

**NORTH CAROLINA INSTITUTE OF MEDICINE  
TASK FORCE ON CHRONIC KIDNEY DISEASE**

**INTERIM LEGISLATIVE REPORT**

**JUNE 1 , 2007**

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## **NC IOM TASK FORCE ON CHRONIC KIDNEY DISEASE OVERVIEW**

In the 2006 Session, the North Carolina General Assembly asked the North Carolina Institute of Medicine (NC IOM) to convene a task force to study chronic kidney disease (Sec. 48 of Session Law 2006-248) and submit an interim report and recommendations to the 2007 NC General Assembly. The Task Force is co-chaired by Marcus Plescia, Chief of the North Carolina Division of Public Health's Chronic Disease and Injury Section, and Leanne Skipper, Chief Executive Officer of the National Kidney Foundation of North Carolina. The Task Force includes members of the NC General Assembly, representatives from the NC Department of Health and Human Services, the North Carolina Medical Society, the Old North State Medical Society, the state affiliate of the National Kidney Foundation, and the Departments of Nephrology from the academic health centers. The Task Force also includes private renal providers, people who have chronic kidney disease, practicing dietitians, registered nurses, social workers and health educators, insurers, and representatives of clinical laboratories. The Task Force members are listed in Appendix A.

The North Carolina General Assembly directed the NC IOM to develop a plan to:

1. 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.
2. Educate the public and health care professionals about the advantages and methods of early screening, diagnosis, and treatment of chronic kidney disease and its complications based on Kidney Disease Outcomes Quality Initiative Clinical Practice Guidelines for chronic kidney disease or other medically recognized clinical practice guidelines.
3. Educate health care professionals about early renal replacement therapy education for patients (including in center dialysis, home hemodialysis, peritoneal dialysis as well as vascular access options and transplantation) prior to the onset of end-stage renal disease when kidney function is declining.
4. Make recommendations on the implementation of a cost effective plan for prevention, early screening, diagnosis, and treatment of chronic kidney disease and its complications for the State's population.
5. Identify current barriers to adoption of best practices and potential policy options to address these barriers.

The Task Force has been meeting approximately once per month since January 2007. Meetings were held January 22, February 26, and March 29. On April 23, a subcommittee examining primary care and chronic kidney disease met at the NCIOM offices. Future Task Force meetings are scheduled for May 30 and July 23. Task Force members and the public have access to the charge, legislation, member list, agendas, meeting summaries, and interim legislative report through a project website located at: [http://www.nciom.org/projects/kidney\\_disease/kidney\\_disease.html](http://www.nciom.org/projects/kidney_disease/kidney_disease.html). Copies of meeting

agendas are included in Appendix B. Copies of meeting summaries are included in Appendix C.

## APPENDIX A: TASK FORCE MEMBERS

### *Co-Chairs, Task Force*

**Marcus Plescia, MD, MPH**  
Chief, Chronic Disease and Injury Section  
Chronic Disease and Injury  
NC Division of Public Health

**Leanne Skipper**  
Chief Executive Officer  
National Kidney Foundation of NC

### *Members, Task Force*

**Tammie Bell**  
Montgomery County Health Director

**Shirley Deal, RN**  
Clinical Nurse Coordinator  
Caswell Family Medical Center

**Paul Bolin, Jr., MD**  
Professor and Division Chief  
ECU Brody School of Medicine  
Division of Nephrology & Hypertension

**Annette DuBard, MD, MPH**  
Associate Medical Director for Quality,  
Evaluation, and Health Outcomes  
N.C. Division of Medical Assistance

**Joel Bruce, MD**  
Southeast Renal Associates, PA  
Charlotte Medical Society - President

**Thomas DuBose, Jr. MD**  
Harrison Chair of Internal Medicine  
Wake Forest University School of  
Medicine

**Ann Bullock, MD**  
Medical Director  
Health and Medical Division  
Eastern Band of Cherokee Indians

**Ronald J. Falk, MD**  
Distinguished Professor/ Chief,  
Nephrology and Hypertension Division  
UNC Chapel Hill School of Medicine

**Jennifer Cockerham, RN, BSN, CDE**  
Diabetes Consultant  
Community Care of North Carolina

**James K. Fleming, PhD**  
Vice President and Director  
Department of Science and Technology  
Laboratory Corporation of America

**Sam Cykert, MD**  
Associate Director- Medical Education  
and Quality Improvement  
North Carolina Area Health Education  
Program

**Linda J. Gross, MS, RD, LDN**  
Senior Renal Dietitian  
Metrolina Kidney Center FMC-NA

**Mark Darrow, MD**  
President and CEO  
Coastal AHEC

**Deidra Hall**

Founder – The Kidney Coaching  
Foundation, Inc.

**Donna H Harward**

Director of Education  
UNC Kidney Center

**Jeffrey G. Hoggard, MD**

Eastern Nephrology Associates

**Bill Hyland**

Director of Healthcare Planning  
DaVita Inc.

