

NC IOM TASK FORCE ON CHRONIC KIDNEY DISEASE

February 26, 2007

NC Hospital Association

10:00-3:00

ATTENDEES

Task Force/Steering Committee: Tammie Bell, Paul Bolin, Joel Bruce, Celeste Castillo Lee, Jennifer Cockerham, Sam Cykert, Shirley Deal, Annette DuBard, Thomas DuBose, Jr., Ronald Falk, James Fleming, Deidra Hall, Donna Harward, Jeffrey Hoggard, Bill Hyland, Jim Keene, Ann Lefebvre, Denise Michaud, Marilyn Pearson, Marcus Plescia, Barbara Pullen-Smith, Leanne Skipper, John Smith, Laura Edwards, Chip Killian, Janet Reaves,

Interested Persons/Staff: Patrick Buffkin, Amy Cook, Maura McCann, Anne Rogers, Virginia Wang, Kimberly Alexander-Bratcher, Jennifer Bonds, Kristen Dubay, Mark Holmes, Kiernan McGorty, Pam Silberman

WELCOME AND INTRODUCTIONS

Marcus Plescia, MD, MPH

Co-Chair

Chief, Chronic Disease and Injury Section

NC Division of Public Health

Department of Health and Human Services

Leanne Skipper

Co-Chair

Chief Executive Office

National Kidney Foundation of North Carolina

Ms. Skipper welcomed the members of the Task Force and asked the participants to introduce themselves. Several members were attending for the first time. Dr. Silberman welcomed new members and gave an overview of the meeting. This meeting focused on part one of the Task Force charge: reduce the occurrence of chronic kidney disease by controlling the most common risk factors, diabetes and hypertension, through preventive efforts at the community level and disease management efforts in the primary care setting.

RISK FACTORS FOR CHRONIC KIDNEY DISEASE

Thomas DuBose, MD

Harrison Chair of Internal Medicine
Wake Forest University School of Medicine

Dr. DuBose described the problems with chronic kidney disease as a public health threat both globally and locally. According to the United States Renal Data System (USRDS), more than 1.8 million people suffer from end stage renal disease (ESRD) worldwide, including 387,000 people in the United States and 11,000 in North Carolina. That leads to the National Health and Nutrition Examination Survey (NHANES-3) projections of 19 million people, or 11% of the population, with chronic kidney disease (CKD) in the United States and 500,000 to 880,000 people in North Carolina. There are 100,000 new ESRD cases in the US every year, 42% of whom have diabetes mellitus. Of those, 90% have type 2 diabetes. The costs are another form of burden on the system. In 2005, the health care expenditures for CKD totaled \$17 billion. They are expected to increase to \$28 billion in 2010, amounting to 8% of the CMS expenditure for healthcare.

The USRDS system data show that from the 1980's through 1998 there was an annual increase in the number of ESRD cases. Since the late 1990's the rate of increase in new ESRD patients has plateaued. It is important to note that this progress has been achieved without a systemic approach to the problem. Dr. DuBose believes there is the possibility for much more progress with a concerted effort. The distribution of CKD is unevenly distributed by race and age.

The National Kidney Foundation describes five stages of kidney disease by estimated glomerular filtration rate (eGFR). Dr. DuBose projected the population in Georgia and NC, both at risk and with the disease. Many patients die of cardiovascular disease complications before reaching dialysis, which is usually synonymous with the last stages of kidney disease. While many discussions include both CKD and ESRD, the risk factors for them may not be the same. Additionally, factors may initiate or perpetuate the diseases. Metabolic syndrome is an increasing problem. There is not a unified system for identifying risk factors and disease diagnosis.

According to Schoolwerth et al from the Centers for Disease Control and Prevention (CDC), CKD meets all of the criteria of a public health threat: 1) high burden of disease, 2) problem distributed unfairly, 3) evidence that upstream prevention strategies could reduce the burden of the condition, and 4) prevention strategies not yet in place. Recently CKD has received enhanced attention from the Centers for Medicare and Medicaid Services (CMS), CDC, large dialysis organizations, and other agencies. There is not sufficient workforce in nephrology to handle all CKD patients. A coordinated system would help care for all the patients more efficiently.

