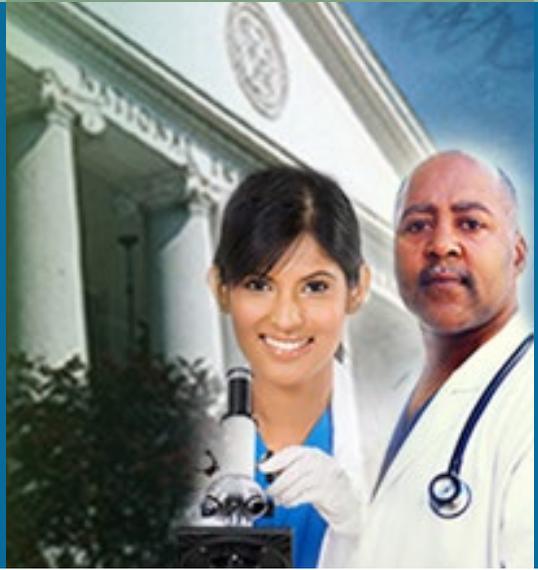


# Network of Minority Health Research Investigators (NMRI)



NMRI News Fall 2016



National Institute of  
Diabetes and Digestive  
and Kidney Diseases

## In Memory



### **Marion Sewer, Ph.D.**

1972 – 2016

Dr. Sewer was a full professor in the Skaggs School of Pharmacy and Pharmaceutical Sciences at the University of California, San Diego. She was an active member of the NMRI and an advocate and educator dedicated to helping her colleagues and fostering the professional development of her students.

Dr. Sewer was born in St. Thomas, U.S. Virgin Islands. She graduated from Spelman College with a B.S. in biochemistry in 1993 and earned a Ph.D. in pharmacology from Emory University. Before joining the Skaggs School of Pharmacy, Dr. Sewer was a postdoctoral researcher in biochemistry at Vanderbilt University Medical Center and served on the faculty at Georgia Institute of Technology. Dr. Sewer was internationally recognized for her research on lipid metabolism and the regulation of steroid hormones.

Dr. Sewer's research program centered on investigating the mechanisms by which steroid hormones are produced. She focused on how adrenocorticotropin (ACTH) controls steroid hormone biosynthesis in the human adrenal cortex. Her work on steroid hormone production has implications for multiple diseases, including cancer, polycystic ovary syndrome, Cushing's disease, and congenital adrenal hyperplasia.

Dr. Sewer received many awards and recognitions in her career and was active in service to the scientific community, including serving on several study sections for the National Institutes of Health and National Science Foundation.

Known for her passion for improving diversity in science, Dr. Sewer also was a talented teacher and mentor. Her support of the careers of students, postdoctoral fellows, and young faculty was highly valued and will be sorely missed. The 14th Annual NMRI Workshop was dedicated in her memory. Dr. Sewer is survived by her mother and sister.



## **A Message from Dr. Agodoa**

It was 14 years ago this April that the Network of Minority Health Research Investigators (NMRI or the Network) held its first annual workshop. This historic event occurred because of recognition by the National Institutes of Health (NIH) of the pressing need to increase the representation of minority health researchers among its grantees.

**Allen M. Spiegel, M.D.**, then Director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), took the lead in addressing the need for greater diversity in the biomedical research community by establishing the Office of Minority Health Research Coordination (OMHRC). OMHRC formed the Network to foster communication among biomedical research investigators, as well as technical personnel, interested in minority health research. The NMRI continues to

- encourage minority health investigators to conduct research in areas related to NIDDK's mission, including diabetes; endocrinology; metabolism; digestive diseases; nutrition; and kidney, urologic, and hematologic diseases
- promote two-way communication between NMRI members and NIDDK staff
- recommend strategies to support and advance underrepresented individuals in biomedical research and others interested in minority health research
- advance scientific knowledge and contribute to reducing and eliminating racial and ethnic health disparities

More than 500 members have joined the NMRI since 2002, and the Network continues to grow. The NMRI's success in achieving its mission is rooted in the dedication of senior members who mentor and serve as role models for junior investigators. The Network's senior members help junior members develop grant applications, navigate the tenure process, and learn to balance faculty commitments. Mentoring occurs during our annual workshops, by email, and by telephone, with the help of the NMRI Membership Directory to facilitate relationships.

I am pleased to announce the 2017 NMRI Annual Workshop marks our 15th Anniversary. I invite researchers interested in the NMRI community to attend the 15th NMRI Annual Workshop, scheduled for April 26–28, 2017, to help celebrate this momentous milestone. We also are producing a special issue of the newsletter that will feature members' stories about what the NMRI has meant to them. I encourage each member to inspire others with his or her story and help us celebrate your successes.

Best wishes for a successful year of research, mentoring, and community!

**Lawrence Agodoa, M.D., F.A.C.P.**

Director, Office of Minority Health Research Coordination, NIDDK, NIH

## Help Commemorate *the* NMRI's 15th Anniversary

2017 marks the 15th anniversary of the NMRI's annual workshop. Please help us celebrate by sharing your story of how the NMRI has helped shape your career. Send your account (2,000 word limit) to **Ms. Winnie Martinez**, NIDDK Program Officer, at [winnie.martinez@nih.gov](mailto:winnie.martinez@nih.gov) so we can share it with fellow members in a special issue of the NMRI newsletter. Please also send information about promotions, publications, collaborations, and successful grant awards. Share your good news and inspire others! Four members, two junior and two senior, also will be invited to share their career summaries at the 15th NMRI Annual Workshop.

### Awards and Accomplishments

**E. Dale Abel, M.D., Ph.D.**, University of Iowa Carver College of Medicine, was inducted into the National Academy of Medicine, formerly known as the Institute of Medicine.

**Jorge N. Artaza, Ph.D., M.S.**, Charles R. Drew University of Medicine and Science, and David Geffen School of Medicine at the University of California, Los Angeles, received the 2015 U.K. Society for Endocrinology's Journal Award for the best paper published in the Journal of Molecular Endocrinology during 2014.

**Glenn M. Chertow, M.D., M.P.H.**, School of Medicine, Stanford University, was inducted into the National Academy of Medicine.

**Trudy Gaillard, Ph.D., R.N., CDE**, University of Cincinnati, received an award for Excellence in Research from the University of Cincinnati on April 15, 2016.

**Marja Hurley, M.D.**, Professor of Medicine and Orthopaedic Surgery at the University of Connecticut Health Center, was honored with the 2016 Lawrence G. Raisz Award by the American Society for Bone and Mineral Research (ASBMR).

**Patricia C. Heyn, Ph.D., FGSA, FACRM**, was promoted to the position of Associate Professor of Physical Medicine and Rehabilitation at the School of Medicine, University of Colorado, Anschutz Medical Campus. Dr. Heyn also was awarded a fellowship by the American Congress of Rehabilitation Medicine and the Gerontological Society of America.

**Chandra L. Jackson, Ph.D., M.S.**, Harvard T. H. Chan School of Public Health, received the Ernest Everett Just Prize, College of Charleston and Medical University of South Carolina.

**Yvette C. Paulino, Ph.D., C.P.H.**, is now certified in public health and is an associate professor at the School of Nursing and Health Sciences, University of Guam.

