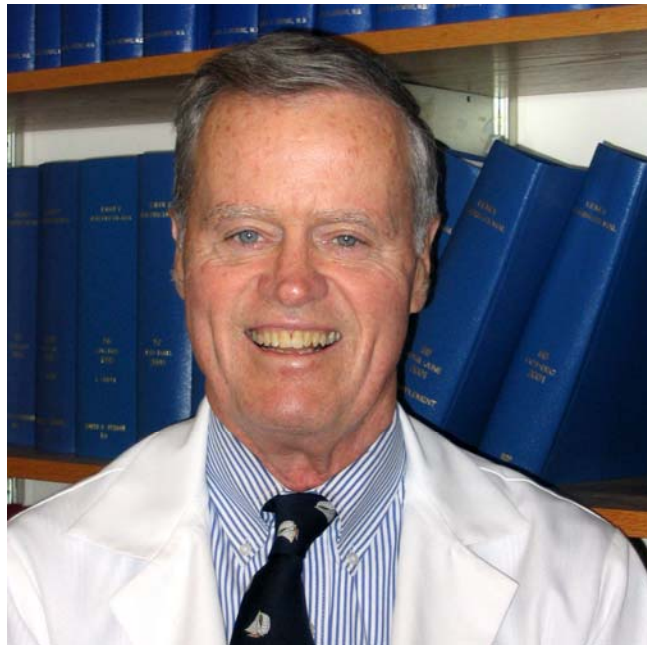




**Tufts-New England Medical Center
Floating Hospital for Children**

William B. Schwartz Division of Nephrology 2006 Annual Report



On the occasion of his 70th birthday and in honor of his contributions to the Division, we dedicated this year's annual report to John T. Harrington, MD.



Tufts University School of Medicine

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Message From The Chief

Welcome to our fifth Annual Report. This year has been exciting! The Division is comprised of 18 full-time physicians and scientists, 4 part-time physicians and 28 staff to support our growing clinical, research, educational and administrative endeavors, which are described in the following pages.



As in previous years, caring for patients remains the core of what we do. We are also highly committed to scientific inquiry and solving problems relating to kidney disease. A large proportion of our Division members are actively involved in research. In addition, the Division is dedicated to the educational mission of academic medicine, engaged in the education of medical students and residents and providing subspecialty training in Nephrology and post-graduate medical education.

We are particularly proud that the Division become the editorial home of the *American Journal of Kidney Diseases* (page 15). Clinical highlights include opening the Kidney Stone Center within the Kidney and Blood Pressure Center, the opening of the multidisciplinary Polycystic Kidney Disease Center (page 21), performing the 1000th kidney transplant at Tufts-NEMC (page 22), and initiating a home hemodialysis program (page 21). Our work with external partners has continued to be incredibly rewarding and valuable. We describe our work at the National Kidney Foundation (NKF) Center for Guideline Development and Implementation (pages 47 and 58) and continued collaboration with Dialysis Clinic, Inc. (pages 23 and 57). Research highlights include the initiation of recruitment for the NIH-funded Halt-PKD trial and other large NIH-funded initiatives such as CKD EPI and CKD-CAT.

Several Division members were honored. Dr. Balakrishnan was promoted to Associate Professor of Medicine; Dr. Gilbert received TUSM Class of 2006 Award for Excellence in Teaching and was appointed a Center for the Enhancement of Learning and Teaching faculty fellow at TUSM; Helen Freedman received the Tufts-NEMC Saltonstall Employee of the Month Award; and Dr. Perrone was selected to receive the NKF Gift of Life Award. Division members and their accomplishments were prominently displayed in Tufts Medicine Magazine and the Healthworks Magazine of Emerson Hospital. Once again, thanks to Michelle Richardson for compiling this year's Annual Report.

Dr. Schwartz hosted a reunion of his former fellows at the Annual Meeting of the American Society of Nephrology in San Diego in November (see picture above). See the next page and our Web site for pictures from this historic event!

Finally, the latter part of 2006 was spent planning for Dr. Harrington's 70th birthday celebration. Look for updates to our Web site to see pictures of this event held in January 2007.

We are very proud of what we have accomplished this past year and are looking forward to a successful 2007!

Sincerely yours,

A handwritten signature in black ink that reads "A Levey". The signature is written in a cursive, flowing style.

Andrew S. Levey, MD
Chief, William B. Schwartz Division of Nephrology
Tufts-New England Medical Center
Dr. Gerald J. and Dorothy R. Friedman Professor of Medicine
Tufts University School of Medicine

Schwartz Reunion



Tressa and Bill Schwartz



Ed Ricannati, Lee Hebert, Ted Steinman



Howard Garfinkel and Bill Mattern



Back Row - Herman Rosen, Nick Madias
Front Row - John Harrington, Bill Schwartz



Jack Fitzgibbons, John Harrington, John Donaho



Emily and John Gennari

Dr. Schwartz hosted a reunion of his former fellows at the Annual Meeting of the American Society of Nephrology in San Diego on November 14, 2006. The photographs are courtesy of Dr. Garfinkel.

Administration

The William B. Schwartz Division of Nephrology is an integral part of the Tufts-New England Medical Center (Tufts-NEMC) and the Tufts University School of Medicine (TUSM) communities. As listed below in the Staffing section, many Division members have other appointments within Tufts-NEMC and TUSM. In addition, the Division also enjoys a close and long-term relationship with Dialysis Clinic, Incorporated (DCI), the largest not-for-profit provider of dialysis care in the United States. In a broader organizational structure, Division members are also active participants within their professional organizations. Through these relationships, the Division is able to provide excellent patient care, perform high-level research, and educate students and practitioners about kidney disease.



Photograph by Walter C. Dent

2006 William B. Schwartz Division of Nephrology

Location

The Division maintains offsite and onsite ambulatory, dialysis and inpatient operations, with administrative and research operations located within the Tufts-NEMC campus. The location of activities performed both onsite at Tufts-NEMC and at offsite affiliates are listed in Table 1 and Table 2, respectively.

Table 1: Onsite Locations of Division Activities at Tufts-NEMC

| | | |
|-------------------|--|---|
| 35 Kneeland St. | 1 st Floor | <i>American Journal of Kidney Diseases</i> Editorial Offices |
| | 4 th Floor | Kidney and Blood Pressure Center (KBPC) |
| | 5 th Floor | Outpatient dialysis services provided by DCI |
| | 5 th & 6 th Floors | Majority of Division support operations, physician offices and research staff |
| | 8 th Floor | Physician offices |
| Ziskind Building | 7 th Floor | V.S. Balakrishnan, MD's research lab |
| Floating Building | 7 th Floor | Inpatient dialysis services provided by DCI |
| North Building | 7 th Floor | Primary location for inpatient ward service |

Table 2: Offsite Clinical Nephrology Activities Affiliated with Tufts-NEMC

| Area | Physicians | Practice Sites | Services Offered |
|----------------|---|--|---|
| Concord | Andrei Kouznetsov, MD Valerie R. Price, MD Klemens B. Meyer, MD | <ul style="list-style-type: none"> Pratt Medical Group Nephrology and Hypertension Emerson Hospital, Whittier Rehab DCI Walden Pond | <ul style="list-style-type: none"> Outpatient nephrology Inpatient consultation and dialysis services Outpatient dialysis services |
| Greater Boston | Michael B. Cohen, MD Anthony Z. Dash, MD Samina S. Khan, MD | <ul style="list-style-type: none"> Hospital-based clinics at Lawrence Memorial, Melrose-Wakefield and Caritas St. Elizabeth's Medical Center hospitals Caritas St. Elizabeth's Medical Center, Kindred, Lawrence Memorial, Melrose-Wakefield, Mt. Auburn and Whidden hospitals DCI Ball Square, Caritas St. Elizabeth's Medical Center, Cambridge, Malden, Medford, Saugus, Stoneham, and Woburn dialysis units | <ul style="list-style-type: none"> Outpatient nephrology Inpatient consultation and dialysis services Outpatient dialysis services |

Staffing

Physician Staff

Andrew S. Levey, MD, Chief

Ronald D. Perrone, MD, Associate Chief

V. S. Balakrishnan, MD, MRCP, PhD

Jeanine A. Carlson, MD

Carmen Castaneda-Sceppa, MD, PhD

Dr. Gerald J. and Dorothy R. Friedman Professor of Medicine

Professor of Medicine

Associate Professor of Medicine

Associate Clinical Professor of Medicine

Assistant Professor of Medicine and

Associate Professor of Nutrition

Friedman School of Nutrition Science and Policy Scientist

Jean Mayer USDA Human Nutrition Research

Center on Aging at Tufts University

Assistant Professor of Medicine

Assistant Professor of Medicine

Michael B. Cohen, MD

Anthony Z. Dash, MD

Scott J. Gilbert, MD
John T. Harrington, MD

Annamaria T. Kausz, MD, MS
Samina S. Khan, MD, MPH, MBA
Andrei Kouznetsov, MD
Amy B. Kuhlik, MD

Vandana Menon, MD, PhD, MPH, MS
Klemens B. Meyer, MD
Dana C. Miskulin, MD, MS
Brian Pereira, MD, MBA
Valerie R. Price, MD
Madhumathi Rao, MD, FRCP(E)
Mark J. Sarnak, MD, MS
Lesley A. Stevens, MD, MS
Katrin Uhlig, MD, MS
Daniel E. Weiner, MD, MS

Special and Scientific Staff

Michelle M. Richardson, PharmD,
BCPS, FCCP

Associate Physician Staff

Bertrand L. Jaber, MD

Orfeas Liangos, MD

Nicolaos E. Madias, MD

Adjunct Physician Staff

Miguel Cendoroglo, MD

John Gill, MD, MS

Assistant Professor of Medicine
Professor of Medicine
Dean Emeritus, Tufts University School of Medicine
Assistant Professor of Medicine
Assistant Professor of Medicine
Assistant Professor of Medicine
Assistant Professor of Medicine
Dean of Students, Tufts University School of
Medicine
Assistant Professor of Medicine
Associate Professor of Medicine
Assistant Professor of Medicine
Professor of Medicine
Assistant Clinical Professor of Medicine
Assistant Professor of Medicine
Associate Professor of Medicine
Assistant Professor of Medicine
Assistant Professor of Medicine
Assistant Professor of Medicine

Assistant Professor of Medicine

Associate Professor of Medicine
Vice Chairman of Medicine for Clinical Affairs
Caritas St. Elizabeth's Medical Center
Assistant Professor of Medicine
Division of Nephrology
Caritas St. Elizabeth's Medical Center
Maurice S. Segal, MD Professor of Medicine
Chairman, Department of Medicine
Caritas St. Elizabeth's Medical Center
Chief Academic Officer
Caritas Christi Health Care System

Associate Professor of Medicine
Federal University of Sao Paulo
Administrative Director of the Oswaldo Ramos
Foundation
Director of the Israelite Hospital Albert Einstein
Sao Paulo, Brazil
Assistant Professor of Medicine
University of British Columbia and St. Paul's Hospital
Vancouver, Canada

Tazeen H. Jafar, MD, MPH

Associate Professor
Head of the Section of Nephrology
Director of the Clinical Epidemiology Unit Departments of
Medicine and Community Health Sciences
Aga Khan University
Karachi, Pakistan

Gregorio Obrador, MD, MPH

Professor of Medicine
Academic Dean
Panamerican University School of Medicine
Mexico City, Mexico

Management Staff

Anna M. Suffoletta, MBA

Business Operations Manager III
William B. Schwartz Division of Nephrology and
Pratt Medical Group Nephrology and Hypertension
Concord

To Be Named

Research Administrator III
William B. Schwartz Division of Nephrology

Faculty Descriptions

Andrew S. Levey, MD

Dr. Levey's interests are in patient care, research, clinical practice guidelines, training in research and education, and health care policy related to chronic kidney disease (CKD).

His *patient care interests* are in CKD, diabetic kidney disease, polycystic kidney disease, systemic lupus erythematosus, and transplantation.

His *research interests* include measurement and estimation of kidney function, epidemiology of CKD, treatments to slow the progression of CKD, cardiovascular disease in CKD, nutrition in CKD, and assessment of outcomes in patients treated by dialysis and kidney transplantation. He was the principal nephrologist co-investigator for the NIDDK-sponsored Modification of Diet and Renal Disease (MDRD) Study. He and his colleagues have developed new equations to estimate GFR from serum creatinine using this large database, and he is now leading the NIDDK-sponsored CKD Epidemiology Collaboration (CKD-EPI) to pool databases from other studies to develop improved estimating equations. He was Principal Investigator for the ACE Inhibition in Progressive Renal Disease (AIPRD) Study Group, a collaboration of investigators who have pooled individual patient data on clinical trials of ACE inhibitors in nondiabetic kidney disease. He was Principal Investigator for the NIDDK-sponsored Hemodialysis (HEMO) Study, comparing the standard dose of dialysis with high dose of dialysis. He was also the principal nephrologist co-investigator for the AHRQ-sponsored CHOICE Study, a Patient Outcomes Research Team, studying kidney failure treated by dialysis.

Dr. Levey is a widely recognized authority on *clinical practice guidelines* in CKD. He led the National Kidney Foundation (NKF) Task Force on Cardiovascular Disease in 1998. He was the Chair for two NKF Kidney Disease Outcome Quality Initiation (KDOQI) Work Groups. "Chronic Kidney Disease: Evaluation, Classification and Stratification of Risk" was published in 2002. "Hypertension and Antihypertensive Agents in Chronic Kidney Disease" was published in 2004. He has led two Kidney Disease Improving Global Outcomes (KDIGO) conferences. In 2004, the

conference addressed definition and classification of CKD and in 2006 the conference addresses public health approaches and initiatives. He is Director of the NKF Center on Clinical Practice Guideline Development and Implementation at Tufts-NEMC.

Dr. Levey's interests in *training* are focused primarily at the level of post-graduate fellowship training and mentoring junior faculty. He directs the large research fellowship-training program of the Division. He is Principal Investigator of the Division's 5-year NIDDK grant (T32) "Epidemiology, Clinical Trials and Outcomes Research." The research program is also funded, in part, by the NKF Center for Clinical Practice Guideline Development and Implementation, and grants and contracts from foundations and industry.

Dr. Levey's contributions to *policy* are focused primarily on guideline implementation, quality improvement and public policy related to CKD. He is a member of the National Kidney Disease Education Program (NKDEP) of the NIDDK. He is cochair of the Centers for Disease Control and Prevention technical expert panel to develop strategies for preventing development and progression of kidney disease. He was formerly Associate Editor for Kidney Disease and Hypertension for the *Annals in Internal Medicine*, and beginning in 2006, he is Editor-in-Chief of the *American Journal of Kidney Diseases*.