In a recent edition of the *Journal of American Society of Nephrology*, an international comparison used NHANES III and Hunt II data for Norway and the United States. Although the CKD incidence is identical in the populations, the risk of progression from

Stage 3 to Stage 4 is three times higher in US than Norway. Possible explanations include the difference in the systems of health care especially earlier referral to nephrologists, more widely available coordinated care, more patients seen by dieticians, and more widespread use of recommended medication (ACE-inhibitors and erythropoietin).

According to the *American Journal of Kidney Diseases*, a national survey concerning identification and referral of patients with progressive CKD was sent to primary care providers and nephrologists. It showed that primary care providers recommend specialty care less often than nephrologists and have incredible pressure to deal with many problems during a short visit. Articles by Kinchen et al and McClellan et al describe other problems of recognition and treatment of CKD by primary care providers. Only 20% of Medicare patients with diabetes were screened for CKD, less than 1/3 of patients diagnosed with CKD have an ACE-inhibitor prescribed, and 40% of African American men do not realize they have CKD until one week before beginning dialysis. There is also an issue of inadequate workforce. The National Kidney Disease Education Program reports an estimated seven new patients per day per nephrologists.

There are economic incentives to the approach of CKD as a public health issue. By applying proven interventional strategies, there would be significant cost savings. Delaying ESRD through specific medication (ACE-inhibitors and ARBs) saves \$3522 per patient over three years according to the RENAAL study. Trivedi showed the rate of GFR decline decreased 10% for patients with an eGFR less than 60, resulting in an \$18.6 billion savings for CMS. If Medicare Part D had first dollar coverage for ACE inhibitors, \$1606 could be saved per beneficiary each year. These data can encourage the support of interventional strategies by federal and private payers citing the long-term benefits to society.

Optimal care for CKD patients requires coordinated care. The current system of care is fragmented. Partnerships with primary care providers for management of earlier stages of CKD and managed care by mid-level providers are some recommended solutions. A system of coordinated care requires heightened public awareness and education, health care system redesign, professional education, and unified clinical guidelines.

CKD advances cardiovascular disease (CVD), as GFR falls CVD risk increases. There are specific and overlapping risks for both diseases. Historically, CKD patients have been underrepresented in CVD randomized controlled trials. Many of these trials exclude CKD patients altogether according to a recent article in the *Journal of the American Medical Association*. This causes problems with the interface of two diseases and conflicting advice. A uniform set of strategies for protection of kidney function could be applied to both sets of diseases. Rather than focus separately on ESRD and CVD, prevention of CKD would alleviate many of the more severe consequences of them both. Dr. DuBose proposed a broader strategy and suggestions to advance in that direction.

Comments/Questions: The discussion that followed concerned CKD surveillance and clinical outcomes, simple screening procedures for at risk populations, and a new article in *Archives of Internal Medicine* by Cornell and UNC that puts forth a screening tool. The importance of reaching out to the community through faith-based organizations, fraternities, and other non-traditional means was also noted.

NORTH CAROLINIANS AT RISK: UNINSURED AND PEOPLE WITH RISK FACTORS FOR CHRONIC KIDNEY DISEASE

Mark Holmes

Vice President

NC Institute of Medicine

Dr. Holmes discussed the risk factors for CKD and their prevalence, supply of nephrologists, and uninsured in North Carolina. Risk factors for CKD include those for susceptibility (older age, US racial and ethnic minority, low income or educational level), initiation (diabetes, high blood pressure), and progression (smoking). Using data from the North Carolina State Center for Health Statistics, Behavioral Risk Factor Surveillance System, North Carolina State Demographer, and US Census Bureau, several maps showed the prevalence of the risk factors across the state. Dr Holmes then combined the risk factors to show the highest combines risk in the eastern part of the state. Although the Task Force is mainly charge with CKD, ESRD prevalence is also important. Data sources from 2004 show ESRD most prevalent in the eastern part of the state as well.

The supply of nephrologists in North Carolina increased 105% between 1984 and 2005. In that same time period, the prevalence of ESRD has increased 240%. Combining the data gives a 40% decline in nephrologists in North Carolina per patient with ESRD. The Health Professions Data System (HPDS) at the Cecil G. Sheps Center for Health Services Research also shows that nephrologists are concentrated around academic medical centers with many groups of counties without nephrologists.