**April J. Stull, Ph.D., R.D.**, is now an Associate Professor of Nutrition at the University of Maryland Eastern Shore.

**Anna Zamora-Kapoor, Ph.D.**, Washington State University, was awarded a grant from the Robert Wood Johnson Foundation to examine risk factors for type 2 diabetes among American Indian and Alaska Native adolescents.

## SAVE THE DATE

The NMRI Mid-west Regional Workshop  
November 6–7, 2016, Cleveland, OH

The NMRI 15th Annual Workshop  
April 26–28, 2017, Bethesda, MD



## Member Collaborations

**Luis Cubano, Ph.D.**, Universidad Central del Caribe, invited **John Kauwe, Ph.D.**, Brigham Young University, to present a seminar through the university's Research Initiative for Scientific Enhancement (RISE) Program .

**Patricia C. Heyn, Ph.D.**, collaborated with **DeLawnia Comer-HaGans, Ph.D.**, Governors State University, in developing a supplementary study for the Jackson Heart Study.

## NMRI Annual Workshop Travel Awards

Attending the NMRI Annual Workshop is a great way to find out more about the network. Scholarships are available to support attendance.

- **Nephrologist or kidney researcher?** The ASN is offering a limited number of travel awards to attend the NMRI 15th Annual Workshop. Application materials are available on the ASN website at [www.asn-online.org/grants/travel/nmri.aspx](http://www.asn-online.org/grants/travel/nmri.aspx).
- **Never attended a NMRI workshop? Junior faculty member? Have an abstract to present?** Limited travel awards are available through the generosity of our professional society sponsors for eligible members to attend the NMRI 15th Annual Workshop. For more information, contact **Ms. Winnie Martinez**, NIDDK Program Officer, at [winnie.martinez@nih.gov](mailto:winnie.martinez@nih.gov).

## NMRI 14th Annual Workshop Sponsors

The NMRI would like to thank the following professional societies for sponsoring travel awards for the NMRI 14th Annual Workshop:

- American Society of Nephrology (ASN)
- American Association for the Study of Liver Diseases (AASLD)
- American Diabetes Association (ADA)
- Endocrine Society
- Augusta University
- Council on Undergraduate Research (CUR)

## Report from *the* NMRI 14th Annual Workshop

Highlights of the NMRI 14th Annual Workshop, held April 20–22, 2016, follow. A full meeting summary will be available soon on the NMRI website at [www.niddk.nih.gov/news/events-calendar/Pages/nmri-14th-annual-workshop-04-2016.aspx](http://www.niddk.nih.gov/news/events-calendar/Pages/nmri-14th-annual-workshop-04-2016.aspx).

The NMRI held its 14th Annual Workshop April 21–22, 2016, at the DoubleTree Hotel in Bethesda, MD, drawing participants from across the United States and Puerto Rico. The NMRI Planning Committee charged with organizing the meeting was chaired by NMRI member **Heather Tarleton, Ph.D.**, Loyola Marymount University. Dr. Tarleton dedicated the workshop to the memory of NMRI member **Marion Sewer, Ph.D.**, who was a professor the Skaggs School of Pharmacy and Pharmaceutical Sciences at the University of California, San Diego.

NIDDK Deputy Director **Gregory Germino, M.D.**, welcomed attendees and emphasized the value of interacting with colleagues during workshops. Joining the Network builds a community and can help spread the group's message. Not only are members able to gain more knowledge on their chosen topic, but new career investigators can become "known" by connecting to senior experts who can help them build their career.

Dr. Germino remarked that many diseases that fall within NIDDK's primary mission disproportionately affect African Americans, Native Americans, Hispanic Americans, Pacific Islanders, and Asian Americans, which is why the NIDDK sets aside a significant portion of resources to help recruit a diverse workforce of excellent biomedical researchers. Dr. Germino described some of NIDDK's available resources to support workforce diversity, including research and training opportunities for students, grants for scientists of underrepresented backgrounds, awards to promote diversity in health-related research, and travel awards to help researchers attend meetings. Dr. Germino emphasized the importance of researchers' keeping themselves informed about current NIDDK funding opportunities, which are accessible on NIDDK's website, and cited the NIH Common Fund and new NIH initiatives that offer opportunities to NMRI researchers.

How has the NMRI helped your career?

The NMRI Network has been so beneficial for me.

Dr. Germino closed by emphasizing the importance of mentors, who play a critical role in the success of young investigators. The NIDDK takes great pride in the NMRI, which sets a paradigm for developing an effective research community. Dr. Germino encouraged new members to stay with the group, recruit colleagues, and continue working within the Network long enough to become mentors for the generation that follows them.

## KEYNOTE ADDRESS

In “Teams: Leveraging the Power of Collaboration to Advance Your Science,” **Lewis R. Roberts, M.D., Ph.D.**, Mayo Clinic, discussed the nature of success in team science and what it takes to achieve that success. He identified key elements that aspiring biomedical scientists could adopt to leverage the power of collaboration to advance their scientific goals: sharing time and data constructively, making a commitment to solving difficult problems, engaging in critical thinking, and recognizing the need for mentors. Dr. Roberts shared how the value of collaboration was deeply embedded throughout his life’s journey from a small African village to the United States. He spoke of embracing the challenge early in his career to embark upon uncharted territory—building on the bravery of cancer patients he encountered and the advice of influential academic advisors. Dr. Roberts remarked on the importance of embracing new ideas and pushing boundaries to be at the leading edge of science. At every level, team science provides critical

inspiration to the team members and leads to scientific breakthroughs.

In closing, Dr. Roberts noted that globally, the health of a society generally is positively correlated to its wealth; however, one can be healthy without being wealthy. He lauded large-scale efforts—the Global Hepatocellular Carcinoma (HCC) Bridge to Better Outcomes in HCC (BRIDGE) study; the National Cancer Institute’s (NCI) project, The Cancer Genome Atlas; and team science initiatives in general—for making an impact to reduce global health disparities in liver cancer. Dr. Roberts concluded by asking what the NMRI can do to foster collaborations that will be transformative in the world of health.

## BIOSTATISTICS: ALL ABOUT THE BASICS

**Fern Webb, Ph.D.**, University of Florida, provided guidance on how to design an epidemiologic study and choose the right type of statistical analysis, welcoming questions throughout and using an online quiz for interactive learning. Dr. Webb stated that epidemiology is a science based on the idea that disease and health are not random and are not isolated events. Dr. Webb described how epidemiologic research is conducted, typically beginning by identifying the exposures, also called independent variables, and outcomes, also called dependent variables, to be studied. The study’s data analysis plan determines how the study’s results can be interpreted. When interpreting the data, researchers need to use the right type of statistical test, which depends on the type and number of variables in the study. Dr. Webb cited common types of statistical tests used in epidemiologic studies – Chi-square tests of independence, analysis of variance, multiple regression, and logistic regression – to tell whether two variables are independent of each other or co-vary. Dr. Webb provided the participants with a handout to help pick the right type of statistical test to use in the right situation. She also suggested consulting with a biostatistician during the design phase of a study, before data collection starts.

