

**Network of Minority Health Research Investigators 11th Annual Workshop
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health**

**Bethesda Marriott at Pooks Hill
Bethesda, MD
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Final Summary Report

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INTRODUCTIONS

*Carmen Castaneda-Sceppa, M.D., Ph.D., Associate Professor, Northeastern University
Lawrence Agodoa, M.D., Director, Office of Minority Health Research Coordination (OMHRC), National
Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institutes of Health (NIH)*

Dr. Castaneda-Sceppa, Chair of the Network of Minority Health Research Investigators (NMRI) 11th Annual Workshop, welcomed the attendees and recognized the Planning Committee for their efforts in coordinating the workshop. She mentioned that the challenging environment of limited research funding opportunities will be addressed through several presentations about science careers and strategies for grant writing success. Networking is a critical component of the NMRI, and lunch will provide an opportunity to network with other NMRI members by discussing career development, building collaborations, mentoring, and leadership. Dr. Castaneda-Sceppa encouraged participants to be proactive in seeking collaborative opportunities and developing new research ideas. She also suggested that participants should interact outside of the meeting venue throughout the year.

Dr. Castaneda-Sceppa stated that the mock study sections, which would address R01/Basic, R01/Clinical, and K Awards, would provide valuable information for the participants. An afternoon session will explore the role of scientific societies and professional organizations. The poster session will be followed by the dinner address. Dr. Castaneda-Sceppa said that she was looking forward to a great program. She emphasized the importance of completing the meeting evaluation forms that were included in the meeting folders so that the Planning Committee can organize the following year's meeting based on the interests of the members. Dr. Castaneda-Sceppa expressed appreciation to Ms. Winnie Martinez for her creative efforts to decide the best approach for the meeting given the budget constraints. She also thanked Dr. Agodoa, the heart of the Network whose support and input are invaluable.

Dr. Agodoa welcomed the participants and expressed appreciation to the senior mentors, who are responsible for the success of the Network. He mentioned that the NIH is facing budgetary limitations and creative thinking will be needed to leverage the available resources to accomplish NMRI objectives. Dr. Agodoa expressed appreciation to the Planning Committee for their efforts and said that he was looking forward to interacting with the NMRI members during the meeting. He asked the participants to introduce themselves and indicate their affiliations and interests. Dr. Agodoa thanked the attendees for their participation.

SCIENCE CAREERS IN THE COMING DECADE: CHALLENGES, OPPORTUNITIES, AND THE IMPORTANCE OF INNOVATION

William Pearce, Ph.D., Professor, Loma Linda University Medical Center

Dr. Pearce described the current revolution in the education of medical and scientific professionals. A dramatic shift has occurred in medical schools, which encourage small classes, limited didactic lectures, and additional experience in the clinic. Basic science education also is changing to best prepare scientists for a successful future.

A report released by the NIH's Biomedical Research Workforce Working Group on June 14, 2012, addresses how the NIH can continue to attract the brightest young researchers despite the decreased

research funding. Enrolled graduate students total 83,000, of which 63 percent ultimately finish. Of those who finish, 70 percent become postdoctoral fellows. The average length of time to degree has increased to 6.5 years, and the median age at graduation is 32 years. The median tenure of the 37,000 to 68,000 postdoctoral fellows is 4 years, and up to 40 percent are foreign. Concerns include why so many graduate students do not finish and why 30 percent do not attain postdoctoral positions.

Of the total Ph.D. biomedical workforce of 150,000, 43 percent are employed in academia. The percentage of tenured professors is decreasing over time, which is alarming. In 1993, 34 percent of professors were tenured or tenure-track, while in 2012 the number had decreased to 23 percent. The 2 percent unemployment rate for Ph.D. recipients is lower than the national average. Industrial research (18%) and government research (6%) have remained constant since 1993, while those employed in science-related nonresearch careers (18%) and nonscience careers (13%) has increased. Despite these changes, graduate training continues to focus on training scientists for academic research positions. The working group concluded that graduate training programs should accommodate a greater range of anticipated careers.

To help reach this objective, the NIH developed a new program, called Broadening Experiences in Scientific Training (BEST), which is designed “to seek, identify, and support bold and innovative approaches to broaden graduate and postdoctoral training.” The Loma Linda University submitted a letter of intent for one grant describing how the university will respond to the changing needs of the community and help Ph.D. students succeed.

Dr. Pearce reviewed the academic science careers, nonacademic research careers, and nonresearch science careers pursued by graduates. Traditional biomedical science careers, including research professorships, are experiencing rapidly decreasing success rates and paylines for grants, which are required for a successful laboratory. Teaching intensive professorships are increasing because of the trend toward small class sizes, although the failure to convert junior to senior faculty is increasing. Undergraduate education, including Web-based teaching and community college education, is growing in popularity. Ph.D. graduates also are being recruited to careers in secondary education due to high demand for expertise in subjects such as genomics, epigenetics, and ecosystems.

Interestingly, the number of M.D. degrees awarded has plateaued, while the number of biomedical and clinical science Ph.D. degrees is rising rapidly. As there are limited professorships available, this creates a situation where many graduates must pursue other career options. Nontraditional academic science careers include laboratory manager positions, online curriculum development, and core facility directors.

The best known nonacademic research career is that of government research. The NIH intramural research program employs 1,200 principle investigators (PIs) in 23 individual Institutes and Centers (ICs). The research is highly multidisciplinary, competitive, and prestigious. Other scientists are employed by the NIH's Center for Scientific Review (CSR), Veteran's Health Administration, or as government consultants to the Office of Science and Technology Policy, U.S. Environmental Protection Agency; U.S. Food and Drug Administration; and other agencies. Industrial research is another avenue for a nonacademic research career. These jobs require a unique skill set, including business and financial acumen and communication skills. Startup companies can be risky, but provide complete independence and can be rewarding. Lobbyist and international science liaison opportunities also are available for graduates interested in nonacademic research careers. A clinical research career can complement the growing emphasis on translational research and creation of clinical research centers.

Nonresearch science careers are available for Ph.D. graduates interested in a job away from the bench. Many Ph.D. graduates are employed in university administration in positions of graduate program coordination, technology transfer, grants management, bioethics, or intellectual property. Journalism and related writing fields serve as attractive nonresearch career paths. Ph.D. graduates also are employed by the entertainment industry as content consultants. Multidisciplinary pursuits, including nongovernmental organization (NGO) scientists, science website developers, social media consultants, medical-legal-forensic expert witnesses, and stock analysis consultants also attract many graduates.

In addition to the traditional scientific research careers, the growing nonacademic research and nonresearch science career sectors provide many opportunities for students to apply their strengths to achieve a rewarding and successful career.

Discussion

In response to a question, Dr. Pearce elaborated that graduate course curricula for the next generation of trainees should prepare students to handle careers outside of academia by presenting additional options (e.g., bring industry representatives to talk to students) and placing more emphasis on skills such as writing and communication.

Dr. Pearce cautioned participants to be vigilant about the peer-review standards for online journals. The publishing industry is facing challenges, but high-quality journals will continue to succeed.

STRATEGIES FOR GRANT WRITING SUCCESS

Sharon Milgram, Ph.D., Director, Office of Intramural Training and Education (OITE), NIH

Dr. Milgram commented that her first two grants were awarded by the NIDDK, and she was honored to present on the topic of grant writing. She referenced the OITE's website, available at www.training.nih.gov, which hosts a jobs board, career blog, information on various career paths, and more than 100 informational videos. Dr. Milgram explained that the most important message of her presentation is that applicants will decrease their stress level and have more time to focus on science if they take the time to understand the grant writing process, from the first idea to the final outcome. A lot of stress is generated when applicants are not aware of deadlines and forms are not understood. The application cycle lasts almost a year, and time should be allowed for resubmission. It is important to consider all aspects of the project and address administrative issues prior to writing the grant. Laboratory members, mentors, and collaborators should be engaged in the early brainstorming conversations.

Dr. Milgram stated that the first step is to apply for the right grant. Although R01 grants tend to be key for tenure, there are many additional funding opportunities even beyond the NIH. Online databases provide information about many small grants. Mentors, institutional grant or training offices, or representatives of relevant funding agencies might be able to provide insight into appropriate grants.

Funding opportunity announcements are known as program announcements (PAs), request for applications (RFAs), notices of funding availability, or solicitations. PAs allow for nonspecific, investigator-initiated proposals on any topic within the mission of the organization (e.g., K99 and R01 grants), while RFAs address a defined area of research and may dictate special eligibility or review criteria. Paying attention to grant eligibility criteria—including institutional as well as individual eligibility criteria—is critical. Applicants should clarify any questions with the agency personnel indicated in the PA or RFA. Importantly, applicants should consider whether the timing is right to submit an application. Occasionally, more time is needed to develop the project into a more competitive prospect.

Each NIH Institute has a different mission and grant mechanisms, policies, and procedures vary. Dr. Milgram recommended that applicants spend a lot of time reviewing the NIH OER website (<http://grants.nih.gov/grants/oer.htm>) to become familiar with the application and funding process, which has many nuances. It is important to remember that the university actually submits the application to the NIH, so time must be budgeted for collecting signatures and approvals. The CSR receives all grants and then assigns an appropriate study section and Institute to review the application. Following a fair and honest peer review of the application's scientific merit, the Institute evaluates the relevance through an advisory council that considers paylines and priorities and makes recommendations to the Institute director, who allocates the funds.

The entire application process occurs on the Internet. Dr. Milgram encouraged participants to register for an Electronic Research Administration (eRA) Commons account, as the NIH communicates exclusively via eRA Commons to indicate study section assignments, priority scores, and so forth. The application

itself is uploaded using www.grants.nih.gov. The RePORTER website (<http://report.nih.gov/index.aspx>) can be reviewed to understand what types of projects are funded by the NIH.

The goal is for applicants to find the one or more ICs that are most relevant to their research. The website www.nih.gov/icd/ can be used to explore the mission and efforts of each IC, and the funding tab provides more information about related grants. The CSR will review the application abstract to identify relevant study sections, or applicants can suggest relevant ICs or study sections in their cover letter. Two important people to know within the review process are the Scientific Review Officer (SRO) and the Program Officer (PO). The PO is an NIH official who manages a portfolio of awarded grants in a particular scientific discipline or funding area. POs can answer questions about eligibility and relevance to the IC prior to submitting the application. After the CSR selects a study section, the SRO directs the review by organizing and conducting the study section as well as serving as a liaison between the applicant and reviewers. Post-review questions, however, should be directed to the PO.