Before discussing the uninsured statistics, Dr. Holmes explained the method and justification for indirect estimates including cost, small sample size, and limited information on local uninsured rates. Across North Carolina, the rate of uninsured varies from a low of 13.9% in Wake County to a high of 28.3% in Tyrell County. Preliminary data for 2005 show the same general pattern on the highest uninsured rates in the eastern part of the state. Further analyses conclude that counties with high ESRD prevalence, and therefore higher risk of CKD, have a higher percentage of their population uninsured.

Dr. Holmes concluded the presentation with three takeaway points: 1) prevalence of CKD risk factors vary across the state but are concentrated in the Northeast and Southeast, 2) nephrologists supply has not kept up with the prevalence of CKD and they are unevenly distributed across the state, and 3) North Carolina counties with high risk for CKD have high risk of lacking health insurance.

Comment/Questions: The discussion that followed pertained to collection methods of the nephrologists' location (home, office, multiple service sites) and prevalence versus incidence of CKD. The HPDS places nephrologists based on their self-designated home office. To the extent that nephrologists practice in satellite locations -- either full-time or intermittently (such as "every other Monday" in a certain rural location) -- the data may overestimate the geographic maldistribution of nephrologists. Many nephrologists cover large areas, but are not covered in the maps because they serve in dialysis clinics there.

STATEWIDE PREVENTION EFFORT

Ronald Falk, MD

Distinguished Professor/ Chief,
Nephrology and Hypertension Division
UNC Chapel Hill School of Medicine

Dr. Falk is an academic nephrologist with a research laboratory who believes the focus should be on the population and citizenry. He coined the phrase, "Hey doc, how are my kidneys?"TM to remind patients to ask about kidney function at all physician visits. It is the trademarked slogan of the UNC Kidney Education Outreach Program (KEOP) that has targeted seventeen North Carolina counties with high CKD prevalence rates. Operating in 3 NC counties (Anson, Edgecombe, and Montgomery) and beginning in 3 additional counties (Bertie, Martin and Caswell), the KEOP partners with local and regional groups to effectively target, screen, and educate citizens at risk for CKD. Community-based partnerships allow the KEOP to assess to local knowledge through targeted focus groups and data derived from these focus groups inform subsequent community-based educational activities. The program uses local citizens as advocates of kidney disease awareness and prevention in media campaigns.

Early detection slows the progression of kidney disease, treats anemia, and avoids malnutrition and vascular calcification. ACE inhibitors are inexpensive and could prevent or halt the disease if available to targeted populations. The UNC Kidney Center provides free screenings using local help from community colleges and organizations like the NCAAP. They have currently screened nearly 1000 citizens. The program has obtained funding from the UNC Healthcare System, the Kate B. Reynolds Charitable Trust, and donations to purchase a mobile outreach unit that will allow the KEOP to administer free screenings and outreach activities more efficiently.

A federal earmark for CKD prevention and increased citizen awareness in NC is in the planning stages and would provide for mobile outreach units dedicated to the central, eastern and western areas of NC. The North Carolina Community College System will partner with UNC Kidney Center to develop a "kidney care educator" certificate program for nursing and allied health care professionals. The program would produce providers to educate the public about kidney disease, provide a focus for local screening efforts, slow the progression of kidney disease with ACE inhibitors and ARBs, manage anemia and

divalent ion abnormalities, and avoid malnutrition, in collaboration with primary care physicians. These kidney care educators, trained and located in all 100 counties, will provide appropriate renal replacement preparation education including what to expect, financial and psychosocial preparation, job maintenance, exercise and rehabilitation programs, and education of family members (especially those for patients on treatment modalities in the home).

The North Carolina Community College System is an established network throughout the state with 58 community colleges spanning 100 counties. Martin Lancaster, the president of the system, lends his support to the implementation of a statewide certificate program for kidney care managers. People from the community are more likely to serve in their home areas. Work continues with state and federal agencies to develop a reimbursement structure for preventive care so that local Kidney care prevention educators/coordinators will be able to provide and then bill for services.

The program's effectiveness will be monitored through a variety of measures. Data collection will include population level data on kidney disease in North Carolina. Data analyses will focus current programs and generate new programs for identified issues. Specific topics used to guide evaluation include: reduction of ESRD incidence (especially in the African American population), reduction in patient nephrology referrals 15 days prior to the need for dialysis, reduced mortality rate due to CKD or related causes, and CKD treatment cost reduction. The Glomerular Disease Collaborative Network has shared data for the past 22 years and the proposed system will function similarly.

