

**National Institute of Diabetes and Digestive and Kidney Diseases
Network of Minority Research Investigators Workshop**

**May 1-2, 2003
Bethesda Marriott
Bethesda, Maryland**

Meeting Summary

THURSDAY, MAY 1, 2003

Introduction—Drs. Lawrence Agodoa and Jackie Tanaka

Dr. Agodoa welcomed participants and stated the dual purposes of the network workshop: to help participants attain their academic pursuits and to close the health gap among racial and ethnic minorities. The workshop's goals are to increase the success of junior investigators through mentoring, to provide senior investigators the opportunity to meet junior ones, and to develop long-term opportunities for minority scientists. The solutions will require both prevention and intervention activities.

**Health Disparities Research: What's New and Exciting—How Do We Close the Gap?—
Drs. Juanita Merchant, John Carpten, Tim Bartness, and Lydia Aguilar-Bryan**

The number of successful minority scientists could increase in the future if the scientists do the following:

- Find a mentor.
- Prioritize your goals to be aware of the timeline of a tenure track position.
- Include articles on which you were listed as an author or coauthor in peer-reviewed publications.
- Obtain extramural grant support, give talks, and obtain outside letters of support.
- Know the tenure policy at your institution, initiate a research program, and sell your work.

Speakers discussed various issues related to the health disparities gap, including the following:

- Large health disparity gaps in the area of obesity research and the need for minority scientists to find a research problem to study for several years.
- Existing health disparities in minorities with less access to medical care. Latinos are almost twice as likely to have type 2 diabetes than the rest of the population, and Native Americans and African-Americans are also at higher risk.
- Health disparities among African-Americans. They are twice as likely to have prostate cancer and five times as likely to die from the disease as the rest of the population. Prior to 1977, there was no effort to identify African-American families at risk. The nationwide African-American Heredity Prostate Study includes families with four or more people affected.

Welcoming Remarks—Dr. Allen Spiegel

NIDDK Director Dr. Spiegel noted that the goals of the Institute were to cement mentor relationships and nurture participants to ensure success and that NIH was committed to supporting minority investigators and to seeing them succeed. He noted that the recent doubling of the NIH budget, an initiative that ends in fiscal year 2003, has provided biomedical researchers with powerful tools to conduct research as well as powerful challenges, such as:

- Recognizing that successful research experiments do not necessarily translate to success with health problems among all races and ethnicities
- Ensuring that all relevant science translates to meet accompanying health objectives, which is especially critical with respect to the issue of health disparities among minorities
- Spending tax dollars wisely and conducting patient-centered clinical trials safely and ethically to ensure the trust of Congress and the public.

Grant-Writing Workshops

Clinical and Epidemiological Research—Drs. Patricia Robuck, Charles Howell, Jean Ford, and Michele Barnard

The speakers began the session by describing the various types of grants that NIH awards, such as the K-award, R03, and R01. They noted that the grant review process is rigorous, especially for an R03 or R01, and that clinical research is more difficult, and subjected to more scrutiny, than basic research.

Group Co-Chairs' Recommendations

- Present a well-written grant application presented in a consistent format.
- Organize the application in a logical manner, because the reviewer might not be an expert in the field.
- Stress clarity of thought as opposed to a lot of information.
- Write to the nonexpert, and the expert will understand your information.
- Give the application to a scientist to read and critique at least 1 month before it is due for study section review.
- Include a one-page summary of your experiment.

Basic Research (Session I)—Drs. Janice Douglas and Neal Musto

Group Co-Chairs' Recommendations

- Make the reviewers want to fund you by presenting the best product you can.
- Present your preliminary data in a manner that demonstrates your knowledge of the subject.
- Avoid ambiguity in all parts of the grant and be as clear and specific as possible.
- Spend time developing a strong conceptual framework.
- Include a hypothesis, the aim(s) of your study, alternative hypotheses, and the direction that your study will go if your first aim goes unmet.

