

The Kidney Care Prevention Program: An Innovative Approach to Chronic Kidney Disease Prevention

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Traditional methods of health care delivery do not adequately address the needs of individual citizens or populations with chronic kidney disease (CKD). One in 9 North Carolinians has CKD.¹ Without early intervention, many people with CKD will progress to end-stage kidney disease (ESKD), an irreversible and debilitating disease that represents the last stage in the long duration of chronic kidney disease. ESKD is not only a personal and financial tragedy for patients and their families, but it also generates a serious financial burden for society as a whole.¹⁻⁴

North Carolina's rural, underserved areas tend to have the highest rates of ESKD. However, the relative dearth of primary care physicians in rural areas does not fully explain the lack of access to preventive, primary care services including screening and early intervention for CKD.⁵ Primary care physicians, irrespective of practice location, frequently diagnose patients in late stages of CKD—missing the opportunity to stop the disease or to significantly slow its progression.⁶ Individuals' lack of awareness about CKD and its risk factors creates an additional barrier to obtaining preventive care. Jurkovitz and colleagues found that even though African Americans are nearly 7 times as likely to report a positive family history of ESKD, their perceptions of personal risk do not reflect their actual increased risk.⁷ Further, citizens in rural communities with struggling economies and modest employment opportunities are often uninsured or underinsured and are unlikely to pay out of pocket for preventive care services. In 2005, it was estimated that only 25% of North Carolina's uninsured population receives services from North Carolina safety net organizations.⁸ There is an immediate need to create a community-based, systematic, and targeted intervention to reduce the number of North Carolina citizens that progress to ESKD.¹

The Kidney Care Prevention Program (KCPP) is a collaboration between the University of North Carolina (UNC) Kidney Center and the North Carolina Community College System (NCCCS). KCPP is designed to reduce the mortality, morbidity, and cost associated with kidney disease through an aggressive

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combination of community-based, targeted educational outreach; free screenings; and sustained, personalized disease management by trained kidney care coordinators. The KCPP has 2 innovative components: (1) Fully equipped mobile outreach units that will travel the eastern, central, and western regions of North Carolina to provide immediate screening and intervention for North Carolinians at risk for developing chronic kidney disease, and (2) A new curriculum offered through the NCCCS, that will lead to certification of allied health professionals who can serve as kidney care educators and care managers.

Screenings

The first level of intervention is to provide free screenings to targeted, at-risk populations, in order to identify people with early stages of CKD. In a recent review of the principles of screening and diagnostic testing in the context of CKD, Jaar et al concluded that “in order to decrease the societal burden of kidney

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disease and reduce the high morbidity and mortality associated with CKD, detection of CKD—particularly at early stages—is essential because therapeutic interventions are likely to be effective if they are implemented early in the course of the disease.”⁹

The screenings will be provided across the state by 3 fully-equipped mobile outreach units (MOU). The first MOU, purchased by the UNC Kidney Center, is providing screenings in 17 target counties as part of the Kidney Education Outreach Program. Two additional units will be purchased and managed by Wake Forest University Bowman Gray School of Medicine and East Carolina University Brody School of Medicine. The goal of this immediate intervention is to have statewide coverage through dedicated mobile outreach units. Staff and volunteers from each of the 3 medical schools will oversee the screenings. Additional manpower will be provided through partnerships with the local community colleges’ allied health programs, as well as through trained, local lay leaders.

Early identification of people with CKD is not sufficient to ensure that they receive the education and services needed to help them manage their disease. Individuals who have been identified as having early stages of CKD or who are at risk of developing CKD should also be linked to primary care providers (PCPs). As Cynda Johnson notes in her commentary, PCPs should screen individuals who are at risk, stage them according to the KDOQI guidelines, and help the patients manage their comorbid conditions.¹⁰ However, there is a lack of primary care providers in many areas of the state, with 11 counties and parts of 27 other counties identified as persistent primary care shortage areas.^{a,11} Further, PCPs face challenges managing the growing number of patients with chronic illnesses even in communities with adequate numbers of PCPs. This is made even more difficult given the current reimbursement structure that favors procedures rather than more time-intensive patient education and disease management. Referring patients to nephrologists in the early stages of the disease is not a realistic alternative given the lack of nephrologists needed to treat the growing number of CKD patients.¹² These 2 factors underline the importance of a new strategy to achieve earlier diagnosis and personalized management of patients in early-stage CKD if North Carolina is to be successful in reducing the burden of CKD. Early identification needs to be coupled with linkages to primary care providers and to trained care managers who can help primary care physicians monitor patients’ vital signs, promote healthier lifestyles, and teach patients self-management strategies.