**Cynda Ann Johnson, MD, MBA**

Senior Associate Vice Chancellor for  
Clinical and Translational Research  
East Carolina University

**Jim Keene**

Division of Facility Services

**Jenna Krisher**

Executive Director  
Southeastern Kidney Council

**Celeste Castillo Lee**

Administrative Manager for  
Interdisciplinary Programs  
Duke University, Office of the Provost

**Ann Lefebvre, MSW, CPHQ**

Project Director  
Improving Performance in Practice  
North Carolina Academy of Family  
Physicians Foundation

**Mark Massing, MD, PhD, MPH**

Manager - Outpatient Projects and  
Research, The Carolinas Center for  
Medical Excellence

**Monica McVicker, RD**

Nutrition Director  
Robeson County Health Department

**Denise Michaud, MPH, RD, ILBC**

Caldwell County Health Director

**John P. Middleton, MD**

Director of Clinical Nephrology  
Duke University

**Marilyn R. Pearson, MD**

Johnston County Health Director

**William R. Purcell, MD**

NC State Senator – District 25

**Anne Rogers, RN, BSN, MPH**

Disease and Case Management  
Coordinator  
North Carolina State Health Plan

**George L. Saunders, III, MD**

Old North State Medical Society  
President

**John Smith, MD**

Medical Director - Blue Cross Blue  
Shield of North Carolina

**Barbara Pullen-Smith**

Executive Director  
Office of Minority Health & Health  
Disparities

**Linda Upchurch, MBA, MHA**

Renal Consultant/Group Marketing  
Baxter Healthcare Corporation

**Thomas E. Wright**

NC State Representative – District 18

*Steering Committee*

**Laura Edwards, RN**

NC Kidney/Epilepsy Program  
Coordinator  
NC DHHS Division of Public Health

**Janet Reaves, RN, MPH**

Chronic Disease Manager  
NC Division of Public Health

**Ronald J. Falk, MD**

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

**Guy Rohling**

Director – South  
Albers & Company  
(Representing Davita, Inc.)

**B. Davis Horne, Jr.**

Partner - Smith Anderson Blount Dorsett  
Mitchell & Jernigan LLP  
(Representing Abbott lab.)

**Lynette Tolson**

Legislative Liaison  
NCDHHS  
Office of the Secretary

**Leon M. (Chip) Killian**

Partner - Nelson Mullins Riley &  
Scarborough LLP  
(Representing Baxter)

**Linda Upchurch, MBA, MHA**

Renal Consultant/Group Marketing  
Baxter Healthcare Corporation

## **APPENDIX B: TASK FORCE MEETING AGENDAS**

### **NC IOM TASK FORCE ON CHRONIC KIDNEY DISEASE**

**January 22, 2007**  
**NC Hospital Association**  
**10:00-3:00**

**10:00-10:30**

#### **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

**10:30-10:45**

#### **LEGISLATIVE CHARGE**

**Pam Silberman, JD, DrPH**

President & CEO

NC Institute of Medicine

**10:45-11:15**

#### **OVERVIEW OF THE PROBLEM**

**Linda Upchurch, MBA, MHA**

Renal Consultant/Group Marketing

Baxter Healthcare Corporation

**11:15-12:00**

#### **AVAILABLE SERVICES FOR PEOPLE WITH CHRONIC KIDNEY DISEASE**

**Laura Edwards, RN**

NC Kidney/Epilepsy Program Coordinator

NC DHHS Division of Public Health

**12:00-12:30**

**LUNCH**

**12:30-1:00**

**INFORMATION FOR PEOPLE WITH CHRONIC KIDNEY DISEASE**

**Leanne Skipper**

Chief Executive Office

National Kidney Foundation of North Carolina

**1:00-1:45**

**GAPS IN KNOWLEDGE AND SERVICES**

**Donna Harward**

Director of Education

UNC Kidney Center

**1:45-2:15**

**OVERVIEW OF THE UNINSURED AND PEOPLE WITH CERTAIN RISK FACTORS**

Mark Holmes, PhD

Vice President

NC Institute of Medicine

**2:15-3:00**

**QUESTIONS AND DISCUSSION**

# NC IOM TASK FORCE ON CHRONIC KIDNEY DISEASE

February 26, 2007  
NC Hospital Association  
10:00-3:00

**10:00-10:15**      **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

**10:15-11:00**      **RISK FACTORS FOR CHRONIC KIDNEY DISEASE**

**Thomas DuBose, MD**

Harrison Chair of Internal Medicine

Wake Forest University School of Medicine

**11:00-11:45**      **NORTH CAROLINIANS AT RISK: UNINSURED AND PEOPLE WITH  
RISK FACTORS FOR CHRONIC KIDNEY DISEASE**

**Mark Holmes**

Vice President

NC Institute of Medicine

**11:45-12:30**      **STATEWIDE PREVENTION EFFORT**

**Ronald Falk, MD**

Distinguished Professor/ Chief,

Nephrology and Hypertension Division

UNC Chapel Hill School of Medicine

- 12:30-1:00**            **LUNCH**
- 1:00-1:45**            **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
- 1:45-2:30**            **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
- 2:30-3:00**            **TASK FORCE DISCUSSION**

# NC IOM TASK FORCE ON CHRONIC KIDNEY DISEASE

March 29, 2007

NC Hospital Association

10:00-3:00

- (1) 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.
- (2) Educate the public and health care professionals about the advantages and methods of early screening, diagnosis, and treatment of chronic kidney disease and its complications based on Kidney Disease Outcomes Quality Initiative Clinical Practice Guidelines for chronic kidney disease or other medically recognized clinical practice guidelines.
- (4) Make recommendations on the implementation of a cost-effective plan for prevention, early screening, diagnosis, and treatment of chronic kidney disease and its complications for the State's population.
- (5) Identify current barriers to adoption of best practices and potential policy options to address these barriers.