Ronald D. Perrone, MD

Dr. Perrone's patient care interests are in polycystic kidney disease, general nephrology, acid-base disorders, hypertension, and kidney transplantation medicine. He is Director of the Polycystic Kidney Disease Center. His *research interests* are largely focused in the area of polycystic kidney disease, including slowing progression and determining the natural history of the extrarenal complications. In prior studies, he addressed the mortality of extrarenal complications of polycystic kidney disease after end-stage renal disease. He will continue this work in collaboration with Drs. Alan Collins and Blanche Chavers of the United States Renal Data System. Dr. Perrone also is the Principal Investigator of the Boston Patient Care Center of an NIH-funded multi-center clinical trial (HALT Progression in PKD, part of the Polycystic Kidney Disease Clinical Trials Network). This study will use angiotensin converting enzyme inhibitors in combination with angiotensin receptor blockers to slow the progression of polycystic kidney disease and will utilize the unique endpoint of kidney volume growth as assessed using magnetic resonance imaging. Tufts-NEMC is one of the four national HALT-PKD Study centers that will conduct this 6-year, \$25 million study sponsored by the NIH. Drs. Perrone (the PI) and Miskulin will direct the study that started in the winter of 2006.

Vaidyanatha S. Balakrishnan, MD, PhD

Dr. Balakrishnan's clinical specialties are CKD, dialysis, transplantation and the treatment of kidney stones. His *research interests* focus on factors modulating inflammation and oxidative stress and their impact on clinical outcomes among patients with CKD, particularly those on hemodialysis. He is interested in the impact of pro-inflammatory and anti-inflammatory cytokines and cytokine-specific inhibitory proteins on clinical outcomes in patients on hemodialysis. In recent years, Dr. Balakrishnan has focused on the role of genetic factors, particularly single nucleotide polymorphisms involving the cytokine genes, modulating the micro-inflammatory state and clinical outcomes among hemodialysis patients. As listed on page 36, Dr. Balakrishnan has received several research awards for his work on oxidative stress and inflammation. He is Director of Continuing Medical Education for the Division and coordinates the research conferences and visiting professorships.

Jeanine A. Carlson, MD

Dr. Carlson's primary appointment is within the Division of General Medicine and her clinical practice is within the Pratt Diagnostic Center. She continues to be an active nephrologist, with particular expertise in the medical complications of pregnancy. The Pratt Diagnostic Center is a concierge-style medical practice that is offered to patients who want to spend more time with their doctors, while exploring preventative and wellness techniques. Patients pay an annual fee for this service, and the funding benefits Tufts-NEMC's primary care practice, General Medical Associates. Dr. Carlson was featured in the Winter 2006 edition of Tufts Medicine – the magazine of the Tufts University and Sackler Medical Alumni Associations – for her amazing feat of completing 4 ultra marathons (also known as a Grand Slam) in 1 year. Each Ultra marathon is 100.2 miles through harsh terrain such as mountains and deserts.

Carmen Castenada-Sceppa, MD, PhD

Dr. Sceppa's primary appointment is in the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University. Her *research focuses* on the role of protein nutrition (primarily protein) and exercise (primarily resistance training) to counteract the loss of muscle mass and function with age and with diabetes and CKD. She studies mechanisms associated with muscle wasting including insulin resistance and inflammation. Dr. Sceppa's research efforts include reaching out to populations of diverse ethnic backgrounds as well as translating her research findings into clinical practice.

Michael B. Cohen, MD

Dr. Cohen practices primarily at Melrose-Wakefield Hospital. He consults in both the inpatient and outpatient settings on the care of patients with kidney disease, hypertension, and those treated with hemodialysis and peritoneal dialysis. Dr. Cohen is Co-Medical Director at the DCI Ball Square dialysis unit in Somerville. Additionally he is involved with teaching medical students, residents, and fellows in nephrology.

Anthony Z. Dash, MD

Dr. Dash practices primarily at Lawrence Memorial Hospital and Caritas St. Elizabeth's Medical Center (CSEMC). He consults in both the inpatient and outpatient settings on the care of patients with kidney disease, hypertension, and those treated with hemodialysis and peritoneal dialysis. Dr. Dash is the Co-Medical Director at the DCI Ball Square dialysis unit in Somerville.

Scott J. Gilbert, MD

Dr. Gilbert coordinates the educational activities within the Division. He is the Director of the Fellowship Training Program and coordinates housestaff nephrology education, overseeing rotations on the Ward and Consult services and in the KBPC (KBPC). Dr. Gilbert is active in reform of the educational curriculum at Tufts-NEMC. As described on page 44, he also plays a major role in medical student education at TUSM where he directs the Renal Pathophysiology Course and teaches Consultative Nephrology. Dr. Gilbert's other educational activities include teaching renal pharmacology at the Sackler School of Graduate Biomedical Sciences at Tufts University. Dr. Gilbert is also the medical director of the KBPC. His *clinical interests* are the treatment of CKD, hemodialysis and transplantation. Dr. Gilbert's *research interests* include the management of lupus nephritis and the treatment of renal artery stenosis.

John T. Harrington, MD

Dr. Harrington has been a part of the Nephrology Division at Tufts-NEMC since his fellowship training under Drs. William B. Schwartz and Jerome P. Kassirer in the mid-1960s. Now Dean Emeritus and Professor of Medicine at TUSM, Dr. Harrington focuses on outpatient care, in-patient consultation and medical education of nephrology fellows, internal medicine house staff and medical students. In 2006, Dr. Harrington became an Associate Editor of the *American Journal of Kidney Diseases* where he will be in charge of two new features – the World Kidney Forum and the Acid, Base, and Electrolyte Teaching Cases. His intellectual interests remain the broad field of clinical nephrology and specifically the arcane world of acid-base, fluid and electrolyte disturbances. Dr. Harrington was recognized in "Who's Who in the World, 2006".

Bertrand L. Jaber, MD

Dr. Jaber's primary appointment is in the Department of Medicine at CSEMC. His research interests are broad and include: biocompatibility of hemodialysis membranes, apoptosis of leukocytes in uremia, dialysis delivery in acute renal failure, novel extracorporeal adsorptive therapies in end-stage renal disease, the role of daily hemofiltration in end-stage renal disease, in vivo and in vitro performance of dialyzers, effect of kidney transplantation on sleep apnea, and cytokine gene polymorphisms in acute renal failure. Dr. Jaber is the Vice President for Clinical Affairs at CSEMC. In addition, he is a member of the Cooperative Studies Scientific Merit Review Board within the Department of Veterans Affairs Cooperative Studies Program, and was Co-Chair of the Association of Chronic Kidney Disease with Infectious Disease workgroup held at the Kidney Disease Improving Global Outcomes (KDIGO) Controversies Conference: Chronic Kidney Disease as a Global Public Health Problem: Approaches and Initiatives in Amsterdam.

Annamaria T. Kausz, MD

In December 2006, **Dr. Kausz** accepted a position as Senior Director of Medical Affairs at Advanced Magnetics, Inc.; its chief therapeutic product is aimed at optimizing the management of anemia in patients with chronic kidney disease. She remains affiliated with the Division, participating in patient care, research and other academic activities. Her *research* encompasses evaluation of the care of patients with CKD at all phases, including prior to and after initiation of dialysis, and following kidney transplantation. Her research has focused on the impact of the complications associated with decreased kidney function and comorbid conditions on outcomes among patients with CKD. Dr. Kausz's *clinical interests* are in CKD, dialysis, transplantation, and pediatric nephrology.

Samina S. Khan, MD, MPH, MBA

Dr. Khan directs the Bone Biopsy Program in the KBPC, and has recently set up a Bone Biopsy Program at CSEMC. She provides significant clinical coverage for outside nephrology practices affiliated with the Division. Her *clinical practice interests* are CKD, dialysis, transplantation, and bone biopsy. Her primary *research interests* involve resource utilization and costs of care, medication adherence among patients with CKD, and renal osteodystrophy. Dr. Khan is developing an economic model in collaboration with statisticians in the department of Clinical Care Research at Tufts-NEMC and an economist at Brandeis University. This model will help to project future costs of care of patients with CKD. She also serves as a faculty member in the department of Continuing Medical Education at TUSM.

Andrei Kouznetsov, MD

Dr. Kouznetsov practices at Emerson Hospital and the Pratt Medical Group Nephrology and Hypertension office in Concord. Dr. Kouznetsov is also the Associate Medical Director of DCI Walden Pond in Concord. His *clinical specialties* are CKD, hypertension, diabetes, dialysis, transplantation and general nephrology.

Amy B. Kuhlik, MD

Dr. Kuhlik is the Dean for Student Affairs at TUSM. She maintains a clinical practice within the Division by holding one half-day clinic a week and also attending on the nephrology consult service several weeks a year. Dr. Kuhlik's clinical specialties are CKD, pregnancy, and polycystic kidney disease.

Orfeas Liangos, MD

Dr. Liangos' primary appointment is in the Division of Nephrology at CSEMC. He is the Director of Acute Renal Failure Research at CSEMC, member of the Kidney and Dialysis Research Laboratory at CSEMC and member of the Dialysis Research Laboratory at Tufts-NEMC. He directs the acute renal failure research efforts at CSEMC and Tufts-NEMC, as well as collaborations with outside institutions. Dr. Liangos also trains Tufts-NEMC research fellows. Dr. Liangos' *research interests* within acute renal failure include: genetic polymorphisms, device-related research, dialysis delivery and urine and blood biomarkers. Dr. Liangos also participates in resident and student teaching at CSEMC and at TUSM. In addition, he performs clinical duties for the Department of Medicine at CSEMC.

Nicolaos E. Madias, MD

Dr. Madias primary appointment is in the Department of Medicine at CSEMC. He is Chairman of the Department of Medicine at CSEMC, Chief Academic Officer at Caritas Christi Health Care System and the Maurice S. Segal, M.D. Professor of Medicine at TUSM. Dr. Madias is interested in the broad field of acid-base and electrolyte metabolism. He is pursuing several projects on the epidemiology of hyponatremia.

Vandana Menon, MD, PhD, MPH, MS

Dr. Menon is the recipient of a K23 Career Development Award from the NIDDK to investigate the role of non-traditional risk factors in the development of cardiovascular disease in CKD. Using data from the MDRD Study cohort, Dr. Menon is studying novel risk factors, including oxidative stress and insulin resistance, in non-diabetic kidney disease. In addition, she will conduct an ancillary study to the HALT-PKD trial examining the interrelationships between inflammation, oxidative stress and endothelial function in patients at different stages of PKD. Dr. Menon has also received funding from the Polycystic Kidney Disease Foundation and Satellite Healthcare to study the epidemiology of endothelial function in PKD. Dr. Menon's publications during the past year include examination of hemoglobin A_{1c}, homocysteine and adiponectin, as risk factors for outcomes in the MDRD Study cohort.

Klemens B. Meyer, MD

Dr. Meyer is Director of Dialysis Services at Tufts-NEMC, Medical Director at DCI Boston and DCI Walden Pond, and Medical Director for the Home Dialysis Program at DCI Ball Square. His *clinical interests* are CKD, dialysis, and kidney transplantation. Dr. Meyer's *research interests* are the measurement of patient experience and dialysis informatics. He is also actively involved in data-driven quality improvement activities. In his capacity as DCI's Medical Director for Information Systems, Dr. Meyer participates in the development and operations of both medical and business information systems, guiding the work of a team of approximately 45 information technology staff and three nurses at DCI and Keane, Inc. in Nashville and Chicago. He chairs

the Tufts-New England Medical Center Health Information Committee. Dr. Meyer currently serves on the Board of Directors of the ESRD Network Forum.

Dana C. Miskulin, MD, MS

Dr. Miskulin is the recipient of a K23 Career Development Award from the NIDDK pertaining to the measurement of case-mix severity in dialysis patients and its application to clinical trials the assessment of quality of care of dialysis patients. Dr. Miskulin also directs the DCI Comorbidity Assessment Project whose goal is to develop and implement procedures for the collection of comorbidity information and adjustment for comorbidity in reporting the quality of care provided at DCI facilities. Dr. Miskulin is also a Co-Investigator for the HALT-PKD Study. Her clinical interests are in general nephrology, polycystic kidney disease, and kidney stones.

Brian J.G. Pereira, MD, MBA

Dr. Pereira is President of Advanced Magnetics and retains his appointment within the Division. He has three major areas of research interest. In the laboratory he is interested in cytokines and cellular mechanisms in dialysis; his work in clinical trials focuses on hepatitis in dialysis and transplantation; and finally his interest in outcomes and economics focus on the indices and costs of care among patients with CKD. He has mentored more than 25 post-doctoral trainees, the majority of who are in senior leadership positions in academia and industry in the US and abroad.

Valerie R. Price, MD

Dr. Price practices at Emerson Hospital and the Pratt Medical Group Nephrology and Hypertension office in Concord, as well as outpatients in the surrounding communities. Her areas of interest include acute and chronic kidney failure, management of chronic dialysis patients, and electrolyte disorders. In addition, Dr. Price works closely with community urologists to manage kidney stone disease. She volunteers at a local school, teaching children about human anatomy and physiology.

Madhumathi Rao, MD, FRCP (E)

Dr. Rao's *research interests* are related to the impact of genetic variation upon inflammatory mediators and growth factors among patients with CKD and the ultimate translation of these relationships into improved patient outcomes. She is a recipient of a K23 career development award from the NIDDK to study the role of genetic polymorphisms of TGF- β 1 and PAI-1 in cardiovascular and kidney disease progression among patients with CKD. In addition she will extend these studies to the development and progression of kidney disease in patients with type I diabetes followed by the Genetics of Kidney Disease in Diabetes (GoKinD) study conducted by the Joslin Diabetes Center and George Washington University Biostatistics Center. In collaboration with Dr. Balakrishnan, she is also initiating a study to evaluate the role of mitochondrial dysfunction in anemia, inflammation and cardiovascular disease among dialysis patients, funded by DCI and Amgen.

Michelle M. Richardson, PharmD, FCCP, BCPS

Dr. Richardson's *research interest* is the study of quality of life and satisfaction in patients with CKD. As a pharmacist, her *clinical interests* involve appropriate dosing and use of medications in patients with CKD. Dr. Richardson is the director of the DCI Outcomes Monitoring Program (OMP). Dr. Richardson is also a Clinical Associate Professor of Pharmacy at Northeastern University's School of Pharmacy where she is responsible for teaching pharmacy students both in the classroom and in the DCI Boston dialysis unit. She is Director for Communications for the Division and is responsible for producing this Annual Report.

Mark J. Sarnak, MD, MS

Dr. Sarnak is the Associate Director of the Research Training Program in Nephrology. He is interested in cardiovascular epidemiology in CKD. His *research focuses* on traditional and non-traditional cardiovascular risk factors in CKD. Drs. Sarnak and Levey have undertaken the Cardiovascular Disease Pooling Project, pooling multiple NHLBI databases to evaluate the effect of kidney function and anemia on cardiovascular disease. Drs. Sarnak and Weiner collaborate with Marshal Folstein, MD of the Department of Psychiatry forming a multidisciplinary research team to study the association of homocysteine, cognition and cerebrovascular disease in the homebound elderly. Drs. Sarnak and Menon are evaluating the impact of non-traditional risk factors for cardiovascular disease in CKD using databases from the MDRD Study. Dr. Sarnak is funded by the NIDDK and the National Institutes of Aging to perform these research projects. Dr. Sarnak's *clinical specialties* are in cardiovascular disease in patients with kidney disease, dialysis, kidney transplantation, and kidney stones.

