DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH
NATIONAL CENTER FOR COMPLEMENTARY
AND ALTERNATIVE MEDICINE

NATIONAL ADVISORY COUNCIL FOR COMPLEMENTARY AND ALTERNATIVE MEDICINE
MINUTES OF THE TWENTY-FIRST MEETING
September 9, 2005

NACCAM Members Present
Dr. Carlo Calabrese, Portland, OR
*Dr. Yung-chi Cheng, New Haven, CT
*Dr. Silvia Corvera, Worcester, MA
Dr. Gerald Cross, Washington, DC
Dr. Jonathan Davidson, Durham, NC
Dr. Jeanette Ezzo, Takoma Park, MD
Dr. Robert E. Fullilove, New York, NY
Dr. Murray Goldstein, Washington, DC
Dr. Leslie Hillis, Dallas, TX
Dr. Michael Irwin, Los Angeles, CA
*Dr. Erica James, Cambridge, MA
*Dr. David Kingston, Blacksburg, VA
Dr. Bala Manyam, Temple, TX
COL Richard Niemtzow, Clinton, MD
Dr. Joel Pickar, Davenport, IA
*Dr. Don Powell, Galveston TX
*Dr. John Sheridan, Columbus, OH
Dr. Stefanie N. Vogel, Baltimore, MD

*Ad hoc members

NACCAM Members via Conference Call
Dr. Tieraona Low Dog, Albuquerque, NM
*Dr. Ben Greenbaum, Kenosha, WI

NACCAM Members Absent
Dr. Zang-Hee Cho, Irvine, CA
Dr. Deborah J. Cotton, West Roxbury, MA
Dr. Alan I. Leshner, Washington, DC
Dr. Larry Walker, University, MS

NIH Staff Present

National Center for Complementary and Alternative Medicine

Ms. Willer Batten
Dr. Dale Birkle
Mr. Yancy Bodenstein
Ms. Shea Buckman
Ms. Debra Campbell
Mr. Craig Carlson
Mr. Steve Casady
Dr. Margaret Chesney, Deputy Director
Ms. Alyssa Cotler
Dr. Laurie Donze
Ms. Linda Engel
Ms. Carol Fitzpatrick
Ms. Anne Frost
Ms. Mary Gregg
Ms. Camille Hoover
Dr. Jeanette Hosseini
Dr. Morgan Jackson
Ms. Deborah Jennings
Dr. Laura Johnson
Mr. Roald Keith
Dr. Jack Killen
Dr. Jane Kinsel
Ms. Robin Klevins
Dr. Peter Kozel
Ms. Catherine Law
Dr. Qi-Ying Liu
Dr. Patrick Mansky
Dr. Heather Miller
Ms. Ilze Mohseni
Dr. Richard Nahin
Dr. Nancy Pearson
Dr. Carol Pontzer
Ms. Linda Rich
Ms. Jeanie Robinson
Ms. Denise Simmonds-Barnes
Dr. Catherine Stoney
Ms. Jennifer Sutton
Ms. Chris Thomsen
Mr. George Tucker
Ms. Shirley Villone
Dr. Shan Wong
Ms. Angie Wongsam-Nollinger

Other NIH Employees

Dr. Paul Coats, Office of Dietary Supplements
Dr. Wendy Smith, National Cancer Institute
Dr. Christine Swanson, Office of Dietary Supplements
Mr. Phil Tonkins, National Cancer Institute

Members of the Public

Ms. Pat Aspen
Ms. Janet Choy
Dr. Christine Goertz
Dr. Aviad Haramati
Ms. Hope Kellman
Mr. Michael Lumpkin
Ms. Suzanne Niemeyer
Ms. Deirdve O'Brien
Ms. Michelle Rodrigues
Dr. Albert Sanchez (public speaker)
Mr. Roxana Scienz
Ms. Tamara Thompson-Johnson
Ms. Simon Weavers
Ms. Joan Wilentz

I. Closed Session

The first portion of the 21st meeting of the National Advisory Council for Complementary and Alternative Medicine (NACCAM) 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).

