

**DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH
NATIONAL CENTER FOR COMPLEMENTARY
AND INTEGRATIVE HEALTH**

**NATIONAL ADVISORY COUNCIL FOR COMPLEMENTARY
AND INTEGRATIVE HEALTH
MINUTES OF THE FIFTY-FIFTH MEETING
June 5, 2015**

NACCIH Members Present

Dr. Martin Blaser, New York, NY
Dr. David Borsook, Waltham, MA
Dr. Donald Brater, Indianapolis, IN
Dr. Alice Clark, University, MS
Dr. Stephen Ezeji-Okoye, Palo Alto, CA
Dr. Christine Goertz, Davenport, IA¹
Dr. Tracy Gaudet, Washington, DC
Dr. Jane Guiltinan, Seattle, WA
Dr. Scott Haldeman, Santa Ana, CA
Dr. Bin He, Minneapolis, MN²
Dr. Frances Henderson, Jackson, MS
Dr. Steven Hersch, Charleston, MA
Dr. David Kingston, Blacksburg, VA^{1,2}
Dr. Helene Langevin, Boston, MA
Dr. John Licciardone, Fort Worth, TX¹
Dr. Deborah Powell, Minneapolis, MN
Dr. Lynda Powell, Chicago, IL
Dr. Eric Schoomaker, Bethesda, MD
Dr. Reed Tuckson, Sandy Springs, GA
Dr. Chenchen Wang, Boston, MA

¹Telephone

²Ad-hoc

SPEAKER

Dr. Hannah Valentine, Bethesda, MD

NACCIH Members Not Present

Dr. Janice Kiecolt-Glaser, Columbus, OH
Dr. Richard Niemtzw, Alexandria, VA

NIH Staff Present

Peter Kozel, CSR, NIH
Barbara Sorkin, ODS, NIH
Dan Xi, NCI, CSR

Members of the Public

Kennita R. Carter

I. Closed Session

The first portion of the fifty-fifth meeting of the National Advisory Council for Complementary and Integrative Health (NACCIH) was closed to the public, in accordance with the provisions set forth in Sections 552b(c)(4) and 552b(c)(6), Title 5, U.S.C., and Section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2).

A total of 189 applications were assigned to the National Center for Complementary and Integrative Health (NCCIH). Of these, 98 were reviewed by NCCIH and 91 by the Center for Scientific Review. Applications that were noncompetitive or not discussed, or were not recommended for further consideration by the scientific review groups, were not considered by Council.

Council agreed with staff recommendations on 106 applications and voted to concur with IRG on 105 applications requesting \$78,509,980 in total costs.

II. Open Session—Call to Order

The open session convened at 10:25 a.m. Dr. Martin Goldrosen, NACCIH Executive Secretary, called the meeting to order. The minutes of the February 2015 NACCIH meeting were approved unanimously.

III. NCCIH Director's Welcome and Report to Council

NCCIH Director Dr. Josephine Briggs explained that the past few months have been a very busy period. Valuable meetings were held with Senate and House staff to ensure that key members of Congress are aware of NCCIH's portfolio. House and Senate subcommittees held hearings on National Institutes of Health (NIH) fiscal year (FY) 2016 funding, and there is support for some growth in the NIH budget. The NCCIH budget currently accounts for 0.4 percent of the total NIH budget. This may seem small, but it represents the largest Government investment in the world in complementary health research.

Dr. Briggs welcomed two new program directors, Dr. Eve Reider and Dr. Wen Chen, to the Division of Extramural Research. Dr. Reider will lead the military/veterans initiative and oversee the prevention/health promotion portfolio. Dr. Chen will oversee the neurobiology and integrative physiology portfolio.

NIH Director Dr. Francis Collins has asked Dr. Briggs to participate in the development of the President's Precision Medicine Initiative by co-chairing a subcommittee on the use of electronic health records (EHRs). Precision medicine involves tailoring interventions to the characteristics of the patient, thus allowing both prevention and treatment to be targeted to those who will benefit most. The Precision Medicine Initiative will comprise two programs: (1) an intensified effort to apply precision medicine to cancer and (2) a very large study in which a million

volunteers will share their genomic data, EHR data, lifestyle information, and data collected with biosensors, and all of this information will be related to the individuals' health outcomes. The results of this research could create a scientific foundation for precision medicine for many diseases, but there are numerous challenges in getting the initiative under way.