10:00-10:15 **WELCOME AND INTRODUCTIONS**

**Leanne Skipper**

*Co-Chair*

Chief Executive Officer

National Kidney Foundation of North Carolina

10:15-11:00 **SCREENING FOR CHRONIC KIDNEY DISEASE**

**Abhijit V. Kshirsagar, MD, MPH**

Department of Medicine

Division of Nephrology and Hypertension

University of North Carolina School of Medicine

11:15-12:00 **LAB CORP: SCREENING TESTS FOR KIDNEY DISEASE**

**James K. Fleming, PhD**

Vice President and Director

Department of Science and Technology

Laboratory Corporation of America

12:00-12:30 **Lunch**

12:30-1:15      **KIDNEY DISEASE OUTCOMES QUALITY INITIATIVE CLINICAL PRACTICE GUIDELINES FOR PRIMARY CARE PROVIDERS**

**Cynda Ann Johnson, MD, MBA**  
Senior Associate Vice Chancellor for  
Clinical and Translational Research  
Division of Research and Graduate Studies  
East Carolina University

1:15-2:00      **IMPROVING PERFORMANCE IN PRACTICE (IPIP)**

**Samuel Cykert, MD**  
Associate Director  
Medical Education and Quality Improvement  
North Carolina Area Health Education Program

**Ann Lefebvre, MSW, CPHQ**  
Project Director  
Improving Performance in Practice  
North Carolina Academy of Family Physicians Foundation

2:00-3:00      **GROUP DISCUSSION**

**NC IOM TASK FORCE ON CHRONIC KIDNEY DISEASE  
PRIMARY CARE WORKING GROUP MEETING**

**AGENDA**

April 23, 2007

North Carolina Institute of Medicine  
Durham, NC

1. Incorporate CKD management into Community Care of North Carolina
2. Incorporate CKD management into the State Employees Health Plan
3. Ideas for primary care practice generally

# NC IOM TASK FORCE ON CHRONIC KIDNEY DISEASE

**May 30, 2007**  
**NC Hospital Association**  
**10:00-3:00**

- (1) 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.
- (2) Educate the public and health care professionals about the advantages and methods of early screening, diagnosis, and treatment of chronic kidney disease and its complications based on Kidney Disease Outcomes Quality Initiative Clinical Practice Guidelines for chronic kidney disease or other medically recognized clinical practice guidelines.
- (4) Make recommendations on the implementation of a cost-effective plan for prevention, early screening, diagnosis, and treatment of chronic kidney disease and its complications for the State's population.
- (5) Identify current barriers to adoption of best practices and potential policy options to address these barriers.

10:00-10:15    **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 Officer

National Kidney Foundation of North Carolina

10:15-11:15    **NORTH CAROLINA SOCIETY OF PATHOLOGISTS:  
RESPONSE TO EGFR LEGISLATION**

**Paula E. Szytko, MD, FCAP**

North State Pathology Associates

Former President, North Carolina Society of Pathologists

Chair, Federal and State Affairs Committee,

College of American Pathologists

11:15-11:45    **REPORT OF PRIMARY CARE WORKGROUP**

**Marcus Plescia, MD, MPH**  
Chief, Chronic Disease and Injury Section  
NC Division of Public Health  
Department of Health and Human Services

11:45-12:45    **PRIMARY CARE ISSUES FOR PEDIATRIC PATIENTS**

**Maria Ferris, MD, MPH, PhD**  
Associate Professor of Clinical Medicine  
University of North Carolina Kidney Center

**Monique Winslow, PhD**  
Children with Special Health Needs  
Women and Children's Health Section  
NC Division of Public Health  
Department of Health and Human Services

12:45-1:15    **LUNCH**

1:15-2:15    **INVOLVING THE COMMUNITY IN HEALTH EDUCATION AND  
OUTREACH: CHURCHES, LAY HEALTH ADVISORS**

**Barbara Pullen Smith, MPH**  
Director  
Office of Minority Health and Health Disparities  
North Carolina Department of Health and Human Services

2:15-3:00    **GROUP DISCUSSION**

## **APPENDIX C: TASK FORCE MEETING SUMMARIES**

### **NC IOM TASK FORCE ON CHRONIC KIDNEY DISEASE**

**January 22, 2007  
NC Hospital Association  
10:00am-3:00pm**

#### **ATTENDEES**

*Task Force/Steering:* Joel Bruce, Ann Bullock, Celeste Castillo Lee, Jennifer Cockerham, Sam Cykert, Shirley Deal, Laura Edwards, James Fleming, Linda Gross, Deidra Hall, Donna Harward, Nancy Henley, Bill Hyland, Jim Keene, Chip Killian, Ann Lefebvre, Denise Michaud, John Middleton, Marcus Plescia, Janet Reaves, Leanne Skipper, John Smith, Linda Upchurch

*Interested Persons/Staff:* Jacqui Brett, Patrick Buffkin, Leighann Sauls, Kimberly Alexander-Bratcher, Jennifer Bonds, Kristen Dubay, Thalia Fuller, 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 Officer  
National Kidney Foundation of  
North Carolina

Dr. Plescia introduced himself and welcomed the Task Force members to the meeting. He thanked everyone for their willingness and eagerness to participate in the Task Force because chronic kidney disease affects so many North Carolinians. The members of the Task Force introduced themselves and the organizations they represent.

#### **LEGISLATIVE CHARGE**

##### **Pam Silberman, JD, DrPH**

President & CEO

NC Institute of Medicine

Dr. Silberman welcomed the Task Force members on behalf of the NC IOM. She also provided information on the history and work of the NC IOM. She explained that the NC General Assembly requested the NC IOM form this Task Force with the help of the NC DHHS.