Lesley A. Stevens, MD, MS

Dr. Stevens's primary interests are in epidemiology and outcomes related to CKD. She is the co-principal investigator of the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI), a collaborative effort to use pooled individual patient data to address central questions in the epidemiology of CKD, including developing improved glomerular filtration rate (GFR) estimation equations, using these equations to refine prevalence estimates for CKD from National Health and Nutrition Examination Survey, and evaluating changes in proteinuria as a surrogate marker for kidney disease outcomes in clinical trials. Dr. Stevens was awarded the American Society of Nephrology American Specialty Professors (ASN-ASP) Junior Development Grant in Geriatric Nephrology. This grant will assess the measurement of GFR in older adults using several techniques to determine their validity and reliability. Dr. Stevens is also interested in research and policy related to implementation of CKD Guidelines. She is Program Director, Implementation in the NKF Center for Guidelines Development and Implementation. She works with NKF leadership and national organizations to implement CKD guidelines, including issues related to GFR estimation and revisions to diagnostic codes for CKD. She is also analyzing administrative data from a national managed care organization with the goal to assess the current levels of care provided to patients with and at risk for CKD. Dr. Stevens's *clinical interests* are general nephrology, detection and treatment of CKD, and kidney stones. She is Director for Quality Improvement for the Division.

Katrin Uhlig, MD, MS

Dr. Uhlig is the Nephrology Program Director of the NKF Center for Clinical Practice Guideline Development and Implementation at Tufts-NEMC. This Center is described in detail on page 58. Dr. Uhlig currently co-directs the evidence review teams of several guideline projects: the KDIGO guidelines on Hepatitis C in Chronic Kidney Disease, Mineral and Bone Disease in CKD and Care of the Transplant Recipient, as well as the Update of the KDOQI guideline on Anemia in Chronic Kidney Disease. Dr. Uhlig provides consultation to the NKF on issues related to methods of guideline development and critical literature appraisal. She also mentors and supervises fellows in the development of evidence-based clinical practice guidelines. She lectures and writes on topics of CKD care of, and methods aspects of development and implementation of evidence-based clinical practice guidelines. Additionally, she is a Co-Editor of the *American Journal of Kidney Diseases*. Dr. Uhlig's *clinical specialty* is in the care of patients with CKD and kidney stones.

Daniel E. Weiner, MD, MS

Dr. Weiner is the recipient of a K23 Career Development Award from the NIDDK to investigate cerebrovascular disease and cognitive impairment in individuals with CKD. Research work includes evaluation of the effect of traditional and non-traditional cardiovascular disease risk factors on stroke and other cardiovascular disease outcomes, examination of the applicability of current cardiovascular disease prediction equations to the CKD population, development of new prediction equations for use in CKD, and evaluating the burden of and risk factors for cognitive impairment and cerebrovascular disease in elderly individuals with CKD as well as in hemodialysis patients. Dr. Weiner is the Associate Medical Director of DCI Boston. In this role, he is working to enhance care for dialysis patients and dialysis education at Tufts-NEMC. As of October 2006, Dr. Weiner assumed the role of Deputy Editor of the *American Journal of Kidney Diseases*. In this position, working with a dedicated staff, he is responsible for many of the day-to-day operations of the *Journal*, and has endeavored to develop new content while maintaining current excellence. Dr. Weiner's *clinical specialties* are general nephrology and dialysis, internal medicine, dialysis and cardiovascular disease in patients with CKD.

Division Support Staff

Members of the support staff sustain the Division's administrative, clinical, and research operations. Anna M. Suffoletta, Business Operations Manager III, supervises 25 onsite and 3 offsite support personnel. She also oversees the Division Fellowship program, with 13 FTEs (full-time equivalents). The support personnel are diverse and each staff member brings specialized knowledge and skills to their respective positions. All staff function within a team (i.e., administrative, clinical or research) supporting operations and each other. Personnel are cross-trained, enabling each team to support the other when the need arises. The ambulatory support staff works very closely with the physicians, fellows and nurses to provide high-quality service to our patients.

Administrative Support Personnel

Lorna Davies, Administrative Assistant III
Gabrielle Nosek, Administrative Assistant II
Neva Parsons, Administrative Assistant III
Yvette Patin, Billing and Coding Assistant

Ambulatory Supervisory Personnel

Kidney and Blood Pressure Center, Boston

Helen Freedman, Patient Service Coordinator III
Dai Morehouse, Patient Service Coordinator III

Pratt Medical Group, Nephrology and Hypertension, Concord

Julie Flynn, Patient Service Coordinator III

Ambulatory Support Personnel

Kidney and Blood Pressure Center, Boston

Katherine Colon, Medical Assistant
Debbie Mitchell-Dozier, RN, Staff Nurse
Zainab Shah, Patient Service Coordinator II
Aga Szydelko, Patient Service Coordinator I

Pratt Medical Group, Nephrology and Hypertension, Concord,

Julie Bryant, Medical Assistant
Gail Seaburg-Grendon, Patient Service Coordinator II

Research Administration and Other Support Personnel

Jillian Celli, Research Assistant II
Caren Demello, Clinical Research Associate I
Julie Driggs, Clinical Research Associate IIA
Amy Earley, Research Assistant II
Alice Martin, RN, Research Nurse
Kruti Pandya, Statistician
Payal Parikh, Research Assistant II
Rebecca Persson, Research Assistant II
Viba Patel, Research Assistant II
Polchevi Sengo, Research Assistant II (part-time)
Gertrude (Peachy) Simon, RN, Clinical Research Associate IIA
Alice Taubes, Research Assistant
Lucy Zhang, Statistician
Open Position, Research Administrator
Open Position, Statistician

American Journal of Kidney Diseases Editorial Office Staff

Nijsje Dorman, PhD, Managing Editor
Elizabeth Frank, Associate Managing Editor
David Boffa, Editorial Assistant
Carolyn Caruso, Student Intern (part time)

Faculty and Staff Changes in 2006

Faculty Changes

- Dr. **Balakrishnan** was promoted to Associate Professor of Medicine.

Staff Changes

- As described in detail on page 15, the editorial offices of the *American Journal of Kidney Diseases* moved in 2006 to Tufts-NEMC. As a result, several staff members have been added to support day-to-day operations and publication of the journal.
- In January 2006, Anna M. Suffoletta was promoted to Manager, Business Operations III.

- Julie Bryant joined the Division's Pratt Medical Group Nephrology and Hypertension practice, Concord in May 2006 as Medical Assistant supporting Drs. Kouznetsov and Price in day-to-day patient care and outpatient operations.
- Helen Freedman assumed increased duties as supervisory personnel, and together with Dai Morehouse, hired this year, they oversee clinical support staff and day-to-day operations of the KBPC. Other personnel changes affecting the KBPC included Katherine Colon replacing Chau Truong as the medical assistant/phlebotomist.
- Patricia Collins resigned in September to become an Executive Assistant at Ernst & Young.
- Yvette Patin joined the Division in July 2006 as a Billing/Coding Assistant. She addresses all pre- and post-billing activity for the Division's professional practice operations including Tufts-NEMC, offsite, and both inpatient and outpatient dialysis operations.
- Julie Driggs, RN joined the Division in July 2006 as a Clinical Research Associate for the PKD HALT study. Julie had previously worked as a staff nurse on North 7.
- In 2006, there were several changes in research assistant positions. Parikh Payal, research assistant for Drs. Sarnak and Menon entered medical school at Tufts University School of Medicine and was replaced by Viba Patel. Polchevi Sengo was hired to work with Dr. Khan and Caren Demello was hired to work with Drs. Balakrishnan and Rao. Stephen Finch resigned his position as a research associate and statistician.

2006 Administrative Accomplishments

The Division enjoyed many administrative accomplishments this year. One of the greatest accomplishments was becoming the home to the editorial offices of the *American Journal of Kidney Diseases*, an official publication of the National Kidney Foundation.

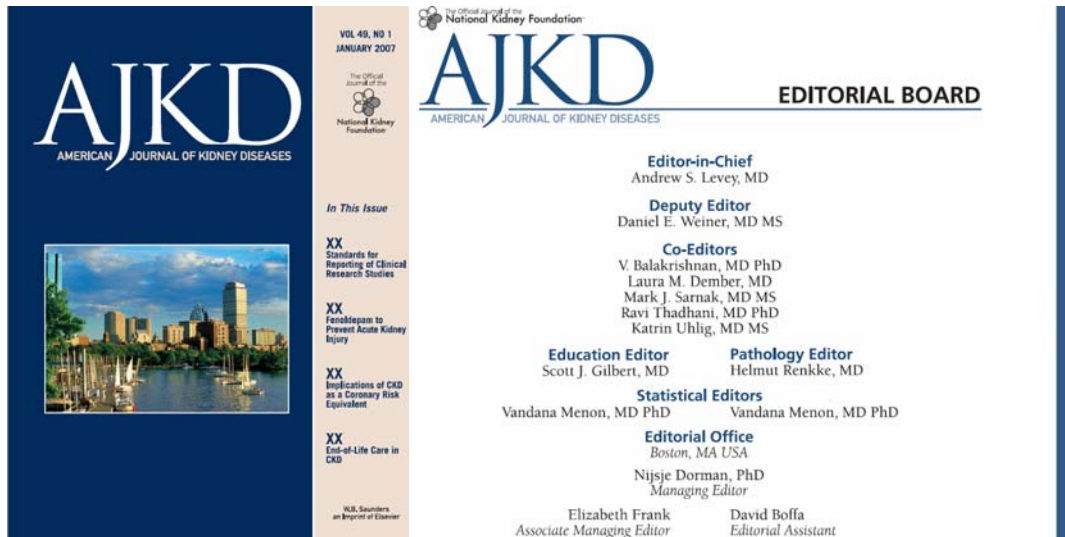
American Journal of Kidney Diseases

In 2006, the Division began to house the editorial offices of the *American Journal of Kidney Diseases* (AJKD), the official journal of the NKF. The Division is leading a multi-institution effort to continue to make AJKD the preeminent clinical journal in nephrology. Additionally, we are using this opportunity to enhance fellow and staff education in the manuscript writing, review, and operations.

Dr. **Levey** is the Editor-in-Chief and Dr. **Weiner** serves as the Deputy Editor. Tufts-NEMC-based Editors of *AJKD* will include Drs. **Balakrishnan, Sarnak, Uhlig, Gilbert, Menon**, Schmid, and **Harrington**. The Editorial Board comprises three additional Editors affiliated with other local hospitals, as well as 27 Associate Editors based

around the World. Their terms of office began October 1, 2006 and continue for five years.

The first issue of *AJKD* to be compiled by the Tufts-NEMC team will appear in January 2007. The editorial office is staffed by Nijse Dorman PhD the Managing Editor, Elizabeth Frank the Associate Managing Editor and David Boffa Editorial Assistant. The editorial office is located on the first floor of the Traders Building at 35 Kneeland Street.



First issue of AJKD by Tufts-NEMC Editorial Team

Additional Administrative Accomplishments

- The Pratt Medical Group merged with the New England Health Care Foundation to form a new physician's group called the Physicians of Tufts-NEMC (PT-NEMC).
- On March 1, 2006, Division physicians began using new billing cards developed by Dr. **Perrone**. In addition, new billing sheets were created and implemented for use in the KBPC.
- In conjunction with the office of Managed Care at Tufts-NEMC, members of the Division attending and fellow staff began piloting Dr. First, an electronic system that allows for the prescribing of new and refill prescription requests through Web-based or hand-held technology.
- In September 2006, The KBPC began using the hospital's electronic Laboratory Order Entry system, facilitating laboratory requests and testing in the ambulatory setting.

- A new scheduling and billing system was instituted at the Pratt Medical Group, Nephrology and Hypertension in Concord.

Service

Members of the Division are involved in service on local, national and international levels.

Service to Tufts-NEMC

- Dr. **Gilbert** serves on the Internal Medicine Residency Competency Committee and the Graduate Medical Education Committee.
- Dr. **Menon** is a member of the Human Investigations Review Committee (i.e., Investigational Review Board) and is a member of the Clinical Research Portal, a collaborative effort with the Institute of Clinical Research and Health Policy Studies. This resource has been created to assist investigators in the design, implementation, and analysis of their research projects.
- Dr. **Meyer** chairs the Health Information Committee and has since 1993. The Committee continues to play an important role in maintaining and improving the quality of care at Tufts-NEMC. Working with David Budding, Phillip Argyris and Melissa Pike of Information Systems and with Michele Ciampolillo of Medical Records, over the past year, the Committee has achieved a significant and continuing improvement in the timeliness of dictation and signature of operative notes and discharge summaries hospital-wide.
- For several years, Dr. **Meyer** has been a member of the Care Review and Patient Safety Committee that is responsible for overseeing hospital-wide quality improvement projects.
- Dr. **Miskulin** serves on the Hospital Pharmacy and Therapeutics Committee, a policy setting and monitoring committee of the medical staff responsible for the appropriate use of drugs and is Co-Facilitator on the Performance Outcome Team on Communication about Medications..
- Dr. **Perrone** continues to serve as the United Network for Organ Sharing (UNOS) certified Transplant Physician at Tufts-NEMC.
- Drs. **Perrone** and **Meyer** serve on the Information Systems Clinical Working Group. This committee provides clinician input regarding development of the hospital's clinical systems. It is currently focusing on implementation of Soarian, the new hospital-wide clinical information interface developed by Siemens.

- Dr. **Sarnak** is a member of the Tufts-NEMC General Clinical Research Center's Scientific Advisory Committee. He is also a member of the Clinical Research Program Advisory Committee for the Fellowship Program in the Institute for Clinical Research and Health Policies in the Division of Clinical Care Research.
- Drs. **Sarnak, Gilbert, and Weiner** are members of the Tufts-NEMC Internal Medicine Residency Selection Committee.
- Dr. **Stevens** is a member of the Care Review and Patient Safety Committee.

Service to TUSM/Sackler School of Graduate Biomedical Sciences

- Drs. **Gilbert** and **Gordon** are members of the MedFoundations Working Group tasked with redeveloping the preclinical medical education.
- Drs. **Levey** and **Sarnak** are members of the Clinical Research Advisory Committee at the Sackler School of Graduate Biomedical Sciences at Tufts University.
- Dr. **Liangos** serves as a member of the admissions committee at TUSM
- Dr. **Madias** is a member of the Committee on Clinical Appointments and Promotions at TUSM.
- Dr. **Perrone** serves as the representative of the Tufts-NEMC Department of Medicine on the TUSM Faculty Senate.
- Dr. **Sarnak** is a member of the Clinical Research Advisory Committee at the Sackler School of Graduate Biomedical Sciences at Tufts University.
- Dr. **Sarnak** is a member of the Scientific Advisory Committee of the Clinical Research Center

Service to Professional Organizations

In addition to providing local service, Division members are actively involved in providing service to our professional organizations on the local, national, and international levels.

- Dr. **Levey** serves on the Board of Directors and Drs. **Gilbert**, and **Perrone** serve as members of the Medical Advisory Board of the NKF Chapter of MA, RI, NH, and VT.