In connection with the release of new National Health Interview Survey (NHIS) data on Americans' use of complementary health approaches, NCCIH held two webinars for journalists in cooperation with the Centers for Disease Control and Prevention, launched a microsite within the NCCIH Web site summarizing the new findings, and created graphics for social media outreach. The NHIS findings, which come from a survey supplement administered every 5 years, are highly relevant to NCCIH's strategic planning because the public's use of complementary health approaches is one of the factors that influences NCCIH's research priorities.

Dr. Briggs noted that issues related to the regulation and safety of dietary supplements and homeopathic remedies have recently been in the news. Although regulation of these products is the responsibility of the Food and Drug Administration, NCCIH gets calls from the news media when issues arise and works with journalists to help them get access to reliable information. The FDA is currently reevaluating the regulation of homeopathic products. If the agency decides to make regulatory changes, legal challenges are likely. NCCIH expects to participate in the discussion of this controversial topic.

IV. Update on NCCIH's 2016 Strategic Plan

Dr. Karin Lohman, Director of the Office of Policy, Planning, and Evaluation (OPPE), and other NCCIH staff members reported on progress made in the development of the 2016 Strategic Plan since the last Council meeting.

Dr. Lohman told Council that NCCIH has continued to assess the research portfolio and the progress made since the issuance of the previous Strategic Plan in 2011. In addition, NCCIH solicited stakeholder input through a Request For Information (RFI) and continued to explore special interest topics and plan next steps. Input from Council members has been solicited throughout this process and is greatly appreciated. NCCIH has also been working on developing a strategic framework for the 2016 plan, which will be discussed at the October Council meeting.

Ms. Cindy Caughman, scientific program analyst in the OPPE, presented a preliminary overview of the input obtained through the RFI. One hundred responses were received, 77 from individuals and 23 from groups. Most were very thoughtful and constructive. Responses were wide ranging, covering the entire research continuum from basic to clinical research and mentioning more than 50 complementary health approaches, 40 health conditions, and 20 population groups. The majority of responses pertained to modifying current plan goals. Respondents suggested emphasis on a variety of research areas and needs, such as developing methods for assessing the quality and efficacy of natural products; developing objective, clinically relevant outcome measures for complementary health interventions; performing translational research and meta-analyses; and maintaining and supporting mechanisms for research training and career development.

Discussion. In discussion, Dr. Tracy Gaudet recommended that NCCIH overtly connect with precision medicine research. Because efforts to promote individual health often involve integrative approaches, there is a tremendous opportunity to link NCCIH's work to changes in medical practice. Dr. David Borsook recommended that NCCIH support comparative effectiveness research on biobehavioral approaches for pain, including consideration of the differences between responders and nonresponders to various forms of treatment. Dr. Lynda Powell advocated for comparative effectiveness studies that compare the therapies under investigation with current clinical practice. Dr. Reed Tuckson pointed out the importance of collecting data in the real-world clinical environment and making it available in forms that three key constituencies—clinicians, employers, and health plans—can use. Dr. Donald Brater asked whether research on how to accurately measure symptoms and validate instruments for symptom measurement would be a suitable area of emphasis for NCCIH. Dr. Briggs explained that NCCIH led the development of the Patient-Reported Outcomes Measurement Information System (PROMIS) and therefore has some history in this area.

Dr. Stephen Ezeji-Okoye suggested that NCCIH investigate the real-world use of natural products, including special diets such as the Mediterranean diet, and the cultural and sociological factors that may influence their efficacy. Dr. Jane Guiltinan recommended that NCCIH become involved in new developments in genomic medicine and microbiome sequencing as well as precision medicine. She also supported NCCIH's continued involvement in training of researchers from the complementary health professions. Dr. Scott Haldeman suggested focusing on integration not just of treatments but of diseases. People with one condition are at increased risk of developing others, and the same risk factors influence multiple diseases. There is a need to move the paradigm for clinical care from a one treatment/one disease approach to a truly integrated one.