The study sections are comprised of university faculty, NIH intramural investigators, and industry scientists. Some members are permanent, while others are invited to serve on the study section on an *ad hoc* basis. Dr. Milgram explained that although the standing study section members are listed on the NIH website, it is not possible to know exactly who will review a particular grant. Most study sections meet in person. It is useful for minority scientists to serve once on a study section early in their career for instructional purposes and then decline until tenure is achieved. Each study section typically reviews 70 to 120 applications. Each application is assigned a primary and secondary reviewer (up to three reviewers possible), who write critiques considering the strengths and weaknesses overall and by criterion as well as other considerations. Contacting the reviewers before, during, or after the process violates the integrity of the system and is not allowed.

Grants may be triaged during the study section if they are deemed irrelevant or poorly presented. Reviewers evaluate grants for overall impact as well as several core criteria: significance, investigators, innovation, approach, and environment. Additional issues, such as human subject protections, might be considered if relevant. Training grants are judged by different criteria: overall impact, candidate strength, career development plan, research plan, mentors/consultants/collaborators, environment and institutional commitment, and other criteria. The scoring system provides an overall impact score from 10 to 90 and criterion scores of 1 to 9, with lower scores preferred. A score of 1, for example, indicates that the application is exceptionally strong with essentially no weaknesses. An application with a score of 1 to 2 is likely to get funded. Applications that are not discussed by the review panel do not receive an overall impact score but are returned with written critiques from the assigned reviewers.

The main types of NIH grants include research and training fellowships (T and F series), career development awards (K series), research grants (R series), program project/center grants (P series), and trans-NIH program grants, where multiple laboratories submit a unified grant. The Career Award Wizard helps applicants to select the right grant for their current career stage. Dr. Milgram emphasized the importance of starting to think about a K99 grant in the second year of a postdoctoral fellowship, as data suggest that early applications are quite successful and K99 recipients have a higher likelihood of securing a tenure-track faculty position.

Considering the psychology of grant review is an important component. Reviewers are overcommitted, tired, and may only be peripherally interested in an application. It is important to facilitate their job by submitting organized and clear applications. Repetition is used to emphasize salient points. Dr. Milgram cautioned against exceeding page limits and using small font or figures. The elements of an NIH research grant includes a cover letter, title page, abstract, budget, biosketches, resource and facility information, introduction, specific aims, research strategy, references, and other assurances. Dr. Milgram commented that while strong writing cannot fix bad ideas, weak writing can ruin good ideas. Time should be taken to ensure an organized, logical, and concise application.

Discussion

In response to a question, Dr. Milgram explained that IC paylines and priorities are set by a council that includes scientific experts as well as disease advocates. The council evaluates the overall portfolio to determine which grants should be funded.

Dr. Milgram commented that young investigators should ask senior mentors to advocate for them to be included in a study section, but encouraged them to refrain from becoming a standing member until after reaching tenure.

WELCOMING REMARKS

Griffin Rodgers, M.D., Director, NIDDK, NIH

Dr. Rodgers welcomed the participants and thanked the program advisors, who represent a group of dedicated individuals working toward a common goal. Now in its 11th year, the NMRI has been very successful as judged by common metrics. Dr. Rodgers referenced the *Science* publication indicating the striking disparity in the success rates of racial and ethnic groups in NIH study sections. As a result, the NIH Director convened a Diversity Task Force, which produced a report describing the NMRI as an example of a program with successful mentorship interactions that should be emulated within the NIH. Virtual mentorship, in particular, was cited as a useful characteristic to improve the success of minority researchers.

Dr. Rodgers acknowledged the challenging budget climate and commented that although some NIDDK programs might need to be eliminated, the NMRI is an inspiring program that will be prioritized, especially because many diseases and disorders disproportionately affect specific racial groups. Dr. Rodgers commented that it is an important time for scientific advances to push the borders of personalized medicine. Biomedical research should be advocated as an important economic engine and participants should take opportunities to emphasize its significance especially during the sequestration. The United States has exceptional success with biomedical research, including papers published, breakthroughs achieved, and Nobel prizes awarded. Dr. Rodgers emphasized the need to indicate when NIH funding enabled important research advances when participants have the opportunity to present their work.

Dr. Rodgers congratulated the participants for their great work, promotions, awards, and key publications. He indicated that the NMRI members are role models and should endeavor to share their experiences about the paths navigated and successes achieved. Dr. Rodgers encouraged fellowship during the meeting and commented that the next major discovery is likely to come from the participants and their trainees or mentees.

NETWORKING LUNCH: ROUNDTABLE DISCUSSIONS

During the networking lunch session, the meeting participants attended one of six roundtable discussions, each of which focused on a different career-oriented topic. Participants selected which discussion to attend. The format of the discussions varied—several roundtable leaders began the discussion with formal presentations, while others fostered a question and answer period throughout the lunch.

Career Development

Sharon Milgram, Ph.D., Director, Office of Intramural Training and Education, NIH

Dr. Milgram discussed career development challenges and opportunities. She mentioned that science lacks authentic conversations about race and ethnicity that are needed to raise the collective perspective. There is an interesting sociological phenomenon with regard to health scenarios, and until scientists understand the health disparities affecting minorities, nothing will change. She also addressed the challenge of juggling multiple projects while maintaining a family life. Women in particular, Dr. Milgram noted, tend to lack self-confidence and are not socialized to advocate for themselves. Dr. Milgram also mentioned that minorities often are solicited for inclusion on grants, but they should ensure that they are listed as a co-PI and not just a collaborator.

How to Build Collaboration

Carlos Isales, M.D., Professor; Vice Chairman, Translational Research; Director, Institute of Regenerative and Reparative Medicine; Georgia Regents University

Dr. Isales explained that building collaborations requires a lot of effort. The participants discussed when to include collaborators on grant applications and how many should be included. Including a well-known, senior colleague on the grant is useful for initial grant applications before an applicant's own name is established. However, the collaborator must be willing to help with the research and participate in meetings to justify his or her percentage of support and budgeted salary. Collaborators write letters of support to indicate their willingness to work together. Reviewers require a justification of the budget, including the collaborators, and evidence of an established relationship. When establishing a collaboration and developing a grant, it is useful to discuss the expected level of effort in detail prior to being awarded the grant. Although it is tempting to include in the grant application a famous expert at a different institution, collaborations within one's institution tend to be more feasible and are viewed more favorably in study sections. When collaborators at other national or international institutions must be included for some reason, Dr. Isales suggested spending several weeks at the collaborator's laboratory to become familiar with the available resources.

“Effective Mentoring Can Be Learned but not Taught” Is a Quote From Entering Mentoring

Jackie Tanaka, Ph.D., Associate Professor, Temple University

Dr. Tanaka emphasized the challenges faced by junior faculty, who are in the position of being mentored as well as mentoring more junior individuals as they advance in their careers. This stage is difficult to navigate because it is important for faculty to meet their own needs while providing useful information to others. The participants discussed what is meant by mentoring. Mentoring can be thought of as facilitating a mentee's achievement of goals. Mentoring is time consuming, and it is important to ensure that the time spent mentoring is efficient and valuable. Dr. Tanaka commented that great mentors are important throughout the academic career, including during undergraduate education as well as one's research career. Mentors can assist with writing papers and designing research projects. However, these activities can take a lot of time, so it is important for mentors to find a balance with assisting mentees as well as considering one's own priorities. Dr. Tanaka mentioned that the NIH and National Science Foundation (NSF) are shifting funding into mentoring awards to acknowledge its critical importance.

Accessing and Using Large National Datasources

Bessie Young, M.D., M.P.H., Associate Professor, University of Washington

Dr. Young described the National Health and Nutrition Examination Survey (NHANES) data source, which was a program of the National Center for Health Statistics that sampled approximately 5,000 individuals across the country every 2 years and has several vintage datasets with large numbers of subjects. Among its many uses, NHANES helped to establish blood lead limits, track obesity, and monitor changes in diabetes and other diseases. The NHANES questionnaires examine multiple components of diet, behavior, and health. The data are divided into primary sampling units and each individual observation is weighted. The analysis also accounts for variance and allows population estimates for the United States. The Behavioral Risk Factor Surveillance System (BRFSS) is another cross-sectional complex survey that assesses patient-reported outcomes such as quality of life, health, diet, and exercise. The Healthcare Cost and Utilization Project (HCUP) includes the largest collection of longitudinal hospital care data in the United States. The database allows research on health policy issues, medical practice patterns, and treatment outcomes. Other surveys, such as the National Hospital Discharge Survey, National Hospital Care Survey, and National Ambulatory Medical Care Survey, provide information about the provision of medical care services. In general, many of the large national datasources provide downloadable data that can be used to establish norms in the United States for various clinical diseases.

Selling Your Science—Getting Published

Keith Norris, M.D., F.A.C.P., F.A.S.N., Executive Vice President for Research and Health Affairs, Charles R. Drew University of Medicine and Science

Dr. Norris emphasized that publications are the number one currency for career promotions and other awards. When junior faculty apply for a promotion from assistant to associate professor, institutions evaluate the independent funding and publication record of the investigator. The number of publications necessary varies between fields, and journal prestige (“impact factor”) plays a large role. Dr. Norris explained that promotion cover letters should describe the investigator’s work as being published in the leading journal of the field. For example, a publication in *Science* or *Nature* might have broad significance, but publishing in the *New England Journal of Medicine* or the leading nephrology journal, for example, is a significant accomplishment. Some publications are linked to large databases, which can facilitate public health investigations or provide clinical trial data for further analyses. Dr. Norris explained that even when a study generates negative data, the results can be valuable and publishable. With regard to preparing an article for publication, Dr. Norris suggested that participants consult senior colleagues with a strong publication record to gain insight into which journals are the most appropriate for the research results. It also is a useful idea to send an abstract to the editor of a journal of interest with a note requesting advice on whether the study would be considered for publication in that journal.

Leadership and Your Career

Eddie Greene, M.D., Associate Professor, Mayo Clinic

Dr. Greene commented that an important component of leadership is treating one’s colleagues well. It is important to avoid rising to success at the expense of other colleagues, because people have long memories and institutional turnover can be low. Thus, it is important along one’s career path to support colleagues as well as train and mentor junior individuals. With regard to the importance of receiving grants, Dr. Greene explained that knowing what reviewers are looking for in grant applications increases the chance of success. Many applicants do not know how to write a grant, and it is important to consult leaders in the applicant’s university and field to gain insight into the best grant-writing strategies. Reviewers can be critical and negative, but learning from the constructive parts of the review is beneficial. Most importantly, Dr. Greene emphasized that participants should seize any opportunities that arise to demonstrate leadership.