Dr. Silberman reviewed the five parts of the charge of the Task Force:

1. 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.
2. Educate the public and health care professionals about the advantages and methods of early screening, diagnosis, and treatment of chronic kidney disease and its complications based on Kidney Disease Outcomes Quality Initiative Clinical Practice Guidelines for chronic kidney disease or other medically recognized clinical practice guidelines.
3. Educate health care professionals about early renal replacement therapy education for patients (including in center dialysis, home hemodialysis, peritoneal dialysis as well as vascular access options and transplantation) prior to the onset of end-stage renal disease when kidney function is declining.
4. Make recommendations on the implementation of a cost effective plan for prevention, early screening, diagnosis, and treatment of chronic kidney disease and its complications for the State's population.
5. Identify current barriers to adoption of best practices and potential policy options to address these barriers.

## **OVERVIEW OF THE PROBLEM**

**Linda Upchurch, MBA, MHA**  
Renal Consultant/Group Marketing  
Baxter Healthcare Corporation

Ms. Upchurch reviewed the costs and current trends in chronic kidney disease (CKD). She referenced articles in *Modern Medicine* showing that the cost of end-stage renal disease (ESRD) has increased nearly 60% to \$20.1 billion of Medicare's budget. Approximately 50% of diabetic patients have CKD, but may not know it. Another series of articles from the National Institutes of Health explained that 1/3 of adult diabetics have CKD, almost 6.5% of the population.

She explained that while costs are not the most important consideration, they indicate trends in CKD. The Center for Medicare and Medicaid Services focuses on clear rights and protections for patients. Of those with ESRD, 85% are covered by Medicare and 3-5% by Medicaid. Patients have a right to learn about information in a language they can understand and many patients are not receiving this information. The National Kidney Foundation defined different levels and standards of CKD including five stages of CKD, 585.1 – 585.5. Many patients and providers are not being given available information. According to ESRD network 6 data, only 25% of patients on dialysis recalled being given options of other therapies. A major problem is that 40% of patients present with urgent need for dialysis in less than one month. When focusing on urgent care, dialysis modality options may not be thoroughly reviewed. A recent *Disease Management* article

suggests CKD-specific symptoms are best treated by nephrologists, but CKD-related symptoms are best treated by primary care providers.

In North Carolina, there are 10,000 people with ESRD, 9,000 on dialysis, and 1,000 successfully transplanted at this point. Of those on dialysis, 10% receive peritoneal dialysis and 90% use hemodialysis. Broad outcome studies show parity between the types of dialysis, and Ms. Upchurch described both processes. Most patients on peritoneal dialysis are able to work and contribute in other ways. Hemodialysis patients must receive therapy 3 times a week. In North Carolina, the cost for delivering peritoneal therapy is \$10,000 less per patient-year at risk than hemodialysis. These data are about two years behind. Shriver Cleveland Clinic conducted a large study of 43,000 patients given thorough information on dialysis modalities and 50% reported that they would choose to be at home on peritoneal dialysis.

In North Carolina, there is an increased risk of disease depending on where you live. In the western part of the state, two neighboring counties have a difference of four times the relative risk. Ms. Upchurch suggested focusing the work of the Task Force on education across the state. Earlier identification and earlier education could decrease cost and social burden and increase patient satisfaction and standard of living.

*Comments/Questions:* The discussion that followed began with the different use of dialysis modalities across the state, by provider and payment method. It also was noted that when a patient first starts dialysis, the person is usually very ill and is given very little information about the ability to change modalities. Many patients are defaulting into hemodialysis rather than making an active choice. Some patients have limited support, decreased vision, and other problems that prevent in-home care. Often, patients start hemodialysis in the ER and continue that therapy rather than being given a choice to switch later. Peritoneal educators are not housed in each dialysis center that can offer and support informed patient choice. A provider explained that many of his patients are not choosing peritoneal dialysis because American culture focuses on providers doing things for patients rather than on patients doing things for themselves. In a rural clinic, many patients are stating that they do not want an everyday therapy, but rather one that is every third day. There is the possibility of explaining therapy as daily therapy regardless of type of therapy. Rather than supporting one type of dialysis or another, patients need the education to make informed decisions all along the process.

Disparities were also discussed. There are more African-American, Hispanic/Latino, and Native American patients with CKD than White patients. Both culture and genetics play a role; hypertension and diabetes are the largest risk factors. The Hispanic population may be less likely to receive dialysis due to Medicaid eligibility. The Eastern Band of the Cherokee Indians has the youngest CKD patient at 9 years old. Disparities also persist due to the almost universal prevalence of diabetes in that community. Great programs have involved the community and tried to address the disparities. A warning was submitted that the stages are not experienced by all patients. African-American males usually progress directly from stage 1 to 4.

In putting forth issues, it is important to embrace the primary care community and patient populations. Reporting and testing for patients is another issue that needs to be addressed. Lab tests need to be added to the regular order form. There is a need for education (e.g., posters in clinics and hospitals) and common language so that everyone can understand about kidney disease and function.

## **AVAILABLE SERVICES FOR PEOPLE WITH CHRONIC KIDNEY DISEASE**

### **Laura Edwards, RN**

NC Kidney/Epilepsy Program Coordinator  
NC DHHS Division of Public Health

Ms. Edwards explained the goals of the State Kidney Program. They include provision of preventative services for people at risk for ESRD and reduction of risk and consequences for people with ESRD by paying for some of their expenses. The new focus of the program is primary prevention. The two main components of the program are contracts with dialysis centers and purchase of medical care services. There are 157 dialysis centers in North Carolina, and the state program currently contracts with 14 of them.