Special Interest Working Groups. NCCIH staff reported on the activities of five working groups that are exploring topics of special interest in connection with development of the new Strategic Plan.

- **Network Pharmacology and Natural Products.** Dr. Craig Hopp, program director, explained that this working group seeks to approach research on natural products comprehensively, rather than using a traditional pharmaceutical model that involves identification of a single active ingredient. Since the last Council meeting, the group has broadened its topic beyond inflammatory pain, met with counterparts at the National Institute of General Medical Sciences (NIGMS) who have overlapping interests, and discussed the topic with several Council members. A webinar is planned for late 2015.
- **Probiotics and Microbiome.** Microbiome science suggests that probiotic and prebiotic modulation of the gut microbiota may affect nervous system conditions. Dr. Linda Duffy, program director, explained that NCCIH is interested in finding out how microbes enhance communication with the central nervous system and influence brain function and behavior. Two current trans-NIH funding opportunity announcements (FOAs) and two NCCIH FOAs relate to this area of research. The working group will be seeking additional expertise from Council members and at national and international conferences and forums.

- **Workplace and Community Delivered Wellness Programs.** This working group is exploring whether and how NCCIH could make an impact by supporting research to evaluate the inclusion of complementary or integrative approaches into workplace or community-delivered wellness programs. Dr. Wendy Weber, branch chief, pointed out that integrative approaches are already being incorporated into many programs of this type, but this may be a response to their popularity rather than to the scientific evidence base. One-on-one interviews have been conducted with several interested Council members, and the next step is to establish a Council advisory committee, similar to the recent one on pain management in military personnel and veterans, to work with stakeholders to explore this complex topic.
- **Collaborative Efforts To Address Pain and Symptom Management in U.S. Military Personnel and Veterans Program.** In response to the recommendations made by a Council working group and approved by Council in February 2015, NCCIH is moving forward in developing a large-scale initiative on pain and symptom management in military personnel and veterans. Dr. Eve Reider, program director, explained that the first step is engaging stakeholders within the Department of Defense (DoD), the Department of Veterans Affairs (VA), and NIH. After that, a Government Steering Committee will be convened to determine the structure of the initiative, and a joint initiative will be developed. It is expected that an FOA will be released in FY 2016 and that funding of the initiative will begin in FY 2017. In response to a Council member's question, Dr. Reider clarified that families and caregivers are important stakeholders who will be integrated into the initiative.
- **Science Communications.** Ms. Alyssa Cotler, director of the Office of Communications and Public Liaison, explained that the goal of this initiative is to plan and implement an effort to educate consumers about the importance of understanding biomedical research so that they may make informed, evidence-based decisions about their health. An environmental scan of available materials showed that NIH currently has few science literacy resources suited for a consumer audience. Interviews have been conducted with NIH science communicators, including the NIH Associate Director of Communications, to gauge interest and ensure coordination among Institutes and Centers. The next step is to form a working group, including Council members, to identify suitable topics, develop content, choose appropriate platforms and formats for content delivery, and evaluate the new materials both before and after their launch.

Discussion. In discussion, Council members drew attention to the potential for synergism between the network pharmacology and probiotics initiatives and between the workplace wellness and communications initiatives. Dr. Deborah Powell recommended considering precision communications targeted to specific groups, including mainstream health care providers who may be unfamiliar with complementary health research and corporate leaders who are alarmed about the cost of employee health care. Dr. Briggs and several Council members agreed that the health care workplace might be an appropriate setting for research on evidence-based integrative wellness programs. Dr. Eric Schoomaker commended NCCIH for its work on the military/veterans initiative, which has been helpful to both the DoD and the VA.

V. NIH Transformative Strategies for Enhancing Scientific Workforce Diversity

Dr. Hannah Valentine, NIH's Chief Officer for Scientific Workforce Diversity, outlined the strategies NIH is using to reduce gender and racial disparities in both the intramural research program and the NIH-funded workforce. Diversity is not just a matter of fairness, Dr. Valentine explained. It is also essential for good science. Research has shown that a diverse team is more likely than a homogenous one to develop excellent, creative, innovative solutions to complex problems.

