National Kidney Foundation®

National Kidney Foundation (NKF)

Evaluation of Kidney Health
Clinical Quality Measure

Developed by the NKF Quality Measures Technical Expert Panel

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Introduction

The National Kidney Foundation (NKF) is focused on improving awareness about the importance of kidney health and the recognition of chronic kidney disease (CKD) as a major public health issue. As part of these efforts, NKF developed this clinical quality measure for reporting and evaluating the routine use of a comprehensive kidney health evaluation in adults diagnosed with diabetes. While maintaining kidney health and preventing or slowing the progression of CKD requires a multi-faceted approach, this clinical quality measure is intended to be a first step toward meeting these goals. Results of a comprehensive kidney health evaluation provide physicians and patients with the structural information on which to base a patient-specific treatment and management plan that may include additional testing, lifestyle changes, pharmacological treatment, and referral to a nephrologist for further evaluation and comanagement. The development of this measure was the result of a large multidisciplinary, multi-stakeholder technical expert panel (TEP) drawing on expertise from governmental, private practice, and health care organization representatives. The TEP was comprised of clinical experts in kidney disease, diabetes, and public health, primary care providers, researchers, persons diagnosed with kidney disease, and medical informaticists.

The kidney health evaluation measure assesses performance of a comprehensive kidney evaluation consisting of uACR and eGFR, in adults aged 18 – 75 years with a diagnosis of diabetes. This measure does not preclude decision-making on behalf of the clinician and the patient, and in no way discourages the use of regular laboratory testing for CKD in patients beyond the age parameters. Patients under 18 years and over 75 years necessitate the same level of care and a comprehensive kidney evaluation, when clinically appropriate.

Clinical Quality Measures are not guidelines, nor do they represent or establish a standard of clinical care. Rather, measures assess adherence to evidence-based clinical recommendations.

Clinical quality measures are not guidelines, nor do they represent or establish a standard of care. Rather, measures assess adherence to evidence-based clinical recommendations. This clinical quality measure is based on two clinical guidelines form the NKF and the American Diabetes Association (ADA) which explicitly recommended urine albumin-to-creatinine ratio (uACR) and estimated glomerular filtration rate (eGFR) laboratory testing in patients with diabetes.

To address the growing burden of CKD across a broader scope of high-risk populations, several variants were discussed in the development of this measure, among them the evaluation of patients with hypertension for CKD. The TEP agreed that evaluating these patients is important, but the evidence in support of this clinical action as a clinical quality measure was insufficient. Ultimately, the TEP agreed to focus on diabetes only and to encourage additional research regarding hypertension and CKD to establish the level of evidence required for a measure of accountability.

Measure: Kidney Health Evaluation

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Measure Description	Percentage of patients aged 18-75 years with a diagnosis of diabetes who received a kidney health evaluation defined by an Estimated Glomerular Filtration Rate (eGFR) AND Urine Albumin-Creatinine Ratio (uACR) within the 12-month measurement period
Denominator Statement	All patients aged 18-75 years with a diagnosis of diabetes Guidance: This is measure assesses performance of a comprehensive kidney evaluation in adults aged 18-75. This measure does not preclude or discourage the use of regular laboratory testing for CKD in patients outside of the age range (patients under 18 years and those over 75 years of age).
Numerator Statement	Patients who received a kidney health evaluation defined by an Estimated Glomerular Filtration Rate (eGFR) AND Urine Albumin-Creatinine Ratio (uACR) within the 12-month measurement period
Denominator Exclusions	Patients with a diagnosis of End Stage Renal Disease (ESRD); Patients with a diagnosis of Chronic Kidney Disease (CKD) Stage 5; Patients who are receiving hospice care
Supporting Guidelines and Other References	The following evidence statements are quoted verbatim from the referenced clinical guidelines and other sources, where applicable: At least once a year, assess urinary albumin (e.g., spot urinary albumin-to-creatinine ratio) and estimated glomerular filtration rate in patients with type 1 diabetes with duration of ≥5 years, in all patients with type 2 diabetes, and in all patients with comorbid hypertension. B (American Diabetes Association, 2019) Patients with diabetes should be screened annually for DKD. Initial screening should commence: • 5 years after the diagnosis of type 1 diabetes; (A) or • From diagnosis of type 2 diabetes. (B) Screening should include: • Measurements of urinary albumin-creatinine ratio (ACR) in a spot urine sample; (B) • Measurement of serum creatinine and estimation of GFR. (B) (National Kidney Foundation [NKF], 2007; NKF, 2012)
Rationale	Chronic Kidney Disease (CKD) is a major driver of morbidity, mortality and high healthcare costs in the United States. Currently, 30 million American adults have CKD and millions of others are at increased risk (NKF, 2019), with an estimated population prevalence growing to nearly 17% among Americans aged 30 years and older by the year 2030 (Saran, 2019; Hoerger, 2015). Total Medicare