Long-term Intervention: The Kidney Care Coordinator/Educator (KCCE)

The second major component of the KCPP is the development of a curriculum to train allied health professionals to monitor and manage patients with or at risk for CKD. Learning outcomes, developed by a committee including primary care nurses, PCPs,

nephrologists, community-based social workers, and health educators, will guide the content of the KCCE curriculum. These outcomes will anchor the development of the test specifications table used to develop both the formative self-assessment tests and the summative certification examination. Individuals who successfully complete the 4-course curriculum and achieve a passing score on the criterion-reference summative examination will be certified as trained KCCEs. Under the auspices of a primary care physician, certified KCCEs will provide preventive management and monitoring as well as teach self-management skills both to patients at risk for CKD as well as to patients with early-stage CKD and related chronic diseases. In addition, the KCCE will be required to complete continuing medical education every 2 years to retain certification. The kidney curriculum will be offered to practicing and future allied health professionals through the North Carolina Community College System. The KCCE program will be evaluated by comparing short- and long-term assessment of participating patients’ clinical outcomes, self-management skills, and quality of life self-assessments to those of a comparable group of patients who receive only written instruction/guidelines for monitoring their CKD risk factors and comorbid conditions. In contrast to certified diabetes educators, the kidney disease care coordinator/educator will be trained for early intervention focused on prevention of CKD, self-management instruction, and the monitoring of patients’ comorbid conditions. While diabetes educators would be excellent candidates for this additional certification, the KCCE role can also be filled by a broad range of allied health professionals. It is anticipated that if the evaluation of a KCCE pilot project shows evidence of improved health outcomes for participating patients, there should be strong potential to obtain reimbursement from private and public payers for the KCCE’s services, similar to the Center for Medicare and Medicaid Services’ reimbursement for physician-referred American Diabetes Association-approved diabetes self-management training.

Case management is recognized as an important way to provide care for patients with chronic diseases and as being a way to promote a team approach to providing quality patient care. Wagner, in his discussion of the role of patient care teams in chronic disease management, emphasizes that successful management of chronic disease often requires that other members of the health care team competently conduct important aspects of care that the physician may not “have the training or time to do well.”¹³ Case management has been found to provide benefits to both the patients and the larger health care system in smoking cessation initiatives and glycemic and hypertension control programs.¹⁴⁻¹⁸ In addition, care managers have been shown to increase patient adherence to treatment protocols, and to help patients make difficult lifestyle changes. For example, Stafford and colleagues describe a cardiac case management program and note that “By intensively following patients over time, case management may be better

a A persistent health professional shortage area (PHPSA) is a county, or part of a county, that has been designated by the Health Resources and Services Administration within the US Department of Health and Human Services as a primary care health professional shortage area in 6 of the last 7 years.

able to facilitate guideline-concordant care, educate and empower patients to make challenging lifestyle changes, improve patient adherence and quality of life in response to therapies, and coordinate patients' multiplicity of conditions and providers."¹⁹

Community Care of North Carolina (CCNC) has long used diabetes case managers in the care of Medicaid recipients with diabetes. Between 2000-2004, CCNC saw an increase in compliance with nationally recognized clinical practice guidelines, which has lead to improved health status. For example, there was a 10% increase in referrals for eye exams, a 62% increase in flu vaccines, a 7% improvement in continued care visits since baseline, an 18% improvement in foot exams since baseline, and an 11% increase in lipid testing.²⁰ These improvements are estimated to have saved the Diabetes Case Management program \$2.1 million from 2000-2002.²¹ In addition, patients have benefited from improved management of their chronic disease. These findings can be even more impressive when CKD is added to the list of desired and measured outcomes.

There is every reason to believe that a state kidney care management program offered by trained kidney care coordinator/educators would yield similar results. Trained kidney care coordinator/educators can intervene early in the disease and help individuals with early-stage CKD monitor and manage their conditions. Equally as important, KCCEs can educate patients about the importance of self-management for comorbid diseases while providing support for improved health behaviors and outcomes. Often referred to as a shadow disease, CKD usually occurs in conjunction with other comorbid diseases such as diabetes, hypertension, and heart disease. Optimal care for patients with early CKD or for those at increased risk of CKD requires coordinated care between the primary care physician and the specialist, often a cardiologist, and in many

cases a nephrologist.^{22,23} On a clinical level, KCCEs, much like diabetes educators and case managers, can monitor patients' blood pressure, weight, and A1C evaluation; promote self-directed care; and educate and counsel patients about healthy lifestyle behaviors such as smoking cessation, diet, and physical activity. At an administrative level, the KCCE can coordinate care among physicians.

Summary: Filling the CKD Prevention and Service Gap

The Kidney Care Prevention Program is an idea whose time has come. A statewide screening program that targets high-risk citizens in local settings and regardless of ability to pay can significantly retard the predicted growth of the CKD epidemic and help reduce the number of North Carolina citizens that find themselves dependent on dialysis or in need of a kidney transplant. The introduction of a new health provider certification program, developed and delivered in conjunction with the North Carolina Community College System, provides a venue for allied health professionals to obtain certification in the management of CKD and its comorbid diseases. This allows primary care physicians to provide the best of case management and coaching for at-risk patients with the potential for reimbursement through private and public insurers. Equally as important, the KCPP provides at-risk patients access to the personalized care that will support and promote lifestyle and health behavior changes. Care management will be provided throughout the progression of the disease. Most importantly, care management can be made available before clinical symptoms are apparent, when there is the greatest opportunity for preventing or slowing the progression of CKD. **NCMJ**

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