The State Kidney Program has 1500-2000 current patients and can reimburse travel, medication, and emergency expenses. The maximum reimbursement is \$300 per patient per year, and the program has low eligibility levels.

Primary care providers may not have all the up-to-date information on patients with CKD. Access to some information is limited to nephrologists. Patients may have Medicare and/or Medicaid. Many patients use safety net providers, but access to providers is maldistributed across the state. A description of different safety net providers was given. The NC IOM report suggests that only 25% of the uninsured are seen by safety net providers.

Access to care is an important issue. Ms. Edwards described several examples of patient hardships including transportation, medication coverage, and continuity of health insurance. For medication, coverage varies between Medicaid and Medicare. The medication limit is waived under the State Kidney Program. Before a transplant surgery is scheduled, patients must have an acceptable plan for payment of rejection/antibiotic medication. Medicare coverage ends three years after transplant.

The future focus of the State Kidney Program is on a surveillance document describing the burden of CKD in North Carolina and statewide prevention.

*Comments /Questions:* The discussion that followed focused on program eligibility for Medicare and the need versus benefit of the State Kidney Program.

## INFORMATION FOR PEOPLE WITH CHRONIC KIDNEY DISEASE

### **Leanne Skipper**

Chief Executive Office

National Kidney Foundation of North Carolina

Ms. Skipper explained that she was interested in establishing a framework for the work to be done by the Task Force. The National Kidney Foundation (NKF) is tackling CKD using the quote “put a fence on the cliff or an ambulance on the battlefield.” Prevention is the focus and the organization is making a concerted effort toward that end. Because four of the five targets of the Task Force charge specifically focus on CKD, Ms. Skipper believes the effort of the group should be focused there.

A dollar value or quantification of CKD would allow the Task Force to have a significant effect on the state and the country. Ms Skipper discussed data from the *Journal of Managed Care Pharmacy*, “Resource Use in Patient Care Associated with CKD,” stating that CKD generated a quarter of a billion dollars in costs. Allen Gobe with Kaiser Permanente in San Francisco has released similar data on ESRD, hospitalizations, and death. She explained more CKD data is forthcoming.

Ms. Skipper discussed several programs and resources available through the National Kidney Foundation. The Kidney Early Evaluation & Prevention (KEEP) Program is a community-based education program focused on at-risk populations. It costs \$250/participant to provide urinalysis, blood draw, and consultation with nephrologists with personal recommendations. The program is being implemented by NKF affiliates across the country, including a partnership with UNC Kidney Center. A NKF brochure describes 5 stages of CKD using estimated glomerular filtration rate (eGFR). Serum creatinine-albumin may be a better predictor during the first stages. Monitoring these levels could promote better “kidney health” and postpone progression of the disease. The Kidney Disease Outcomes Quality Initiative (K-DOQI) guidelines are the gold standard and key education tool for primary care physicians. The organization is broadening its message from only nephrologists to include primary care providers. It is making pocket-sized information available.

Ms. Skipper noted that the American Journal of Kidney Data Annual Data Report excerpts will be available at the next meeting. The organization has a catalog of resources, including materials categorized by stage. Some catalogs are available in Spanish. The North Carolina affiliate is considering placing “know your score before you press your floor” in all state elevators in recognition of Cherie Berry, the North Carolina Commissioner of Labor, who cared for her husband who suffered from CKD for several years and whose signature is on all elevator certificates.

*Comments/Questions:* The discussion that followed focused on primary care provider and specialist interaction and strategies to help facilitate that relationship. Another discussion suggested that CKD management guidelines should be included in co-morbid

disease guidelines. Comments regarding the importance of identifying key partnerships and relationships in communities and across the state and the importance of focusing on kidney health rather than kidney disease were also noted. March is National Kidney Month and March 8<sup>th</sup> is World Kidney Day. An NKF representative will ring the bell at the national stock exchange that day.

## **GAPS IN KNOWLEDGE AND SERVICES**

### **Donna Harward**

Director of Education  
UNC Kidney Center

Ms. Harward explained that gaps in knowledge and services are rooted in failures of communication. The parties involved in the process of prevention and early intervention include at-risk citizens, primary care providers, sub-specialists, private insurers, and the Centers for Medicare & Medicaid Services. Coresh et al reported only 25% of those diagnosed with CKD reported awareness of weak or failing kidneys, and only 30% of North Carolina Medicaid patients in 2003 who were seen in emergency rooms with acute kidney episodes were seen by a health professional for kidney-related problems within the two months prior to the emergency room visit.

The UNC Kidney Center's Kidney Education Outreach Program (KEOP) has been implemented in 3 NC counties with high ESRD prevalence rates and expanding to 3 additional counties this month. Ms. Harward reviewed the prevalence of CKD risk factors for the citizens screened through November of last year: 69% with personal or family history of diabetes, 81% with personal or family history of hypertension; 39.3% qualified as obese; and 59% had microalbuminuria. A randomized telephone survey reflected some of the myths people believe about CKD and the lack of awareness about risk factors for CKD. Primary care, specialty providers, labs, and insurers also have gaps in awareness and services according to national research. There are significant costs incurred because of these gaps.