The National Center for Complementary and Alternative Medicine (NCCAM) was assigned 242 applications, of which it reviewed 174 applications; the Center for Scientific Review reviewed the remaining 68. Council did not consider applications that were noncompetitive, unscored, or were not recommended for further consideration by the scientific review groups. Council agreed with staff recommendations on 14 applications and concurred on 154, requesting $44,630,486 in total costs.

II. Open Session—Call to Order

The open session of the NACCAM meeting convened at 1:35 p.m. Dr. Jane F. Kinsel, NACCAM Executive Secretary, called the meeting to order. Minutes from the Council meeting on June 3, 2005, were unanimously approved, with no votes against and no abstentions. Dr. Kinsel reminded Council of the next meeting, scheduled for February 3, 2006.

Dr. Kinsel also announced a public comment session at the end of the open session of this meeting and invited those interested in speaking to sign up.

Dr. Kinsel introduced Dr. Margaret Chesney, Director of the Division of Extramural Research and Training and Deputy Director of NCCAM.

Dr. Murray Goldstein moved that Council members forward a message to Dr. Stephen E. Straus, Director of NCCAM, expressing their best wishes and anticipating his return to Council. The motion was approved unanimously.

III. Director's Remarks

As designated Acting Chair of the open session of Council, Dr. Chesney presented remarks on behalf of Dr. Straus. She introduced the ad hoc members of Council: Dr. Yung-Chi Chen, Dr. Silvia Corvera, Dr. Erica James, Dr. David Kingston, Dr. Don Powell, Dr. John Sheridan, and Dr. Ben Greenbaum, who joined the meeting by telephone.

Dr. Chesney updated Council on NCCAM's appropriations and budget. She noted that the fiscal year (FY) 2005 Federal budget allocated $123.1 million for NCCAM. After rescissions and other reductions, NCCAM's net budget was $121.3 million. The President's FY 2006 budget request includes $122.7 million for NCCAM; Congress will determine final appropriations.

Dr. Chesney also discussed the Agency for Healthcare Research and Quality (AHRQ) report, *Effects of Soy on Health Outcomes*. This NCCAM-funded report found that although soy lowers blood lipids (low-density lipoprotein [LDL] and total cholesterol) and triglycerides, it does not consistently lower high-density lipoprotein (HDL). Research

findings on soy's impact on menopausal symptoms were inconclusive. The report also indicated that most studies in the scientific literature use soy products that differ in their constituents; moreover, many studies are nonrandomized and unblinded, have small populations, are of short duration, and have inconsistent outcome measures. Stating that better outcome measures are needed to evaluate the effects of soy, Dr. Chesney mentioned a 5-year NCCAM-funded study "Phytoestrogens and Progression of Atherosclerosis," which is using a well-defined, well-characterized soy product.

In her concluding remarks, Dr. Chesney stated that NCCAM is pleased to have participated again this year in the National Institutes of Health (NIH) Loan Repayment Program. In FY 2005, NCCAM funded eight applicants through this program, three of whom hold CAM degrees.

IV. Integrating Psychology, Neuroscience, and Physiological Mechanisms: A New Framework Applied to Asthma and Atherosclerosis

Dr. Chesney introduced Dr. Catherine Stoney, NCCAM program officer, who presented a summary of a meeting, "Integrating Mechanisms Linking Mind, Brain, and Periphery: Applications in Asthma and Atherosclerosis," held July 6-8, 2005, on the NIH campus. Dr. Stoney emphasized that the meeting's goals meshed with those of NCCAM's strategic plan. She discussed areas of special interest to NCCAM, including investigations of cardiovascular diseases; respiratory diseases, including asthma; and mechanisms of action underlying mind-body CAM approaches.

Dr. Stoney reviewed NCCAM's strategic plan goals related to mind-body medicine:

- To investigate the value of CAM therapies to reduce the burden of stress-related chronic illnesses (therapies that might reverse chronic conditions).
- To develop tools to measure variables among individuals that are key to understanding relationships between mind-body interventions and health outcomes.
- To standardize protocols for brain imaging to compare results across populations and across interventions and studies.
- To establish truly transdisciplinary and interdisciplinary teams.