- Dr. **Jaber** is a member of the Kidney Disease Outcomes Quality Initiative (KDOQI) Advisory Board of the NKF. He has held this position since 2004.
- Dr. **Levey** chaired the KDIGO Controversies Conference on Chronic Kidney Disease as a Global Public Health Problem: Approaches and Initiatives. The meeting was held in Amsterdam on October 12-14 to formulate recommendations for clinical practice and research. Proceedings will be published in *Kidney International*. Also attending the meeting were Drs. **Jaber, Stevens, Jafar, and Gill**.
- Dr. **Meyer** is a member of the Board of Directors and of the Executive Committee of the End-stage Renal Disease Network of New England.
- Dr. **Meyer** completed service to the NKF KDOQI Hemodialysis Adequacy work group that was responsible for drafting a new clinical practice guideline on initiation of hemodialysis.
- Dr. **Meyer** was elected to the Board of Directors of the Forum of End-Stage Renal Disease Networks. The Forum is a not-for-profit organization that comprises the 18 regional End-Stage Renal Disease Networks that are responsible for coordinating care for patients with kidney failure throughout the United States. The Forum's mission is to provide support to the ESRD Networks in promoting and improving the quality of care of ESRD patients. Their mission is achieved through education, and the collection, analysis, and dissemination of data and information.
- Dr. **Meyer** is a consultant to the Food and Drug Administration's Gastroenterology and Urology Devices Panel.
- Dr. **Pereira** has been a member of the Board of Trustees of the Kidney Disease Improving Global Outcomes (KDIGO) Holdings since 2004 and in 2005 was appointed as a member of the KDIGO Board of Directors.
- Dr. **Pereira** is also a member of the American Society of Nephrology's Member Advisory Committee on Chronic Kidney Disease since 2003. Also in 2003, he was appointed as a member of the Public Policy Advisory Board of the American Society of Nephrology and remains an active member.
- Dr. **Pereira** has been a member of the International Society of Nephrology's Executive Committee of Commission for the Global Advancement of Nephrology since 2004.
- This year, Dr. **Richardson** concluded her service on the NKF KDOQI Diabetes in Chronic Kidney Disease work group.



- Dr. **Sarnak** was a member of the Annual Meeting Program Planning Committee for the 2007 NKF's Spring Clinical Meeting in Orlando, FL.
- Dr. **Sarnak** was a member of the American Society of Nephrology UpToDate Review Committee and is a continuing member of the Society's Clinical Science Committee.
- Dr. **Sarnak** is a member of the National Kidney Disease Education Program (NKDEP) Evaluation Committee and has been since 2005.
- Dr. **Stevens** presented the revised classification system for ICD-9-CM codes for CKD to the KDIGO conference that was held in Amsterdam in October 2006. She is a member of the international committee to revise ICD-10 and ICD-11 classification systems to be consistent with current classification of CKD and knowledge of specific kidney diseases.
- Dr. **Stevens** is a member of the Kidney Disease Early Evaluation Program (KEEP) Steering Committee and has been responsible for coordinated calibration of the serum creatinine assay

Patient Care

The Division provides diagnostic and treatment expertise for patients with acute and chronic kidney disease, including kidney failure, fluid and electrolyte disorders, and all forms of hypertension. The staff has expertise in evaluation and treatment of nephrotic syndrome, glomerulonephritis, diabetic kidney disease, polycystic kidney disease, urinary tract infections, urinary reflux and obstruction, kidney stones, and all other kidney diseases. Special diagnostic and treatment modalities include glomerular filtration rate estimation, kidney biopsy, immunosuppression, percutaneous transluminal renal angioplasty and stenting, low protein diets, hemodialysis, peritoneal dialysis, continuous venovenous hemofiltration, vascular access monitoring and repair, and kidney transplantation.

All our clinical programs continue to expand, offering care for a wide range of complex and complicated issues associated with acute and chronic kidney disease. The following section highlights our clinical programs.

2006 New Clinical Initiatives

| |
|---|
| <p>In 2006, outpatient volume increased <u>7</u>% in the Kidney and Blood Pressure Center at Tufts-NEMC.</p> |
|---|

Outpatient

Center for Polycystic Kidney Disease

- The Center for Polycystic Kidney Disease at Tufts-NEMC opened in 2006. This multidisciplinary clinic offers comprehensive, coordinated, care for patients with polycystic kidney disease. The Center's physicians are internationally recognized experts in treating and managing the complications of PKD. One to two new patient consultations are seen on a biweekly basis. Areas of expertise include provision of coordinated care for chronic kidney disease including dialysis and transplantation, treatment of hypertension, and evaluation and management of the complications of liver and kidney cysts including chronic pain, kidney stones, and cardiovascular issues including intracranial aneurysms. Multidisciplinary consultations are provided with Gennaro Carpinito, MD, Urologist-in-Chief and Chairman, Department of Urology; Adel Malek, MD, Neurosurgeon; Richard Rohrer, MD, Chief, Transplant Surgery; Michael Tarnoff, MD, Associate Director, Minimally Invasive Surgery Center; Diana Bianchi, MD, Vice Chair for Research, Floating Hospital and Laurie Demmer, MD, Chief, Genetics

Home Hemodialysis

- The DCI dialysis program initiated a new home hemodialysis program using the NxStage system. Our preliminary experience with this modality has been quite good and we are actively endeavoring to expand our home hemodialysis program. Jane Maxim and Shue-Yearn Hwang provide dedicated nursing care for the home hemodialysis program as well as the peritoneal dialysis program.

KBPC Initiatives

- In 2006, the Kidney Stone Clinic was initiated as a new clinical service within the KBPC. Drs. **Miskulin, Stevens,** and **Uhlig** in collaboration with Dr. Dierks, Division of Urology, and Jessica Lane, Francis Stern Center for Nutrition, offer comprehensive and coordinated care for patients with kidney stones. Outpatients are seen in the kidney stone clinics on Monday and Tuesday afternoons.
- The KBPC can now provide intravenous infusion of corticosteroids, iron, and fluids.

Inpatient

1000th Kidney Transplant

- In 2006, the transplant team conducted its 1000th kidney transplant, marking a major milestone in organ transplantation. The 1000th patient received the new kidney from his sister.

Two Intern Inpatient Service

- In 2006, we completed the first year of having two interns on the Nephrology inpatient service. Increasing the number of medical interns has reduced off-service admissions and transfers for patients with acute and chronic kidney diseases, including dialysis patients and transplant recipients.

Continuing Clinical Initiatives

Outpatient Program Descriptions

Kidney and Blood Pressure Center

Outpatient clinical activities take place primarily in the KBPC, directed by Dr. **Gilbert**. The KBPC continues to exhibit annual growth. There are currently nine half-day a week clinics staffed by Drs. **Balakrishnan, Gilbert, Harrington, Kausz, Khan, Kuhlik, Levey, Meyer, Miskulin, Perrone, Sarnak, Stevens, and Uhlig**.

The KBPC emphasizes a multi-disciplinary approach to kidney disease. Collaboration with the Division of Transplant Surgery, Department of Urology, the DCI outpatient dialysis unit, and the Frances Stern Nutrition Center improve the quality of care delivered. The KBPC specializes in the diagnosis and management of CKD, hypertension, glomerular diseases, kidney transplantation, kidney stones, and peritoneal dialysis. Ambulatory blood pressure monitoring services are offered by the KBPC. Recently, a multidisciplinary Kidney Stone Clinic began coordinating nephrology, surgery, radiology, and nutrition expertise.

Many clinical studies on CKD occur in the clinic, including studies of polycystic kidney disease, lupus nephritis (in conjunction with the Division of Rheumatology), transplant immunosuppression, cardiovascular disease in transplantation, and genetic predisposition to progression.

**Kidney transplants at NEMC increased 22%
in calendar year 2006!**

Kidney Transplant Program

Although all Division attending physicians in the KBPC see kidney transplant patients, the Division of Nephrology runs a specific Transplant Multidisciplinary clinic on Wednesday mornings. This clinic is staffed by Dr. **Perrone**, Medical Director of Kidney Transplantation, and also staffed by one of three Transplant surgeons, in rotation. Two nurse practitioner transplant coordinators also attend the clinic, one working with Dr. Perrone and one with the Transplant Surgeon. Consultation and interaction regarding new and long-term kidney transplant recipients, kidney transplant candidates, and kidney donors is easily and frequently accomplished. Another benefit of this joint activity is the facilitation of dialysis access planning and interventions. Dr. **Gilbert** also works closely with one of the transplant coordinators, seeing patients on Tuesday mornings in the KBPC.

Bone Disease Program

Dr. **Khan** directs the Tufts-NEMC Bone Disease Program. Program services include consultation for CKD-related bone disease and osteoporosis in patients not on dialysis, patients on dialysis, and kidney transplant recipients; bone biopsy; and follow-up treatment for CKD-related bone disease and osteoporosis.

Over the last two years, greater than 20 bone biopsies were performed on patients were referred from our own dialysis units, CSEMC, the Greater Boston Area, and New Hampshire. Referred patients were diverse and included those with early stages of CKD with osteoporosis, Stage 5 CKD requiring dialysis, and kidney transplant recipients. Dr. Khan works in collaboration with the Mayo Clinic located in Rochester, MN where all bone biopsy samples are prepared and evaluated. The bone biopsy results had a significant impact on treatment decisions.

Kidney Stone Program

As described on page 20, a new kidney stone clinic was initiated this year.

Outpatient Dialysis

**This year saw huge increases in 2 dialysis programs - home dialysis
grew 38% and the DCI Walden Pond grew 89%!**

At Tufts-NEMC, Drs. **Meyer** and **Weiner** are the Director of Dialysis Services and Associate Director of Dialysis Services, respectively. The DCI Boston outpatient hemodialysis unit operates 21 stations; the unit has physical capacity for 24 stations. Contained within 3 consecutive floors are the hemodialysis unit and Drs. **Meyer's** and **Weiner's** offices, the Division's research and administrative offices, and the KBPC. Physical proximity makes frequent patient contact practical. Debbie Van Allen, RN, MS, who joined the dialysis program in 1976, manages the outpatient dialysis program.

Table 3 lists the dialysis programs affiliated with the Division of Nephrology..

Table 3: Outpatient Hemodialysis Units Affiliated with Tufts-NEMC

| Location | Dialysis Unit | Medical Directors |
|-----------------|----------------------|---|
| Tufts-NEMC | DCI Boston | Klemens B. Meyer, MD Medical Director Daniel E. Weiner, MD Associate Medical Director |
| Somerville | DCI Ball Square | Michael B. Cohen, MD Co-Medical Director Anthony Z. Dash, MD Co-Medical Director Klemens B. Meyer, M.D Medical Director for Home Dialysis |
| Concord | DCI Walden Pond | Klemens B. Meyer, MD Medical Director Andrei Kouznetsov, MD Associate Medical Director Valerie R. Price, MD Associate Medical Director |

Peritoneal dialysis and home hemodialysis services are provided the DCI Ball Square Home Dialysis Program. Jane Maxim, RN, a former Tufts-NEMC dialysis nurse with 30 years' experience in home dialysis, is the nurse manager, working with Shue-Yearn Hwang, RN. The Tufts-NEMC peritoneal dialysis program was the first in Boston. In 2006, the Home Dialysis Program began to provide home hemodialysis training and care as well, using a highly automated and simplified machine that makes the therapy very attractive. This innovation allows Tufts-NEMC nephrologists to offer their patients short daily home hemodialysis, a very promising new therapy.

As described on page 20 a new home hemodialysis program using the NxStage system has been initiated. Our preliminary experience with this modality has been quite good and we are actively expanding the home hemodialysis program. Jane Maxim and Shue-Yearn Hwang provide dedicated nursing care for the home hemodialysis program as well as the peritoneal dialysis program.

Outpatient Volume

As demonstrated in Table 4, outpatient volume at Tufts-NEMC increased 7% from the last fiscal year. In addition, the number of dialysis treatments performed at the DCI Walden Pond dialysis unit has increased significantly over the last year. Table 5 shows the number of outpatient dialysis visits by Division-affiliated physicians. All volume numbers are for the Tufts-NEMC and DCI fiscal year 2006, which ran from October 2005 to September 2006, unless otherwise stated.

Division physicians at affiliated, non-DCI dialysis units made over 800 outpatient dialysis visits in 2006.

Table 4: Comparison of Outpatient Activity: Fiscal Year 2005 compared to 2006

| Institution and Location | Fiscal Year | | Percent Change |
|--|-------------|--------|----------------|
| | 2005 | 2006 | |
| <u>Tufts-New England Medical Center</u> | | | |
| Kidney Blood Pressure Center | 4,571 | 4,899 | 7 |
| Pratt Medical Group Nephrology and Hypertension, Concord | 424 | 1,437 | 239 |
| <u>Dialysis Clinic, Incorporated</u> | | | |
| Boston (Tufts-NEMC) hemodialysis treatments | 14,065 | 14,234 | 1 |
| Ball Square hemodialysis treatments | 9,919 | 10,399 | 5 |
| Ball Square home-dialysis patients* | 14 | 19 | 38 |
| Walden Pond dialysis treatments | 3,828 | 7,217 | 89 |

* Total number of PD and home HD patients for calendar year 2006

Table 5: 2006 Outpatient Dialysis Visits by Division Physicians at Affiliated Units

| Dialysis Unit | Numbers of Visits |
|--|-------------------|
| Cambridge | 39 |
| Caritas St. Elizabeth's Medical Center | 182 |
| Malden | 58 |
| Medford | 155 |
| Saugus | 97 |
| Stoneham | 278 |
| Woburn | 12 |

Table 6: 2006 Outpatient Ambulatory Visits by Division Physicians at Affiliated Units

| Hospital-based Ambulatory Clinic | Numbers of Visits |
|--|-------------------|
| Caritas St. Elizabeth's Medical Center | 194 |
| Lawrence Memorial | 568 |
| Melrose Wakefield | 737 |

Inpatient Program Descriptions

Nephrology Inpatient Services

Every 14 days, the Division's nephrologists rotate responsibility for care of patients hospitalized on the inpatient nephrology service at Tufts-NEMC. The nephrology and dialysis staff work closely with the nursing staff on North 7, the inpatient nephrology floor, to maintain continuity of care. In addition, all Division attending physicians participate in the inpatient nephrology consultation service. The consultation service responds to over 70 requests monthly for evaluation of acute kidney injury, chronic kidney disease, fluid and electrolyte disorders, glomerulonephritis, hypertension, and solid organ and bone marrow transplant-related issues. The nephrology consultation service also provides expertise for all forms of renal replacement therapy, including but not limited to hemodialysis, peritoneal dialysis, continuous renal replacement therapy (CVVH and SCUF), and charcoal hemoperfusion and Division fellows supervised by staff physicians perform all temporary access procedures required for initiating hemodialysis, including femoral and central catheter insertions.

Kidney Transplantation

Dr. **Perrone** is the Medical Director and all Division attending physicians also participate in the Tufts-NEMC Kidney Transplant Program. A relatively high proportion of kidney transplants derive from related or unrelated living donors. Tufts-NEMC is also an active participant in the New England Program for Kidney Exchange (NEPKE) that has centralized the coordination of sharing by mismatched donor-recipient pairs so as to allow regional paired-donor exchanges. Patients who have received transplants are seen weekly in the KBPC in the initial months following the transplant, thereafter at increasing intervals. This year, the transplant team conducted its 1000th kidney transplant, marking a major milestone in organ transplantation at Tufts-NEMC.