**How has the NMRI helped your career?**

**The NMRI Network can connect NMRI alumni to collaborate on meaningful research.**



## ROUNDTABLE DISCUSSIONS—FROM CAREER DEVELOPMENT ADVICE TO THE GRANT WRITING AND REVIEW PROCESS

Workshop attendees participated in two sessions of roundtable discussions. During the first session, participants had a choice of six roundtable discussion groups focused on career-oriented topics, including conducting health disparities and community-based participatory research, navigating the challenges and opportunities of a new career in research, identifying nontraditional funding sources, developing strategies specific to particular grant mechanisms, and applying for research supplements. The discussion leaders were **Myra Kleinpeter, Ph.D.**, Tulane University School of Medicine; **Bessie Young, M.D.**, University of Washington; **Lewis Roberts, M.D., Ph.D.**, Mayo Clinic; **Dr. Tarleton; Jose Romero, Ph.D.**, Brigham and Women's Hospital/Harvard Medical School; **Carlos Isales, M.D.**, Augusta University; **Bridgett Rahim-Williams, Ph.D.**, Bethune-Cookman University; and **Ann Jerkins, Ph.D., Robert Wellner, Ph.D., James Hyde, Ph.D.,** and **Robert Rivers, Ph.D.**, NIDDK.

In the second session, workshop participants had the option of attending two mock study sections that covered different types of NIH awards—R01 Basic/Clinical and K01 Basic/Clinical—and a session on grant-writing basics. Each mock study section was comprised of an NIDDK Scientific Review Officer (SRO) and a Chair. This year's mock study sections were led by SROs Drs. Jerkins and Wellner. The sections were chaired by **Drs. Isales** and **Rahim-Williams**. In the third section, grant-writing basics in preparation for applying for an R03 grant mechanism were discussed. This discussion was led by **Mark Lawson, Ph.D.**, University of California, San Diego, and **Patricia Heyn, Ph.D.**, University of Colorado, Anschutz Medical Campus.

## MENTORING AT THE 14TH ANNUAL WORKSHOP

During the 14th Annual Workshop's "Mentor/Mentee Session," junior investigators met with one of several senior investigators willing to serve as mentors. Each mentor hosted a roundtable discussion with his or her mentees, answering questions and offering advice about career- or research-related topics. The session was designed to promote active mentoring relationships between senior and junior members.

Two parallel workshop sessions at the NMRI 14th Annual Workshop were designed as informal opportunities for participants to engage in career development activities. Participants attended the session of their choice. In one workshop, participants discussed the specific aims of an upcoming grant proposal and received feedback from a senior NMRI member. In a parallel workshop, participants explored opportunities for collaboration. Researchers shared research interests, ongoing projects, data analysis needs, and any other research concerns in structured networking sessions.

## MARCO CABRERA POSTER CONTEST WINNERS ANNOUNCED

The 33 posters submitted to the 2016 Dr. Marco Cabrera poster contest were assessed for content, presentation, and the presenter's response to questions. Awards were presented for exemplary poster presentations in the areas of basic ([Mariya Sweetwyne, Ph.D.](#), University of Washington), translational ([Essa Mohamed, B.A.](#), Mayo Clinic), and clinical ([Ebele Umeukeje, M.D.](#), Vanderbilt School of Medicine) science. The winning poster abstracts are presented here.



Basic Science: [Dr. Sweetwyne](#), "Preservation of Glomerular Architecture in Aged Mice by Systemic Late-stage Intervention with Mitochondrial Protective Peptide, SS-31."

The percentage of the world population aged 65 and older has increased dramatically over the last two decades (1). With a diagnosis rate that has more than doubled in the last 20 years, it is estimated that greater than 25% of Americans over 65 years of age have significant chronic kidney disease (CKD) (2). Several characteristic changes of aging have been described in the glomerulus including: podocyte hypertrophy and loss, parietal epithelial cell (PEC) transdifferentiation and loss, mesangial cell proliferation/expansion, and vascular rarefaction (3–7). Despite these changes being well-documented across rodents and humans, the mechanisms responsible for the decline in cellular function with age

are not known and it is unclear if these changes at an advanced age can be further prevented or reversed. Some of the pathological changes of renal aging are similar to those seen in acute kidney injuries of younger animals. Therefore, we looked to apply therapeutics, which were known to alleviate younger animal renal injury, in aged animals.

Aging is accompanied by increased oxidation. Over 90% of reactive oxygen species (ROS) are generated by mitochondria, and mitochondrial rich tissues, such as the kidney, show particularly large increases in ROS with age (8). Therefore, it has been hypothesized, but not proven, that aging damage in kidneys is strongly informed by mitochondrial dysfunction and ROS release. During ischemic renal injury in young mice, mitochondria in both glomerular and tubular cells are damaged and ROS increase. A mitochondrial targeted peptide, SS-31, prevents mitochondrial damage in ischemic kidneys and reduces cellular injury and tissue degradation (9, 10). Therefore, we hypothesized that SS-31 peptide would prevent the progression of aging renal disease. Accordingly, 24-month-old mice (~70 year old human) were randomized to continuously receive 8 weeks of SS-31, or saline, by osmotic pump. Animals were sacrificed at 26 months (~79 year old human) and tissues analyzed by histology. An aged baseline group of animals at 24 months of age and without treatment was used to assess changes between the saline treated and SS-31 treated groups.

SS-31 treated animals showed preserved mitochondrial structure in PECs and podocytes. Consistent with lowered oxidative activity, staining of the ROS generating enzyme, Nox4, decreased in parietal epithelial cells (PECs) of SS-31 treated animals. SS-31 treated mice had higher PEC density and lower PEC Collagen IV staining, accompanied by reduced phosphoERK1/2 and  $\alpha$ SMA staining. SS-31 had no impact on podocyte density, but did limit podocyte injury (desmin staining), and improve podocyte integrity (synaptopodin staining). SS-31 treated mice also had less glomerular endothelial loss (CD31). Collectively, these changes resulted in inhibition of glomerulosclerosis (PAS staining). These results show for the

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first time that glomerulosclerosis can be partially reversed by 8 weeks of SS-31. Most exciting to us was the increase in PEC number, suggesting that the fate of aged PECs can be directed even at the late age of 26 months. To our knowledge, this is the first intervention in mice of advanced age that lowers glomerulosclerosis, increases PEC density while lowering PEC activation, and improves podocyte and endothelial cell integrity.

## References:

1. Ortman, Jennifer M., Victoria A. Velkoff, and Howard Hogan. "An aging nation: the older population in the United States." Washington, DC: US Census Bureau (2014): 25-1140.
2. NIDDK. Kidney Disease Statistics for the United States. [www.niddk.nih.gov/health-information/health-statistics/Pages/kidney-disease-statistics-united-states.aspx](http://www.niddk.nih.gov/health-information/health-statistics/Pages/kidney-disease-statistics-united-states.aspx).
3. Denic, Aleksandar, Richard J. Glasscock, and Andrew D. Rule. "Structural and functional changes with the aging kidney." *Advances in chronic kidney disease* 23, no. 1 (2016): 19-28.
4. Weinstein, Jessica R., and Sharon Anderson. "The aging kidney: physiological changes." *Advances in chronic kidney disease* 17, no. 4 (2010): 302-307.
5. Puelles, Victor G., Luise A. Cullen-McEwen, Georgina E. Taylor, Jinhua Li, Michael D. Hughson, Peter G. Kerr, Wendy E. Hoy, and John F. Bertram. "Human podocyte depletion in association with older age and hypertension." *American Journal of Physiology-Renal Physiology* 310, no. 7 (2016): F656-F668.
6. Roeder, Sebastian S., Ania Stefanska, Diana G. Eng, Natalya Kaverina, Maria W. Sunseri, Bairbre A. McNicholas, Peter Rabinovitch et al. "Changes in glomerular parietal epithelial cells in mouse kidneys with advanced age." *American Journal of Physiology-Renal Physiology* 309, no. 2 (2015): F164-F178.
7. Wiggins, Jocelyn E., Meera Goyal, Silja K. Sanden, Bryan L. Wharram, Kerby A. Shedden, David E. Misek, Rork D. Kuick, and Roger C. Wiggins. "Podocyte hypertrophy, 'adaptation' and 'decompensation' associated with glomerular enlargement and glomerulosclerosis in the aging rat: prevention by calorie restriction."