NC counties with high ESRD prevalence rates tend to be more rural, have greater numbers of citizens in lower SES, higher percentage of Medicaid eligible citizens, larger numbers of under- and uninsured citizens and health departments with fewer resources. The method of relaying information is very important for these targeted populations--it must be targeted and delivered in collaboration with community leaders and lay leaders. The UNC Kidney Education Outreach Program's educational outreach is based on three principles derived from the science of how people learn: assess preconceptions, provide new information (in appropriate format/level), and accommodates the need for metacognition (e.g., information should be given in a context that is useful and with opportunity to examine the new information in a relevant context.) KEOP activities are evidence-based, community-based, and outcomes-based. Each of the activities (focus groups, free screenings, follow-up outreach activities) has a role in bridging the gaps in citizens' awareness about the risk factors for CKD and the importance of early intervention. A reduction in the burden of kidney disease in North Carolina requires

increased citizen and PCP awareness of the value of early diagnosis and intervention. This can be achieved through community-based, public awareness campaigns, integrated/coordinated health care teams, professional education, and integrated guidelines that promote cooperative and timely management.

*There was no presentation from Dr. Holmes at this meeting. His presentation will be done at the next meeting with health professions data system information on nephrologists and primary care providers.*

## **QUESTIONS AND DISCUSSION**

Dr. Silberman asked the members of the Task Force to list areas of interest for possible discussion at future meetings. The ideas included

- existing public service announcements and materials (NKF, KEOP, others)
- faith-based organizations, barbers/hair salons, etc. involved in CKD and their capacity
- billing and ICD-9 codes
- adolescent and young adult non-compliance and support
- North Carolina State Kidney Program broader risk factors (e.g., HTN & DM)
- national kidney program registry
- dialysis providers – CKD prevention & education
- professional engagement (e.g., HIV-related ESRD)
- specialists/organizations including barriers to screening for CKD in guidelines

Dr. Silberman explained that the next several meetings will focus on parts of the charge. She also encouraged members to contact the NC IOM with other ideas and thoughts that may come up along the way. She thanked everyone for their time and contributions.

## 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 approaching 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 combined 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?"<sup>TM</sup> 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 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 on 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 HealthSmart 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. HealthSmart 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 HealthSmart 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.”™

## NC IOM TASK FORCE ON CHRONIC KIDNEY DISEASE

March 29, 2007  
NC Hospital Association  
10:00-3:00

### ATTENDEES

*Task Force/Steering Committee:* Tammie Bell, Paul Bolin, Joel Bruce, Jennifer Cockerham, Sam Cykert, Annette DuBard, Thomas DuBose, Laura Edwards, James Fleming, Linda Gross, Deidra Hall, Donna Harward, Jeffrey Hoggard, Cynda Johnson, Jim Keene, Chip Killian, Jenna Krisher, Ann Lefebvre, Mark Massing, Marilyn Pearson, Barbara Pullen-Smith, Janet Reaves, Leanne Skipper, John Smith, Linda Upchurch

*Interested Persons/Staff:* Alice Connelly, Amy Cook, Bill Hoskins, Bill Isley, Abhijit Kshirsagar, Jim Martin, Billena Richardson, Leighann Sauls, Suma Vupputuri

### WELCOME AND INTRODUCTIONS

#### **Leanne Skipper**

*Co-Chair*

Chief Executive Officer

National Kidney Foundation of North Carolina

Ms. Skipper introduced herself and asked the Task Force members and guests to introduce themselves and the organizations they represent. Dr. Pam Silberman introduced herself and the North Carolina Institute of Medicine. The members introduced themselves, their organizations, and their passion for chronic kidney disease (CKD) prevention.

Dr. Silberman gave an overview of the work of the Task Force on Chronic Kidney Disease thus far. There were several new members and presenters for whom this was the first meeting. Dr. Silberman explained that a Research Assistant conducted a literature review and organized it by parts of the Task Force charge. It was included in the handouts given to members and guests.

In summary of the system of care for chronic kidney disease, Dr. Silberman gave an overview including the general public (public education), people in stages 1-3 of CKD (case management & primary care), and people in stages 3-5 of CKD (specialty care & dialysis). She explained that the Task Force members are experts in the field, but as a lay person, she wanted to see the big picture.

## **SCREENING FOR CHRONIC KIDNEY DISEASE**

**Abhijit V. Kshirsagar, MD, MPH**

Department of Medicine

Division of Nephrology and Hypertension

University of North Carolina School of Medicine

Dr. Kshirsagar introduced himself and the UNC Kidney Center. He described the prevalence of CKD as 1 in 9 adults in the US. Most of those people have stages 1-3 while the minority has advanced CKD in stages 4-5. Over the last 15 years, both the prevalence and incidence of the disease has grown. It is a profound life event for patients and their families. Providing care for these patients is very expensive; about .5% of the population uses 10% of the Medicare budget. There are simple tests that are very inexpensive like serum creatinine concentration, but most individuals with known risk factors are not routinely tested. When the glomerular filtration rate (GFR) is reduced, most patients are asymptomatic. Because physicians are dealing with so many issues during a patient visit, they might not think to screen for CKD.

A recent LabCorp study showed that only 20% of people with diabetes and 30% of people with hypertension have serum creatinine levels checked. When they compared these results to other chronic disease states and testing for common risk factors, they found lower rates for CKD. Many chronic conditions have systematic methods to predict risk score including cardiovascular disease (Framingham), cancer recurrence, and stroke recurrence. The UNC researchers wanted to apply the same type of methodology to CKD. The important prerequisites were that the scale be easy to use and cumulatively predict the effect of concurrent risk factors.