Inpatient Dialysis

Inpatient hemodialysis is performed in the Floating 7 inpatient dialysis unit and in Tufts-NEMC intensive care units. Dr. **Meyer** is the Director of Dialysis Services and Dr. **Weiner** is the Associate Medical Director. Table 4 lists the numbers of treatments performed this year. Dialysis Clinic, Inc., the hospital's dialysis provider, assigns three nurses to perform these treatments on a routine basis, and additional staff as needed. Linda Courtemanche, RN manages the inpatient dialysis program, which she joined in 1986. The staff performs pediatric as well as adult hemodialysis. The program is organized with particular attention to patient flow; most of the patients receiving hemodialysis treatment are also undergoing many other tightly scheduled tests and procedures. Response time for emergency hemodialysis after hours is 45 minutes; during the day, treatments can be initiated even more quickly.

Continuous Renal Replacement Therapy

Dr. **Perrone** is the Director of this program that provides continuous renal replacement therapies such as continuous venovenous hemofiltration (CVVH) and slow continuous ultra filtration (SCUF) are provided in all intensive care units. These therapies are utilized with increasing success to support critically ill patients from other services who have developed acute renal failure as a complication of their underlying illnesses, other treatments, or surgery. Introduction of citrate regional anticoagulation has markedly improved the efficiency and efficacy of CVVH, thereby allowing its utilization in all intensive care units at Tufts-NEMC. Intraoperative SCUF is provided for patients with kidney failure who undergo liver transplantation. With the growth of solid organ and bone marrow transplantation, cardiac surgery, and oncology programs, increased utilization of continuous renal replacement therapies will be required.

Inpatient Volume

All volume numbers are from the Tufts-NEMC and DCI fiscal year, October 2005 to September 2006, unless otherwise indicated. As Table 7 demonstrates, inpatient volume at Tufts-NEMC increased substantially by 10% from fiscal year 2005. Days of inpatient service at affiliated hospitals by Tufts-NEMC physicians are listed in Table 8.

Table 7: Comparison of Inpatient Activity: Fiscal Year 2005 Compared to 2006

| Institution and Location | Fiscal Year | | Percent Change |
|---|-------------|--------|----------------|
| | 2005 | 2006 | |
| <u>Tufts-New England Medical Center</u> | | | |
| Patient-days of service: Nephrology Consult and Ward Services | 10,259 | 11,328 | 10 |
| Patient-days of service: New England Sinai Satellite unit | 452 | 282 | -62 |
| Kidney transplants* | 37 | 45 | 22 |
| Bone biopsy day surgery procedures | 14 | 7 | -50 |
| <u>Dialysis Clinic, Incorporated</u> | | | |
| Inpatient hemodialysis treatments: Tufts-NEMC | 2,358 | 2,689 | 14 |
| Inpatient hemodialysis treatments: Emerson | 140 | 168 | 20 |
| Days of CVVH treatments: Tufts-NEMC | 626 | 583 | -7 |

*Calendar year 2006

**Patient-days of service at Tufts-NEMC
increased more than 10%!**

Table 8: 2006 Patient-days of Service at Affiliated Hospitals

| Affiliated Hospitals | Days |
|--|-------------|
| Caritas St. Elizabeth's Medical Center | 833 |
| Emerson Hospital | 1,660 |
| Kindred Hospital | 458 |
| Lawrence Memorial Hospital | 1,166 |
| Melrose Wakefield Hospital | 2,298 |
| Whidden Hospital | 201 |

Division Quality Improvement

The division remains committed to improving the quality of care both for our patients and patients throughout the institution. Dr. **Stevens** is Director for Quality Improvement for the Division.

Serum Creatinine Concentration Calibration

In a continuation of last year's implementation of automated reporting of GFR estimates, this year Dr. **Stevens** worked with the Tufts-NEMC clinical laboratory to calibrate the creatinine assay to reference standards via the Cleveland Clinic Research Laboratory. This calibration approach allowed for more reporting of more accurate GFR estimates. In addition, Dr. Stevens also worked with the Tufts-NEMC clinical laboratory to report serum creatinine concentrations to two decimal places, in line with national recommendations by the National Kidney Disease Education Program.

Divisional Morbidity and Mortality Rounds

This past year, Morbidity and Mortality rounds were instituted in the Division. These rounds will be held approximately six times a year will provide the opportunity for fellows and attending physicians to discuss issues related to problems in knowledge or delivery of care that lead to patient poor outcomes, with the goal to develop systems to avoid these problems in the future.

Physician Staff Assessment Survey

For the 4th year in a row, under the direction of Dr. **Richardson**, the Division has surveyed the non-physician staff's assessment of attending physician performance. Non-physician staff members and health professionals of the outpatient and inpatient dialysis units, North 7 and the KBPC anonymously evaluate each Division physician.

Table 9 lists the questions and the sum of the positive responses. Our faculty performed very well, receiving more than 85% positive responses in each of 11 areas surveyed.

The Division is committed to providing quality patient care and a supportive learning environment for health professionals. These data show that we are meeting that commitment. The Division annually uses this tool yearly during physician assessments and as a component of credentialing to continuously improve the care and learning environment we provide. We are fortunate to have resources within our Division that allow us to successfully undertake this annual initiative.

Table 9: 2006 Physician Staff Assessment Survey Results

| Questions | Sum of %Strongly Agree and % Agree |
|--|------------------------------------|
| • This physician routinely exhibits caring and respectful behavior to patients and their families. | 94 |
| • This physician adequately and appropriately provides explanations to patients and their families. | 93 |
| • This physician is sensitive to patients' culture, age, gender, and disabilities. | 94 |
| • This physician strongly advocates for patients within the health system. | 88 |
| • The physician is attentive to the details of patient care. | 93 |
| • This physician routinely exhibits caring and respectful behavior to staff. | 89 |
| • This physician respects multidisciplinary input and integrates it into patient care. | 88 |
| • This physician responds in a timely manner when paged or called. | 94 |
| • This physician is responsive to the administrative needs of the dialysis unit, clinic or nursing unit (includes scheduling, adherence to regulations, discharge planning, instructions to house staff, etc). | 87 |
| • I would trust this physician to take care of members of my family. | 90 |
| • Overall rating of this physician (Note: result of this item is sum of Very Good and Excellent responses). | 85 |

Community Service/Patient Education

Division staff members actively participate in community projects, particularly in neighboring Chinatown. In addition to health screenings, the Division has focused on education for health care providers, patients, and the general community. Please refer to Table 10 for a detailed listing of events.

Tufts-NEMC's Team Kidney Care raised \$5400 in charitable contributions for kidney disease organizations.

- Division members participated in two NKF-sponsored Kidney Early Evaluation Program (KEEP) screenings this year. KEEP is a comprehensive screening program that includes a health risk questionnaire, blood pressure measurement, blood and urine tests, and individual consultation with a physician to discuss the patient's risks for diabetes, hypertension, and CKD. The largest screening this year was conducted at the DIABETES EXPO FAIR held at the Seaport World Trade Center in South Boston. During the EXPO, Division members screened 225 people for kidney disease!
- Division members organized Team Kidney Care and nearly 60 people participated in the NKF Zoo Walk. We were in the top 5 teams for participation. Staff from the KBPC, DCI Boston, and DCI Somerville raised over \$1400 for the NKF.



Team Kidney Care (Division members and their families) at the NKF Zoo Walk.

- Division members also participated as the Tufts-NEMC Team Kidney Care in the Walk for Polycystic Kidney Disease raising more than \$4000 to support Polycystic Kidney Disease research.
- This year, Drs. **Meyer**, **Miskulin**, and **Perrone** gave several lectures to patients about kidney disease. Slides for presentations given to Chinese elders were translated into Chinese and interpreters were available at the lectures to give participants results of blood pressure screenings. In June 2005, an article on "High Blood Pressure and Kidney Disease" was published in the Sampan Chinese-English newspaper. In addition, Poonhar Poon (DCI dietitian) and Dr. **Meyer's** lecture on kidney disease, dialysis, and transplantation at the Chinese Golden Age Center was reported in the World News.

Table 10: 2006 Community Service Events

| Date | Type of Event | Community | Location | Partner | Attendees |
|-------------|--|-------------------|--|---|------------------|
| 1/9 | Blood Pressure Screening | Chinatown | Metropolitan Residence Tremont Street Boston, MA | NEMC Community Outreach Event | 55 |
| 3/19 | NKF KEEP Screening for CKD and Hypertension | Diverse | Seaport Convention Center South Boston, MA | NKF at the Diabetes Expo | 225 |
| 5/10 | Tufts Healthy Living Tour for Reggie Lewis Center | African-Americans | HNRC Washington Street Boston, MA | Jean Mayer HNRC | 40 |
| 7/30 | NKF KEEP Screening for CKD and Hypertension | Cape Verdean | Cape Verdean Festival Brockton, MA | National Kidney Foundation | 75 |
| 8/1 | National Night Out - BP Screening | Chinatown | Tai Tung Village Chinatown Boston, MA | Boston/Chinatown Community Program | 55 |
| 8/6 | August Moon Festival (BP and CKD pamphlets) | Chinatown | Chinatown Boston, MA | Boston / Chinatown Main Street | -- |
| 8/15 | 3 rd Annual Elder Awareness Information Fair - BP screening | Chinatown | Chinatown Boston, MA | South Cove Manor | 60 |
| 9/30 | BP screening, CKD and Dialysis Information | Chinatown | Chinatown Health Fair Boston, MA | NEMC Community Outreach Event | 125 |
| Date | Educational Lectures | Lecturer | Location | Audience | Attendees |
| 4/3 | Living with PKD: Lifestyle Measures to Prevent/Slow Progression of PKD | Dr. Miskulin | Waltham, MA | Polycystic Kidney Disease Foundation, Northeast Chapter | 60 |
| 4/3 | Research Update, Polycystic Kidney Disease | Dr. Perrone | Waltham, MA | Polycystic Kidney Disease Foundation, Northeast Chapter | 60 |
| 7/20 | "High Blood Pressure" | Dr. Meyer | Chinatown Boston, MA | Staff/Residents of South Cove Manor | 75 |
| 8/17 | Chronic Kidney Disease | Dr. Meyer | Chinatown Boston, MA | Staff/Residents of South Cove Manor | 75 |

Patient Care Awards and Honors

- Helen Freedman received the Saltonstall Employee of the Month Excellence Award in June. The Saltonstall Award recognizes outstanding performance, service and teamwork of an employee who exemplifies Tufts-NEMC's Guiding Principles.



From left to right: Edward Schottland CFO, Dr. Harrington, Ellen Zane (CEO), Helen Freedman, Robin Morris (VP Clinical Services), Dr. Salem (Chairman, Department of Medicine) and Dr. Levey.

- The entire KBPC Team was awarded an Oliver Smith award.
- Dr. **Levey** was listed in Boston Magazine's "Boston's Best Doctors". The list was compiled by Best Doctors, a Boston-based company, polled medical professionals to determine which doctors they would recommend if their own family members needed medical attention.
- Dr. **Meyer** was the recipient of the Oliver Smith award.
- Dr. **Meyer** received the prestigious 2006 Boston Gift of Life Outstanding Physician - Nephrology Award from the National Kidney Foundation of MA, RI, NH and VT. The Gift of Life Award recognizes outstanding service to the NKF and commitment to the kidney and transplantation community. The Gift of Life Awards Dinner was held on Thursday, January 19, 2006 at the Quincy Marriott Hotel. Nearly 40 members of the Division and Department of Medicine joined Dr. Meyer at the awards dinner.



Division Members at the Gift of Life Dinner 2006

- Drs. **Price**, **Meyer**, and **Kouznetsov** were featured in the Healthworks Magazine, a publication of Emerson Hospital.



From Left to Right: Drs. Meyer, Kouznetsov, and Price as featured in Healthworks Magazine.

- Dr. **Meyer** and the DCI Boston staff were featured in a wonderful article published in Tufts Medicine, the magazine of the Tufts University Medical and Sackler Alumni Associations. The full article can be viewed at <http://www.tufts.edu/home/feature/?p=dialysis>.
- In December, The NKF of MA, RI, NH & VT informed Dr. **Perrone** that he had been selected as the recipient of the 2007 Gift of Life Outstanding Physician In Nephrology Award. Dr. Perrone's outstanding service to the NKF and commitment to the kidney and transplantation community will be honored and recognized at the annual Gift of Life Awards Dinner. The event will take place on Thursday, January 25, 2007 at the Quincy Marriott Hotel.
- Dr. **Perrone** was featured in the fall issue of PKD Progress, the principal publication of the Polycystic Kidney Disease Foundation.

Research

Research conducted in the Division is focused on solving clinical problems. Each research project has a domain expert, in most cases a nephrologist, a methods expert, and collaborators from other disciplines. The location of the Division offices, the KBPC, and the DCI Boston dialysis unit on 3 adjacent floors in the same building has been a major reason for the Division's success in clinical research.

The Division's primary focus is on clinical research in CKD. However, there are a growing number of projects in acute kidney failure. Areas of emphasis are listed in Table 11.