	spending in 2016 on both CKD and ESRD was over $114 billion, comprising 23% of total Medicare fee-for-service spending overall with costs increasing exponentially with advancing CKD (Saran, 2019; Golestaneh, 2017). In the US from 2002-2016, the burden of CKD, defined as years of life lost, years living with disability, disability-adjusted life years, and deaths, outpaced changes in the burden of disease for other conditions (Bowe, 2018). Patients with CKD are readmitted to the hospital more frequently than those without diagnosed CKD (Saran, 2019). CKD is the 9th leading cause of death in the US and is the fastest growing non-communicable disease in terms of in burden largely due to death (Hoerger, 2015; Bowe, 2018). This public health issue is driven largely by the impact of diabetes—the most common comorbid risk factor for CKD (Saran, 2019; Bowe, 2018). The intent of this process measure is to improve rates of guideline-concordant kidney health evaluation in patients with diabetes to more consistently identify and potentially treat or delay progression of CKD in this high-risk population. Annual kidney health evaluation in patients with diabetes to determine risk of CKD using estimated glomerular filtration rate (eGFR) and urine albumin creatinine ratio (uACR) is recommended by clinical practice guidelines (ADA, 2018; NKF, 2007; NKF 2012) and has been a focus of various local and national health care quality improvement initiatives, including Healthy People 2020 (United States Renal Data System, 2018). However, performance of these tests in patients with diabetes remains low, with rates that vary across Medicare (41.8%) and private insurers (49.0%) (Saran, 2019). Low rates of detection of CKD in a population of patients with diabetes have been demonstrated to be associated with low patient awareness of their own kidney health status (Szczech, 2014). Indeed, 90% of individuals with CKD are unaware of their condition due to under-recognition and under-diagnosis (Saran, 2019; Centers for Disease Control and Prevention, 2019). Currently, an individual's lifetime probability of developing CKD is relatively high, reaching 54% for someone currently aged 30-49 years (Hoerger, 2015). Regular kidney health evaluations, utilizing both eGFR and uACR, provide an opportunity to improve identification and potential reversal of worsening kidney function, particularly in high risk populations, such as those with diabetes.
Measure Designation	
Measure Use	Quality Improvement Accountability
Measure Type	Process
Level of Measurement	Individual Practitioner Group Practice
Care Setting	Outpatient
Improvement Notation	Higher score indicates better quality

CMS Meaningful Measures Area(s) addressed	☐ Promote Effective Communication and Coordination of Care ☒ Promote Effective Prevention and Treatment of Chronic Disease ☐ Work with Communities to Promote Best Practices of Healthy Living ☐ Make Care Affordable ☐ Make Care Safer by Reducing Harm Caused by Delivery of Care ☐ Strengthen Person and Family Engagement as Partners in their Care

Evidence Classification/Rating Schemes

ADA evidence-grading system for "Standards of Medical Care in Diabetes"

Level of Evidence	Description
A	Clear evidence from well-conducted, generalizable randomized controlled trials that are adequately powered, including • Evidence from a well-conducted multicenter trial • Evidence from a meta-analysis that incorporated quality ratings in the analysis Compelling nonexperimental evidence, i.e., "all or none" rule developed by the Centre for Evidence-Based Medicine at the University of Oxford Supportive evidence from well-conducted randomized controlled trials that are adequately powered, including • Evidence from a well-conducted trial at one or more institutions • Evidence from a meta-analysis that incorporated quality ratings in the analysis
B	Supportive evidence from well-conducted cohort studies • Evidence from a well-conducted prospective cohort study or registry • Evidence from a well-conducted meta-analysis of cohort studies Supportive evidence from a well-conducted case-control study
C	Supportive evidence from poorly controlled or uncontrolled studies • Evidence from randomized clinical trials with one or more major or three or more minor methodological flaws that could invalidate the results • Evidence from observational studies with high potential for bias (such as case series with comparison with historical controls) • Evidence from case series or case reports Conflicting evidence with the weight of evidence supporting the recommendation
E	Expert consensus or clinical experience

Grade for Quality of Evidence in the KDOQI Diabetes and CKD Guideline

Grade	Quality of Evidence	Meaning
A	High	We are confident that the true effect lies close to that of the estimate of the effect.
B	Moderate	The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
C	Low	The true effect may be substantially different from the estimate of the effect.
D	Very Low	The estimate of effect is very uncertain, and often will be far from the truth.

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