*Journal of the American Society of Nephrology* 16, no. 10 (2005): 2953-2966.

8. Dai, Dao-Fu, Ying Ann Chiao, David J. Marcinek, Hazel H. Szeto, and Peter S. Rabinovitch. "Mitochondrial oxidative stress in aging and healthspan." *Longevity & healthspan* 3, no. 1 (2014): 1.

9. Liu, Shaoyi, Yi Soong, Surya V. Seshan, and Hazel H. Szeto. "Novel cardiolipin therapeutic protects endothelial mitochondria during renal ischemia and mitigates microvascular rarefaction, inflammation, and fibrosis." *American Journal of Physiology-Renal Physiology* 306, no. 9 (2014): F970-F980.

10. Szeto, Hazel H., Shaoyi Liu, Yi Soong, and Alexander V. Birk. "Improving mitochondrial bioenergetics under ischemic conditions increases warm ischemia tolerance in the kidney." *American Journal of Physiology-Renal Physiology* 308, no. 1 (2015): F11-F21.



Translational Science: *Mr. Mohamed*, "Evaluating Knowledge, Attitudes, and Behaviors about Viral Hepatitis and Hepatocellular Carcinoma among Recent African Immigrants in Minnesota: A Community-engaged Qualitative Study."

**Background:** African immigrants in the U.S. have substantially higher prevalences of viral hepatitis and hepatocellular carcinoma than the general population. In Minnesota, which has the third largest state population of African immigrants in the U.S., the incidence and mortality for hepatocellular carcinoma among

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## How has the NMRI helped your career?

The networking opportunities and guidance from NMRI colleagues have been invaluable to me.



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Blacks is 3 times higher than Caucasians (The 2012 Minnesota Department of Health Cancer Report). Most African immigrants are unaware of their risk for hepatocellular carcinoma, which contributes to substantial liver health disparities. Limited research exists on the burden of viral hepatitis and hepatocellular carcinoma among African immigrants. Thus, we conducted a pilot study to evaluate the knowledge, attitudes, and behaviors (KAB) of African immigrants related to liver disease.

**Methods:** The study used a community-engaged research framework. The research team consisted of stakeholders from an academic medical center and Ethiopian, Liberian, and Kenyan community-based organizations and faith-based centers. A semi-structured focus group guide was developed using a KAB approach with open-ended questions. Content analysis was used to thematically code the transcribed data. Qualitative analysis software (ATLAS.TI) was used to organize codes and highlight major themes contributing to liver health disparities.

**Results:** We enrolled 63 participants and conducted 9 focus groups (1 in Amharic, 2 in Oromo, and 6 in English) in Rochester and Minneapolis, Minnesota. The mean age was  $47 \pm 19$ ; 32 participants (51%) were male; the median years lived in the U.S. were 12 years. General knowledge of the modes of transmission of viral hepatitis and of the prevention and development

of liver cancer were minimal. Themes related to barriers to viral hepatitis screening and vaccination included perceived cultural stigma and use of traditional remedies. Common sources of general health information included internet, pamphlets, friends, family, spiritual leaders, and healthcare professionals. Healthcare professionals are the source for information on screening, prevention, transmission, and treatment of viral hepatitis and liver cancer. Most participants sought healthcare at reputable medical institutions. Media sources and community-based events at faith centers were preferred modes of information dissemination on viral hepatitis and liver cancer screening and prevention.

**Conclusions:** Participants identified several factors contributing to the increased burden of hepatocellular carcinoma in Minnesota, including lack of knowledge of disease transmission and progression, cultural stigma/taboo, and lack of preventive care. Culturally and linguistically appropriate interventions are needed to increase awareness, prevention, early detection, and treatment of viral hepatitis and liver cancer among African immigrants in Minnesota.



Clinical Science: **Dr. Umeukeje**,  
“Perceived Competence Is  
Related to Phosphorus Control  
in End-stage Renal Disease.”

Hyperphosphatemia is a mortality risk factor in End Stage Renal Disease (ESRD). The primary management of ESRD includes dialysis, a low phosphorus diet, and medication therapy with phosphate binders. Medication non-adherence is common in this patient population, with rates as high as 75%. Known modifiable psychosocial factors have been largely implicated but still do not sufficiently explain the non-adherence burden. We aimed to analyze the influence of ESRD patients’ perceived competence on phosphorus management, and any differences by race or gender.

In a multisite cross-sectional study of 301 dialysis patients, phosphate binder medication adherence was assessed by the Morisky Medication Adherence Scale (MMAS) (low 0–5; high 6–8), and phosphorus control by serum phosphorus levels. The Perceived Competence (PC) Scale (range: 1–7) assessed patients’ perception of their ability to take phosphate binders as prescribed. Regression models were used to examine independent factors of medication adherence, phosphorus control, and differences by race or gender.

Subjects had a mean age of 57 years ( $\pm 15$ ), 52% were male, 59% were non-white, and 88% received hemodialysis. Mean serum phosphorus was 5.4 mg/dL ( $\pm 1.5$ ); mean MMAS was 5.0 ( $\pm 2.3$ ) and mean PC score was 6.1 ( $\pm 1.3$ ) with 53% of subjects reporting maximum PC scores. Higher PC scores correlated with better medication adherence ( $r = 0.38$ ;  $p < 0.001$ ), and this did not differ by race or gender. Higher PC scores also correlated with better phosphorus control ( $r = -0.18$ ;  $p = 0.002$ ); but this association was only noted for females ( $r = -0.30$ ;  $p = 0.003$ ;  $p\text{-int} = 0.05$ ) and whites ( $r = -0.27$ ;  $p = 0.003$ ;  $p\text{-int} = 0.04$ ) in unadjusted analyses. Medication adherence was negatively associated with serum phosphorus ( $r = -0.22$ ;  $p = 0.003$ ).

In analyses adjusted for age, gender, and race, PC scores were associated with medication adherence ( $\beta$  [95% CI]: 0.51 [0.32 – 0.69];  $p < 0.001$ ) and this did not differ by race and gender. In similar analyses adjusting for age, gender, and race, medication adherence ( $\beta$  [95% CI]: -0.09 [-0.16 – -0.01];  $p = 0.02$ ) was independently associated with serum phosphorus and PC scores showed a trend toward independent association with serum phosphorus ( $\beta$  [95% CI]: -0.11 [0.24 – 0.02];  $p = 0.09$ ). Our findings support the association between perceived competence and binder adherence, and also phosphorus control. The influence of patient’s perceived competence may directly

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affect phosphate binder medication adherence and serum phosphorus control. The development of patient-centered strategies targeting ESRD patients' confidence in their ability to take their medications as prescribed may contribute to the optimization of mineral bone health in this population.