Table 11: Areas of Research Emphasis in the Division

| Area of Emphasis | Research Examples |
|--|---|
| Epidemiology of CKD | <ul style="list-style-type: none"> • Definition and staging of CKD • Prevalence in US population and subgroups defined by demographic and clinical characteristics |
| Assessment of kidney function | <ul style="list-style-type: none"> • Development and validation of GFR prediction equations • Development of a national program for standardization of serum creatinine assay |
| Interventions to slow progression of kidney disease | <ul style="list-style-type: none"> • Secondary analysis of studies of dietary modification • Anti-hypertensive agents and blood pressure goals • HALT-PKD clinical trial • TEMPO (Tolvaptan) clinical trial |
| Clinical and epidemiological studies of nutrition in CKD | <ul style="list-style-type: none"> • Secondary analysis of studies of dietary modification in CKD • Clinical trials of strength training in CKD • Secondary analysis of obesity in CKD |
| Bone Disease in CKD | <ul style="list-style-type: none"> • Prevalence of adynamic bone disease in bone biopsies from dialysis patients |
| Implementation of clinical practice guidelines in CKD | <ul style="list-style-type: none"> • Demonstration projects in managed care organizations • Clinical trials in CKD populations |
| Epidemiology of CVD in CKD | <ul style="list-style-type: none"> • Studies of the burden of CVD and CVD risk factors in CKD • CKD as a risk factor for CVD |
| Clinical and epidemiological studies on cerebrovascular disease in CKD Clinical and epidemiological studies on cognition in CKD | <ul style="list-style-type: none"> • Anti-hypertensive therapy to prevent stroke recurrence • Prevalence and risk factors for cognitive impairment in CKD |

| | |
|--|---|
| Epidemiological studies on optimal care for kidney failure | <ul style="list-style-type: none"> • Timing of initiation of dialysis • Treatments for anemia, malnutrition, bone disease |
| Clinical studies of effects of dialysis modality and dose | <ul style="list-style-type: none"> • Utilization of preventive services • HEMO Study • CHOICE Study • Daily dialysis trials |
| Clinical and translational studies on mediators of inflammation and oxidative stress in kidney disease | <ul style="list-style-type: none"> • Leukocyte function and apoptosis • Iron therapy, infection, and oxidative stress • Genetic factors influencing outcomes in acute and CKD |
| Quality management in dialysis networks | <ul style="list-style-type: none"> • Development of information systems • Methods for assessment of quality of life, patient satisfaction and comorbidity |
| Clinical studies of immunosuppression and infection in dialysis and kidney transplantation | <ul style="list-style-type: none"> • Relationship of HCV, CMV, bacteremia to immunosuppressive drug regimens, iron therapy |
| Epidemiological studies of CKD after kidney transplantation | <ul style="list-style-type: none"> • Complications after kidney transplantation |
| Polycystic kidney disease | <ul style="list-style-type: none"> • Barriers to care • Epidemiological studies of the morbidity and mortality of extrarenal and renal complications of ADPKD after ESRD • Clinical trials to slow kidney disease progression in ADPKD • Cardiovascular disease in ADPKD • Endothelial function in ADPKD |
| Patient-based assessments | <ul style="list-style-type: none"> • Development of computerized quality of life assessments - CKD-CAT |
| Lupus Nephritis | <ul style="list-style-type: none"> • Induction and maintenance of remission |

Total Amount and Type of Research Awards

The increasing numbers and dollars of research awards received by the Division are indicated in Figure 1, Table 12, and Table 13

In 2006, 5 Division Members held Career Development (K) Awards from NIDDK

2003-2006 WB Schwartz, MD Division of Nephrology Research Awards

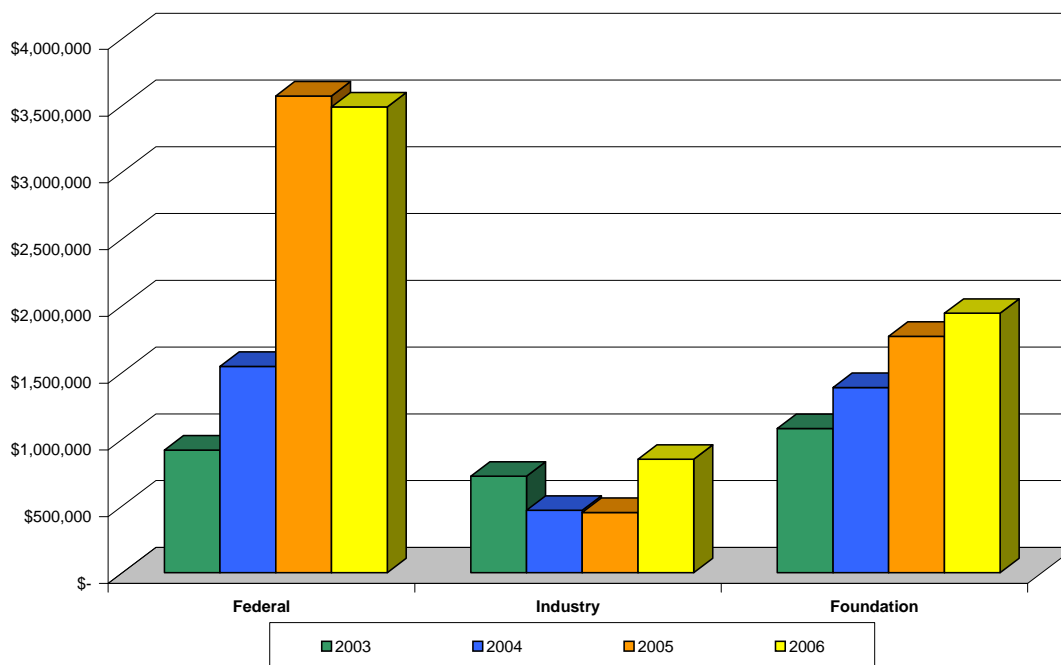


Figure 1: Division of Nephrology Research Awards 2003-2006, by Type

Table 12: New Research Awards Received in 2006

| Principal Investigator | Award Source | Type of Award | Title | Study Length |
|------------------------|---------------------------------------|------------------------|---|--------------|
| Dr. Balakrishnan | NIH/NIDDK University of New Mexico | Federal Subcontract | Cytokine Gene Polymorphisms in the CRIC Cohort | 1 year |
| Dr. Meyer | NIH/NIDDK | Federal SBIR | Computerized Adaptive Testing in Chronic Kidney Disease | 2 years |
| Dr. Rao | DCI | Foundation | Somatic Mitochondrial Mutations in HD Patients | 1 year |
| Dr. Sarnak | Amgen | Foundation | Mitochondrial injury and anemia in CKD | 1 year |
| | University of Utah | Foundation | Eplerenone | 4 years |
| | University of Washington | Foundation | Mineral Metabolism | 2 years |
| Dr. Stevens | American Society of Nephrology-ASP | Foundation | Accuracy and reliability of GFR measurements in the elderly | 2 years |
| Dr. Weiner | NIH/NIDDK | Federal | Clinical Research Loan Repayment | 2 years |

Table 13: Ongoing Awards Received Prior to 2006

| Principal Investigator | Award Source | Type of Award | Title | Amount \$ | Study Length |
|---|----------------------------|---------------|---|-------------|--------------|
| Dr. Balakrishnan | Satellite Healthcare | Foundation | Cytokines and Chronic Inflammation in Hemodialysis | \$150,000 | 5 years |
| | NIH/NIDDK | Federal K08 | Hemodialysis and Oxidative Stress | \$606,251 | 5 years |
| | National Kidney Foundation | Foundation | TGF-beta 1 and Interleukin-6 Gene Polymorphisms in CKD | \$150,000 | 3 years |
| Dr. Khan Dr. Levey | Amgen | Industry | Evaluation of Comorbidity | \$50,000 | 2 years |
| | NIH/NIDDK | Federal U01 | Chronic Renal Disease- Individual Patient Meta Analysis | \$5,159,078 | 9 years |
| | NIH/NIDDK | Federal T32 | Epidemiology, Clinical Trials and Outcomes Research | \$2,438,804 | 10 years |
| | NIH/Fogarty | Federal R03 | Hypertension in the Pakistani Population | \$110,880 | 4 years |
| | National Kidney Foundation | Foundation | NKF Center for Clinical Practice Guideline Development and Implementation | \$2,912,293 | 5 years |
| Dr. Menon | NIH/NIDDK | Federal K23 | Novel Cardiac Risk Factors and Endothelial Function in Chronic Kidney Disease | \$779,700 | 5 years |
| | Satellite Healthcare | Foundation | Endothelial Function in Early Stage Polycystic Kidney Disease | \$150,000 | 3 years |
| | PKD Foundation | Foundation | Endothelial Cell Dysfunction In Polycystic Kidney Disease | \$195,000 | 3 years |
| Dr. Miskulin | Satellite Healthcare | Foundation | Risk-Adjusting Clinical Performance Measures for Quality Assessment Program in Dialysis Populations | \$150,000 | 4 years |
| | NIH/NIDDK | Federal K23 | Case-Mix and its Effects on Quality Indicators in ESRD | \$628,880 | 5 years |
| Dr. Perrone | NIH/NIDDK | Federal U01 | Polycystic Kidney Disease Clinical Trials Network | \$2,303,228 | 7 years |
| Dr. Rao | NIH/NIDDK | Federal K23 | TGF-Beta 1 and PAI-1 Genotypes in CKD | \$649,350 | 5 years |
| | NIH/NIA | Federal R21 | Somatic Mitochondrial Injury and Anemia in Elderly Patients with CKD | \$275,000 | 2 years |
| Dr. Sarnak | NIH/NIDDK | Federal R01 | Does Kidney Function Determine Aging Success? | \$1,262,024 | 4 years |
| | NIH/NIDDK | Federal R21 | Cognition and Vascular Disease in Dialysis Patients | \$447,510 | 2 years |
| | NIH/NIDDK | Federal R21 | Cardiac Risk Factors in Chronic Kidney Disease | \$448,250 | 2 years |
| Drs. Sarnak and Weiner Dr. Weiner | Amgen | Industry | CKD in Pooled Population | \$200,000 | 2 years |
| | NIH/NIDDK | Federal K23 | Kidney Disease, Stroke and Cognitive Impairment | \$643,234 | 5 year |

2006 Division Publications

A total of 59 publications were authored and/or co-authored by Division members in 2006. An asterisk beside a name indicates a trainee as an author.

The following is a listing of the Division's 2006 publications:

1. Astor BC, Coresh J, Heiss G, Pettitt D, **Sarnak MJ**. Kidney function and anemia as risk factors for coronary heart disease and mortality: the Atherosclerosis Risk in Communities (ARIC) Study. *Am Heart J* 2006;151:492-500.
2. Balk E, Raman G, Chung M, Ip S, Tatsioni A, Alvarez A, Chew P, **Gilbert SJ**, Lau J. Comparative effectiveness of management strategies for renal artery stenosis: a systematic review. *Ann Int Med* 2006;145:901-12.
3. Bommer J, **Jaber BL**. Ultrapure dialysate: facts and myths. *Semin Dial* 2006;19:115-9.
4. Bostom AG, Carpenter MA, Kusek JW, Hunsicker LG, Pfeffer MA, **Levey AS**, Jacques PF, McKenney J, FAVORIT Investigators. Rationale and design of the Folic Acid for Vascular Outcome Reduction In Transplantation (FAVORIT) trial. *Am Heart J* 2006;152:448.e1-448.e7.
5. **Chen J***, **Gul A***, **Sarnak MJ**. Management of intradialytic hypertension: the ongoing challenge. *Semin Dial* 2006;19:141-5.
6. Cheung AK, Rocco MV, Yan G, Leypoldt JK, Levin NW, Greene T, Agodoa L, Bailey J, Beck GJ, Clark W, **Levey AS**, Ornt DB, Schulman G, Schwab S, Teehan B, Eknoyan G. Serum beta-2 microglobulin levels predict mortality in dialysis patients: results of the HEMO study. *J Am Soc Nephrol* 2006;17:546-55.
7. Coresh J, **Stevens LA**. Kidney function estimating equations: where do we stand? *Curr Opin Nephrol Hypertens* 2006;15:276-84.
8. Delmez JA, Yan G, Bailey J, Beck GJ, Beddhu S, Cheung AK, Kaysen GA, **Levey AS**, **Sarnak MJ**, Schwab SJ, for the Hemodialysis (HEMO) Study Group. Cerebrovascular disease in maintenance hemodialysis patients: results of the HEMO Study. *Am J Kidney Dis* 2006;47:131-8.
9. Dember LM, **Jaber BL**. Dialysis-related amyloidosis: a late finding or hidden epidemic? *Semin Dial* 2006;19:105-9.
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12. Huang WC, **Levey AS**, Serio AM, Snyder M, Vickers AJ, Raj GV, Scardino PT, Russo P. Chronic kidney disease after nephrectomy in patients with renal cortical tumours: a retrospective cohort study. *Lancet Oncol* 2006;7:735-40.
13. **Jaber BL**. Introduction to Controversies in Dialysis. *Semin Dial* 2006;19:95.
14. **Jaber BL**, Lobon LF, Madias NE. The serotonin syndrome complicating co-prescription of paroxetine and clarithromycin. *Am J Med* 2006;119:e3.
15. **Jaber BL**, **Madias NE**. Efficacy and safety of benazepril for advanced chronic renal insufficiency. Letter to the Editor. *N Engl J Med* 2006;354:1530-1.
16. Kalantar-Zadeh K, **Balakrishnan VS**. The kidney disease wasting: inflammation, oxidative stress, and diet-gene interaction. *Hemodial Int* 2006;10:315-25.
17. **Kausz AT**, Gilbertson, DT. Overview of vaccination in chronic kidney disease. *Adv Chronic Kidney Dis* 2006;13:209-14.
18. Khan NA, Ma I, Thompson CR, Humphries K, Salem DN, **Sarnak MJ**, Levin A. Kidney function and mortality among patients with left ventricular systolic dysfunction. *J Am Soc Nephrol* 2006;17:244-53.
19. **Kwack C***, **Balakrishnan VS**. Managing erythropoietin hyporesponsiveness. *Semin Dial* 2006;19:146-51.
20. **Levey AS**, Coresh J, Greene T, **Stevens LA**, Zhang Y, Hendriksen S, Kusek JW, Van Lente F for the Chronic Kidney Disease Epidemiology Collaboration. Using standardized serum creatinine values in the Modification of Diet in Renal Disease Study equation for estimating glomerular filtration rate. *Ann Intern Med* 2006;145:247-54.
21. **Levey AS**, Greene T, **Sarnak MJ**, Wang X, Beck GJ, Kusek JW, Collins AJ, Kopple JD. Effect of dietary protein restriction on the progression of kidney disease: long-term follow-up of the Modification of Diet in Renal Disease (MDRD) Study. *Am J Kidney Dis* 2006;48:879-88.
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57. KDOQI Clinical Practice Guideline Update on Vascular Access *Am J Kidney Dis* 2006;48(Suppl 1):S248-73. (T-NEMC Evidence Review Team)
58. KDOQI Clinical Practice Guideline Update on Hemodialysis Adequacy (Co-Director, Evidence Review Team) *Am J Kidney Dis* 2006;48(Suppl 1):S2-90. (Meyer KB and T-NEMC Evidence Review Team)
59. KDOQI Clinical Practice Guideline Update on Peritoneal Dialysis Adequacy (Co-Director, Evidence Review Team) *Am J Kidney Dis* 2006;48(Suppl 1):S98-129. (T-NEMC Evidence Review Team)

Research Awards and Honors

- Dr. **Levey** was invited to participate in a Clinical Science Symposium at the meeting of the American Society of Nephrology in San Diego on “Use of Estimating Equations in Patients with Kidney Disease”
- Dr. **Levey** participated in an American Heart Association Prevention Conference on Kidney Disease, Hypertension and Cardiovascular Disease
- Dr. **Levey** participated in an National Heart Lung and Blood Institute (NHLBI) Vascular Disease and Hypertension Workgroup to make recommendations for future research directions related to kidney disease and hypertension.

- Dr. **Levey** was appointed to an NHLBI Expert Panel on a Hypertension Treatment Trial Initiative to make recommendations for a large-scale trial of blood pressure in nondiabetic adults, with special attention to CKD.
- Dr. **Levey** was participated in the Acute Kidney Injury Network (AKIN) Consensus Conference to discuss the definition and classification of acute kidney injury and its relationship to chronic kidney disease.
- In July 2006, Dr. **Perrone** became Chair of the Scientific Advisory Committee for the Polycystic Kidney Disease Foundation. Dr. Perrone has served as a member of the Scientific Advisory Committee since 1999.
- The Halt Progression of Polycystic Kidney Disease (HALT-PKD) began enrollment in January of 2006. Dr. **Perrone** is the Principal Investigator and Dr. **Miskulin** is a co-investigator of the Boston patient care center; which also has a subcontract with Beth Israel Deaconess Medical Center.
- Dr. **Sarnak** is a grant reviewer for the National Institutes of Aging Study Section and also a member of the Data Safety Monitoring Board of a Clinical Trial on Nocturnal Hypertension and Microalbuminuria in Type 1 Diabetes.