- Be innovative, present novel concepts, challenge paradigms, and investigate new techniques.
- Avoid such statements as “No problems are foreseen with the experiments ...,” which raise “red flags” with reviewers.
- If there is a gap in your research career, explain the reason.
- Explain your expected exemptions to the regulations in the human subjects section.
- Discuss the importance of the laboratory’s environment, such as adequate space and highly trained, enthusiastic employees.
- Explain the anticipated results, your interpretation of them, and how they relate to the current state of the science in your field.
- Ensure that you deal with all the reviewers’ comments when resubmitting a grant and have a colleague review the comments and your answers to ensure your interpretation was correct.

Basic Research (Session II)—Drs. Mario Ascoli and James Hyde

Group Co-Chairs’ Recommendations

- Follow the specific format of the application.
- Present the best possible case.
- Note that the Center for Scientific Review Web site mentions referral offices.
- Be aware that an R01 grant application can be assigned to one study section and then be switched to another.
- Do not request a specific reviewer.
- Discuss with colleagues the study section to which you should send your application.
- Convince the study section you can do what you promise to do.
- Make the grant application clean and easy to read and follow the instructions.
- Put experimental questions in the form of questions and add alternative methods.
- Put specific goals on one page.
- Work to make the story simple and convincing and link specific aims.
- Avoid being too ambitious with respect to your study aims.
- Read the critique carefully.

Keynote Speech—Dr. Raynard Kington

Dr. Kington praised the NMRI’s crucial role in helping lessen the health disparities among racial and ethnic minorities and in encouraging diversity in the research scientist workforce. NIH has undertaken laudable efforts to solve the “pipeline” problem, instituting programs to encourage minority medical and science students to embark on research careers. Other institutions should implement similar programs to resolve their own “pipeline” problems, because a diverse scientific workforce can bring different perspectives to a vexing health problem and can bring a higher level of efficiency in attempting to solve it.

Dr. Kington's Recommendations

- Be resilient. Accept a study section's critique of your grant application, answer the criticisms, and resubmit the application.
- Ask a respected colleague for help and demonstrate your passion about the subject matter when working with him or her to get them interested in helping you.
- Forget your search for the idealized mentor who has all the answers and can solve your problems. Use a mentor's existing knowledge, ability, and contacts to further your career and, if necessary, move on to a new mentor.

The issue of resolving health disparities is the core issue with which NIH must deal. Attendees were encouraged to:

- Embrace the value of scientific evidence to solve disparity issues and avoid looking at the problem exclusively in terms of social justice
- Stop believing the myth that there is one way to solve the complex problem of health disparities, which has many causes
- Educate minority communities on the value of hard science to address a particular topic, encourage members of those communities to participate in health studies, and ignore the generally accepted opinion that minorities participate in health studies less often than whites. There is no consistent nationwide pattern to minority participation.

FRIDAY, MAY 2, 2003

Introduction and Welcome—Drs. Lawrence Agodoa and Jackie Tanaka

Dr. Agodoa asked attendees to think about whether this NMRI meeting should be an annual or a biannual event and stated that future meetings would include postdoctoral and medical students.

Effective Networking for Meaningful Collaboration—Drs. Jackie Tanaka and Rosita Rodriguez

The speakers encouraged attendees to develop the skills necessary to advance their careers. The skills that researchers used to get them this far are different from those that may be necessary to advance them further, such as courting VIPs and engaging in organization politics.

Speakers' Recommendations

Researchers should do the following:

- Develop an “elevator pitch”—a succinct paragraph, easily tailored to different audiences, to market yourself in a way that quickly states who you are and what you do.
- Network whenever you can with colleagues to develop an informal, fluctuating lifetime network of people in your field.
- Engage in positive reinforcement with colleagues and those who you supervise to help people rise above expectations.

- Remember that peer relationships and networking involve persuasion, influence, and mutual understanding and benefit.
- Use research collaborations to take advantage of a group’s collective wisdom to resolve some problems and/or to develop “outside-the-box” ideas to resolve others.