Currently, the proportions of women and members of underrepresented minority groups are much higher among scientists in the early stages of their careers than among those in more senior roles. Therefore, it is crucial to address factors that limit career advancement as well as those that limit recruitment. Other key action areas include targeted searches to identify appropriate candidates for research positions, leadership training and professional development for early-career scientists, and interventions to overcome unconscious biases that might make scientific workplaces uncomfortable for women or members of underrepresented minority groups.

The creation of the position Dr. Valentine now holds is one part of a transformative diversity initiative recommended by the Advisory Council to the NIH Director. The overall initiative involves coordinating diversity programs across NIH, taking advantage of the intramural research program as a laboratory for testing interventions to diversify the biomedical workforce, rigorously evaluating all NIH diversity programs, and ensuring that lessons learned are broadly shared. A variety of diversity programs are now in progress, and a national comprehensive plan to minimize barriers to career advancement is being developed.

Discussion. In response to a question from Dr. Borsook, Dr. Valentine explained that diversity is actually greater in biomedical research than in some other career fields. However, equity has not been achieved, especially at the leadership level. Dr. Gaudet pointed out that some women in biomedical science make personal choices not to seek leadership positions in their fields. Dr. Valentine replied that these choices may be framed by the environments and cultures in which they work and that cultural changes might prompt them to make different choices. Dr. Brater noted that efforts to attract young people from underrepresented groups need to start well before the college years. Dr. Ezeji-Okoye agreed, pointing out that young people need to have appropriate opportunities at formative ages. Dr. Alice Clark said that it is important to conduct research to understand the basis for career decisions and to find out how people who progress through the scientific career pipeline differ from those who do not.

VI. Prevention of Cardiometabolic Diseases in Women Traversing the Menopause: From Epidemiology to Intervention

Dr. Lynda Powell presented a summary of her research group's studies on reducing cardiovascular risk in midlife women, with an emphasis on lessons learned that may be applicable to NCCIH-sponsored research on intervention development.

Although young women have much less coronary artery occlusion than men of the same ages, a dramatic increase in occlusion occurs in women during the menopausal years, and by age 60, the extent of coronary artery disease is similar in both sexes. Epidemiologic research has shown that

visceral fat increases during the menopausal years, and it has been hypothesized that this increase is responsible for the midlife rise in women's risk of cardiometabolic diseases. Epidemiologic research has also shown that, in addition to changing reproductive hormones, excess calories, a sedentary lifestyle, and chronic stress all contribute to visceral fat accumulation.

Dr. Powell and her colleagues developed a behavioral intervention designed to decrease visceral fat accumulation in midlife women and identified a target community on Chicago's South Side in which to test it. However, they did not move directly from the epidemiologic evidence to a large-scale efficacy trial. Instead, following a model similar to NCCIH's framework for developing and testing mind and body interventions, they went through a progressive set of steps to define, refine, and conduct proof-of-concept testing of their proposed intervention. Their model allows for several interim stages during which the investigators can test options and tweak an intervention before conducting a large-scale controlled study.

The intervention, which includes components targeting physical activity, caloric intake, and stress reduction, is currently undergoing proof-of-concept testing with a small number of participants in the target community. Preliminary results based upon waist circumference, a surrogate measure for CT-assessed visceral fat indicate that it may be effective. If final results, due later this year, indicate that the intervention was successful on slowing the menopause-related progression of visceral fat, a randomized trial involving a much larger number of women will then be conducted.

Dr. Powell noted that team science was essential to the multistage process of developing and refining the new intervention. She urged that NIH consider more funding for step-by-step intervention development using models that allow researchers to think through an intervention, to try things and fail, and to move forward constructively after failures, always pushing toward achieving a clinically significant target on the desired outcome.