MOCK STUDY SECTION

The meeting participants viewed two short videos (“NIH Peer Review Revealed” and “NIH Tips for Applicants”), developed by the CSR, to clarify the grant review process. During the afternoon breakout session, participants attended one of three Mock Study Sections. Each session covered different types of NIH awards: R01/Basic, R01/Clinical, and K Awards. The three study sections were comprised of a Chair and SRO, as noted below. Session leaders were given sample grant applications (some from meeting participants) to review and provide critical feedback. The SRO led a discussion of the feedback sessions. One of the most useful activities during the session was the grading of the sample applications by “study section” participants, with direct feedback on why they would have scored the application as they did. Each mock session included experienced researchers who had submitted successful grant applications; they provided real-life experiences about their quest for funding, often after being unsuccessful in their first attempts. Discussion sessions were scheduled to allow participants to ask specific questions after hearing about the process and grading scale. These sessions were invaluable in the face of limited funding available because of the restricted financial climate.

Study Section 1: R01/Basic

SRO: *Ann Jerkins, Ph.D., Scientific Review Officer, NIDDK, NIH*

Chair: *Marina Ramirez-Alvarado, Ph.D., Associate Professor, Mayo Clinic*

Study Section 2: R01/Clinical

SRO: *Maria Davila-Bloom, Ph.D., Scientific Review Officer, NIDDK, NIH*

Chair: *Susanne Nicholas, M.D., Ph.D., M.P.H., F.A.S.N., Associate Professor, University of California, Los Angeles*

Study Section 3: K Awards

SRO: *Michele Barnard, Ph.D., Scientific Review Officer, NIDDK, NIH*

Chair: *Tesfaye Mersha, Ph.D., Assistant Professor, Cincinnati Children's Hospital Medical Center*

ROLE OF SCIENTIFIC SOCIETIES AND PROFESSIONAL ORGANIZATIONS**Society for African American Public Health Issues**

Natasha Brown, Ph.D., M.P.H., Postdoctoral Research Associate, Maryland Center for Health Equity, University of Maryland

The Society for African American Public Health Issues (SAAPHI) is a nonprofit national public health organization comprised of researchers, physicians, and health advocates dedicated to improving the overall health of African Americans. SAAPHI was founded in 1991 to assess the underlying causes of health status and the differentials causing health disparities, especially in consideration of the contributions of race versus racism. The goals are to initiate and assist in the improvement, development, maintenance, and utilization of appropriate databases for the understanding of health problems and needs of African American communities; promote the utilization of scientific information on African Americans in program and policy decisions; formulate and advocate appropriate public policies for health promotion and disease prevention among African Americans; and facilitate professional development, social welfare, and leadership skills among its members.

SAAPHI was recognized as an NGO by the United Nations and invited in 2001 to attend the World Conference Against Racism, Racial Discrimination, Xenophobia, and Related Intolerance in Durban, South Africa. SAAPHI members have achieved many accomplishments, including the creation and maintenance of a Health Disparities Working Group for the American Public Health Association (APHA). Members research important topics, including the application of Critical Race Theory to study health equity, population differences in patterns of preterm delivery, protection of vulnerable populations from pandemic influenza, documentation of disparities in childhood obesity and the design of behavioral interventions, and using illustrations to describe racism and address the social determinant of health equity.

There are seven SAAPHI committees. The Policy Committee informs members of local, state, and national policies that influence African American Health and members serve as SAAPHI's liaisons to national policy initiatives, such as the Joint Policy Committee of the Societies of Epidemiology, National Salt Reduction Initiative, and APHA. The objectives of the Fundraising/Finance Committee are to set the budget for the year, identify funding priorities, mobilize due payment and donations, identify potential donors, and submit grants. The Fundraising/Finance Committee will provide letters of support to members submitting grant applications. Dr. Brown encouraged participants to contact SAAPHI to learn more. The Communications and Media Committee posts current information to the listserv (e.g., job announcements, workshops, training opportunities, funding announcements); maintains SAAPHI's presence on Facebook, Twitter, and blogs; and develops new marketing initiatives (e.g., website redesign and a monthly newsletter). The Conference Committee organizes the annual SAAPHI meeting at the APHA conference. SAAPHI participates in a full-day symposium with the Black Caucus of Health Workers and has conducted a very successful networking reception. The theme for this year's conference is, "Achieving Health Equity Throughout the African Diaspora." SAAPHI's Scientific Committee organizes the annual Scientific Symposium, highlights salient publications by SAAPHI members, and organizes and hosts quarterly research webinars. Dr. Brown encouraged the meeting participants to attend the Scientific Symposium to present their research. The Membership Committee maintains an updated SAAPHI directory, hosts networking functions in regional hubs, and works with the Fundraising/Finance Committee to increase SAAPHI membership. Finally, the Mentoring and Professional Development Affairs Committee identifies the career development needs of SAAPHI members, provides mentoring and

professional development resources, organizes an annual mentoring breakfast, and cohosts mentoring teleconferences with the Conference Committee.

The 2012 – 2013 Executive Committee is comprised of Dr. Ndidi Amutah (President), Dr. Brown (President-Elect), Ms. Shavon Johnson (Secretary), Dr. Cheryl Blackmore Prince (Co-Treasurer), and Dr. Laurie Elam-Evans (Co-Treasurer). Dr. Brown provided contact information for the SAAPHI listserv (<http://health.groups.yahoo.com/group/SAAPHI>), Twitter (@S_A_A_P_H_I), blog (<http://saaphi.wordpress.com>), Facebook (SAAPHI), and website (<http://www.saaphi.org>).

Discussion

Dr. Brown clarified that SAAPHI accepts undergraduate and graduate students into the organization and welcomes all new members. She encouraged meeting attendees to learn more about SAAPHI by participating in a conference call. The call dates and dial-in information are listed on SAAPHI's Yahoo group page. Dr. Brown acknowledged that SAAPHI is not well-known among NMRI members and encouraged participants to publicize it. NMRI members can email saaphipresident@gmail.com or natasha.a.brown@gmail.com if they have questions about SAAPHI and its activities.

American Diabetes Association

Robert Ratner, M.D., F.A.C.P., F.A.C.E., Chief Scientific and Medical Officer, ADA

Dr. Ratner explained that 26 million people in the United States have diabetes, with another 79 million people with prediabetes. The population with the highest incidence is American Indians, followed by Hispanic Americans and African Americans. The incidence and natural history of diabetes is different between populations, and it is appropriate and necessary to undertake research in minority populations. Certain outcomes also vary between populations: African Americans are at the highest risk for end-stage renal disease, while Hispanic Americans and African Americans carry an increased risk of amputations due to diabetes. Dr. Ratner stated that one solution to the differential incidence of diabetes is to encourage researchers, especially minority researchers, to address the cause. Physicians, nurse practitioners, and others in the medical community also can help to solve the problem of health disparities. Organizations are interacting with and promoting health care in minority communities as well as supporting minority researchers.

The American Diabetes Association (ADA) has supported mentor-based fellowships for the past 20 years. These fellowships are targeted for postdoctoral fellows and junior faculty from minority populations to connect with a mentor and receive financial support for additional training in diabetes. The ADA also advocates for the NIH to increase the NIDDK's budget and works with partner organizations to lobby Congress to increase the overall funding levels for biomedical research at the Centers for Disease Control and Prevention (CDC), Health Resources and Services Administration (HRSA), and Agency for Healthcare Research and Quality (AHRQ).

The ADA supports \$34.5 million (M) of annual investigator-initiated research. The grants are concentrated on young investigators to give them a chance to develop; Dr. Ratner commented that the hardest grant to receive is the first one. The goal is to use ADA's seed money to help young investigators by reducing the clinical burden and increasing the opportunity to collect preliminary data for their next grant. The ADA's website (www.diabetes.org) lists the categories of research that are funded by the organization. The available funding varies for postdoctoral researchers, junior faculty members, or mentor-based fellowships for senior faculty to help new investigators. The ADA does not provide research grants to established scientists. Dr. Ratner said that it is very affirming when senior investigators comment that their first grant was from the ADA, which paved the way for future NIH funding.

The objective of a new ADA program, the Pathway to Stop Diabetes, is to inspire and train the next generation of scientists interested in diabetes research. Promising young investigators supported through this program will focus on innovative ideas and approaches that lead to advances in diabetes prevention and treatment. There also is a category for senior investigators who want to change fields to address important questions concerning diabetes. Although typical ADA grants provide up to \$200,000 over 3

years, the Pathway grants provide 5 to 7 years of independent funding up to \$1.625 M. Importantly, the grant is awarded to the individual and not the institution to allow flexibility in applying imaginative approaches to problems. The ADA is hoping to support the next generation of Nobel Prize winners using this approach. Dr. Ratner encouraged the meeting attendees to apply for the Pathway grant. Diabetes is a disease that will require innovative research to advance the field.

Beyond research funding, the ADA conducts meetings such as the 73rd Scientific Sessions, which is the world's largest meeting devoted to diabetes with more than 17,000 attendees representing basic, clinical, and behavioral sciences. The ADA is the publisher of *Diabetes* and *Diabetes Care*, which are the top journals in the world for the subject. Beyond the dissemination of science, the ADA strives to solve problems of diabetes care within communities. The ADA has published the annual *Standards of Medical Care in Diabetes*, which is the definitive source of evidence-based medicine, and seeks to integrate science into clinical management and care. The ADA also organizes professional and patient education activities. For example, the ADA has scheduled a 1-day review session on "Diabetes 201" directed to primary care physicians. The ADA supports a variety of professional education programs, including the ADA Academy. The Standards of Care consensus conferences provide current information garnered from experts around the world. Other consensus and guideline development conferences are related to hyperglycemia and diabetes therapeutics.

A critical component of the ADA's activities concern communities and individuals with diabetes. The High Risk and Health Disparities program is the biggest division within the ADA. Workgroup subcommittees address African Americans, Asian/Pacific Islanders, Latinos, American Indians, and Alaskan Natives. Understanding the unique aspects of those communities helps the ADA develop initiatives to meet those needs. The African American community is served by the ADA's Live Empowered and Sisters Unite programs, and the Latino population utilizes Por Tu Familia. Diverse populations communicate, learn, and deal with disease differently. The ADA considers culturally and socially specific messages while taking into account numeracy and literacy of certain communities. For example, numeracy plays a critical role in patient care. Dr. Ratner explained that diabetes is the only disease (with asthma on the rise) where the individual with the condition performs all of the biochemical status monitoring and medication administration. There are high expectations for patients with diabetes. It is important that patients understand how many calories are in a gram of fat, and how much insulin is needed per gram of carbohydrate.

The ADA has hosted the Health Disparities Forum in Washington, DC, for the past 6 years. This year's meeting is scheduled for October 2013 and will focus on social determinants of diabetes. Topics beyond adherence will be considered, including factors in the living environment that challenge the prevention and adequate treatment of diabetes. Factors such as poverty, food deserts, safe streets, and the workplace environment all can contribute to the development and progression of diabetes. The ADA is seeking imaginative scientists to answer research questions and apply the findings to overcome the health disparities apparent in diabetes.