## SCIENTIFIC PRESENTATIONS

Three NMRI members were selected from 33 submitted abstracts and invited to present their research at the NMRI 14th Annual Workshop. The winning speakers and the abstracts are presented here.



**Raquel Greer, M.D., M.H.S.**, John Hopkins School of Medicine, "Primary Care Utilization and Mortality and ESRD Risk among Older Adults with Chronic Kidney Disease."

Routine primary care visits provide opportunities to identify and manage patients' chronic kidney disease (CKD) risk factors and to provide general preventative care. It is unclear how primary care utilization impacts clinical outcomes among older adults with CKD.

We quantified the association between primary care utilization and end-stage renal disease (ESRD) incidence or all-cause mortality among older U.S. adults with CKD (in 2005–2006) using Medicare claims. We assessed (in 2006) patients' primary care utilization (no visit vs. at least one), other care utilization (nephrology care [no visit vs. at least one], the total number of ambulatory evaluation and management (E & M) visits with any type of provider), and patients' comorbid conditions and sociodemographic characteristics. Patients were followed through 2010. We used standard and cause-specific (accounting for competing risk of death) Cox proportional hazard models to estimate hazard ratios (HRs) for ESRD or mortality, adjusting for potential confounders.

Among 87,916 patients with CKD, most patients (81%) had at least one primary care visit in 2006, and 23% had at least one nephrology visit. The median number of ambulatory E & M visits (with any type of provider) was 10. Compared to patients with no primary care visits, patients with at least one visit were younger (78 vs. 79 mean years,  $p < 0.001$ ), less likely African American (10 vs. 14%,  $p < 0.001$ ), and had a greater prevalence of diabetes (45 vs. 40%,  $p < 0.001$ ), hypertension (87 vs. 74%,  $p < 0.001$ ), or coronary artery disease (71 vs. 65%,  $p < 0.001$ ). Over 4 years of follow-up, 3,865 patients developed ESRD and 32,008 died. Compared to patients with no primary care visits, patients with at least one visit had a lower risk of death (HR [95% CI]: 0.74 [0.72–0.76]) and a lower risk for ESRD (HR [95% CI]: 0.82 [0.75–0.89]). Propensity score inverse probability weighting regression models yielded similar results.

Primary care utilization was associated with a lower risk of death and ESRD among older adults with CKD. Primary care appears to play an important role in key clinical outcomes for patients with CKD. Efforts to improve the engagement of primary care providers in the proactive care of patients with CKD may represent an important strategy to improve the health of this high risk population.



**Michelle M. Martínez Montemayor, Ph.D.**, Universidad Central del Caribe, "Phytochemical Profile and in Vivo Effects of Plant Extracts Used as Diabetes Adjuvants in Puerto Rico."

**Purpose:** In Puerto Rico, there is a constant increase in the use of plant-based remedies as alternative or complementary medicine. Therefore, there is a need to validate these less known herbal formulations that are commonly used to treat different ailments such as diabetes. Puerto Rico has the highest rate of type 2 diabetes within all the states and territories of the United States, and Puerto Ricans commonly use plants as diabetes adjuvants. Thus it is important to study the plants' physiological

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effects, and identify their bioactive compounds to understand their role in modulation of blood glucose levels. After an ethnopharmacological survey, we identified three plants commonly used as adjuvants. The purpose of this study was to determine the phytochemical profiles and hypoglycemic effects of *Tapeinochilus ananassae*, *Costus speciosus*, and *Syzygium jambos*. We hypothesize that animals treated with plant extracts would have lower blood glucose level (BGL).

**Methods:** Phytochemicals in methanolic and aqueous extracts were analyzed by thin layer chromatography (TLC). Moreover, alkaloids, flavonoids, saponins, tannins, and phenolics were quantified. Male C57BLKS/J (*db/db*) were orally gavaged with aqueous extracts of lyophilized plant decoctions for 10 weeks at various doses (*db/db*). Intraperitoneal Glucose Tolerance Tests (IPGTT) were performed at 0, 5 or 10 weeks post-treatment, while IP-Insulin Tolerance Tests (IP-ITT) were performed at 10 weeks.

**Results:** *T. ananassae* had significantly greater amounts of flavonoids and tannins, while *S. jambos* had greater concentration of phenolics and *C. speciosus* exhibited higher amounts of alkaloids. C57BLKS/J *db/db* treated with plant extracts show BGL modulation when the extracts are administered in complement with an insulin injection.

**Conclusion:** These results document for the first time the chemical profile of *T. ananassae* and provide evidence for a potential anti-diabetic efficacy of *T. ananassae* and *S. jambos*.



**Stanford Ernest Mwason-gwe, M.P.H.**, Jackson State University, “Multi-marker Panel and Incident Chronic Kidney Disease: The Jackson Heart Study.”

Risk factor burden for chronic kidney disease (CKD) does not fully explain the increasing prevalence in the community. There is also difficulty in using current risk factor profiles to identify individuals at increased risk of developing CKD. We hypothesized that a panel of six

circulatory biomarkers representing inflammation (C-reactive protein; hsCRP), adiposity (adiponectin), natriuretic pathway (B type Natriuretic Peptide; BNP), neuro-hormonal pathway (aldosterone, renin) and endothelial (homocysteine) pathways would be associated with increased risk of developing CKD among African Americans in the Jackson Heart Study (JHS). The Jackson Heart Study is a large community-based cohort of African Americans in Jackson Metropolitan Area, MS. Measurements of circulatory biomarkers were obtained at baseline (2000–2004) using standardized protocol. Analyses were restricted to 2,420 participants with data on estimated glomerular filtration rate (eGFR) at baseline and at Exam 3 (2009–2013). Participants with prevalent CKD, missing biomarkers, and covariates were excluded from the analyses. We defined incident CKD as eGFR < 60 ml/min/1.73 m<sup>2</sup> at Exam 3. We used backward elimination approach in a multiple logistic regression model to identify biomarkers significantly associated with incident CKD. We then evaluated the performance of the multivariable adjusted model in predicting incident CKD using C-statistic, net reclassification improvement (NRI), and integrated discrimination index (IDI).

The mean age of the analysis sample was 53 ± 12 years; 63% were female. During a mean 8-year follow-up period, 225 (9.3%) participants developed CKD. In a multivariable logistic regression model, the multi-marker panel was highly associated with incident CKD ( $p < 0.001$ ). C-reactive protein ( $p < 0.001$ ) and plasma adiponectin ( $p = 0.014$ ) were retained

Continued next page

## Why did you attend the NMRI 14th Annual Workshop?

I made some great connections that have already begun to materialize into collaborations.

### Continued

as significantly associated with increased risk of CKD. The multivariable-adjusted odds ratios (95% CI) per SD increment in the log biomarker concentration were: 1.46 (1.19, 1.79) for CRP and 1.24 (1.05, 1.48) for adiponectin. Biomarkers had modest predictive value of incident CKD as measured by C-statistics and IDI.

We conclude that in this community-based sample of African Americans, circulating plasma adiponectin and C-reactive protein improved risk prediction by 20% as measured by NRI. Biomarkers are useful in identifying individuals at increased risk of developing CKD among blacks and identifying potential biological pathways for investigation into the pathophysiology of disease development.

