

The National Kidney Disease Education Program: Improving Understanding, Detection, and Management of CKD

Andrew S. Narva, MD, and Michael Briggs, BA

The National Kidney Disease Education Program (NKDEP), an initiative of the National Institute of Diabetes and Digestive and Kidney Diseases, works to reduce the morbidity and mortality caused by chronic kidney disease (CKD) and its complications. Established in 2000, the NKDEP initially focused on increasing awareness in at-risk populations and helping the laboratory community recalibrate serum creatinine measurement methods and begin using a revised equation to estimate glomerular filtration rate. Expanding its focus in recent years, the NKDEP now works to improve provider practices by collaborating with health systems, community health centers, and professional associations to encourage testing and treatment of patients. Among its top priorities is to develop such resources as clinical encounter tools, patient education aids, and training programs that help primary care professionals better identify and care for patients with CKD. Other priorities include improving the coordination of federal responses to CKD and addressing the standardization of measurement and reporting of urine albumin. Improving CKD detection and management is an important challenge. To succeed, the NKDEP must work in close partnership with the renal community, public health agencies, professional associations, and voluntary organizations that serve at-risk and patient communities.

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Chronic kidney disease (CKD) is a significant public health problem in the United States. Millions of Americans have diabetes or high blood pressure, the 2 leading risk factors for kidney failure.¹ An estimated 26 million Americans have CKD or albuminuria.² Recent data show that 485,015 people are on dialysis therapy or living with a kidney transplant.¹ Kidney failure cost the health care system approximately \$32.5 billion in 2004.³

Progression from CKD to kidney failure can be delayed if it is detected and treated early. Therapy with angiotensin-converting enzyme inhibitors or angiotensin receptor blockers decreases proteinuria and slows disease progression.^{4,5} Controlling blood pressure to less than 130/80 mm Hg has been shown to be beneficial,⁶ and there is evidence that intensive glycemic control slows progression from microalbuminuria.⁷

Improvement in both CKD screening and management is needed. A survey conducted between October 2006 and February 2007 found that only 38% of laboratories that report serum creatinine followed the recommendation to report estimated glomerular filtration rate (eGFR).⁸ Other investigators found that less than 40% of patients with an eGFR less than 30 mL/min/1.73 m² were coded with a CKD diagnosis.⁹ Despite strong evidence of benefit from multiple studies, the percentage of diabetic patients with CKD receiv-

ing angiotensin-converting enzyme inhibitors or angiotensin receptor blockers has been slow to increase.¹

A NATIONAL RESPONSE

The National Kidney Disease Education Program (NKDEP) was established in 2000 by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The program's chief objective is to decrease the morbidity and mortality caused by CKD and its complications. Specifically, the NKDEP aims to improve the early detection of CKD, facilitate identification of patients at greatest risk of progression to kidney failure, and promote evidence-based interventions to slow the progression of CKD. The NKDEP is a parallel initiative to the National Diabetes Education Program, also located within the NIDDK.

From the National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, MD.

Address correspondence to Andrew S. Narva, MD, National Kidney Disease Education Program, DKUH, NIDDK, NIH, Two Democracy Plaza, Rm 645, 6707 Democracy Blvd, Bethesda, MD 20892-0001. E-mail: narvaa@niddk.nih.gov

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The NKDEP emphasizes the importance of screening to identify people with CKD as early as possible in the course of their disease. The program also promotes effective treatments and management strategies for patients with CKD and facilitates implementation of appropriate interventions. In pursuit of these goals, the NKDEP works in collaboration with a range of government, non-profit, and health care organizations to raise awareness in people at risk of kidney disease about the need for testing and the benefits of early detection, provide resources and tools to help health care providers better detect and treat kidney disease, and support changes in the laboratory community that yield more accurate, reliable, and accessible test results.

PROGRAM HISTORY

The NKDEP initially focused on at-risk patients, developing a variety of awareness-raising and educational materials (eg, website, brochure, print and radio public service announcements, and video). Formative research was conducted with at-risk populations, patients with CKD, and providers, and a Steering Committee was formed so the program could benefit from the advice of representatives from the renal community and target audiences. Materials were developed for distribution in dialysis clinics, encouraging dialysis patients to alert family members to their increased risk of CKD.

Beginning in April 2003, the NKDEP piloted an awareness campaign targeting at-risk patients—You Have the Power to Prevent Kidney Disease—in 4 cities: Atlanta, GA; Baltimore, MD; Cleveland, OH; and Jackson, MS. In each city, interested volunteers formed coalitions to plan and implement kidney disease awareness activities using NKDEP materials and resources. The campaign was launched nationally in June 2004 with media outreach and dissemination of campaign materials through more than 30 partner organizations.

A crucial early NKDEP effort was the formation of the Laboratory Working Group (LWG), which brought together some of the nation's leading clinical chemists and nephrologists to address issues related to laboratory measurement of kidney function using eGFR. The LWG began work on standardizing serum creatinine determinations to yield more accurate estimates of GFR.

This led to the publication in 2006 of comprehensive recommendations in *Clinical Chemistry*¹⁰ and the launch that year of the Creatinine Standardization Program (CSP), discussed in greater detail later. Two fact sheets, *Rationale for Use and Reporting of Estimated GFR* and *Suggestions for Laboratories*, were developed for the laboratory community by the LWG to promote routine reporting of eGFR and creatinine standardization, respectively.

Another early program was the African American Family Reunion Initiative. This program encourages families to use reunions and other gatherings as occasions to discuss the connection between diabetes, high blood pressure, and kidney disease and encourage those at risk to be tested for kidney disease. A *Family Reunion Health Guide* and companion website¹¹ were developed to provide family members with materials and ideas for incorporating this information into their events.

DEVELOPMENT OF NEW PROGRAMS

The NKDEP is guided by the Chronic Care Model,¹² which offers a strong framework for identifying system-level change concepts that can engage both providers and patients in improving CKD detection and management. The program relies on guidance from experts in the health care and public health communities, as well as primary and secondary research, to inform program and materials development. These and other experts contribute ideas and recommendations through participation in a Coordinating Panel, which meets annually, and through ongoing informal communications.

In addition to the Coordinating Panel and the LWG, the NKDEP has formed several ad hoc working groups over the years. A Quality Indicators Working Group explored the development of quality indicators for CKD in Medicare beneficiaries hospitalized for cardiovascular disease. A Dialysis Working Group advised the NKDEP on opportunities related to engaging dialysis patients in outreach to at-risk family members.

CURRENT ACTIVITIES

Laboratory Professional Outreach

In partnership with the American Association for Clinical Chemistry (AACC) and the Interna-

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