Dr. Falk briefly described the earmark process and how the Task Force could help. He suggested public-private support, working together to develop a sustainable approach, how to best use funds, and educate citizenry. He also expressed his hope to be the first state to unfold citizen-based kidney disease education program.

Comments/Questions: The discussion that followed focused on the patient progress through the KEOP program, the safety net and Medicaid populations, and the overlap between CKD, CVD, and diabetes, and the health care workforce shortage. There are significant lessons to be learned from other disease-based interventions that need to be involved in the process.

DISEASE MANAGEMENT FOR PEOPLE WITH CHRONIC KIDNEY DISEASE: COMMUNITY CARE OF NORTH CAROLINA (CCNC)

Annette DuBard, MD, MPH

Associate Medical Director for Quality, Evaluation, and Health Outcomes,
N.C. Division of Medical Assistance

Dr. DuBard introduced herself and her work with Community Care of North Carolina (CCNC). In State Fiscal Year 2006, 7,592 North Carolina Medicaid enrollees received services for ESRD; most are dually eligible. Medicaid and Medicare paid over \$839 million, with 52% of the cost incurred to Medicaid (these cost estimates do not include

pharmacy costs covered under Part D. The average annual cost per patient is more than \$110,000. Many states have turned to capitated managed care models to deal with cost increases; NC is the only CCNC model. Only 17% of these ESRD patients are enrolled in CCNC.

Many states have turned to capitated managed care models to deal with cost increases; the CCNC model is unique to NC. The basic operating premise of CCNC is that no matter what organization manages Medicaid, the providers are the same and must be engaged. Health management function must be the focus rather than regulatory function. Cost containment must be carefully balanced with quality improvement efforts. Decision making must be driven by data and outcomes. The health care system must be transformed from an acute care model to a chronic illness one. Community collaboration and local physician leadership are key components in these transitions.

The primary goals of CCNC are to improve the care of the Medicaid population while controlling costs, develop community networks capable of managing recipient care, and develop the systems needed to improve the quality, utilization and cost effectiveness of chronic illness care. All CCNC initiatives and efforts are evidence based. Networks receive \$2.50 per member per month to provide management and physicians receive the same to provide a medical home. A case management team and other staff help provide service and data support is provided by the state office. The network is now established in 99 of 100 counties with over 700,000 enrollees and 3,500 physicians. Key programs include quality improvement processes, implementing disease management, case management of high risk patients, and building accountability through monitoring and reporting. Current initiatives include statewide asthma, diabetes, emergency department utilization (medical home), and congestive heart failure programs, pilots for polypharmacy, chronic obstructive pulmonary disease (COPD), mental health integration, obesity and development of eight counties piloting chronic disease management to the aged, blind and disabled population, and hypertension and cardiovascular risk reduction.

CCNC demonstrates significant cost savings. According to Mercer Human Resource Consulting Group, the CCNC program saved \$60 million and \$124 million when compared to access models without cost containment efforts in 2003 and 2004 respectively while showing improved outcomes. The CCNC Diabetes Initiative has produced improved process measures and a statewide average HbA1c of 7.7. There remains substantial room for improvement in blood pressure control and nephropathy prevention among CCNC diabetics (a little over half have filled a prescription for ACE inhibitors or ARBs in past 4 months, but only 1/3 of the remainder have been screened for microalbuminuria in the past year). The CCNC Hypertension Initiative is currently collaborating with the Division of Medical Assistance in a chart review and will focus on global cardiovascular risk reduction for practices and physicians, and using nurse administered telephone interventions to help educate patients, address barriers, and promote adherence to the treatment plan. Only half of Medicaid patients with hypertension are enrolled in CCNC and more than twice the number of the Medicaid population are now uninsured and have hypertension. The possible reach of these programs is far greater than current enrollment indicates.

Comments/Questions: The discussion that followed focused on laboratory values; those specific laboratory values for the CCNC enrolled patients, barriers to reporting lab values and other specific measures, and NCQA standards.