## DINNER ADDRESS

The dinner address was presented by **Sherita Hill Golden, M.D., M.H.S.**, Johns Hopkins School of Medicine. Dr. Golden described her scientific journey, which she characterized as “a marriage of epidemiology, molecular endocrinology, and diabetes,” that was built on a foundation of strong family ties. As she progressed from being an admirer of science to becoming an internal medicine specialist, Dr. Golden decided to focus on clinical research in diabetes, an exponentially growing public health epidemic that disproportionately affects minority and underserved populations, particularly the African American and Hispanic populations. She cited the revolutionary Diabetes Control and Complications Trial, conducted

from 1983 to 1993, and the Multi-ethnic Study of Atherosclerosis, which found a correlation of depression in patients who were at high risk for developing diabetes, as pivotal factors which led her to hypothesize that depression and hormonal factors were related to an increased risk in diabetes. The 2012 International Conference on Diabetes and Depression further provided the necessary framework to engage the diabetes research community into doing a broader spectrum of studies.

Dr. Golden remarked on her passion for translating population science and epidemiology into the health care setting and the success of the Johns Hopkins Hospital Inpatient Glucose Management Program, which she directs, in reducing hypoglycemia incidence by implementing a series of evidence-based interventions. She closed by sharing some guiding principles of an outstanding clinician and scientist: service (community and mentorship), scholarship, family, friends, health, integrity, and balance. Above all, she hopes her personal experiences and highlights from her academic career path emphasize the strong need for minority investigators to diversify their research funding portfolios to include projects for which their salaries would be covered in part by the university and to pursue work that truly embodies their interests and beliefs.

## ROLE OF SCIENTIFIC SOCIETIES AND PROFESSIONAL ORGANIZATIONS

Workshop participants heard about the roles and activities of scientific societies and professional organizations that are important to the work of the NMRI:

**Raymond Harris, M.D.**, president of the ASN, described the increasing incidence of ESRD in the last 30 years. To expand research in kidney disease, the ASN supports multiple initiatives to expand clinical trials. Dr. Harris pointed out the need for greater diversity among kidney disease researchers, particularly in light of the disproportionate effects of kidney disease on minority populations. To address this need, the ASN is

### Why did you attend the NMRI 14th Annual Workshop?

“It’s always nice to meet new people and network to build collaborations.”



establishing a Diversity and Inclusion Committee that currently is recruiting members. The ASN has programs that support early career professionals, as well as research fellowships for students and trainees. Recognizing the importance of mentoring, the ASN is developing tools to aid senior members in being effective mentors.

**Steven Echard**, CEO of the AASLD, emphasized the strength of the AASLD in that it has a membership of 5,000, including senior members who commit to serve as mentors to members who are at an earlier stage in their careers. The AASLD is dedicated to supporting diversity and inclusion in the hepatology field, including through its sponsorship of attendees to the NMRI and its focus on gender equality. The AASLD recently created the AASLD Foundation, which funds liver research. The Foundation offers Research and Career Development Awards, which include multiyear, single-year, and abstract awards. The Foundation plans to double the amount of funding available over the next 5 years to \$5 million.

**Allison McElvaine, Ph.D.**, Director of Research Communications at the ADA, described the growing health crisis presented by diabetes. Over the past 5 years, the incidence of diabetes has increased from affecting one in 13 Americans to one in 11, and the

economic burden has increased from \$174 billion per year to \$245 billion per year. Minorities are disproportionately affected by diabetes. It is predicted that by 2050, one-half of all Americans in high-risk minority populations will have diabetes. In 2015, the ADA made \$31 million available for research, funding investigator-initiated projects, development and training, and grants related to specific research needs. Dr. McElvaine described a new initiative called Pathway to Stop Diabetes® for which institutional candidates can be awarded up to \$1.625 million.

## NEWS FROM THE NMRI OVERSIGHT AND PLANNING COMMITTEE

At the NMRI 14th Annual Workshop, **Luis Cubano, Ph.D.**, Universidad Central del Caribe, 2015–2016 Oversight Committee chair, acknowledged the support that the NMRI has received for regional meetings and annual workshops from professional societies and thanked the standing and ad hoc members of the Oversight Committee.

Currently composed of more than 500 members, the NMRI continues to actively strive to increase its membership. Benefits of membership include

- opportunities for junior members to receive mentorship from senior members
- leadership opportunities
- recruitment opportunities for seminar presentations
- facilitated networking

Dr. Cubano highlighted the NMRI's Mentorship Program, which helps identify mentors for members who need them and helps the mentee meet his or her goals. Members cite the NMRI Mentorship Program as a strong motivation for attending the annual workshop, and mentorship advice provides specific benefits for the tenure process. Dr. Cubano asked NMRI members to assist in this program by providing biosketches and contact information for the NMRI Membership Directory and attending mentor-mentee sessions at annual and regional workshops.

More information and enrollment forms are available on the NMRI website at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/mentor-program/Pages/mentor-program.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/mentor-program/Pages/mentor-program.aspx).

The NMRI continues to evolve to meet members' needs. Local NMRI chapters have been formed in Puerto Rico and Colorado. Forming a chapter does not involve a formal process, and Dr. Cubano urged members to organize more local NMRI chapters to continue the collaborations formed at the annual workshop.

Dr. Tarleton, 2016 Planning Committee Chair, recognized the significant progress the committee had made in achieving its goals for 2016. Dr. Tarleton recognized the important roles played by the efforts of Ms. Martinez, who oversees the NMRI, as well as the feedback from members in the 2015 member survey, in accomplishing those goals.

Dr. Tarleton introduced **Lincoln Edwards, D.D.S., Ph.D.**, who will chair the Planning Committee in 2017. Dr. Edwards will lead the committee in striving to achieve the new goals that it has set for itself, which include

- maintaining the network's external funding
- identifying new cosponsors
- strengthening and expanding the mentorship network

## NMRI ON THE WEB

The NMRI website contains a number of resources for members:

- **NMRI workshops and meetings:** Upcoming NMRI events are announced at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators). Please visit this site for additional information about future meetings and access to past meeting reports, presentations, and other resources.
- **Career development resources for junior investigators:** Information about the funding process and tips for reviewers are available at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/nmri-member-resources/Pages/nmri-member-resources.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/nmri-member-resources/Pages/nmri-member-resources.aspx).
- **Increasing diversity in the biomedical research community:** Mentoring and career development resources, including for the fields of endocrinology and hematology, are available at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/nmri-member-resources/Pages/nmri-member-resources.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/nmri-member-resources/Pages/nmri-member-resources.aspx).

## NMRI Leadership Opportunities

The NMRI Planning, Regional Planning, and Oversight Committees offer opportunities to become more involved in the network. Annual and regional planning committees are responsible for planning all aspects of upcoming meetings, from identifying speakers to setting agendas. The Oversight Committee facilitates the development of mentoring relationships, the identification of new members, and the recruitment of professional organizations to support the network. These committees are described in detail on the NMRI website at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/nmri-committees/Pages/nmri-committees.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/nmri-committees/Pages/nmri-committees.aspx).