Discussion. Council members expressed agreement with the ideas Dr. Powell had presented about the value of failure and the need for short, small-scale studies of behavioral interventions before proceeding to a large, long-term clinical trial. Dr. Briggs noted that the model Dr. Powell presented is consistent with NCCIH's framework for developing and testing mind and body interventions. Dr. Powell clarified that she prefers an intent-to-treat analysis for behavioral interventions because it is the most rigorous way to preserve the equality of groups after randomization. However, presenting results on secondary responders helps to clarify exact pattern of results. Dr. Chenchen Wang pointed out that the underlying science may change during long-term clinical trials and that therefore trials may need to be augmented with additional investigations in emerging areas to keep them relevant. In response to questions, Dr. Powell explained that the increase in visceral fat at menopause does not seem to vary based upon cultural differences and that the techniques for promoting behavior change that were used in her study were treated as distinct because each was found to have empirical support for their value in early developmental studies. However, whether all or a subset of these approaches would achieve benefit is unclear without seeing the final results which will include a components analysis.

VII. Update of NCCIH's Intramural Research Program

Dr. Catherine Bushnell, Scientific Director in the Division of Intramural Research (DIR), presented an update on the intramural program's progress during the past year. The year 2014-2015 has been a period of consolidation, during which the DIR's three tenure-track investigators—Dr. Lauren Atlas, Dr. Yarimar Carrasquillo, and Dr. Alexander Chesler—built up their laboratories and began new human and animal protocols on various aspects of brain function and pain. Dr. Brian Walitt joined the program on a half-time basis as director of clinical research, and a second biologist has been hired for the basic research program.

To help enhance the group's visibility, Dr. Bushnell accepted many invitations to speak to societies interested in pain research during the past year. The tenure-track investigators have also been involved in outreach activities. For example, Dr. Atlas was appointed social media chair of the Social and Affective Neuroscience Society, and Dr. Carrasquillo has served as a panelist on career development for women and members of minority groups. DIR staff have received several NIH awards, including an NIH Director's Award to Dr. Bushnell for exceptional vision and leadership in building a new intramural pain research program.

Dr. Bushnell summarized the actions taken in response to four recommendations of the 2014 review committee.

- In response to a recommendation that a formal mentoring program be developed for the tenure-track investigators, mentorship committees have been established to give each of the investigators access to guidance from experienced leaders in their fields.
- In response to a recommendation to consider investigating the similarities and differences between rodent and human brain pain circuitry, monthly DIR meetings and many informal meetings between basic and clinical scientists have addressed this topic.
- In response to a recommendation to craft a set of messages about the intramural research program and share those messages consistently, the DIR is working with NCCIH's communications team to enhance the Web site to better disseminate the program's messages.
- In response to a recommendation that the program take a leadership role in the trans-NIH pain research community, DIR researchers have organized and are chairing two trans-NIH special interest groups, one on pain and one on mind and body medicine, both of which are sponsoring ongoing seminar series. Members of the DIR have also become more actively involved in the NIH Pain Consortium and are participating in individual collaborations with other pain researchers from across NIH.

Next steps for the DIR will include addition of an experienced clinician-scientist to the team, increased interactions with other Institutes and Centers and with Clinical Center programs, such as the program on palliative care, and collaborations within and outside NIH to maximize the impact of this small program. Efforts are also being made to obtain more Clinical Center space for the program, which is currently operating under crowded conditions.

Discussion. Dr. Lynda Powell commented on the importance of cross-talk between basic and applied science and asked whether the DIR is involved in interactions with researchers who are testing interventions to alleviate pain. Dr. Bushnell said that the DIR is not conducting intervention studies but that she and members of her team are communicating with individual scientists who are performing this type of research. Dr. Powell suggested that it could be valuable for NCCIH to sponsor a conference on pain where researchers who are doing applied work would have an opportunity to hear about the latest developments in basic science.

VIII. Public Comment and Adjournment

No public comments were offered.

The meeting was adjourned at 3:25 p.m.

We hereby certify that, to the best of our knowledge, the foregoing minutes are accurate and complete.

Martin Goldrosen, Ph.D.
Executive Secretary
National Advisory Council for
Complementary and Integrative
Health

Josephine Briggs, M.D.
Chairperson
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