The conference, Dr. Stoney explained, focused on asthma and atherosclerosis because NCCAM has identified them as areas of special interest to NCCAM in that: they share some underlying pathophysiological factors, and both are chronic diseases that are significantly impacted by stress. NCCAM's conference co-partners included the National Institute on Aging; the National Heart, Lung, and Blood Institute; the National Institute of Mental Health; the National Cancer Institute; the National Institute of Child Health and Human Development; and the Office of Behavioral and Social Sciences Research.

Dr. Stoney stated that the attendees sought to develop an integrated conceptual model linking the brain to peripheral target organs. A working model had been developed before the meeting for presenter and participant review and modification. The working model was used as a guidepost and as a tool to identify gaps.

Attendees participated in three breakout panels: two on asthma and one on atherosclerotic disease. The panels were asked to identify gaps in our knowledge of these diseases and indicate where the best science is in addressing both diseases. The breakout panels were asked to consider the following needs:

- To understand more about the underlying neural basis for the inflammatory processes that play a central role in atherosclerotic disease, asthma, and other chronic conditions.

- To better understand the positive affective states in these chronic disease conditions that may offer protective mechanisms. What are they? How do they operate centrally? What are the neural pathways from the brain to the periphery?

Major themes that emerged from the two asthma panels included:

- Which psychological traits are most closely linked to asthma? Imaging tools and brain centers of investigation will be influenced by the choice of trait for investigation.

- Which psychological states—including anxiety, situational context, life effects, and positive psychological states—influence acute asthma attacks?

- How can we better use innovative measurement technologies, such as experience sampling, to examine factors that might precede asthma attacks?

Major themes from the atherosclerosis panel discussion included:

- How can we better understand gene environment interactions in the context of atherosclerosis?

- How can we model neural systems and peripheral systems to understand more about inflammation and acute ischemia, as well as the progression of atherosclerotic disease?

- Are there more innovative measurement techniques for examining dynamic, nonlinear interactions? How can we stimulate investigators to be sensitive to and to examine these interactions?

A subset of conference attendees is developing a paper for audiences interested in asthma and atherosclerosis, as well as a broader overview for an integrative audience. Dr. Stoney stated that she would inform Council of their progress.

In her closing remarks, Dr. Stoney reiterated how the goals of the conference relate to NCCAM's strategic plan. Understanding the basic relationships between psychology, neuroscience, and physiological mechanisms is critical to developing the most effective CAM therapies for asthma, atherosclerosis, and other conditions. To create the most effective interventions, researchers need to understand how mind-body modalities work.

V. The Biology of Manual Therapies: Conference Report and Concept Proposal

Conference Report

Dr. Chesney introduced Dr. Richard Nahin, who presented a report on the "Conference on the Biology of Manual Therapies," held June 8-10, 2005, on the NIH campus. Four NIH institutes joined NCCAM in co-sponsoring this event (the National Institute of Neurological Disorders and Stroke, National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institute of Child Health and Human Development, National Institute of Biomedical Imaging and Bioengineering), as did two Canadian Institutes of

Health Research entities (the International Relations Branch Institute of Musculoskeletal Health and Arthritis and Institute of Neurosciences, Mental Health, and Addiction).

Dr. Nahin reviewed the rationale for the conference, including the public's widespread use of and spending on manual therapies. An additional catalyst was that although preliminary studies exploring mechanisms of action of manual therapies are promising, their exact mechanisms of action are unknown. Further, NCCAM's strategic plan working group on manipulative and body-based practices had recommended that mechanisms of action of manual therapies be elucidated, and an NIH state-of-the-science conference on manual therapies had not been held for 30 years.

With conference organizers aware that limited data directly relates to the underlying biology of manual therapies, the planning committee, which included Council member Dr. Joel Pickar and CAM and conventional medicine representatives, sought to explore the biology underlying manual therapies in the context of five core fields of science: biomechanics, endocrinology, imaging, immunology, and neuroscience.