Education

The Division is committed to education. Local and national initiatives involve all members of the Division. National efforts stem largely from leadership and participation in basic and clinical research, service to national organizations and boards that establish standards in clinical practice and educational testing, and speaking engagements at local, national, and international conferences. Affiliations with TUSM, TUSDM and the Friedman School of Nutrition Science and Policy are the focus of most of our local education initiatives. Table 14 and Table 15 list ongoing teaching initiatives by Division members.

Division members teach at 6 schools including:

Tufts University School of Medicine
 Tufts University School of Dental Medicine
 Friedman School of Nutrition Science and Policy
 Sackler School of Graduate Biomedical Sciences
 The Francis Stern Nutrition Center at Tufts-NEMC
 Northeastern University School of Pharmacy

New Teaching Initiatives in 2006

Graduate-level Initiatives

- A new selective is being offered in the DCI hemodialysis unit to first and second year medical students to provide clinical exposure.
- Drs. **Meyer** and **Weiner** engage in weekly seminars introducing students from the Tufts University School of Dental Medicine to issues specific to individuals with CKD. As a part of this program, the students from the dental school provide screening dental exams to hemodialysis patients from DCI Boston, peritoneal dialysis patients from DCI Ball Square, and CKD and transplant patients from the KBPC, facilitating the patients' receipt of future dental care.

Postgraduate-level Initiatives

- Dr. **Gilbert** was appointed Training Program Director for the Division's Clinical Fellowship Program.
- Dr. **Uhlig** has begun instructing Workgroup members for a new KDIGO guideline on Chronic Kidney Disease: Mineral and Bone Disorders.

Continuing Teaching Initiatives

Table 14: Longstanding Graduate-level Teaching Initiatives by Division Members

| School | Students | Course | Personnel |
|---|---|---|---|
| TUSM | 2 nd year | Renal Pathophysiology Course | Dr. Gilbert, Director Division Attendings and Fellows |
| | 1 st & 2 nd year | Physical Diagnosis Course | Nephrology fellows and several members of the physician staff |
| | 3 rd year | Renal Ward Service | Division Attendings |
| | 4 th year | Renal Ward Service as sub- interns | Division Attendings |
| | 4th year | Consultative Nephrology | Dr. Gilbert |
| | 4th year | Evidence-based medicine elective | Dr. Gilbert |
| Tufts University School of Dental Medicine | — | Lectures on topics related to hypertension and nephrology | Drs. Balakrishnan and Meyer |
| Friedman School of Nutrition Science and Policy | — | Lectures on topics related to hypertension and nephrology | Drs. Balakrishnan, Meyer and Weiner |
| Northeastern University School of Pharmacy | 4 th year | Didactic lectures for the kidney disease sections of the Pathophysiology course | Dr. Richardson |

| | | | |
|--|----------------------|--|------------------|
| | 5 th year | Didactic lectures for the kidney disease sections of Therapeutics course | Dr. Richardson |
| | 6 th year | 6-week advanced pharmacy practice experience in DCI Boston dialysis unit | Dr. Richardson |
| The Francis Stern Nutrition Center at Tufts-NEMC | | 4-week experiential rotation in DCI Boston dialysis unit | Poonhar Poon, RD |

Table 15: Longstanding Postgraduate-level Teaching Initiatives by Division Members

| Institution | Role | Personnel |
|--|---|--------------------------------|
| Sackler School of Graduate Biomedical Sciences at Tufts University | <ul style="list-style-type: none"> Mentor fellows during their independent research in pursuit of a Masters of Science degree | Drs. Levey, Pereira and Sarnak |
| TUSM Department of Pharmacology and Experimental Therapeutics | <ul style="list-style-type: none"> Coordinate the Nephrology Section of the Advanced Molecular and Cellular Pharmacology Course | Dr. Gilbert |
| Tufts-NEMC | <ul style="list-style-type: none"> Renal Ward Service Nephrology Consultation Service Intern and Resident Teaching Kidney and Blood Pressure Center at Tufts-NEMC senior medical residents Tufts-NEMC Morning Report and Noon Conference | Division Attendings |

Fellowship Programs

Clinical Fellowship Training

Dr. **Gilbert** is the Director of the highly respected clinical fellowship training program. A well-organized curriculum emphasizing breadth and depth of clinical knowledge, rotations at Tufts-NEMC and CSEMC and continuous evaluation all result in a highly successful program. Over the past 14 years, approximately 42% of the 33 graduates of the fellowship program have continued in full-time academic positions. Another 27% have become private practitioners with substantial teaching responsibilities, many in hospitals with university affiliations. The remainder of the graduates is largely engaged in private practice. During the past academic year, 207 applications to the clinical fellowship program were reviewed for only one open position available in 2006. Table 16 and Table 17 list graduating and current clinical fellows.

Table 16: Graduated Clinical Fellows

| Name | Period of Training | Current Position |
|-------------------|--------------------|-----------------------------------|
| Yasser Nasser, MD | 2004-2006 | Clinical Nephrology California |
| Ambreen Gul, MD | 2004-2006 | Clinical Nephrology Wisconsin |

Table 17: Current Clinical Fellows

| Name | Period of Training | Previous Institution |
|-------------------------|--------------------|--|
| Magdalena Madero, MD | 2005-2007 | Caritas St. Elizabeth's Medical Center Brighton, MA |
| Marcellus Assiago, MD | 2006-2008 | Lehigh Valley Hospital Bethlehem, PA |
| Ashish Mahajan, MD | 2006-2007 | Caritas St. Elizabeth's Medical Center Brighton, MA |
| Christina Kwack, MD, MS | 2006-2007 | Tufts-New England Medical Center Boston, MA |
| Jeremy Marcus, MD | 2004-2007 | Beth Israel Deaconess Medical Center Boston, MA |

Research Fellowship Training

2006 Research Fellowship Training Accomplishments

- Dr. Craig **Gordon**, Nephrology Research Fellow, was awarded second place for his presentation of "Interferon for Chronic Hepatitis C Virus-Infected Hemodialysis Patients - A Meta-Analysis" at the Forefronts in Basic, Clinical, and Translational Research in Nephrology Fellows Forum. Drs. Magdalena **Madero** and Essam **Elsayed**, Nephrology Clinical Fellow and Nephrology Research Fellow, respectively, were also recognized for their research as featured presenters. This conference allowed fellows from across the Eastern seaboard to present their original research.

Continuing Research Fellowship Training Initiatives

The Division offers training in clinical research in two research tracks as shown below. Unfortunately, this year the funding for CSEMC translational research track was discontinued. However, fellows can still elect to participate in research projects at CSEMC under the direction of Drs. **Jaber**, **Madias**, and **Liangos**.



Figure 2: Research Fellowship Training Tracks

Clinical Investigator Track: NIDDK Training Grant

The NIDDK Institutional Research Training Award, in "Epidemiology, Clinical Trials and Outcomes Research in Nephrology" funds four trainees per year in the Clinical Investigator Track. This program is designed for fellows aspiring to a career as an independent investigator in clinical research in nephrology. The program has been focused primarily on chronic kidney disease, although in recent years, there is a growing interest in acute kidney failure. The specific aims of the Training Program are:

1. Didactic Training - course work in fulfillment of the MS degree in the Graduate Program in Clinical Research at the Sackler School of Graduate Biomedical Sciences at Tufts University;
2. Independent Study - a hypothesis-based research project supervised by a nephrologist mentor and a research team of faculty with expertise in other disciplines;
3. Training in Presentation - participation in conferences and seminars designed to improve trainees' oral and written presentations.

The nephrologist mentors ensure integration of all aspects of the curriculum with trainees' research projects.

Clinical Educator Track - NKF Center for Clinical Practice Guideline Development and Implementation

The NKF Center for Clinical Practice Guideline Development and Implementation at Tufts-NEMC offers two fellowship positions to nephrology trainees in the Clinical-

Educator track. This program is designed for fellows interested in developing skills to remain at the forefront of medical knowledge, to apply methods from evidence-based medicine, and to enhance the delivery of high-quality healthcare. During the 2-year program, fellows are trained in systematic literature review, critical literature appraisal, and clinical practice guideline development and implementation. Fellows assume significant responsibility in the development of specific guidelines under the supervision and guidance of the Center staff. They collaborate closely with national and international work group experts. The fellows also attend classes at the Sackler School of Graduate Biomedical Science at Tufts University and participate in mentored research to earn a masters degree in clinical care research. Fellows also participate in developing educational programs directed towards medical students, housestaff, and fellows. The Clinical-Educator Program may be combined with a year of clinical training for subspecialty board eligibility in nephrology.

During 2006, fellows in the Center have held central roles in ongoing KDOQI and KDIGO guideline development projects. They have also conducted research towards theses in the Sackler School’s Master of Science in Clinical Care Research program. Theses were completed on “Critical review of meta-analyses of randomized controlled trials in nephrology,” and work is ongoing on the following topics: “Insight into current physician testing in the investigation of anemia,” “The burden of chronic kidney disease and cardiovascular disease in a large managed care organization”, and “Treatment of Hepatitis C virus infection in hemodialysis patients – a systematic review of the literature and meta-analysis of individual patient data.”

Research Fellowship Program Statistics:

- We have eight current research fellows in training. See Table 17 and Table 18 for listings of current and graduated research fellows. We received 115 applications in 2006 for three open research fellowship positions.

Table 18: Graduated Research Fellows

| Name | Training Period | Nephrology Mentor | Current Position |
|-------------------------|------------------------|--|--|
| Joline Chen, MD, MS | 2003-2006 | Andrew S. Levey, MD | Clinical Nephrologist Boston Medical Center |
| Christina Kwack, MD, MS | 2004-2006 | Lesley A. Stevens, MD Katrin Uhlig, MD | Clinical Nephrology Fellow Tufts-NEMC |
| Ashish Mahajan, MD | 2004-2006 | Andrew S. Levey, MD Lesley A. Stevens, MD Katrin Uhlig, MD | Clinical Nephrology Fellow Tufts-NEMC |
| Jonathan Sosnov, MD, MS | 2003-2006 | Andrew S. Levey, MD Klemens B. Meyer, MD | Assistant Professor of Clinical Medicine University of Miami |

Ron Wald, MD, MS 2004-2006 V. Balakrishnan, MD Assistant Professor
 University of Toronto
 Clinician Investigator
 St. Michael's Hospital

Table 19: Current Research Fellows

| Name | Prior Institution | Nephrology Mentor | Funding Source |
|------------------------|--|--|--|
| Ashan Alam, MD | Clinical Nephrology Fellow in McGill, Montreal, Canada. McGill University Health Centre Montreal, Canada | V.S. Balakrishnan, MD | Research scholarship from the Faculty of Medicine at McGill University |
| Emily Dulude, MD | Clinical Nephrology Fellow Tufts-NEMC | V.S. Balakrishnan, MD | NIDDK Institutional Training Grant |
| Essam Elsayed, MD | Hospitalist University of Massachusetts Memorial Health System | Mark J. Sarnak, MD, MS | NIDDK Institutional Training Grant |
| Craig Gordon, MD | Hospitalist Beth Israel Deaconess Medical Center | Katrin Uhlig, MD, MS | NKF |
| Ranjani Moorthi, MD | Resident Worcester Medical Center | | NKF |
| Dena Rifkin, MD | Clinical Nephrology Fellow Tufts-NEMC | Mark J. Sarnak, MD, MS | NIDDK Institutional Training Grant |
| Nicholas Stoycheff, MD | Resident University of Maryland | Andrew S. Levey, MD Lesley A. Stevens, MD, MS | NIDDK Institutional Training Grant |
| Jill Young, MD | Clinical Nephrology Fellow Tufts-NEMC | Vandana Menon, MD, PhD Mark J. Sarnak, MD, MS | NIDDK Institutional Training Grant |

Continuing Medical Education

Division members provided more than 60 local, national and international presentations in 2006.

- KDOQI work group members have repeatedly recognized the didactic instruction and supervision by the Evidence Review Team (ERT) and described it as a qualifying experience in evidence-based medicine. As a result, in 2005, Dr. Uhlig sought formal accreditation for the seminars and workshops conducted by the

ERT as a CME activity on methods of evidence-based guideline development. After attending four workgroup meetings, physicians participating in the development of a full guideline are now eligible for up to 10 CME credits awarded by the Tufts University Office of Medical Education. The following CME accredited seminars were held in 2006:

Clinical Practice Guideline Development for Hepatitis C and Chronic Kidney Disease: 2nd Work Group Meeting

Madrid, Spain
February 24-25, 2006
3 credits

Clinical Practice Guideline Development for Chronic Kidney Disease-Mineral and Bone Disorders: 1st Work Group Meeting

Boston, MA
September 11-12, 2006
4 credits

Clinical Practice Guideline Development for Hepatitis C and Chronic Kidney Disease: 3rd Work Group Meeting

Boston, MA
September 16-17, 2006
2 credits

- Dr. **Khan** is a faculty member in the Department of Continuing Medical Education and presents formal lectures to trainees from pharmaceutical companies.

The Division is actively involved in providing various forms of continuing medical education. Table 20 lists the continuing education presentations given by Division faculty in 2006. The table excludes presentations given within the Division, as all faculty are expected to present one Journal Club and one Research Conference annually.

