

Laboratory Medicine Impact on Population Health Implementing the Kidney Profile

INTRODUCTION

Under-recognition of chronic kidney disease (CKD) is a significant public health issue.

37 million Americans have CKD.

9 of 10 people with CKD don't know they have it.

50% of people with advanced CKD remain unaware of their low kidney function.

\$114 billion was spent by Medicare on CKD care in 2016.

CKD is diagnosed by two inexpensive, widely available tests:

1. estimated glomerular filtration rate (eGFR)
2. urine albumin-creatinine ratio (UACR).

- Both tests are needed to test for CKD and risk stratify its progression.
- eGFR and UACR are predictors of important clinical outcomes, including CKD progression, end-stage renal disease, acute kidney injury, cardiovascular mortality, and all-cause mortality.

Barriers to use and interpretation exist for the two tests that diagnose chronic kidney disease.

- They are often not located near each other or are not labeled with clear indications that kidney disease is their focus.
- There are two common eGFR equations utilized in the U.S. The CKD-EPI creatinine 2009 eGFR equation more accurately predicts clinical risk for people with CKD.
- Urine albumin-creatinine ratio is currently called "microalbumin with creatinine" test. Recent clinical practice guidelines have recommended that the "microalbumin test" term be replaced because of misinterpretation as "small albumin" or a specific test value range, rather than the test itself
- The reporting units for UACR are not consistent across all laboratories.

NATIONAL KIDNEY FOUNDATION: LABORATORY ENGAGEMENT INITIATIVE

METHODS

NKF convened the Laboratory Engagement Advisory Group (Advisory Group) to assist in defining the steps to remove laboratory barriers to CKD testing.

PARTICIPATING ORGANIZATIONS



WORKING COLLABORATIVELY TO IMPLEMENT

RESULTS

The organizations identified here support the LEI recommendations and have implemented them:

- Standardize use of CKD EPI equation for eGFR;
- Rename "microalbumin" test to "albumin-creatinine ratio, urine";
- Standardize uACR reporting to mg/g;
- Create laboratory specific "Kidney Profile" combining eGFR and uACR into one ordering unit;
- Implement an awareness and education program regarding CKD with all ordering clinicians.

Kidney Profile combines eGFR and UACR into one, easily identifiable ordering unit.

Arizona is the ONLY state where Kidney Profile can be broadly promoted to primary care as there is sufficient laboratory participation.

CHALLENGES

The majority of people at risk for CKD do not receive recommended testing.

Only 40% of people with diabetes that are tested for albuminuria.

<10% of people with hypertension that are tested for albuminuria.

In Arizona:

79% of people with laboratory evidence of diabetes have not received urine albumin-creatinine ratio testing in the past 12 months.*

82% of people with laboratory evidence of CKD were not tested for albuminuria in the past 12 months.*

*Data courtesy of Sonora Quest

Barriers to Kidney Profile implementation include:

- Limited inclusion of CKD in existing primary care population health models;
- Perceived competing priorities in busy primary care practices;
- Low recognition of the impact of CKD diagnosis and management among clinical or administrative leadership;
- Engaging local or academic laboratories that conduct outpatient processing to implement Kidney Profile;
- Internal challenges to implementing the Kidney Profile in large academic settings.

REFERENCES:

Centers for Disease Control and Prevention. Chronic Kidney Disease in the United States, 2019. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention.; 2019.

Miller WG, Bachmann LM, Delanghe JR, Inker LA, Jones GRD, Vassalotti JA. Optimal Use of Biomarkers for Chronic Kidney Disease. Clinical Chemistry 2019;65:949-55.

NKF Laboratory Engagement Plan. 2019. at <https://www.ascp.org/content/get-involved/institute-of-science-technology-policy/ckd-assessment-and-diagnosis>.



Scan to see online:
NKF Laboratory Engagement Plan