Dr. Nahin said that participants were asked to identify the three to five most critical research questions (or needs) to help advance understanding of the biology of manual therapies. With this question as a framework, the didactic sessions established a baseline of knowledge for the breakout groups. The groups, in turn, identified the most critical research questions (or needs) to help understand the biology underlying manual therapies and developed a set of recommendations/research questions. Experts from outside the field of manual therapies contributed new findings, new research methodologies, and innovative technologies that could help understand the biology of manual therapies.

Concept Proposal

Dr. Nahin then introduced a concept for a program announcement for the biology of manual therapies to address recommendations emanating from the conference and the goals and objectives outlined in NCCAM's strategic plan.

The program announcement will encourage basic research and animal model studies to explore the mechanisms of action underlying manual therapies, although it will not preclude mechanistic studies in humans. The focus will be on the biomechanical, immunological, endocrinological, and/or neurophysiological consequences of manual therapies.

The solicited research is expected to:

- Measure physiological changes resulting from manual therapies.
- Characterize the biomechanics of manual therapies.
- Characterize the biomechanics of normal and pathologic joint and muscle and the impact of manual therapies on these tissues.
- Develop animal and *in vitro* models for studying mechanisms underlying manual therapies.

- Develop new technologies to study the biomechanics of manual therapies in real time (for example, use of magnetic resonance imaging to monitor real-time changes in brain and muscle function during the application of manual therapy).

Council discussed the potential benefits of international cooperation in this effort. Strategies to enhance the involvement of the international community include distributing the CD-ROM of conference materials to international organizations and encouraging the development of other initiatives.

Council unanimously approved the concept for the program announcement. Dr. Chesney noted Council's comments on training, the potential international aspect, and the addition of "Clinical Outcomes" in the announcement title.

VI. Concept Proposals

Mechanisms of Immune Enhancement

Dr. Chesney introduced Dr. Carol Pontzer, NCCAM program officer, to discuss a concept for an initiative to solicit research projects on mechanisms of immune enhancement. Dr. Pontzer noted that this project concept flows directly from priorities stressed in NCCAM's strategic plan and is intended to elicit mechanistic studies of CAM modalities that are believed to enhance immune function. It is open to the study of multiple CAM modalities held to augment immune resistance to infectious diseases.

The concept encourages studies that would use animal models and state-of-the-art methodologies. This approach is expected to provide NCCAM with a higher likelihood of identifying efficacious practices and facilitating translation of these practices.

Objectives of the initiative are to:

- Stimulate research on immune effects of, and especially enhancement by, CAM modalities.
- Define the mechanisms responsible for CAM approaches that demonstrate immunomodulatory activity.
- Emphasize application of advanced technologies available for studies of immune function that are currently underutilized in NCCAM-funded work.
- Recruit established investigators in basic and clinical immunology to CAM research.

In response to a question from Council, Dr. Chesney reviewed NCCAM's processes for identifying high-priority research areas. She explained that in January or February of each year, NCCAM reviews its research portfolio and identifies priorities as well as areas to be "paused." Areas subject to a short-term "pause" in funding are those that have already received substantial NCCAM resources and that need to generate research results before future directions can be determined. Staff noted that "paused" research areas are listed on NCCAM's Web site, with clinical trials of soy cited as an example. Once priority and "paused" areas are identified, Dr. Chesney explained, initiatives are further reviewed before being presented to Council.

Responding to a question on balancing the funding of new research with the existing portfolio, Dr. Chesney noted that the concepts are intended for initiatives to be funded with FY 2007 appropriations. Applications submitted in response to any of the initiatives presented today, she explained, would undergo peer review and come to Council for review.

Council unanimously approved Dr. Pontzer's concept, revising the title to include the phrase, "immune modulation" and modifying the concept description to address both immune augmentation and immune modulation.

CAM Research Centers

Dr. Chesney provided an update on NCCAM's CAM research centers program, noting that NCCAM has funded five Centers of Excellence for Research on CAM (CERCs) and five Developmental Centers for Research on CAM (DCRCs). Council reviewed the final round of CERC and DCRC applications during its closed session, with awards to be finalized in the next few weeks.

Because of the DCRC program's importance in building research capacity at CAM institutions, NCCAM reviewed its workings earlier this year, by:

- Re-examining successful and unsuccessful grant applications and summary statements.
- Reviewing progress reports for funded DCRCs.
- Conducting open-ended interviews with senior officials at CAM institutions that were unsuccessful DCRC applicants or that did not apply.