Discussion

A participant asked if the ADA grants are targeted for education; many medical centers only interact with minority communities when they need research subjects, and community members are not educated about the importance of factors that might contribute to diabetes, such as periodontal disease. Dr. Ratner explained that promoting diabetes education is a component of the Standards of Care. Large quantities of basic information are packaged into a culturally appropriate format to present to communities. The ADA also utilizes relevant community groups to reach and educate citizens; the Live Empowered program is organized through churches, and the Por Tu Familia program is promoted at fairs.

Dr. Ratner clarified that the Pathways grants will be limited to postdoctoral fellows and junior investigators who have not received a second or renewed R01 grant. Additional requirements are outlined on the ADA's website. The ADA will discuss proposed ideas and approaches with the applicant; formal hypotheses, specific aims, and methodology will not be required because the grant will fund the person,

not the project. Dr. Ratner commented that the ADA does not team with universities but provides faculty research and mentoring support within its grant processes.

In response to a question, Dr. Ratner explained that approximately 90 percent of people with diabetes have type 2. The distinction is blurring, however, because what is diagnosed as type 2 can actually be latent type 1. Analyzing blood for antibodies is the definitive diagnostic test to differentiate. The overall growth of diabetes in the United States is being driven by type 2, although both types are increasing quickly.

MARCO CABRERA POSTER AND NETWORKING SESSION—OVERVIEW

Judges: Drs. Trudy Gaillard, Lincoln Edwards, Eduardo Fricovsky, and Lewis Roberts

Participants were invited to view the posters submitted to the NMRI Annual Workshop. This year, 21 posters were submitted in two categories: Basic Science and Clinical/Translational. During the poster review, judges observed the posters and chose winners for each category; the awards were given to recipients on the second day of the workshop.

DINNER ADDRESS: MINORITIES IN ACADEMIA

Denice Cora-Bramble, M.D., M.B.A., Chief Medical Officer and Executive Vice President, Ambulatory and Community Health Services, Children's National Medical Center

Dr. Cora-Bramble discussed the meaning of being a minority in academia during the NMRI 11th Anniversary dinner address. As the first minority and first woman to serve as Chief Medical Officer (CMO) of the Children's National Medical Center, Dr. Cora-Bramble expressed pride as well as a sense of responsibility. She also commented that her most important accomplishment was in mothering three children.

In describing unspoken challenges, Dr. Cora-Bramble presented a quote from her 2008 commentary published in *Academic Medicine*: "The lessons learned by standing at the promotion crossroads, embracing ambiguity and questions, serve as the catalyst...to take on the mentor's mantle, in order to clarify blurry lines, sharpen the focus, culturally contextualize the experience, and teach others how to thrive in academia."

Dr. Cora-Bramble's career path is atypical. She was born and raised in Puerto Rico before attending college in the District of Columbia. She did her medical school and residency at Howard University and completed her Master of Business Administration (MBA) at The Johns Hopkins University. As a National Health Service Corps Scholar, Dr. Cora-Bramble became immersed in community pediatrics in an underserved area. She trained medical students to deliver culturally competent care, and she also pioneered the development of materials to facilitate that process. Dr. Cora-Bramble's initial goal was to assist underserved populations, and those early experiences shaped her professionally. She is an educator at heart and supported by her research endeavors.

Dr. Cora-Bramble explained that diversity is important for many reasons. In the 1960s and 1970s, fairness, justice, and equity were important themes. Demographic changes occurred in the 1980s, and today, diversity is applied as a tool to enhance the educational climate and cultural competence. Minority physicians tend to be more likely to practice in underserved areas and provide service to minority populations, and there is evidence that ethnic concordance can be beneficial to the doctor-patient relationship and positively influence health outcomes. Literature supports the notion that a diverse learning environment enhances the educational experience and promotes new ideas. This concept is similarly applied in the boardroom, where Dr. Cora-Bramble at times is the only female and/or minority. As researchers, minorities expand the limits of research because they are interested in topics that are less relevant for the majority of researchers. Importantly, minority educators and mentors serve as role models. As clinicians, minorities model culturally competent care, and as leaders, minorities set the institutional agenda. Minority students improve the culturally competent learning environment and educational outcomes.

Dr. Cora-Bramble presented a figure depicting the number of U.S. medical school graduates by race and ethnicity. The trend is flat for minority medical school graduates. This is reflected in the 2011 statistic that 61 percent of faculty members are Caucasian. Latinos represent 4 percent of medical school graduates, while African Americans represent 2.4 percent. Notably, minorities are clustered at the associate and assistant professor levels and underrepresented at the level of full professor. Dr. Cora-Bramble works to demystify the promotion process for minorities and encourage their academic attainment. There are several reasons why so few minorities graduate from medical school. Medical school is very expensive, and some minorities cannot afford the training. There also is a shortage of role models and mentors to help navigate the balancing of professional and family life.

Challenges include the lower rate of promotion for minority researchers; the challenge is acute for underrepresented minorities. Another issue is job satisfaction. Literature supports the idea that minority physicians are less likely to be satisfied with their jobs in academia and more likely to report experiencing ethnic harassment and bias. Isolation is another factor. When institutions have few minorities, they are solicited as a representative for every committee, which is a real challenge and creates a sense of isolation. A lack of formal and informal networks creates a deficiency in guidance to navigate through professional challenges and opportunities. Minorities also experience unequal access to opportunities and face multiple stereotypes. Additional challenges occur when identifying racially concordant or cross-cultural mentors. Dr. Cora-Bramble emphasized that mentors can be of any race or ethnicity; choices do not need to be limited to minorities. The notion of double jeopardy, being a woman and a minority, contributes to the burden of being the first or the only representative in a meeting. The “black tax” burden is another challenge—minorities tend to be appointed to every committee. Finally, affirmative action assumptions can cause a minority’s legitimacy to be questioned.

Dr. Cora-Bramble addressed issues of recruitment and retention of minority faculty members. It is important to support the long-term career trajectories of minority faculty, because retaining minority investigators is problematic. Visible and authentic support by senior leadership is critical, as is an institutional climate that fosters diversity and does not reject dissenting opinions. Being a minority can be isolating, and it is helpful for institutions to employ a critical mass of minorities. There needs to be data transparency regarding recruitment, retention, promotion, tenure, and salary equity. Search committees should contain diverse membership and solicit diverse candidates. Mentors should be available and willing to assist through a minority faculty development program or other network to help individuals advance academically. Minorities also need real and transparent access to formal and informal opportunities.

Being the first and only minority in an institution can be a challenge. Several years ago, Dr. Cora-Bramble was tasked with investigating the challenge at the Children’s National Medical Center following the resignation of 27 percent of minority faculty members in a 12-month period. This affected the institution’s ability to recruit qualified candidates, and Dr. Cora-Bramble’s objective was to develop retention-specific strategies. First, she collected qualitative and quantitative data to understand how the institutional climate was affecting retention through the administration of exit interviews. She initiated a faculty retention workgroup, asked the institution to investigate salary equity, and developed a Minority Faculty Affinity Group.

The findings of Dr. Cora-Bramble’s research indicated that a disproportionate number of minority faculty members had large clinical loads and were assigned to satellite centers. The faculty voiced a disconnect between the expectations at the time of hire and the reality of the position. Although there was no evidence of intentionally disparate treatment or bias, subtle differences regarding access to opportunities was a possibility. The contributing factors affected all faculty, but were magnified for minority faculty. Importantly, Dr. Cora-Bramble found that the resulting internal and external perception problem could impact the hospital’s ability to attract minority candidates. Since then, the institution has focused on attracting minority faculty and improving their academic advancement through a Minority Faculty Development Workshop Series.

Emerging resilience research strives to explain why some faculty are happy while others are unhappy in the presence of the same stressful academic conditions. Key elements of resilience include risks and

promotive factors that influence positive or negative outcomes. Disparate treatment in academic promotions, inadequate mentorship, and unequal access to academic opportunities represent a form of risk exposure for minority faculty that might affect their ability to thrive and advance academically. Dr. Cora-Bramble initiated a research project to investigate the relationship between resilience and academic productivity (e.g., promotions, publications, grants) among minority faculty in U.S. academic health centers. Focus groups and Personal Resilience Questionnaires[®] were used to measure five resilience characteristics: positive, focused, flexible, organized, and proactive. The study results indicate moderate, positive correlations between gender and flexible, advanced degree and positive, grants and organized, and peer-reviewed publications and positive. Focus groups indicated that barriers to academic advancement include being one of a few minorities, difficulty finding collaborative partners, not having a good mentor, and a lack of sense of belonging. Internal protective factors include spirituality, sense of humor, assertiveness, hard work, saying no, and internal clarity of goals. External institutional and environmental factors include a good mentor, relying on other minorities, supportive department chair, family, church, and community. Academic productivity and advancement requires a mentor, supportive academic environment, organizing deadlines, persistence, and protected time. Collectively, the data indicated that certain resilience factors enable individuals to be more academically productive. Minority faculty members might benefit from skill development to improve resilience characteristics.

Dr. Cora-Bramble closed her presentation with a reading of her poem, "Fitful Tango," which was published in *Academic Medicine* (2008).

Discussion

A participant commented on the conflict between needing to work hard in the clinic and laboratory to generate publications in support of academic advancement while feeling pressure to be involved on many committees to encourage diversity throughout the university. Dr. Cora-Bramble opined that junior faculty should be protective of their time and should select carefully which committee positions provide the most benefit. For example, the chance to participate on an advisory committee to the university president provides a great opportunity. Promotion and tenure committees also provide an opportunity to learn a lot.

In response to a question, Dr. Cora-Bramble clarified that participants should not limit their mentors to fellow minorities. Mentoring is valued differently at various institutions. Minorities should strive to ensure that they do not carry a heavier burden because of their race.

A participant commented that the biggest problem for minority students appears to be maintaining a competitive GPA. Dr. Cora-Bramble explained that a student's life experiences and home environment can impact a student's academic success.

An attendee mentioned that certain minorities tend to hold different priorities, such as family and community, that are incongruent with academic success. Recently, she was asked to present a talk about diabetes to a local American Indian community, and she struggled with the conflicting priorities of working on a publication or giving the talk. Dr. Cora-Bramble emphasized the need to make personal choices regarding time commitments. Motherhood is very important to her, and she, for example, carved out time by scheduling, whenever possible, faculty meetings around her sons' basketball schedule. Dr. Cora-Bramble reminded the participants that it was up to them to define success for themselves.

Dr. Pearce asked for advice regarding how senior faculty can promote the advancement of junior faculty. Dr. Cora-Bramble encouraged a balanced approach; the junior faculty's individuality should be acknowledged, but drastic distinctions for minorities are not necessary.

A participant commented on the power of peer mentoring, and Dr. Cora-Bramble agreed that peer mentoring programs are very valuable.