The UNC researchers developed their scoring system SCreening for Occult Renal Disease (SCORED) through cross sectional analysis of a nationally representative population based survey, the National Health and Nutrition Examination Surveys (NHANES). Combined data from NHANES 1999-2000 and 2001-2002 and literature review were used to determine the predictor variables. The outcome variable selected was GFR calculated from the equation used in the Modified Diet in Renal Disease (MDRD) study. Individuals with missing variables were excluded. Dr. Kshirsagar explained the methods of the study in detail using risk factors age, female gender, anemia, hypertension, diabetes, history of cardiovascular disease, peripheral vascular disease and proteinuria as predictors. The questionnaire used the predictive risk factors, could be performed in less than one minute, and recommended seeking care for CKD with a score of four or more. The results showed the model to be a good fit that meets the original prerequisites and has a variety of foreseen uses like mass screening, public education initiatives, medical emergency departments, web-based medical information sites, and public and private clinics.

There are several limitations of the SCORED study. The questionnaire is weighted towards common risk factors, family history information is not included, and proteinuria is not specific for CKD. The risk is predictive of prevalent not incident CKD and the age

related decline in GFR is not accounted for in the weighting system. Future directions for the SCORED study include refining the tool, adding latest NHANES data, comparing it with other screening guidelines, testing real world performance, and predicting incident kidney disease.

Comments/Questions: The discussion that followed focused on suggestions for improvement of the SCORED tool. Some members noted that family history of CKD and length of time with diabetes should be added to the questionnaire while gender may be an artifact of the calculation. Others suggested using the SCORED tool with secondary data like large HMOs or other screening programs like the NKF Kidney Early Education Program. A participant noted because the likelihood ratio for scores of three and four were almost identical three should be used as the cut off, while another explained that everyone over age sixty would need follow up for CKD with three as the cut off. That would make Medicare an interested party. The lack of national screening guidelines including frequency of screenings was also discussed.

## **LAB CORP: SCREENING TESTS FOR KIDNEY DISEASE**

### **James K. Fleming, PhD**

Vice President and Director  
Department of Science and Technology  
Laboratory Corporation of America

Dr. Fleming introduced himself and LabCorp. He is a member of the Laboratory Working Group of the National Institutes of Health's National Kidney Disease Education Program, which began following release of the K-DOQI guidelines. In using eGFR, they realized that creatinine values varied from one lab to the next. Solving the problem is the focus of this presentation.

Dr. Fleming provided an overview of the problem of chronic kidney disease. Thirty percent more Americans die from diabetes than their European counterparts and American diabetics have four times more kidney disease than European diabetics. When comparing U.S. deaths from kidney failure to those from various types of cancer, only lung cancer causes more death than kidney disease. Both prevalence and incidence of kidney failure are greatly increased, but the risk is not uniform across racial groups. African-Americans have almost four times the risk of kidney failure compared to whites. The cost of care for kidney failure is greater than the total National Institutes of Health budget.

Research shows that chronic kidney disease is not recognized nor treated as often as recommended. Most practices screen less than 20% of their Medicare patients with diabetes for chronic kidney disease. Many patients with chronic kidney disease are referred late to a nephrologist, especially African-American men. Less than one third of those with chronic kidney disease are prescribed ACE inhibitors. Regular testing is recommended for people with the following risk factors: diabetes, obesity, hypertension,

# NC IOM TASK FORCE ON CHRONIC KIDNEY DISEASE PRIMARY CARE WORKING GROUP MEETING

## MEETING SUMMARY

April 23, 2007

North Carolina Institute of Medicine  
Durham, NC

*Attendees:* Marcus Plescia, Sam Cykert, Ann Lefebvre, Laura Edwards, Denise Rouse, Anne Rogers, Donna Harward, Janet Reaves, Ronald Falk, Annette DuBard, Cynda Johnson, Jennifer Cockerham

*Staff:* Pam Silberman, Kimberly Alexander-Bratcher, Kiernan McGorty, Morgan Jones

Drs. Plescia and Silberman welcomed the attendees and asked them to introduce themselves. The attendees introduced themselves and their organizations. Dr. Silberman gave an overview of the work of the Task Force and the agenda for the day.

### **Incorporate CKD management into Community Care of North Carolina**

Dr. DuBard explained that Community Care of North Carolina (CCNC) uses the medical home as its core concept. There are fourteen local networks that are independent not-for-profit organizations. CCNC is built around community networks that include primary care providers, hospitals, local health departments, social services and other community agencies. CCNC focuses on population-based disease management and quality improvement initiatives. There are currently three statewide disease management initiatives, focused on asthma, diabetes and congestive heart failure. CCNC has identified certain evidence-based standards of care for the treatment of patients with these conditions, and collects process and outcome measures through claims data and chart review to evaluate the performance of practices and the network. The CCNC diabetes standard of care are based on the American Diabetes Association standards. According to the ADA, primary care physicians should measure serum creatinine in order to estimate GFR and test for microalbuminuria for each patient with diabetes. However, CCNC does not include reporting of creatinine or microalbumin as part of the performance measures. Therefore, the state does not have data on how often the practitioner obtains or uses these data in the management of patients with diabetes.

Jennifer Cockerham, a CCNC case manager, provided a handout about CCNC case managers. They are either nurses or social workers and serve as liaisons from providers/practices to patients. CCNC uses the case manager information system to collect information on meeting standards of care, such as foot exams, eye exams, lipid panels, and HbA1c measurements for patients with diabetes. Case managers do not work with all of the patients with the identified conditions: they triage the patients to determine who needs case management services. Thus, patients with uncontrolled diabetes would get additional disease management or case management services, whereas a patient who

has their diabetes under control would not. However, the chart auditors review a sample of all the people with diabetes to identify whether they are receiving appropriate standard of care, not just those of patients in case management.