Results of this review suggested a continuing need for infrastructure development in CAM institutions. Interviews with officials at CAM institutions indicated that many were in the very early stages of developing research capacity. For example, CAM institutions often lack internal review committees, grants management offices, and specialized laboratories and animal facilities. Some CAM institution administrators indicated that they would welcome further advice and assistance in infrastructure development from conventional institutions.

Dr. Chesney also observed that CAM institutions are generally small and have limited efforts in research. Some may have expertise in several research areas but not enough depth in any one area to support a DCRC with a thematic focus. She also noted that productive scientific partnerships such as those essential for the DCRC program require ample time to develop.

Ultimately, Dr. Chesney said, NCCAM's internal review suggested that the DCRC program would be enhanced by:

- More guidance for developing productive collaborations.
- More emphasis on building research capacity and infrastructure in CAM institutions.

Concept Proposals

Following her update, Dr. Chesney presented NCCAM's concept proposals for a staged approach to research center development, in which DCRCs would progress from Phase I to Phase II centers. Investigators involved in a Phase II DCRC would be expected to subsequently advance to independent R21 and R01 awards and perhaps eventually compete for CERC funding. Dr. Chesney presented the following concept proposals based on this model:

- Developmental Centers for Research on CAM (DCRC)—Phase I
- Developmental Centers for Research on CAM (DCRC)—Phase II
- Centers of Excellence for Research on CAM (CERC)

Developmental Centers for Research on CAM (DCRC)—Phase I

Phase I DCRC funding would provide CAM institutions and their partners with developmental center awards for an initial year of planning and, contingent on review, support for 3 additional years of funding for developmental research. The required end-of-year review would include a site visit to assess infrastructure development and provide feedback to the participating institutions. The three research projects that the institutions would be required to propose in their applications would not need to constitute an integrated research theme; institutions could explore one, two, or perhaps three distinct areas in their research projects.

Developmental Centers for Research on CAM (DCRC)—Phase II

Under this initiative, existing DCRCs could apply for Phase II status, which would:

- Help address continuing needs for infrastructure development.
- Support at least one R01-type project and two smaller projects organized around a specific CAM research theme.
- Provide 4 years of funding.

Centers of Excellence for Research on CAM (CERC)

Dr. Chesney next discussed the CERC program, noting that under the new concept proposal, it would continue to:

- Provide 5 years of funding for teams of accomplished investigators.
- Support three or four R01-type research projects focused around a central scientific theme.
- Emphasize research on the mechanisms of action of CAM.

In conclusion, Dr. Chesney noted that with this plan NCCAM expects to maintain its commitment to research centers, offer a menu of progressive options for funding, and

continue NCCAM's missions of fostering the development of research capacity at CAM institutions and encouraging conventional institutions to focus on CAM research.

Discussion of Concept Proposals

In response to a comment from Council, Dr. Chesney indicated that collaborating institutions could decide which one would take the lead in a DCRC, but that NCCAM would suggest that the conventional institution partner generally perform that role. Conventional institutions play the lead role in several of DCRCs, she said, with positive results.

In another response to Council, Drs. Chesney and Nahin noted that the planning year for DCRCs would allow time for the participating CAM institutions to get the necessary building blocks in place, such as operations manuals, laboratories, and Institutional Review Board approvals.

Council unanimously approved the concepts.

VII. Public Comment Session

Dr. Kinsel introduced Dr. Albert Sanchez, from the Foundation for Advancement in Cancer Research, who spoke to Council about Poly-MVA (Palladium Lipoic Complex). Dr. Chesney thanked Dr. Sanchez for his comments to Council.

VIII. Adjournment

As no additional questions or comments were received from the public, Dr. Chesney adjourned the meeting at 4:25 p.m.

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

Richard Nahin, Ph.D., M.P.H.
Executive Secretary
National Advisory Council for Complementary and Alternative Medicine

Margaret Chesney, Ph.D.
Acting Chair
National Advisory Council for Complementary and Alternative Medicine