FRIDAY, APRIL 19, 2013

BUSINESS MEETING AND COMMITTEE REPORTS

Oversight Committee Report

José Romero, Ph.D., Associate Professor of Medicine, Harvard Medical School/Brigham and Women's Hospital

Shirley Blanchard, Ph.D., Associate Professor, Creighton University

Dr. Romero, Chair of the NMRI Oversight Committee, provided an overview of NMRI activities during the previous year. He explained that the Oversight Committee requires 10 members from various constituencies of the NMRI. Members serve 2-year terms, which are staggered so that 50 percent of members rotate off at the end of each year. NIDDK staff and *ad hoc* members remain on the committee. Committee members meet by teleconference quarterly, with the fourth meeting coinciding with the NMRI Annual Workshop. Dr. Romero mentioned that participating on the Oversight Committee provides an opportunity to keep in contact with members, pursue leadership, discuss avenues for improvement and goal enrichment, and give back to the group, and he encouraged the meeting attendees to consider joining the committee. He mentioned that signup sheets are available at the registration desk for any individual interested in joining the Oversight or Planning Committees.

Dr. Romero acknowledged the current Oversight Committee members. Dr. Lewis Roberts is the Chair-Elect who will lead the NMRI next year. Current members include Dr. Leonor Corsino, Dr. Danita Eatman, Dr. Robert Ferry, Jr., Dr. Cynthia Ann Jackson, Dr. Myra Kleinpeter, Dr. Roberts, Dr. Omaira Sabek, and Dr. Marion Sewer. Drs. Shirley Blanchard and Virginia Sarpura are *ad hoc* members who have made invaluable contributions to the NMRI's mentoring program. Dr. Romero acknowledged that although the Oversight Committee is designed to meet every 3 months, the status of the NMRI Annual Workshop was in question until recently and so fewer oversight meetings occurred prior to the meeting. Participating on the Oversight Committee requires ample time and effort and its success depends on the contributions of all members.

The NMRI organizational statement depicts the priorities of the Network, which include facilitating the development of active mentoring between senior and junior members based on research, professional interest, and goals. Mentors and mentees can self-select, or the NMRI can match senior mentors with junior mentees depending on shared characteristics. Another objective of the NMRI is to facilitate outreach by identifying and recruiting new members, on which the Oversight Committee intends to focus in the coming year. The Committee will explore avenues to attract new members and retain current members in the presence of significant funding reductions. In the past, the NMRI provided full financial support for members to attend the meeting; this year, however, some members were unable to attend because of the partial financial support offered. Retention of current NMRI members is a focus because the senior members contribute greatly to the NMRI through mentoring and imparting wisdom with regard to traversing the academic system.

The Oversight Committee is exploring avenues to determine the program's effectiveness by evaluating success in grant funding, promotions, tenure, leadership, and teaching. Analyzing metrics is critical to convey the value of the program to NIDDK leadership. The Committee will be collecting information about the career paths of past and present members. Dr. Romero commented that people are not aware of the NMRI and the members could help to publicize the NMRI at various meetings and institutes. The Oversight Committee intends to better organize publicity at meetings. Dr. Romero welcomed input into how the NMRI might develop metrics of success as well as attract and retain members given the current financial situation. He also encouraged members to present the NMRI's efforts and mission at their own institutions or meetings.

Dr. Romero commented that a valuable NMRI program has been the mentor-mentee pairing program, led by Drs. Blanchard and Sarpura. Dr. Romero welcomed Dr. Blanchard to speak about the NMRI's metrics of success. Dr. Blanchard acknowledged the senior mentors who volunteered their services. She

reminded participants that a mentor-mentee signup sheet was available at the registration table for members to indicate their desire to be paired.

Dr. Blanchard commented that NMRI members are strong, bold, and smart. She highlighted several NMRI accomplishments since 2009, when the mentor/mentee form was constructed and placed on the NMRI website. The forms are to be completed following the suggested three to four mentor/mentee contacts per year (conducted in person, by telephone, or by email) to capture progress made toward the mentee's educational objectives. A program evaluation questionnaire also was posted on the website in 2009 to track outcomes and learn why members attend the Annual NMRI Workshop. In 2010, the Oversight Committee formed a focus group to develop ideas on how to recruit and retain members; this remains a priority of the NMRI today.

Dr. Blanchard reviewed the program evaluation statistics from 2009 to 2012. The majority of survey respondents have been Assistant or Associate Professors, and approximately 70 percent are not tenured. When asked to indicate what motivates them to attend the NMRI meetings, members responded that professional mentorship, enhanced grant writing skills, research opportunities, assistance in developing management skills, and continuing education were the top five responses. Respondents indicated that the NMRI has helped with their career development and mentoring by exposing the grant writing and review process and networking with peers who experience the same challenges of being an underrepresented researcher. In 2010, a respondent said that the NMRI members corrected his interview style, which facilitated his appointment to a faculty position. Another participant said in 2010 that the NMRI supported the tenure process by building a record of scholarship and service.

Research topics identified for mentorship include disparities in basic and clinical research, chronic kidney disease, dialysis timing and modality, clinical nephrology, and other topics of interest to the NIDDK. When asked about areas where the most assistance is needed, respondents in 2009 and 2010 mentioned that priorities include developing research ideas, diabetes research, grant writing, and health disparities. In 2010, 61 grants were submitted by 41 NMRI members, and 16 were funded. In 2012, 71 grants were submitted and 32 grants were funded, indicating an impressive success rate.

During the 2013 meeting, participants were asked to indicate anonymously their academic rank. Close to 90 percent of respondents are Assistant or Associate Professors, and the average income is approximately \$115,000. Research interests include diabetes, obesity, cardiovascular risk factors, end-stage renal disease, and health disparities.

Dr. Romero congratulated Dr. Blanchard on the effort and outlined several expectations of NMRI members. Members should consistently report publications, presentations, grants, tenure, and promotions by completing a survey on the NMRI website or informing Ms. Martinez. The completion and posting of program evaluations is very valuable. Dr. Romero also encouraged participants to recruit at least one new member per year and contact at least one organization or society to solicit support for the NMRI.

Drs. Romero and Blanchard presented a video, which was developed to recruit new members and will be posted on the NMRI website. They wished success for all of the attendees and thanked them for their participation in the Workshop.

Discussion

Dr. Agodoa clarified that the NIDDK will not be withdrawing resources from the NMRI. Agency-wide limits have been placed on conference spending. The Annual NMRI Workshop, which cost \$175,000 in 2012, was limited to \$100,000 in 2013, and will be limited further to \$75,000 in 2014 due to progressively lower limits set by the Institute on all conferences. Dr. Agodoa emphasized that the NIDDK is not deliberately withholding funds from the meeting; it is trying to operate within very strict budgetary policies. He solicited creative suggestions from the participants to provide maximum support within the restrictions.

Dr. Young suggested that NMRI members with NIH grants could use their grant to cover attendance at the Annual Workshop. She emphasized the value of mentor attendance at the meeting. Dr. Agodoa thanked her for the suggestion and added that societies might be willing to support member attendance. The Network has been quite successful, and its continuing achievements depend on member participation at the meetings. Dr. Castaneda-Sceppa stated that regardless of the funding source for the Annual Workshop, the NIDDK must remain involved with all aspects of the planning.

Planning Committee Report

Carmen Castaneda-Sceppa, M.D., Ph.D., Associate Professor, Health Sciences Department, Northeastern University

Dr. Castaneda-Sceppa, Planning Committee Chair, emphasized the importance of the Network's members and encouraged them to be proactive in mentoring, soliciting resources and publicity for the NMRI, and reporting their achievements. Dr. Castaneda-Sceppa recognized the planning committee members: Drs. Trudy Gaillard (Chair Elect), Juan Sanabria (Past Chair), Rhonda Bentley-Lewis, Luis Angel Cubano, Lincoln Edwards, Eduardo Fricovsky, Rocio Pereira, Bridgett Rahim-Williams, Janelle Vaughns, and the NIDDK representatives Dr. Agodoa and Ms. Martinez. She commented that the past year was successful and she was looking forward to a good year moving forward. Dr. Castaneda-Sceppa encouraged members to submit their evaluations and provide suggestions for future meeting topics. She suggested that participants contact their institution's diversity office to solicit funding for the attendance of several junior faculty at the annual Workshop. She mentioned that the Oversight Committee would be investigating the potential of submitting a U01 grant application to fund next year's meeting, and she noted that the venue for the next year's meeting might change to reduce the meeting costs. The meeting is tentatively scheduled for April 15 – 16, 2014.

MARCO CABRERA POSTER AWARDS

Trudy Gaillard, Ph.D., R.N., C.D.E., Assistant Professor of Medicine, The Ohio State University

Dr. Gaillard thanked judges Drs. Lincoln Edwards, Eduardo Fricovsky, and Lewis Roberts, and those who submitted posters. The following were determined to be winning posters in the categories of Basic Science and Clinical/Translational Research.

Basic Science Poster Award

Frankie Heyward, Ph.D. Candidate, University of Alabama at Birmingham

"Impaired Hippocampus-dependent Spatial Memory and Reduced Hippocampal SIRT1 Gene Expression in Diet-induced Obese Mice"

Clinical/Translational Research Poster Award

Ayotunde Dokun, Assistant Professor, University of Virginia

"Glycemic Control Impacts Outcomes in Peripheral Arterial Disease: Role of Vascular Endothelial Growth Factor Receptor 2 Modulation"

RECOGNITION OF EFFORTS

Lawrence Agodoa, M.D., Director, OMHRC, NIDDK, NIH

Dr. Agodoa expressed appreciation to the members of the Oversight and Planning Committees for their diligent efforts in the previous year. He presented an award plaque and certificate to Dr. Romero in recognition of his contributions as Chair of the NMRI Oversight Committee. Dr. Agodoa then presented an award statue and certificate to Dr. Castaneda-Sceppa for chairing the NMRI 2013 Annual Workshop Planning Committee.

Dr. Agodoa recognized the new NMRI attendees, thanked them for their participation, and hoped that he would see them at future meetings. He commented that Dr. Blanchard had generated a great report on the NMRI's metrics thus far and he is excited to see how the effective interactions at NMRI meetings continue to foster academic success. He reminded the participants to sign up as mentors/mentees.

JUNIOR INVESTIGATOR PRESENTATIONS

Bioactive Compounds of *Artemisia Dracunculus L* Mitigate Obesity-induced Insulin Resistance in Rat Skeletal Muscle Cells

Diana Obanda, Ph.D., Research Scientist, Louisiana State University

Dr. Obanda, a T-32 funded postdoctoral fellow, explained that the Botanical Research Center is a collaborative effort between the Pennington Biomedical Research Center and the Rutgers University Center of Agriculture and the environment as one of five federally funded botanical research centers. The goal of the Center is to provide a comprehensive evaluation of botanicals to address the pathophysiological mechanisms that lead to the development of insulin resistance and metabolic syndrome.