*Comments/Questions* – Case managers use a format for screening and identifying patients to refer to case management. Quarterly reports identify stratified patients that should receive case management. A relatively small percent of CCNC patients receive case management services. The age distribution of Medicaid is bimodal, only 1/3 of aged, blind, and disabled patients are enrolled in CCNC. Because of the aged population's increased GFR, they may be a large population for targeted services. Of the aged population, 84% have diagnosed hypertension, and the prevalence of CKD will be even higher. Over 50,000 of CCNC enrollees have diagnosed hypertension, and there are not enough case management resources to manage them all. Tools and resources are available to all networks but may be used differently among them.

According to the ADA guidelines, primary care providers should be measuring serum creatinine for the estimation of GFR and testing for microalbuminuria at least annually. The ADA guidelines do not currently suggest that the primary care provider order the estimated glomerular filtration rate (eGFR). However, the workgroup suggested that primary care providers request the eGFR instead of the serum creatinine because the eGFR is a more accurate measure of kidney function (for those with measures below 60). CCNC standards of care do not currently require physicians to order an eGFR when creatinine is ordered. However, this option could be brought to the statewide clinical directors meeting. If the clinical directors determine that primary care providers should request the eGFR calculation for the management of patients with diabetes, this standard could be implemented throughout the networks.

CCNC chart auditors are currently reviewing diabetes cases. They are collecting data to determine whether patients with microalbuminuria have been treated by angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy. Collection of creatinine and eGFR data could be targeted within specific networks.

There also should be a focus on hypertensive patients. There was a discussion about the need to collect serum creatinine for hypertensive patients, in order to determine the cause of hypertension (chronic kidney disease can be an underlying cause of hypertension). Again, an eGFR is a more accurate measure of kidney functioning than the creatinine value alone. The eGFR is important because there are certain therapies that are appropriate for people with diabetes who have normal kidney function that is not appropriate for these individuals if they have reduced kidney function. The hypertensive population is much larger and would require more resources than are currently available.

Another option would be co-training case managers in chronic kidney disease. National quality standards for both diabetes and hypertension include serum creatinine measurement, but not calculated or requested eGFR. Creatinine is not being checked at all physical exams of diabetics as evidenced by the LabCorp presentation at the last

meeting. When discussing different options, pre-hypertension and pre-diabetes are groups that should be included.

### **Incorporate CKD management into the State Employees Health Plan**

Anne Rogers, the State Employees Health Plan (SHP) representative, further explained the contract with Renaissance for their chronic kidney disease program. In a previous meeting, the Task Force was informed that BCBSNC previously cancelled their contract with the same organization. The SHP program focuses on CKD patients with stages three and four CKD disease. The small number of program participants in the prior presentation was due to Renaissance only having received updates to a file rather than the full file. Now that the adjustment has been made, the program will include more patients. The total program enrollment is still less than 15% of the total SHP enrollment. The program is currently reporting microalbumin values.

The SHP program also has the Smart registry, Health Dialogue, which was designed for primary care providers whose patient population has more than five chronic diseases including diabetes mellitus, hypertension, coronary artery disease, congestive heart failure, and chronic obstructive pulmonary disease. There also are provider support services, one in the east and one in the west, to explain the registry. Providers can update the registry and provide feedback on the process. Health Dialogue sends a newsletter to members with information about their diseases and treatment options. Members of SHP are encouraged to talk with a life coach and primary care provider about their options.

*Comments/Questions* – UNC hired a nurse from Renaissance to mine lab data to determine why Renaissance was unable to identify more of the SHP patients with chronic kidney disease. There may be a problem with verifying lab values. Once UNC helps identify the problems, they are hopeful that it will lead to better identification of patients with CKD.

### **Ideas for primary care practice generally**

Discussion followed concerning application of guidelines for general primary care practice. Different organizations use different guidelines, for example:

- The Division of Public Health focuses on the US Preventive Services Task Force guidelines for preventive screenings. Currently, the USPSTF does not recommend routine screening for CKD (check with serum creatinine or microalbumin for hypertensives or diabetes).
- CCNC uses national ADA guidelines for care of people with diabetes. CCNC uses the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC VII) and National Cholesterol Education Program (NCEP) guidelines which do not reflect

NKF guidelines but may do that in JNC VIII. CCNC does not currently have a statewide disease management that is focused exclusively on managing hypertension (although they will work with patients who have hypertension if they also have diabetes, CHF or asthma). However, they are moving in the direction of a statewide hypertension initiative. The national guidelines for treatment of patients with hypertension do require collection of serum creatinine and urinary albumin excretion (test for microalbuminuria).

There was some discussion about more widespread screening of any Medicaid patients for CKD, either as a statewide initiative or as a pilot project. If CCNC conducted a more widespread screening, and identified substantial numbers of patients with CKD, it might provide the information needed to screen patients statewide. Screening criteria for those less than 50 years old should include family history of CKD, hypertension, and diabetes. Those with proteinuria (1g) or renal insufficiency and diabetics with microalbuminuria can be helped with ACE inhibitors or ARBs. These drugs can reduce their chances of developing renal failure.

The work group discussed the need to do better screening of diabetic and hypertensive patients. Both eGFR and urinary albumin excretion test are needed to detect more patients with hypertension and those with glomerular diseases; in the short term providers should request eGFRs and in the long term labs should automatically calculate them. There are some organizations that oppose mandating automated eGFR calculation. Primary care providers can cite the saved cost and resources of preventing or delaying a patient's transition to dialysis as reasons to request both values. CCNC can require all laboratories to report eGFR when creatinine is ordered. This requirement may push all payers (BCBSNC, SEHP, IP/IP) to report the tests, even without legislation.