Breakout Sessions

Group members chose one of four breakout session topics, Other Minority-Related Problems, Onset of Type 2 Diabetes in Preteens and Teens, Type 1 Diabetes and Associated Complications, and Renal Dialysis and Attendant Populations. They reported to the assigned breakout room, broke into groups of between two and four people within the breakout session, chose a health issue affecting the U.S. minority population, discussed it among themselves, and chose a spokesperson to relate to the other breakout group attendees their health issue and the hypothesis they would like to test.

Other Minority-Related Problems Group

This group developed hypotheses for such problems as complications from diabetes, hypertension, and obesity; the high-risk gene and its association to alcoholism; sickle-cell disease; risk factors for diabetes in populations that do not have high rates of obesity by Western standards; obesity and liver cancer; and Crohn’s disease.

Onset of Type 2 Diabetes in Preteens and Teens Group

This group wanted to test the following hypotheses: prevention strategies, genetic and hormonal influences, insulin resistance, the effect of nutrition and exercise, and the screening of adolescents in nontraditional settings.

Type 1 Diabetes and Associated Complications

The individual groups discussing various problems associated with this disease and developing the hypotheses they would like to test met throughout the entire breakout session; however, the breakout session attendees never reassembled as a group to present each individual group’s proposed hypothesis. The individual group discussions were inaudible on the tape.

Renal Dialysis and Attendant Populations

Only two people chose this breakout session. There is no audible tape recording, and neither of the attendees took notes on the problems they discussed and the hypothesis they would test.

Career Development Workshops

Introduction—Dr. Greg Florant

Dr. Florant stated the importance of setting and working toward professional and personal goals and suggested ways to be successful at achieving both sets of goals, such as producing

interesting and provocative papers; nurturing M.S. students and encouraging them to choose a career in medical research; conducting your own research at the level necessary to retain grant funding; including your family in the important events of your career, celebrating the good times getting support in the bad times; and setting aside time for you to participate in family events.

Academic Administration and Leadership: Friend and Foe?—Dr. Sidney Golub

Academic administrators want researchers who produce, bring prestige to the university, give the university a competitive advantage in attracting personnel and students, are considered good clinicians and teachers, and do their job without negative headlines. If you undertake a controversial cause or task, be aware that the university or hospital administration may not stand behind you and ensure that the facts of the controversy buttress your position. However, administrators can also help you with such things as space and renovation money, grant application “seed” money, student stipends, access to students, and protected time during which you can engage in your research.

Speaker Recommendations

- Get a good mentor.
- Understand the promotion process.
- If you teach, do it well.
- If you see patients, do that well.
- Have a life outside the laboratory.
- Collaborate but have your own identity.
- Stay away from an organization’s “sharks.”
- Make sure you can publish your results.
- Understand the evaluation process and your supervisors’ expectations.
- Secure promises in writing because staff turnover is high and people forget or are unaware of another person’s promises.
- Be responsible to yourself. Protect your research time, particularly if you are on a tenure track, and avoid excessive patient care responsibilities.
- Be a good institutional citizen but do not feel obligated to serve on too many committees just because you are funded.
- Do a few things very well and manage your time wisely.

Balancing Personal and Professional Career Goals—Drs. Greg Florant and Lydia Aguilar-Bryan

Speakers’ Recommendations

- Have a strong network of collaborators.
- Involve postdoctoral students, medical students, and graduate students in your experiments and, where appropriate, delegate experiment-related tasks to them.
- Be willing to compromise.
- Set high goals, knowing you may only reach a few.

- Do what you know is right and learn to know yourself.
- Learn to say no and not feel guilty.
- Choose a good life partner with whom to share life's joys, decisions, and problems.
- Be organized, expect the unexpected, and do not dwell on the negatives.
- Be disciplined, focused, and flexible.

