denominator =**

  - AND: All patients in the initial patient population;
  - AND:

    - OR: "Medication dispensed: medications indicative of diabetes" <=2 years before or simultaneously to "measurement end date";
    - OR: "Medication order: medications indicative of diabetes" <=2 years before or simultaneously to "measurement end date";
    - OR: "Medication active: medications indicative of diabetes" <=2 years before or simultaneously to "measurement end date";
    - OR:

      - AND: "Diagnosis active: diabetes" <=2 years before or simultaneously to "measurement end date";
      - AND:

        - OR: >=1 count(s) of "Encounter: encounter acute inpatient or ED";
        - OR: >=2 count(s) of "Encounter: encounter non-acute inpt, outpatient, or ophthalmology" occurring on 2 different dates;

- **Numerator =**

  - OR: "Diagnosis active: nephropathy";
  - OR: "Procedure performed: nephropathy-related procedures";
  - OR: "Laboratory test performed: urine microalbumin";
  - OR: "Laboratory test performed: nephropathy screening";
  - OR: "Medication order: ACE Inhibitors/ARBs";
  - OR: "Medication dispensed: ACE Inhibitors/ARBs";
  - OR: "Medication active: ACE Inhibitors/ARBs";

- **Exclusions =**

  - OR:

    - AND: "Diagnosis active: polycystic ovaries";
    - AND NOT:

      - AND: "Diagnosis active: diabetes" <= 2 years before or simultaneously to "measurement end date";

- **AND:**

    - **OR:** "Encounter: encounter acute inpatient or ED" <=2 years before or simultaneously to "measurement end date";
    - **OR:** "Encounter: encounter non-acute inpt, outpatient, or ophthalmology" <=2 years before or simultaneously to "measurement end date";

  o **OR:**

    - **AND:**

        - **OR:** "Diagnosis active: gestational diabetes" <=2 years before or simultaneously to "measurement end date";
        - **OR:** "Diagnosis active: steroid induced diabetes" <=2 years before or simultaneously to "measurement end date";

    - **AND:**

        - **OR:** "Medication order: medications indicative of diabetes" <=2 years before or simultaneously to "measurement end date";
        - **OR:** "Medication dispensed: medications indicative of diabetes" <=2 years before or simultaneously to "measurement end date";
        - **OR:** "Medication active: medications indicative of diabetes" <=2 years before or simultaneously to "measurement end date";

    - **AND NOT:**

        - **AND:** "Diagnosis active: diabetes" <=2 years before or simultaneously to "measurement end date";
        - **AND:**

            - **OR:** "Encounter: Encounter acute inpatient or ED" <=2 years before or simultaneously to "measurement end date";
            - **OR:** "Encounter: encounter non-acute inpt, outpatient, or ophthalmology" <=2 years before or simultaneously to "measurement end date";

Data criteria (QDS Data Elements)

- **Initial Patient Population =**

  o "Patient characteristic: birth date" using "birth date code list" before the "measurement period"

- **Denominator =**

- o "Diagnosis active: diabetes" using "diabetes code list grouping" before or simultaneously to the "measurement end date";
- o "Encounter: encounter acute inpatient or ED" using "encounter acute inpatient or ED code list grouping" during the "measurement period";
- o "Encounter: encounter non-acute inpt, outpatient, or ophthalmology" using "encounter non-acute inpt, outpatient, or ophthalmology code list grouping" during the "measurement period";
- o "Medication order: medications indicative of diabetes" using "medications indicative of diabetes code list grouping" before or simultaneously to the "measurement end date";
- o "Medication dispensed: medications indicative of diabetes" using "medications indicative of diabetes code list grouping" before or simultaneously to the "measurement end date";
- o "Medication active: medications indicative of diabetes" using "medications indicative of diabetes code list grouping" before or simultaneously to the "measurement end date";

- **Numerator =**

  - o "Procedure performed: nephropathy-related procedures" using "nephropathy-related procedures code list grouping" during "measurement period";
  - o "Laboratory test performed: nephropathy screening" using "nephropathy screening code list grouping" during "measurement period";
  - o "Laboratory test performed: urine microalbumin" using "urine microalbumin code list grouping" during "measurement period";
  - o "Diagnosis active: nephropathy" using "nephropathy code list grouping" during "measurement period";
  - o "Medication order: ACE Inhibitors/ARBs" using "ACE Inhibitors/ARBs code list grouping" during "measurement period";
  - o "Medication dispensed: ACE Inhibitors/ARBs" using "ACE Inhibitors/ARBs code list grouping" during "measurement period";
  - o "Medication active: ACE Inhibitors/ARBs" using "ACE Inhibitors/ARBs code list grouping" during "measurement period";

- **Exclusions =**

  - o "Diagnosis active: polycystic ovaries" using "polycystic ovaries code list grouping" before or simultaneously to the "measurement end date";
  - o "Diagnosis active: gestational diabetes" using "gestational diabetes code list grouping" before or simultaneously to the "measurement end date";
  - o "Diagnosis active: steroid induced diabetes" using "steroid induced diabetes code list grouping" before or simultaneously to the "measurement end date";

Summary calculation

Calculation is generic to all measures:

- Calculate the final denominator by adding all that meet denominator criteria.
- Subtract from the final denominator all that do not meet numerator criteria yet also meet exclusion criteria. Note some measures do not have exclusion criteria.

- The performance calculation is the number meeting numerator criteria divided by the final denominator.
- For measures with multiple patient populations, repeat this process for each patient population and report each result separately.
- For measures with multiple numerators, calculate each numerator separately within each population using the paired exclusion.

Measure set	CLINICAL QUALITY MEASURE SET 2011-2012