The *Artemisia* genus is large and diverse, comprising 300 species. The hardy herbs and shrubs are characterized by their volatile oils. Dr. Obanda's research focuses on *Artemisia dracunculus*, or Russian tarragon, which has a history of medicinal use and is a popular spice. *A. dracunculus* was identified as a promising candidate for the development of a nutritional supplement for diabetes by screening the plant extracts for hypoglycemic activity in diabetic mice. Several studies show that the ethanolic extract PMI 5011 significantly reduces blood glucose levels in genetic models of diabetes. Data from 2006 indicate that, compared to the conventional medicine treatments of metformin (41%) and troglitazone (28%), PMI 5011 reduces blood glucose levels by 24 percent.

Dr. Obanda explained that insulin resistance is one of the major characteristics and preceding determinants of type 2 diabetes. Contributing factors of insulin resistance include obesity, a sedentary lifestyle, genetic factors, and certain medications. Notably, prior to the observation of glucose intolerance, there is a breakdown of lipid dynamics, and researchers hypothesize that lipid-derived metabolites initiate pathways that inactivate insulin signaling intermediates. When excessive free fatty acids (FFAs) enter cells, there is less mitochondria beta oxidation and an increased production of lipid metabolites such as triglycerides (TAGs), diglycerides (DAGs), and ceramides (CERs). These three metabolites drive insulin resistance at a cellular level.

After treating muscle cells with FFAs, Dr. Obanda quantified the amounts of lipid metabolites to determine that all saturated fatty acids produce CERs. Insulin sensitivity was monitored by the phosphorylation of Akt2, which indicated that only cells that formed CERs had impaired insulin signaling. In the insulin signaling pathway, only Akt1 and Akt2 were affected by CERs. Notably, interventions, such as exercise and caloric restriction, that lower CERs increase insulin sensitivity. CER is the simplest of the sphingolipids, which are structural components of eukaryotic membranes.

The aims of Dr. Obanda's research were to investigate the role of PMI 5011 on accumulation of CERs and restoration of insulin sensitivity despite their presence. To elucidate the mechanisms by which the botanical reduces metabolic syndrome, Dr. Obanda used *in vivo* and *in vitro* methods by evaluating the effect of the PMI 5011 extract on the signaling status of specific proteins within the insulin signaling pathway and quantifying the lipid metabolites through mass spectrometry. Preliminary results show an accumulation of CERs in cells treated with FFAs; notably, concurrent treatment with PMI 5011 restores Akt2 phosphorylation indicating improved insulin signaling.

Glucosylceramide synthesis is a key step in the metabolism of CERs to glucosphingolipids. Notably, downregulation of glucosylceramide synthase expression reverses insulin resistance in rat skeletal muscle cells. Bioactives isolated from *A. dracunculus* were tested for their effects on glucosylceramide synthase expression. Importantly, compound DB/4 reduced the expression of the enzyme. The results indicate that the PMI 5011 botanical extract does not prevent the formation of ceramides, but does reduce their metabolism to glucosylceramides, which helps to restore insulin sensitivity.

Discussion

Dr. Obanda clarified that she has been investigating the effect of PMI 5011 on several aspects of insulin signaling but has not yet looked at the phosphorylation status of serine kinases.

The Medicare Part D Low-income Cost Subsidy (LICS) and Adherence to Medications for Secondary Prevention of Cardiovascular Disease

O. Kenrik Duru, M.D., Assistant Professor, University of California, Los Angeles

Dr. Duru stated that most Medicare beneficiaries with incomes less than 150 percent of the federal poverty level are eligible for the Low-Income Subsidy (LIS). The LIS lowers the medication costs of enrolled individuals by subsidizing copayments and eliminating the Part D coverage gap. Unfortunately, 1.5 million eligible elderly are not enrolled as of 2010. The aims of Dr. Duru's research are to determine the association between LIS enrollment and the likelihood of good adherence over a 12-month period to statins after myocardial infarction, clopidogrel after coronary stenting, and statins after coronary bypass grafting.

The data source for the study was the Medicare Advantage Prescription Drug (MAPD) enrollees of a large, national, for-profit health care plan. The sample population was at least 65 years old in 2006, had experienced a myocardial infarction, stent or coronary artery bypass grafting (CABG) in 2006, and were continuously enrolled in the plan for 1 year after the event or procedure to track medication use. The events were nonexclusive, and the first recorded event was used to initiate the 12-month monitoring window. Enrollees with primary nonadherence (no prescription fills following the procedure) were eliminated from the study.

Medication adherence was calculated by combining all prescription refills into a single proportion of days covered (PDC) calculation. Epidemiologic studies suggest that a PDC rate of greater than 80 percent is associated with fewer negative outcomes. Medication discontinuation of clopidogrel was defined as a 120-day lapse between running out of the medication and the end of the 12-month window. The primary predictor was LIS status. LIS enrollment was defined as being in the program during the month of the procedure or at any point during the 12-month study window. Because LIS and non-LIS enrollees are likely to differ significantly on income and other variables, Dr. Duru used propensity score matching to identify a more equivalent control sample. Propensity score matching provided a decent approximation of socioeconomic status.

Although the adherence rate is not ideal for any of the groups analyzed, the adjusted results demonstrated adherence was better for the LIS versus the non-LIS enrollees for post-myocardial infarction statins (35.8% LIS; 28.3% non-LIS) and post-stent clopidogrel (54.2% LIS, 45.2% non-LIS). Post-CABG statin adherence did not show a difference between the two groups. The trends were similar when the adherence of a subpopulation of people with diabetes was analyzed. Additionally, discontinuation of clopidogrel was higher among the overall sample for non-LIS beneficiaries; the lack of a subsidy does confer a risk of stopping clopidogrel early and experiencing complications.

The study was limited by a lack of a direct measure of socioeconomic status and inability to differentiate between LIS beneficiaries who were auto-enrolled versus those who initiated enrollment. Overall, however, the LIS benefit with lower copays is associated with better adherence to medications following a myocardial infarction or stent. Better medication adherence might translate into fewer recurrent events and readmissions. The relevant policy finding is that efforts to identify and enroll eligible Medicare beneficiaries with known coronary disease and/or diabetes into the LIS subsidy will be important.

The Association Between Sleep Duration and Diabetes Among Black and White Adults

Chandra L. Jackson, Ph.D., M.S., Epidemiologist, Harvard School of Public Health

Dr. Jackson presented her research exploring sleep as a potential contributor to health disparities. Sleep is an important indicator of health, and the National Sleep Foundation recommends that adults get 7 to 9 hours of quality, uninterrupted sleep per day. Optimal sleep carries public health importance, as it has been associated with heart health, cancer prevention, stress and inflammation reduction, possible weight loss, bolstered memory, and a reduced risk of depression. The average amount of sleep, however, arguably has been declining in recent years and now totals approximately 6.1 hours per day. Of great public health importance, sleep and wakefulness disorders affect 50 to 70 million adults in the United

States and have been shown to increase the risk of lost productivity, car accidents, and morbidity and mortality.

Notably, suboptimal sleep duration, which is an independent risk factor for diabetes, disproportionately affects African Americans and thus may be a contributor to racial disparities in diabetes. Sleep deprivation might increase the risk of diabetes by, in part, upregulating the hormone ghrelin, downregulating the hormone leptin, decreasing insulin sensitivity, and increasing the risk of obesity—a well-established risk factor for diabetes.

Dr. Jackson analyzed data from the National Health Interview Survey (NHIS) from 2004 to 2011 to examine the racial differences in sleep duration and its relationship with diabetes. The sample included approximately 131,000 adults, with minorities and elderly individuals oversampled. The cross-sectional study design focused on individuals at least 25 years old who self-identified as non-Hispanic White or non-Hispanic Black, and there were no missing data on sleep, diabetes, and important covariates. Sleep duration measured the usual hours of sleep within a 24-hour period, and individuals were considered to have diabetes if they had ever been told by a health professional that they had diabetes. Covariables included age, sex, marital status, smoking status, alcohol consumption, physical activity, body mass index, and socioeconomic status (e.g., income, education, occupation). None of the variables were removed from the models due to colinearity. Dr. Jackson analyzed the statistics with a Poisson regression with a robust variance estimator to directly estimate prevalence ratios for short sleep duration.

The study results show that Blacks were less likely than Whites to get the optimal 7 hours of sleep, and more likely to get suboptimal durations of sleep. Additionally, across all categories of sleep duration, Blacks were younger, more likely to be women, and to live in poverty, and less likely to have been married or received a college degree. Blacks tended to have a higher body mass index and were less likely to report excellent health status compared to Whites. The predicted probability of diabetes shows a U-shaped association, with 7 hours of sleep being associated with the lowest prevalence of diabetes. The interaction for race and short sleep was highly significant, but was not significant after adjusting for socioeconomic status. After adjusting for health behaviors and medical conditions, however, the interaction became significant again, indicating that socioeconomic status does not explain the full disparity. Although the data were all self-reported and sleep quality was not available, the strengths of the study include its large sample size, with a large minority population where stratification was possible, as well as the availability of multiple socioeconomic factors.

In conclusion, Dr. Jackson stated that suboptimal sleep duration is highly prevalent in the United States, with Blacks more likely to experience it. Suboptimal sleep duration was positively associated with diabetes in both Blacks and Whites, although diabetes prevalence was higher at any given level of sleep in Blacks. Interestingly, modifiable socioeconomic factors appear to explain much of the disparity between Blacks and Whites as well as the relationship between short sleep duration and diabetes.

THE VALUE OF EDUCATION IN STEM: KNOWING MORE, DOING BETTER

Shirley Malcom, Ph.D., Head, Education and Human Resources, American Association for the Advancement of Science (AAAS)

Dr. Malcolm explained that the topic of disease burden in certain communities was personal because her mother-in-law experienced a stroke and had end-stage renal disease, while her husband's family has a high incidence of heart disease. The AAAS values science, technology, engineering, and mathematics (STEM) education and conducts several programs in communities. Many individuals do not understand how their bodies function or how the systems work. The AAAS has worked to bridge the knowledge gap between a high school biology class and what people do not know. The AAAS aims to introduce audiences to the science related to disparities by being attentive to context, populations, and language (i.e., making the science accessible), and by approaching people where they live and spending time with them. For example, data indicate that libraries are used more often than museums and therefore provide a better place to provide education. The AAAS has conducted informational sessions about diabetes at farmers markets and has supported efforts in tribal communities in South Dakota, where project staff demonstrated how to cook traditional foods in a manner that does not exacerbate diabetes. The AAAS

performs a lot of outreach in churches as well. Although these locations are unusual for a scientific organization, the idea is to promote the message of improving scientific understanding of health and disease to communities and citizens.