Strong Inferential Thinking in Your Research Program—Dr. Tim Bartness

Research scientists confront two problems: (1) determining the proper research problem to investigate and determining the best way to solve it and (2) finding that research idea or set of ideas that will serve as the basis to build your career and to obtain continuous research funding for your laboratory. Young scientists need to learn the best way to choose the research idea on which they can base at least the early part of their career.

Speaker Recommendations

- Do not attempt to choose a career-building research topic through fill-in-the-blank research, scientific curiosity, phenomenological studies, the undertaking of the same experiment as an earlier researcher, and advocacy or descriptive research.
- Base your studies on hypothesis-testing.
- Ask yourself the following questions:
 - Is the problem fundamental, basic, or important?
 - Is the study feasible given the constraints of time, money, and one's level of experience?
 - Is it fundable?
 - Do you or one of your colleagues possess the skills necessary to undertake the experiment?
 - Do your competition's resources dwarf those available to you?
 - Will the problem, once resolved, generate a new research area?
- Engage in problem-oriented research rather than technique-oriented research, that is, find the problem first and then develop the techniques to solve it.
- Undertake an issue with systemic study using strong inference, which involves developing as many hypotheses as you can think of and then testing each one, thereby eliminating all possibilities but one. There are four steps to the concept of strong inference: (1) devising alternative hypotheses, (2) devising the experiments for each one, (3) conducting the experiments to get one result, and (4) recycling the procedure.

Managing a Basic Science Laboratory—Dr. Susan Fried

No hard and fast rules exist about managing a basic science laboratory. Good management does not impede creative science.

Speaker Recommendations

Consider the following ideas when managing a basic science laboratory:

- Give good students and technicians some freedom of scientific action but provide oversight of their experiment-related tasks.

- Set the tone of the lab.
- Instill a strong work ethic.
- Be detail-oriented.
- Start small and increase slowly.
- Consider the composition of the laboratory—undergraduate students, graduate students, postdoctoral students, and/or physician fellows.
- Have a plan, be focused, be organized, and stay in touch with reality.
- Prepare data summaries and write down everything.
- Ask questions when in doubt.
- Decide the lab atmosphere—dress code, hours, office location.
- Devise the leadership style—highly structured, hierarchical, informal, or teach-by-example.
- Give a student an experiment proven to work and receive and provide feedback on it.

***Developing and Maintaining a Clinical Research Program: The GCRC and Beyond—
Drs. Janice Douglas and Charles Howell***

An example of a GCRC-supported study concerns racial disparities and treatment outcomes in chronic hepatitis C. GCRCs offer ambulatory or inpatient space and laboratory support and provide money to facilitate research. Seventy GCRCs exist in the country; although a few new ones have been established, most are competing renewals. GCRCs have various cores, including bioinformatics and genomics, that are not linked to a network. New grant mechanisms include K23 mentored awards. The National Center for Research Resources provides support and information on shared resources to relieve financial burdens.

Future Directions, Recommendations, and Closing Remarks—Drs. Lawrence Agodoa and Jackie Tanaka

- Encourage network participants who attend the October conference to meet separately.
- Collect lists of major meetings attended.
- Have access to an 800-number bridge for small group calls.
- Conduct strategic conference calls.
- Plan for one meeting per year.
- Recommend that each attendee submit a career summary.
- Include poster sessions at the next meeting.
- Begin to identify a mission, define the mission, and determine how it fits into the solution.
- Encourage senior investigators to review junior investigators' applications.
- If junior investigators submit specific aims to senior investigators, send them in advance.
- Learn techniques to negotiate startup packages at all levels.
- Recruit more senior mentors, but not all mentors need be minorities.
- Can the postgraduate and medical students who will attend the next minority investigators workshop be integrated with the existing meeting attendees?
- Suggest parallel sessions—one shared day and another day that is separate.
- Help identify postgraduate and medical students who might benefit from this network.
- Take advantage of the RFAs.

This meeting summary was written by James Libbey and Nancy Olins of MasiMax Resources, Inc.

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