- **The 2015 NMRI Membership Directory:** Contact information for NMRI members is available at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/Pages/default.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/Pages/default.aspx). The directory is updated annually.
  - **The NMRI Mentor/Mentee Program:** This program gives young investigators the opportunity to work closely with senior investigators in research areas of interest to both the mentor and mentee. Forms to sign up to be a mentor or mentee are available at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/mentor-program/Pages/mentor-program.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/mentor-program/Pages/mentor-program.aspx).
  - **The NMRI newsletter:** Previous editions are available at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/nmri-newsletters/Pages/nmri-newsletters.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/nmri-newsletters/Pages/nmri-newsletters.aspx).
1. at the postgraduate doctoral level or higher
  2. interested in minority health research, including individuals from traditionally underserved communities (African American, Hispanic American, American Indian, Alaska Native, Native Hawaiian, and other Pacific Islanders)
  3. conducting research in diabetes; endocrinology; metabolism; nutrition; or digestive, kidney, urologic, or hematologic diseases
  4. U.S. citizens or individuals with permanent resident status

Medical students from underrepresented minority groups are welcome to attend NMRI meetings if they are conducting research in one of the NIDDK mission areas noted above.

### How do I apply for membership?

Individuals who qualify should apply for membership on the NMRI website. Please visit [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/Pages/default.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/Pages/default.aspx) and click the “Enrollment Form” link located in the Additional Links section near the bottom right-hand side of the page to create an account and apply for membership.

### Whom do I contact with questions about the NMRI?

Direct your questions or comments to NIDDK Program Officer **Ms. Winnie Martinez**, who oversees the NMRI, at [winnie.martinez@nih.gov](mailto:winnie.martinez@nih.gov).

### Does the NMRI have a website with more information?

The NMRI maintains and frequently updates its website at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/Pages/default.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/Pages/default.aspx). The website contains information about the NMRI, including meeting announcements, NIDDK funding opportunities, the NMRI Membership Directory, and summary reports from past NMRI meetings.

## NMRI FREQUENTLY ASKED QUESTIONS

### Who is eligible for NMRI membership?

NMRI membership is available only to investigators who are



### How can I find a mentor if I am an NMRI member?

The NMRI Oversight Committee, which created the NMRI Mentor Program, maintains a list of NMRI members who have volunteered to serve as mentors. The biographies and research interests of NMRI members are listed in the NMRI Membership Directory at [www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/Pages/default.aspx](http://www.niddk.nih.gov/research-funding/process/diversity/network-minority-research-investigators/Pages/default.aspx). The directory is updated annually.

### How do I sign up to be a mentor if I am an NMRI member?

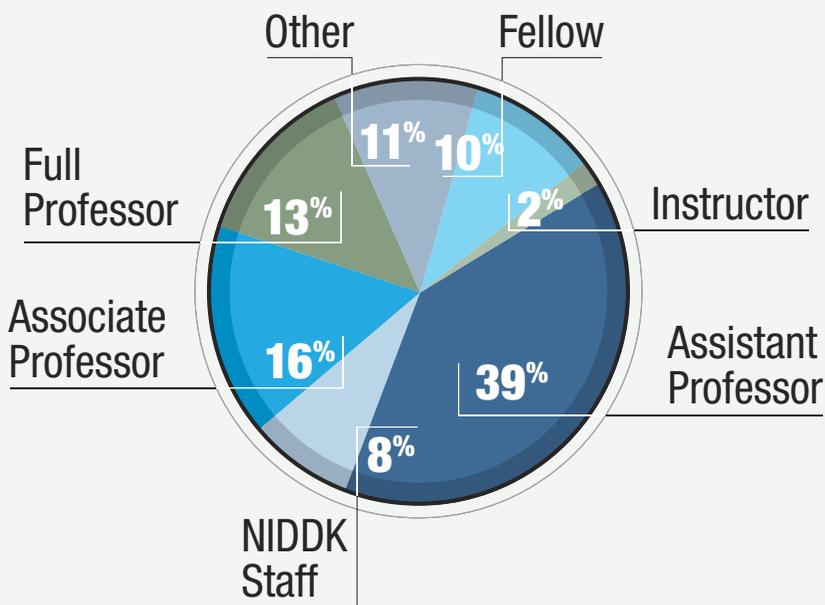
If you are a member and would like to volunteer as a mentor, go to the NMRI website and click the “NMRI Mentor/Mentee Program” link located in the menu on the left to find instructions on how to become a mentor.

## SNAPSHOT OF THE NMRI

Established in 2002, the NMRI is 500 members strong and growing. The 14th NMRI Annual Workshop attracted almost 100 attendees from across the biomedical research community. Forty-five of the attendees were new NMRI members, and many of those were K award-ees. The attendees came from all levels of the biomedical research community.

Among the attendees from outside academia were leaders from professional societies (Steven Echard, CEO of AASLD; **Raymond Harris, M.D.**, President of ASN; and **Allison T. McElvaine, Ph.D.**, Director of Research Communications for ADA), private industry (**Melicia Whitt-Glover, Ph.D.**, President and CEO of the Gramercy Research Group, LLC), and international aid organizations (**Abdul Qudus Kawsary, M.D.**, Medical Officer at the United Nations Assistance Mission in Afghanistan).

## Snapshot of NMRI Attendees



## NMRI Members a Vital Force in the Biomedical Research Community

We know about the 2016 NMRI Annual Workshop attendees, but we would like an update on the career progress that has been made by all of our members. NMRI members, please complete the NMRI Questionnaire at [www.scgcorp.com/NMRIQuestionnaire](http://www.scgcorp.com/NMRIQuestionnaire) and update your NMRI profile for the NMRI Membership Directory so we can analyze how the careers of our membership and our members' impact in the biomedical research community have grown in the course of the 15-year history of the network.

### NMRI 14TH ANNUAL WORKSHOP POSTER ABSTRACTS

The posters submitted for presentation at the NMRI 14th Annual Workshop represented outstanding research being conducted at a broad range of academic institutions. The poster authors and titles are listed below. Abstracts are available in the 2016 NMRI Annual Meeting Program book. To obtain a copy, contact NIDDK Program Officer Ms. Winnie Martinez at [winnie.martinez@nih.gov](mailto:winnie.martinez@nih.gov).

**Victor Bowers** and **Jacantha Buggs**: "Unanticipated Impact on a Transplant Center from the New Kidney Allocation System—It's Not All Black and White."

**Ilse Daehn**, **Haiying Qi**, **Gabriella Casalena**, **Liping Yu**, and **Erwin Bottinger**: "Endothelial Dysfunction and Endothelial Cell Injury Control Podocyte Defects in Diabetic Nephropathy in Mice."

**LaShara A. Davis**, **Tracy M. Grogan**, **Joy Cox**, and **Francis L. Weng**: "Inter- and Intrapersonal Barriers to Living Donor Kidney Transplant among Black Recipients and Donors."

**Lincoln P. Edwards**, **Walid D. Fakhouri**, **Pegah Memar Ardestani**, and **Hossein Zarezadeh**: "Salivary Peptides Regulate Intracellular Calcium in Rat Pancreatic Beta Cells."

**Molly Fox**: "Inter-Generational Transmission of Acculturation's Health Effects in Mexican Americans."

**TaShauna U. Goldsby**, **Brandon J. George**, **David Allison**, **Valerie A. Yeager**, **Bisakha P. Sen**, **Alva Ferdinand**, **Devon M. Taylor**, **Bryn Manzella**, and **Nir Menachemi**: "Impact of Changing an Urban Environment on Pediatric Obesity Rates: Evidence from a Quasi-Experiment Using Electronic Health Record Data."