The AAAS has programs that emphasize the nature of science, and in so doing, that dispel the notion of a lack of fate control that is too often found among individuals in poor and minority communities. Instilling a sense of predictability and understanding about the world indicates that science and technology can address human needs and human agency makes a difference. The AAAS applied funding from an NIH grant to develop the Healthy People Library Project, with distributed books written in plain language and depicting clear science to help people understand basic concepts. The books focus on the nature of science itself and emphasize that the difference between life 100 years ago and today was brought by technology, engineering, and evidence-based medicine.

Interestingly, Dr. Malcom noted that knowing more does not always lead to changes in behavior, as evidenced by examples from weight control, hand washing, drug use, and smoking behaviors. More information, however, does empower individuals to make better choices. Recently, the AAAS had an exhibit at the White House Easter Egg Roll called the "Jelly Bean Jump." Children were given one jelly bean and then had to exercise vigorously for 30 seconds to undo those four calories. Many of the children and their parents had never associated the amount of physical activity with calories or food as a form of matter that needed to be transformed into energy.

The AAAS prioritizes research and efforts to reduce health disparities and firmly believes that more research is needed. Women's and minority health issues, in particular, deserve attention. Researchers tend to study subjects that they are interested in, and minority scientist support will help to encourage research on challenges that might be more likely to affect those underrepresented communities. Improved communication of additional research and implications for people's behavior also is needed. Currently, African American and Hispanic American researchers comprise a small percentage of all Ph.D. graduates, and there is very little minority and female representation on medical school faculties, where research is performed and the next generation of physicians and clinicians are trained.

Dr. Malcom explained that stories have a lot of power to build awareness. A difficult problem to tackle is to enable people to understand the need for adherence and prevention and take control of their own lives. The AAAS works to engage individuals with stories and then provides them with information to help them make more informed choices. One scenario is "Half is Not Enough," based on the misperception that an individual can take half as much medication to make it last longer. This behavior results in negative outcomes. The AAAS Black Church Health Connection Project created booklets containing hands-on activities to do in a church setting. The booklets focus on the relationship between structure and function of different body systems (e.g., high blood pressure and kidney disease). There was a great response to the project, and people improved their understanding of why a particular organ or system functions the way that it does. Some churches set up health ministries, nurses in the congregations volunteered to take blood pressure readings from the attendees, and exercise classes were developed.

The AAAS also developed a series of books titled, "The Science Inside" that address topics such as diabetes, high blood pressure, asthma, and fitness. The books are written at an 8th grade reading level. A community in Pittsburgh, Pennsylvania, modified the maternal and child health books to a 4th grade reading level that references local resources. The booklets are small enough to fit in a purse; women can take the booklets with them to the doctor to record information and write questions. The AAAS also worked with doulas and other groups in the community to supplement the booklets with human interactions. To address the biological concept of genetics and inheritance, a scenario was presented, "Running in Families," to dispel the myth that one is predisposed to develop high blood pressure no matter what if it runs in their family. Another scenario introduced was, "I Feel Better Now," which focuses on the biological concept of evolution to inform people of the harm in stopping medicine prior to dosage completion.

Understanding how the body works is fundamental in knowing how to manage personal health, and so many people do not have that knowledge. An important component of the research agenda going forward

has to address how to present information to people in a format where it can be understood and behavioral implications can be communicated.

Discussion

In response to a question, Dr. Malcom acknowledged that it is difficult to secure funding for community-based participatory research. The AAAS efforts presented today were funded through an NIH grant. Although it is difficult within the federal structure to receive funding, community foundations might be interested in providing support to improve health outcomes in a region. There might be opportunities to perform a community intervention and study it concurrently or to obtain funding for pilot programs in libraries or churches. Dr. Malcom clarified that the AAAS is not a funding source, but seeks grants to carry out its efforts in the same way as independent investigators.

A participant commented on the delay in teaching biology until high school. A program was initiated in Rochester, New York, to use zebrafish to educate children in kindergarten through middle school, and it has been successful in improving children's understanding of biology and increasing the likelihood of enrolling in a biology class in high school. Dr. Malcom agreed that although health classes are taught at earlier ages, scientific concepts are not associated with health concepts until much later. Another issue is that life science classes tend to be taught like a foreign language, with a focus on terminology rather than concepts. A change in approach is needed to focus on basic concepts first—such as evolution, the transformation of matter and energy, and the relationship between structure and function—before concentrating on the details of the subject.

A participant suggested that Public Service Announcements (PSAs) might be an efficient way for the AAAS to disseminate information. Dr. Malcom commented that the number of people watching television is decreasing as more people access information online. PSAs, however, might build awareness. Ultimately, scientific concepts must be taught in schools, churches, and other community locations to reach people directly.

INTERACTIVE WORKSHOPS

Workshop 1: Transitioning to Leadership/ Administrative Positions in Academia

Carlos Isales, M.D., Professor; Vice Chairman, Translational Research; Director, Institute of Regenerative and Reparative Medicine; Georgia Regents University

Dr. Isales acknowledged that people have different affinities for administration: some individuals strive to be the president of an organization, while others actively avoid the administrative career track. He commented that many leaders did not plan to become an administrator, but the opportunity was presented and grasped. Dr. Isales encouraged the participants to make decisions based on what would be best for their career. Approximately 50,000 chair positions become available each year in the United States, and faculty need to be prepared for the opportunity. Dr. Isales suggested that participants strengthen their curriculum vitae to increase the likelihood of success when an administrative opportunity is presented.

Additional leadership training is useful, and Dr. Isales provided a list of available resources, many of which are free of charge. The five most helpful experiences for transitioning from faculty to department chair include completing a Doctoral degree, teaching and clinical experience, committee work, involvement in university governance, and participation in national associations. Dr. Isales explained that the transition to becoming an administrator is characterized by nine distinctions: from solitary to social, focused to fragmented, autonomy to accountability, manuscripts to memoranda, private to public, professing to persuading, stability to mobility, client to custodian, and austerity to prosperity. Those who once spent time in the laboratory now attend social functions and must remember the names of other important people. Department chairs are accountable to everyone—including the faculty in the department as well as the administrators above. The average lifespan of a dean is 3 years, indicating the lack of stability as one enters the administrative tract. Furthermore, an administrator must be very careful with his or her words—an offhand remark can induce stress and anxiety in the faculty.

Dr. Isales indicated that pursuing an M.B.A. would be helpful, as many administrators have the degree. He emphasized, however, that it is a personal decision. Dr. Isales encouraged the participants to explore available leadership training resources. Many universities are supportive of taking such classes and realize that they contribute to success. Dr. Isales also encouraged the participants to learn from others' mistakes to improve their administrative leadership.

Discussion

A participant commented on the difficulty in pursuing leadership training because of the lack of formal leadership education for researchers and professors. In response to his question, Dr. Isales indicated that the Association of American Medical Colleges (AAMC) offers many leadership training classes. He addressed the misperception that administration is "easy" and "common sense." Department chairs carry a lot of responsibility; 80 percent of decisions are made at that level. Dr. Isales commented that professors dislike administrators who are micromanagers or absentee landlords. Micromanagers are ineffective leaders and create frustration in the faculty. Chairs who listen to faculty and are supportive of them are in general well liked.

In response to a question, Dr. Isales commented that regional variation might explain the average lifespan of 3 years for a dean at colleges across the United States, while some institutions retain the same dean for 20 years or more. Deans possess tremendous power, but might want to continue progressing up the career ladder themselves. Difficulties arise when a new dean initiates particular programs but leaves prior to full implementation.

Workshop 2: Strategies for Conflict Resolution

Sharon Milgram, Ph.D., Director, Office of Intramural Training and Education, NIH

Conflict is a disagreement between two or more people over needs, resources, beliefs, values, perceptions, or expectations. Conflict often arises from ineffective and unclear communication. Because people are all different, variations in perspective are inevitable in the workplace and beyond. Dr. Milgram described the three perspectives of conflict: some people see conflict as a dysfunctional, destructive, and irrational process to be avoided; a natural product of groups, teams, and organizations to be tolerated; or a positive event that drives creativity and productivity to be embraced. Conflict is constructive in that it drives creativity, generates new solutions, increases engagement, improves communication, and helps individuals and teams grow. Destructive outcomes of conflict involve reduced productivity, diverted energy, decreased morale, polarized groups, and poor behavior. Effective conflict resolution can make the difference between the positive and negative outcomes.

Conflict is personal, and typically learned from one's family and culture. It is important to understand how one typically responds to conflict to identify and address what should be changed. The key principles to address conflict in a functional way is to understand oneself and appreciate that others might have different needs and approaches, develop verbal and nonverbal communication, improve listening skills, and apply emotional intelligence. Dr. Milgram described the Thomas-Kilmann Conflict Mode Grid, which describes five distinct conflict resolution styles. Although most individuals tend to prefer one style, all of them can be appropriate depending on the situation. The two dimensions of the grid include assertiveness, or the level of motivation for the individual to achieve their own goals and objectives, and cooperativeness, or the willingness of the individual to allow the other party to achieve their goals and objectives. None of the styles are appropriate when it is the only style an individual uses. The five modes of conflict resolution include:

- **Avoiding.** The avoiding mode is low on the assertiveness and cooperativeness scales. Usually, this method means that the problem is not directly addressed or resolved. Avoiding is appropriate when one does not care highly about the situation, the conflict is likely to be short lived, time is needed to collect information and prepare or allow the parties to "cool off," addressing the issue might cause more disruption, or when a win is not possible. Avoiding is

not appropriate when one cares about the issue, it will cause more trouble long term, or others might learn from a constructive confrontation.

- **Competing.** The competing mode is low on cooperativeness and high on assertiveness; an individual seeks to reach his or her preferred outcome at the expense of the other party. The competing style is appropriate in an emergency, when an individual is sure that he or she is correct and the relationship is not important, the issue is critically important, or when ethics and principles are at stake. It is an inappropriate mode when the issue is trivial and the relationship important, one is trying to build a team, or the self-respect of others is diminished unnecessarily.
- **Accommodating.** The accommodating mode is characterized by low assertiveness and high cooperativeness. Many students favor this style, where their own needs are put aside to favor the needs of others. This style encourages people to become more creative to solve problems. It is appropriate when any solution will be adequate, one's needs are less important than the other person, or one intends to build social capital. Accommodating is not the best mode when an individual is likely to harbor resentment or it results in a lack of self-respect and personal growth. This is the easiest strategy, but it is risky to apply all of the time because it can be damaging to one's confidence.
- **Compromising.** The compromising mode is characterized by equal and moderate levels of cooperation and assertiveness. This method is applied when there is a need to find a timely solution and both parties have similar goals. It is appropriate when finding some solution is better than a stalemate, working together is important but the time or resources to fully satisfy both parties are limited, or one receives nothing if one does not compromise. Compromising is inappropriate when finding the most creative solution is very important, the compromise masks important issues, deep principles are at stake, or one cannot accept the consequences of getting less than one needs.
- **Collaborating.** The collaborating mode is high on assertiveness and cooperativeness. In this scenario, both sides work creatively toward an outcome that meets the needs of all parties involved. Collaborating is appropriate when issues and the relationship matter, a creative outcome is important, there is a lot of time and energy for discussion, or teams need to perform optimally. It is inappropriate when time is limited, the issues are trivial, or one party is tired or stressed.