Table 20: 2006 Local, National and International Presentations by Division Faculty

| Presenter | Title | Location | Date |
|-----------------------|---|---|--------------|
| LOCAL/REGIONAL | | | |
| Dr. Balakrishnan | Inflammation and Genetics in Chronic Kidney Disease | Medical Grand Rounds University of Massachusetts Worcester, MA | September 12 |
| | Anemia of Chronic Disease | Medical Grand Rounds Caritas St. Elizabeth's Medical Center Boston, MA | December 13 |

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|----------------|---|--|-----------------|
| Dr. Jaber | Contrast-Induced Nephropathy: Strategies for Prevention | 3 rd Annual Imaging and Treatment Strategies in Primary Care Medicine Conference Caritas Christi Health Care System Norwood, MA | April 6 |
| | Diagnostic and Prognostic Biomarkers in Acute Kidney Injury | Nephrology Research Conference Tufts-NEMC Boston, MA | May 31 |
| Dr. Levey | Cardiology Grand Rounds | Brigham and Women's Hospital Boston, MA | April 6 |
| | Medical Grand Rounds | Massachusetts General Hospital Boston, MA | April 13 |
| Dr. Liangos | Continuous Renal Replacement Therapies in the Operating Room and Intensive Care Unit | South Shore Hospital | September 20 |
| Dr. Perrone | Research Update | Polycystic Kidney Disease Foundation Northeast Chapter Waltham, MA | April 2 |
| | Polycystic Kidney Disease: From Bench to Bedside | Department of Biomedical Engineering Tufts University Medford, MA | May 18 |
| | Volume Progression in Polycystic Kidney Disease and the New NIH Trial | Renal Rounds Fallon Clinic Worcester, MA | June 27 |
| | Clinical Trials in Polycystic Kidney Disease | National Kidney Foundation, Portland, ME | September 15 |
| | Volume Progression in Polycystic Kidney Disease and the New NIH Trial | Renal Rounds Baystate Medical Center Springfield, MA | September 22 |
| Dr. Richardson | Chronic Kidney Disease (CKD) and Anemia Associated with CKD in Older Adults. <i>Nursing and Pharmacy Continuing Education Program</i> | Westport, Burlington, and Chestnut Hill, MA; Mystic and East Windsor, CT. | Throughout 2006 |
| Dr. Sarnak | Cardiovascular Disease in Chronic Kidney Disease | Medical Grand Rounds. Massachusetts General Hospital Boston, MA | January 26 |
| | Contrast Induced Nephropathy | Medical Grand Rounds. Tufts-NEMC Boston, MA | February 10 |
| | | Renal Division Seminar Boston University Boston, MA | December 21 |

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|-----------------|--|---|--------------|
| Dr. Stevens | Use of GFR Estimates in Clinical Practice | Department of Anesthesia Grand Rounds Tufts-NEMC Boston, MA | September 11 |
| | Chronic Kidney Disease: Role of eGFR in Detection, Evaluation and Management of CKD. | Grand Rounds Faulkner Hospital Boston, MA | May 4 |
| Dr. Uhlig | Screening and Management of Chronic Kidney Disease | Hudson Valley Capital District Dinner Meeting Sponsored by the NY Chapter of the American College of Physicians and the National Kidney Foundation of Northeast New York Albany, NY | June 13 |
| | Chronic Kidney Disease: How to Recognize and Manage It | New York Society of American Family Physicians Conference Albany, NY | October 14 |
| | Chronic Kidney Disease: How to Recognize and Manage It | Milton Hospital Milton, MA | December 5 |
| NATIONAL | | | |
| Dr. Jaber | Management of Intradialytic Complications: Case Studies | Hemodialysis Course National Kidney Foundation, 15 th Annual Clinical Nephrology Meetings Chicago, IL | April 19 |
| | Renal Replacement Therapy in the ICU Setting | Harvard-Brigham & Women's Hospital Course, Intensive Board Review and Contemporary Issues in Nephrology Boston, MA | September 14 |
| | Meet the Professor Luncheon: Case Studies in Hemodialysis for the Boards | Harvard-Brigham & Women's Hospital Course, Intensive Board Review and Contemporary Issues in Nephrology Boston, MA | September 14 |
| | Advantages of Single-Use Dialyzers | Clinical Science Symposium "New Techniques with Conventional In-Center Hemodialysis" American Society of Nephrology Annual Meeting San Diego, CA | November 17 |
| Dr. Levey | Visiting Professor | Eastern Carolina University Greenville, NC | February 2-3 |

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|----------------|---|---|-------------------------------|
| | Visiting Professor | University of California at San Diego San Diego, CA | September 12-13 |
| Dr. Menon | | The Renal Network Inc. Nephrology Conference Chicago, IL | |
| Dr. Meyer | Institute of Medicine Recommendations Regarding the Structure and Governance of Quality Improvement Organizations The ESRD Networks and Forum: a User's Guide | Forum of End Stage Renal Disease Networks National Leadership Meeting St. Louis, MO National Renal Administrators' Association Annual Meeting Philadelphia, PA | September 17 October 6 |
| | Decision Support for Anemia Management | Medical Information Steering Committee Dialysis Clinic, Inc. Annual Meeting Tampa, FL | October 26 |
| Dr. Perrone | Clinical Research Update | 17 th Annual Conference on PKD Polycystic Kidney Disease Foundation Crystal City, VA | June 24 |
| | Clinical Trial Update: The HALT PKD Study | 17 th Annual Conference on PKD Polycystic Kidney Disease Foundation Crystal City, VA | June 24 |
| | The Ins & Outs of Transplantation | 17 th Annual Conference on PKD Polycystic Kidney Disease Foundation Crystal City, VA | June 25 |
| | Polycystic Kidney Disease | Harvard Medical School Intensive Board Review and Contemporary Issues in Nephrology Boston, MA | September 11 |
| | Research Update/Question and Answer Session | Southern California Polycystic Kidney Disease Foundation San Diego, CA | November 15 |
| Dr. Richardson | Mental functioning in CKD patients: assessment and outcomes. | Annual Conference on Dialysis San Francisco, CA | February |
| | Utilizing patient satisfaction data. | Annual Conference on Dialysis San Francisco, CA | February |

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|--|---|---|------------|
| Dr. Sarnak | The Epidemiology of Chronic Kidney Disease and Cardiovascular Disease. What is New? | Renal Rounds College of Physicians and Surgeons Columbia University New York, NY | February 6 |
| | Cystatin and Cardiovascular Disease | Renal and Hypertension Rounds Henry Ford Hospital Detroit, MI | March 3 |
| | Preventing the Cardiovascular Burden in CKD. | National Kidney Foundation Meetings | April 19 |
| | What is Different about CVD in ESRD? | American Society of Nephrology Annual Meeting San Diego, CA | November |
| | Case Studies Management of CVD in CKD | American Society of Nephrology Annual Meeting San Diego, CA | November |
| | Cardiovascular Risk Factors: Traditional and Non-Traditional | American Society of Nephrology Annual Meeting San Diego, CA | November |
| | Implications of the MDRD Long-Term Follow-Up Study | American Society of Nephrology Annual Meeting San Diego, CA | November |
| | Morbidity of Inflammation in Chronic Kidney Disease | American Society of Nephrology Annual Meeting San Diego, CA | November |
| Managing Cardiovascular Risk in CKD and ESRD | Harvard Medical School. Intensive Board Review and Contemporary Issues in Nephrology Boston, MA | April 19 | |
| Dr. Stevens | Quality of Care for CKD | Cleveland Clinic Cleveland, OH | October 6 |
| Dr. Uhlig | Translating Guidelines into Practice | NKF Spring Clinical Meeting Chicago, IL | April 20 |
| | CKD and the Generalist: How can We Get CKD on the Radar Screen in the Generalist's Setting? | NKF Spring Clinical Meeting Chicago, IL | April 22 |
| Dr. Weiner | Update on Grading in Kidney Disease Guidelines | KDOQI Advisory Board Meeting New York, NY | June 12 |
| | <i>Free Communication:</i> Cardiovascular Disease and the Development and Progression of CKD | American Society of Nephrology Annual Meeting San Diego, CA | November |

INTERNATIONAL

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|------------------|---|---|---------------|
| Dr. Balakrishnan | Challenges in Anemia Management | 6 th Annual Course in Nephrology Universidade Federal de Sao Paulo, Brazil | May 24 |
| | Causes and Consequences of Chronic Inflammation in Advanced CKD | 6 th Annual Course in Nephrology Universidade Federal de Sao Paulo, Brazil | May 25 |
| | Genetics in Dialysis | 6 th Annual Course in Nephrology Universidade Federal de Sao Paulo, Brazil | May 26 |
| Dr. Jaber | Association of Chronic Kidney Disease with Infectious Disease | Kidney Disease Improving Global Outcomes (KDIGO) Controversies Conference: Chronic Kidney Disease as a Global Public Health Problem: Approaches and Initiatives Amsterdam, Netherlands | October 14 |
| Dr. Madias | Invited Lecturer | 14 th Panhellenic Congress of Arterial Hypertension, Hellenic Society of Hypertension Thessaloniki, Greece | |
| | Invited Lecturer | 14 th Panhellenic Congress of Nephrology Halkidiki, Greece | |
| Dr. Levey | Conference Chair | Kidney Disease Improving Global Outcomes (KDIGO) Controversies Conference: CKD as a Global Public Health Problem: Approaches and Initiatives Amsterdam, Netherlands | October 13-14 |
| Dr. Stevens | Use of ICD Codes for Detection and Classification of CKD. | KDIGO Controversies Conference: CKD as a Global Public Health Problem: Approaches and Initiatives. Amsterdam, Netherlands | October 13 |
| | Epidemiology and Detection of CKD: The CKD Plan of Action in the US | Barcelona, Spain | May |
| | State of the Art Screening for Renal Disease. How? Is it worth it? To whom?: ASN Point of View. | Barcelona, Spain | May |

Editorial Appointments

In addition to their responsibility for editorship of *American Journal of Kidney Diseases* (see page 15 for details), members of the Division serve on other editorial boards.

- Dr. **Jaber** was the Guest Editor of 'Unresolved Issues in Dialysis' published in *Seminars in Dialysis*. He is also the co-editor of 'Hemodialysis at Home' Series, being published in *Seminars in Dialysis* for 2006 – 2008.
- Dr. **Levey** completed his position as Associate Editor for the Kidney Disease and Hypertension section of *Annals of Internal Medicine* in June 2006.
- Dr. **Madias** is a member of the editorial boards of *Hippokratia* and *Hellenic Medicine*.
- Dr. **Pereira** is a member of several editorial boards including: *Hypertension Dialysis*, *Clinical Nephrology*; *Kidney International*; *Indian Journal of Nephrology*; *Nephron*; *CKD—The Journal of Chronic Kidney Disease*; *Nephrology Resource Directory*, and the *Indian Journal of Peritoneal Dialysis*.
- Dr. **Perrone** serves on the Editorial Board of the *Clinical Journal of the American Society of Nephrology* and this year was appointed the PKD editor for Up to Date. .
- Dr. **Richardson** is the vice-chairperson for the 6th edition of the *Pharmacotherapy Self-assessment Program (PSAP)*. The PSAP series is a premier publication of the American College of Clinical Pharmacy and is modeled after the Medical Knowledge Self-Assessment Program. The program is designed as a self-assessment tool to assist pharmacists in sharpening their clinical skills and keeping abreast in therapeutic areas with updated standards of practice.
- Dr. **Sarnak** is a member of the Editorial Board for the *Clinical Journal of the American Society of Nephrology*.

Education Awards and Honors

- The Tufts-NEMC housestaff ranked the inpatient nephrology rotation as the 2nd best inpatient learning experience at Tufts-NEMC, just behind cardiology, and the KBPC rotation as the very best outpatient learning experience.
- Drs. **Balakrishnan**, **Gilbert**, **Harrington**, **Jaber**, **Madias**, and **Perrone** received Excellence in Teaching Awards.

- Dr. **Gilbert** was awarded Center for the Enhancement of Learning and Teaching (CELT) faculty fellow. This program is a groundbreaking faculty development program based on the internationally known PACE center. Upon completing the fellowship, Dr. Gilbert will be a key faculty member in the revamping of the TUSM curriculum.
- Dr. **Gilbert** received the TUSM Class of 2006 Award for Excellence in Teaching. These awards are given to Tufts faculty members that the Class feels have affected them by "commitment, effective instruction, inspiration, and compassion" and while "at a medical school where there is no shortage of skilled and dedicated instructors" their contribution to the medical school stands out.
- In May, Dr. **Sarnak** received an appointment as a faculty member in the Sackler School of Graduate Biomedical Sciences

Public Policy

2006 Policy Initiatives

- During 2006, the NKF Center for Guideline Development and Implementation served as the Evidence Review Team to the KDOQI guideline work groups for Anemia in Chronic Kidney Disease, Management of Diabetic Kidney Disease, and the Updates to Guidelines on Hemodialysis Adequacy, Peritoneal Dialysis Adequacy and Vascular Access. They also served as the Evidence Review Team for KDIGO guideline work groups for Hepatitis C and Chronic Kidney Disease, Chronic Kidney Disease-Mineral and Bone Disorders and Care of the Kidney Transplant Recipient.
- Dr. **Levey** was appointed to co-chair a Center for Disease Control and Prevention technical expert panel on Comprehensive Public Health Strategies for Preventing the Development and Progression of Chronic Kidney Disease. The panel is scheduled to meet in March 2007.
- Dr. **Stevens** participated in a physician consortium convened by the Renal Physicians Association and the American Medical Association for the purpose of developing performance measures for CKD.

Continuing Policy Initiatives

DCI Information Systems

Dr. **Meyer** serves as Medical Director for Information Systems for Dialysis Clinic, Inc., chairs its Medical Director Computer Steering Committee, and serves on its Quality

Management Committee. Dr. Meyer is one of the principal architects of DCI's information system, which he continues to develop, and which sets an industry standard for quality of care and of information. The team's current projects include continued development of decision support tools for treatment of dialysis patients' anemia and the implementation of an interface between hemodialysis machines and the information system.

DCI Outcomes Monitoring Program

Dr. **Richardson** directs the corporate-wide DCI Outcomes Monitoring Program. The program has two facets, one is the use of patient experience data to improve care, and the other is the collection of high-quality comorbidity data. Patient experience is assessed using the SF-36 and patient satisfaction data from all DCI dialysis patients. The current database contains nearly 130,000 observations from more than 33,500 dialysis patients.

The Comorbidity Assessment Program trains DCI staff to collect comorbidity data, monitors data quality and develops methods for case-mix adjustments. Where inherent differences in patient populations (i.e., case-mix) can be accounted for, we are developing methods to standardize quality comparisons across facilities. These methods may also be applied in clinical research studies where non-randomized groups are being compared to enable an unbiased effect of the treatment (or facility in the case of quality monitoring analyses) to be determined.

NKF Center for Clinical Practice Guideline Development and Implementation at Tufts-NEMC

The mission of the NKF Center for Clinical Practice Guideline Development and Implementation at Tufts-NEMC is to improve the quality of care of individuals with kidney disease through service to the NKF and research and training in the developing and implementing evidence-based clinical practice guidelines. The Center provides methods support and guidance in developing guidelines commissioned by the NKF in the Kidney Disease Outcomes Initiative (KDOQI) and the Kidney Disease: Improving Global Outcomes (KDIGO) initiative. Dr. **Levey** is the Center Director, Dr. **Uhlig** the Program Director, Nephrology, and Evidence Review Team Co-Director, and Dr. **Stevens** the Program Director, Implementation. Additional staff at the Center are Dr. Joseph Lau MD, Director Evidence Based Medicine and Ethan Balk MD MPH, Evidence Review Team Co-Director.

The Evidence Review Teams at the NKF Center lead work groups of international experts through the process of systematic literature review and produce evidence reports that provide the backbone for evidence-based clinical practice guidelines. These guidelines have led to improvement and standardization in the care of patients with chronic kidney diseases in the US and abroad.

The Center has also developed strategies and tools for implementing KDOQI clinical practice guidelines through academic detailing, consultation and collaboration with organizations, including the NKF; Coventry Health Care, a national health maintenance organization; Laboratory Corporation of America (LabCorp) and Quest Laboratories, the largest US commercial national laboratories; NIDDK National Kidney Disease Education Program (NKDEP); Centers for Disease Control and Prevention; National Committee for Quality Assurance; Federal Drug Administration; Kaiser Permanente Northwest, as well as Tufts-NEMC and their partners. Guideline implementation research projects study the effectiveness of strategies and tools for guideline implementation in order to expedite the translation of the guidelines into practice. An interdisciplinary research group has been constituted at the Center to lead the implementation efforts. This group also provides advisors for independent research projects undertaken by fellows.

National Kidney Disease Education Program

Dr. **Levey** is a member of the National Kidney Disease Education Program (NKDEP) of the NIDDK. He has participated in the efforts of the NKDEP to recommend reporting GFR estimates by clinical laboratories and to standardize serum creatinine assays for more accurate GFR estimation.