**Raquel C. Greer**, **Hsien-Yen Chang**, **Gerard F. Anderson**, **Bernard G. Jaar**, **Craig E. Pollack**, **Nae-Yuh Wang**, **Lawrence J. Appa**, and **L. Ebony Boulware**: "Primary Care Utilization Is Associated with Reduced Mortality and ESRD Incidence among Older Adults with CKD."

**Absalon D. Gutierrez**, **Susan Samson**, **Padma Sathyanarayana**, **Ramkumar Krishnamurthy**, **Pradip Saha**, **Erica V. Gonzalez**, **Jongoh Kim**, **Raja Muthupillai**, **Yochai Birnbaum**, **Lawrence Chan**, and **Mandeep Bajaj**: "Effects of Exenatide on Hepatic and Myocardial Fat Metabolism and Cardiac Function in Type 2 Diabetes."

**TanYa M. Gwathmey**, **Sierra A. Nance**, **Andrea M. Anderson**, and **Kristen G. Hairston**: "The Effects of a Soluble Dietary Fiber Intervention for Visceral Adiposity on the Expression of Inflammatory Cytokines in Obese African American Women."

**James Carollo**, **David Robertson**, **Tatiana Oliveira**, and **Patricia C. Heyn**: "Cerebral Palsy Adult Transition Study (CPAT): Early Results from the Prospective Health Screening Cohort."

**Erxia Du**, **Liping Xiao**, and **Marja M. Hurley**: "FGF23 Neutralizing Antibody Ameliorates Hypophosphatemia and Impaired FGF Receptor Signaling in Kidneys of FGF2 High Molecular Weight Isoform Transgenic Mice."

*Claire Townsend Ing, Tanner Hoke, Hyeong Jun Ahn, Adrienne Dillard, Mapuana Antonio, Bridget Kekauoha, Kevin Cassel, and Joseph Keawe'aimoku Kaholokula:* "The Relationship between Historical Trauma on Mental Health and Health Behaviors in Native Hawaiians."

*Cheedy Jaja:* "Pharmacogenetics Management of Stroke, Pulmonary Hypertension, and Chronic Kidney Disease in Sickle Cell Disease Patients."

*Matilda Johnson and Bridgett Rahim-Williams:* "Faith Based Health Houses: A Novel Intervention for Diabetes Management in Volusia County, Florida."

*Arion Kennedy, Cristina M. Pacheco, Marnie L. Gruen, and Alyssa H. Hasty:* "CD8+ T Cells Impact the Activation of Hepatic Stellate Cells in Nonalcoholic Fatty Liver Disease."

*Michelle M. Martínez-Montemayor, Luis A. Cubano, and Jannette Gavillán-Suárez:* "Phytochemical Profile and in Vivo Effects of Plant Extracts Used as Diabetes Adjuvants in Puerto Rico."

*Tesfaye B. Mersha:* "Patterns of Racial Variation in Allele Frequencies of Kidney Disease-associated GWAS Variants."

*Nia S. Mitchell, Emmanuel A. Seyoum, Anna Furniss, and Victoria A. Catenacci:* "Extended Weight Loss Maintenance for Individuals in a National Nonprofit Weight Loss Program."

*Essa A. Mohamed, Nasra H. Giama, Hassan M. Shaleh, Linda M. Kerandi, Abdul M. Oseini, Hager Ahmed Mohamed, Henry M. Kerandi, Dekermue Togbah, Abdiwahab O. Ali, Ibrahim A. Waaeys, Hamdi A. Ali, Hawa M. Ali, Safra A. Mohamed, Joyce E. Balls-Berry, and Lewis R. Roberts:* "Evaluating Knowledge, Attitudes, and Behaviors about Viral Hepatitis and Hepatocellular Carcinoma among Recent African Immigrants in Minnesota: A Community-Engaged Qualitative Study."

*Stanford Mwasongwe, Ervin R. Fox, Aurelian Bidulescu, Yuan-I Min, Adolfo Correa, Bes-sie Young, and Solomon K. Musani:* "Relation of Multi-marker Panel to the Development of Chronic Kidney Disease: The Jackson Heart Study."

*Bolni Marius Nagalo, Camilo Ayala-Breton, Lewis Rowland Roberts, and Kah Whye Peng:* "Oncolytic Potency of Hybrid Vesicular Stomatitis Virus (VSV-FH) for the Treatment of Liver Cancer."

*Ariana Pichardo-Lowden:* "Overcoming Barriers to Diabetes Care in the Hospital: The Power of Qualitative Observations for Positive Change."

*Bridgett Rahim-Williams and Matilda Johnson:* "Disparities in County-State Demographic Trends among Individuals Living with T2 Diabetes: An Examination of Volusia County, Florida and the State of Florida, 2002–2013."

*Maria J. Redondo, Beverly A. Shirkey, Daniel W. Fraga, A. Osama Gaber, and Omaira M. Sabek:* "Serum Osteocalcin Correlates with Hemoglobin A1C in New Onset Pediatric Diabetes."

*Zakee L. Sabree, Ben Jahnes, and Sema Osman:* "Modeling Endemic Microflora-stimulated Gut Epithelium Development in an Emergent Model Invertebrate System."

*Mariya T. Sweetwyne, Jeffrey W. Pippin, Diana G. Eng, Charles E. Alpers, Kelly L. Hudkins, Ying Ann Chiao, Hazel H. Szeto, Peter S. Rabinovitch, and Stuart J. Shankland:* "Preservation of Glomerular Architecture in Aged Mice by Systemic Late-Stage Intervention with Mitochondrial Protective Peptide, SS-31."

*Karen Tabb, Aubrey Hudson, Pamela Samara, Boyi Guo, Yuhong Tan, and Xichen Pan:* "Design, Methodology, and Early Findings from a Maternal Health Registry to Identify Patients with Diabetes and Depression during the Perinatal Period."

*Ebele Umeukeje, Joseph Merighi, Teri Browne, Kausik Umanath, Marcus Wild, Chandra Osborn, Kerri Cavanaugh, and Ken Wallston:* "Perceived Competence Is Related to Phosphorus Control in End Stage Renal Disease."

*Adriana Villaseñor, Patricia Faria Di Pietro, Shirley W. Flatt, Sheila Kealey, Loki Natarajan, Ruth Patterson, and John P. Pierce:* "Influence of a Diet High in Vegetables, Fruit, and Fiber and Low in Fat on Diabetes Progression in Breast Cancer Survivors with Prediabetes: Evidence from the WHEL Study."

*A. Valance Washington, Marieli González-Cotto, Carlos J. Collado, Elizabeth Castro-Rivera, Amanda Pacheco, Fiorella Reyes, and Mayra Báez:* “Scientific Bumps in the Night: The Cross of Apoe and Trem11 Null Mice Unique Link between Cardiovascular Disease, Diabetes, and Obesity.”

*Joni S. Williams and Leonard E. Egede:* “Gender Differences in Medical Expenditures among Adults with Diabetes.”

*Edith M. Williams, Leonard Egede, and James C. Oates:* “Peer Approaches to Lupus Self-Management (PALS): A Novel Lupus Peer Mentorship Intervention.”

*Clintoria R. Williams, Monisha Mistry, Mirandy S. Li, Jennifer L. Gooch, and Robert S. Hoover:* “Modulation of Calcineurin Activity in Mouse Distal Convulated Tubular Cells.”



National Institute of  
Diabetes and Digestive  
and Kidney Diseases