Building conflict management skills involves choosing the right mode for the situation, implementing the mode effectively, and normalizing the relationship after the conflict. Optimal negotiation requires knowledge of one's own triggers and issues. One must learn to monitor and moderate one's own behavior in tense and emotional situations, as well as be able to recognize the needs and perspectives of all parties involved. The five key questions include: How important is my relationship with the other person? How important is the issue to me? Am I certain which solution or outcome is best? How much time do we have? How is the power distributed? The conflict should be analyzed from the perspective of each party involved. Possible solutions should be considered, and all available resources (e.g., the institution's conflict management office) should be applied to move toward a resolution. Constructive approaches include calm and respectful conversation, appropriate body language, acknowledging emotions, allowing others to speak, paraphrasing to ensure comprehension, and normalizing relationships. Destructive approaches include yelling or threatening, using disengaged body language, employing sarcasm or talking over others, demeaning other parties, and avoiding the other party following the conflict.

Discussion

Dr. Young asked if it was useful to know the preferred conflict resolution mode of the other party, and Dr. Milgram said that it was helpful if the long-term relationship was important. Most people can use all of the styles but prefer one. The avoiding style is the most common.

In response to a question, Dr. Milgram suggested sending an email with a written account of the discussion following a meeting. The end of the email should indicate that if the other person does not respond, agreement with the content of the email is assumed. This often elicits a response. Power differentials are evident in many conflicts. People tend to accommodate those with more power than themselves, but accommodating too often risks the loss of self-esteem. If an issue will matter in 1 year, it should be addressed. Support networks and mental health professionals can help deal with disappointment.

A participant asked for advice given her conflict-adverse institution that often mistakes her passion for anger or hostility. Dr. Milgram acknowledged that academic environments often misinterpret passionate women and minorities, and it can be frustrating to try to be an agent of change. She suggested using the written word to effect change through calm and thoughtful letters to the dean and chairs. Written letters, however, can be set aside easily and are not as satisfying.

An attendee mentioned that she preferred the accommodating and avoiding styles of conflict resolution and asked how she should deal with parties that use a competing style. Dr. Milgram suggested attending a conflict resolution seminar with the party in question. She encouraged all of the participants to explore leadership and conflict resolution workshops, such as the 2-day NIH leadership course. Although trainees and faculty dislike the time spent away from the laboratory, every person who has taken the course recognizes the utility and value of the skillset. Team conflict training is another useful avenue, and many universities have resources for it.

Dr. Milgram emphasized the valuable contributions of leadership styles brought to science by minorities, who have different cultural backgrounds and experiences.

Workshop 3: Writing for Success: How to Develop an Award-winning Publication

Bessie Young, M.D., M.P.H., Associate Professor, University of Washington

Dr. Young explained that publications are important as the “Coin of the Realm” and are necessary for grants, obtaining an academic position, and promotion. Manuscripts also allow people to determine how a researcher thinks and writes. The number of papers necessary for promotion varies depending on a scientist's career path: physicians and basic researchers need as many as possible to be published in high-impact factor journals, while clinician educators can do more reviews. Research results should be written and submitted to a journal because otherwise, a mentor, collaborator, or competitor will do so. If one's results are not published, it is as if the experiment was never performed. Publications are a sign of productivity and accomplishments. Dr. Young described the basic outline for a great paper as AIMRaD, consisting of an abstract, introduction, methods, results and discussion, and conclusion.

The abstract can be easy or difficult to write, depending on the situation. The abstract is very important because it often is the only component of the paper read by editors prior to making a decision to review the paper. When an abstract is written early in the process, it is important to review it prior to submission to ensure that the data are consistent with the results and conclusions sections. The abstract should contain the background and rationale for the study, a brief description of methods, the concise results, a summary, and conclusion to indicate why the results are important. Common mistakes include an abstract that is too long (aim for 250 words), using a meeting abstract for the manuscript, or including complicated details.

The introduction is usually three paragraphs and consists of background, gaps in the literature, and a brief explanation of the study objective. The introduction also should state the hypothesis and the experiments that were conducted to answer the research question. Dr. Young presented an introduction checklist to ensure that the four main elements (background, existing research, problems with that research, study improvements) are present as well as determine whether it is comprehensible to someone unfamiliar with the study, presented with an objective tone, and clearly addresses previous gaps in the literature.

The methods section describes the “who, what, where, and how” of the research. The methods differ depending on the field—a clinical epidemiology or health services paper will describe the study subjects, type of study, primary predictors, covariates, primary outcome variables, statistical analysis, and IRB information. A basic science research paper would include a descriptive summary of all materials used and the experimental methods. Sections should be labeled according to the experiments, and all materials should have references to their origin. The experiments should be written such that someone could reproduce the results.

The results section should describe the results and not contain references or interpretation, just the research data. Tables and figures can be included to clarify the results. Clinical research papers should include a table of population demographics as well as the results from the statistical analyses, and basic research papers should present original data.

The interpretation of the results is described in the discussion section. The first paragraph of a clinical epidemiology or health services paper should briefly describe the research findings, and the next two to four paragraphs should be used to compare the results to the literature. Potential mechanisms describing the results should be postulated, and limits of the study should be acknowledged. The basic research discussion section should begin with an interpretation of the findings and whether the hypothesis was proven or rejected. Additional paragraphs should compare the results to existing literature, outline the conclusions, and discuss the next steps. The conclusions section should briefly confirm the findings of the study and discuss future studies. Importantly, do not provide too many details to prevent a competitor from stealing the ideas.

Collaborators who assisted with the research but did not contribute enough to be an author are indicated in the acknowledgements section. Each journal has authorship criteria, and the contribution of each author might need to be described. Anyone that is acknowledged should be informed. The title, which should be finalized after it is written, needs to be interesting but not too journalistic. There are several types of titles, including the description, topic/description, statement, and question. With regard to the reference section, a reference library such as Endnote, for example, may be used to add references to the paper; this facilitates reference formatting for submission to specific journals.

Dr. Young presented her rules for paper writing. First, an author must allow enough time to write the paper, even if it means blocking time on the schedule. Start with an outline of the sections and then complete them. One strategy is to write the introduction and methods sections of the paper prior to starting the experiments. Give the manuscript to colleagues for feedback and editing, and give the mentor enough time to read the paper and respond. Writing well does not come easy to most people; read the draft and revise it prior to giving it to colleagues to review. Make the sentences clear, and use linking words where applicable to transition between paragraphs. Importantly, use the correct verb tense in each section. The introduction uses the present tense, while the methods, results, and discussion section use the past tense. Writer's block can be overcome with a systematic approach. Set aside time every day to write, and write the easy sections first. Procrastination behavior can be related to the fear of rejection, so it is important to develop a thick skin and work through those issues. Dr. Young suggested that participants consult style guides to help with grammar.

Discussion

A participant commented that the University of Maryland suggests that investigators write proposals that can facilitate the development of a manuscript. Dr. Young commented that often, an investigator will hear quickly after submitting a manuscript to a high-impact journal if the paper is not to be reviewed. It is useful for the manuscript to be reviewed, even if ultimately it is not accepted, because the reviewers' comments can be addressed prior to submission to the next journal (which might choose the same reviewer).

Dr. Greene commented that from the perspective of a journal editor, it is extremely important to submit carefully edited and strong manuscripts. The rationale and innovative value of the study should be clear. Grammatical, technical, or formatting errors are a large impediment. Dr. Young agreed that grammatical errors reflect poorly on the research quality of the paper.

Dr. Young stated that many papers take between 6 months and 1 year to get published, and patience is necessary.

WRAP-UP, NEXT STEPS, ADJOURNMENT

Lawrence Agodoa, M.D., Director, OMHRC, NIDDK, NIH

Dr. Agodoa thanked the Planning Committee, led by Dr. Castaneda-Sceppa, for the great program. The Planning Committee was helpful in developing financial solutions to the budget limitations to allow the workshop to occur. Dr. Agodoa reiterated the need to collectively identify ways to continue with the Network and overcome the financial restrictions. He expressed appreciation for the attendance and participation of the NMRI members, especially the gracious senior members for their mentoring efforts. Maintaining the participation of the senior NMRI members has been challenging; Dr. Agodoa solicited ideas from the senior members that would add value to their experience and keep them participating in the Network. When junior members are successful because of the mentoring efforts of the senior members, the Network is successful. Dr. Agodoa said that he would inform the NMRI members of the exact date of the following year's meeting when it is scheduled. He solicited closing comments or questions.

Discussion

A participant suggested that the NMRI could staff kiosks at national meetings; members could be used as the face of the NMRI. Dr. Agodoa agreed that it was a great idea. Dr. Romero welcomed ideas for venues where the NMRI could be represented.

Dr. Agodoa mentioned that the NIDDK released an RFA to invite professional societies to present a plan that would mentor minorities in leadership positions. Five grants have been awarded to professional societies to develop minority programs, which will be evaluated for success in 5 years.

A participant asked about the travel awards for the future meeting. Ms. Martinez explained that information related to travel awards will be forthcoming.

Dr. Romero congratulated the participants on a fantastic meeting despite the difficulties in arranging support. He expressed appreciation for Dr. Agodoa's and Ms. Martinez' strong support for the NMRI.

Dr. Agodoa elaborated that ICs were invited to join the NIDDK in initiating the Network 11 years ago, and most declined. Since the publication of the NIH Diversity Task Force Report, however, the NIH has initiated a mentoring project called Building Infrastructure Leading to Diversity (BUILD) to develop a mentoring network. The funding will support BUILD scholars as well as graduate students, postdoctoral fellows, and junior faculty. The NIDDK's successful NMRI and STEP-UP programs will continue, but additional resources will be provided for an NIH-wide program.

A participant thanked the Oversight Committee and commented on the inspiring presentations and positive experience. He opined that it was a great conference for graduate students and thanked the organizers for the invitation to attend.

In closing, Ms. Martinez encouraged the participants to submit their conference evaluations at the registration desks and update their directory information. Dr. Agodoa thanked everyone again. Hearing no more comments or questions, he adjourned the workshop.