**DISEASE MANAGEMENT FOR PEOPLE WITH CHRONIC KIDNEY DISEASE:
STATE EMPLOYEES HEALTH PLAN**

Anne Rogers, BSN, MPH

Disease & Health Care Management Coordinator
NC State Health Plan

North Carolina Health *Smart* is a healthy living initiative launched in 2005 that aims to empower healthy members of the North Carolina State Health Plan (SHP) to stay healthy, help those with chronic disease or disease risk factors better manage their health, and offer integrated, cutting edge resources to members at work, at home, and through their health care provider. Health *Smart* components include health promotion and education, health risk assessment, worksite wellness, disease management (asthma, congestive heart failure (CHF), cardiovascular disease (CVD), COPD, and diabetes), 24/7 health coaching and website, and high risk case management (including CKD and ESRD). Eligibility for services includes primary health insurance through the SHP; currently more than 518,000 members in the preferred provider organization (PPO) and indemnity plans. Other Health*Smart* services include quarterly member newsletters, WebMD information access, disease management mailers, and a disease registry is mailed to primary care providers that lists chronic disease patients' gaps in care identified from claims data.

The CKD Initiative contracted with Renaissance Health Care in 2002 to provide early identification of SHP members with CKD and case management of members with ESRD. The goal of the program is to promote quality, cost effective care and the highest achievable clinical outcomes through successful disease management of pre-ESRD kidney disease patients. The purpose of the program is to identify members with CKD early, slow the progression of the disease through case management intervention, reduce complications of common underlying conditions such as diabetes, high blood pressure, and cardiovascular disease through advanced care management strategies, educate membership of relationship between co-morbidities and kidney disease to improve self management, ease the transition to dialysis and/or provide education on kidney transplantation, and address end of life issues for members for whom dialysis or transplantation are not appropriate.

Components of the CKD Initiative include screening, evaluation, and risk assessment. Members are identified through claims analysis and referral. After initial outreach, labs are obtained to confirm pre-ESRD status. The member is then assessed to determine health condition and acuity level (may be repeated every quarter or as needed). Periodic patient assessments are performed including telephonic care management based on stage of disease and acuity level. Labs are requested from the physician at least twice annually

and patient education needs are addressed. Renaissance sends the lab progress log to obtain data and member education materials are shared with the treating physician.

Expected outcomes of the CKD Initiative are improved management of co-morbidities, active nephrology involvement prior to initiation of dialysis, permanent access at ESRD start, and reduction in hospital utilization. The program currently has 119 members participating; the majority of those are aged 50-64 years. Quarterly reporting of co-morbid conditions reveals 39% diagnosed with diabetes and 83% with hypertension. Of the participants with diabetes, more than 75% of them have had regular foot checks, eye exams and an HgA1c test in the last twelve months. Only 60% of those with hypertension meet the blood pressure control guidelines and 22% have a total cholesterol value below 200. Data on the frequency of ESRD transition from CKD shows 42% not enrolled in the CKD program, but only two hospital admissions (one infection, one renal-related) down from eleven during the previous period.

Comments/Questions: The discussion that followed inquired into program methods, cost effectiveness, suggestions for improved enrollment, and comparison and contrast with other SHP disease management programs.

TASK FORCE DISCUSSION

Dr. Silberman reviewed the ideas for future Task Force consideration generated during previous discussion. Some of the ideas that were mentioned during the meeting include:

- 1) CCNC should include measures on chronic kidney disease. CCNC should screen people with diabetes or hypertension for CKD, and when appropriate, collect estimated GFR. CCNC diabetes case managers should be trained in CKD management (through KEOP).
- 2) North Carolina foundations should help fund CKD case managers for an initial start-up period (3-5 years) to allow KEOP to show a return on investment. If KEOP can demonstrate cost savings, then private insurers/payers should reimburse for CKD disease management.
- 3) Link or develop systems of care for the uninsured with CKD (after they are screened)
- 4) Get laboratories to send eGFR to primary care providers on a routine basis (similar to what was required under NJ law)
- 5) Support KEOP as a statewide surveillance system.
- 6) Ask large insurers/payers (CCNC, SEHP, BCBSNC) to mine their existing data systems based on the UNC-screening questionnaire to identify people at heightened risk of CKD. Create a disease registry for primary care providers.
- 7) Work with software manufacturers to create pop-up reminders of people at risk of CKD (to do annual screening). This could include, but not be limited to: electronic health records, disease registries, use of case managers or allied health professionals to provide services)
- 8) Educate providers about CKD through practice or quality improvement consultants.

- 9) Reorganize primary care practices so that primary care providers can take better care of people with chronic illnesses (not limited to CKD)
- 10) Help educate people with CKD about choices in advance of dialysis
- 11) Conduct a broad social marketing campaign to educate public about their kidneys
“hey doc, how are my kidneys”