NATIONAL INSTITUTES OF HEALTH

NATIONAL INSTITUTE ON AGING

Summary Minutes

The Seventy-Seventh Meeting

NATIONAL ADVISORY COUNCIL ON AGING

May 27-28, 1999

National Institutes of Health
Building 31, Conference Room 6
Bethesda, Maryland 20892

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Department of Health and Human Services
Public Health Service
National Institutes of Health
National Institute on Aging

NATIONAL ADVISORY COUNCIL ON AGING
SUMMARY MINUTES
May 27-28, 1999

The 77th meeting of the National Advisory Council on Aging (NACA) was convened on Thursday, May 27, at 1:00 p.m. at Building 31, Conference Room 6, National Institutes of Health (NIH), Bethesda, Maryland. Dr. Richard J. Hodes, Director, National Institute on Aging (NIA), presided.

In accordance with the provisions of Public Law 92-463, the meeting was open to the public on Thursday, May 27, from 1:00 to 5:30 p.m. and again on Friday, May 28, from 8:00 to 9:30 a.m. The meeting was closed to the public on Friday, May 28 from 9:30 a.m. until 12:00 noon for the review, discussion, and evaluation of grant applications in accordance with the provisions set forth in Sections 552(b)(c)(4) and 552(b)(c)(6), Title 5, U.S. Code, and Section 10(d) of Public Law 92-463.[1]

Council Participants:

Dr. Helen M. Blau
Dr. Judith Campisi
Dr. Rose Dobrof
Dr. Fred H. Gage
Dr. Patricia S. Goldman-Rakic
Dr. Mary S. Harper
Dr. William R. Hazzard
Dr. James S. Jackson
Dr. Dennis Selkoe
Dr. James W. Vaupel
Dr. Jeanne Y. Wei
Dr. Myron Weisfeldt
Dr. David A. Wise

Ex-Officio Participants:

Dr. Jeanette C. Takamura
Dr. Saadia Greenburg

Absent:

Dr. Elizabeth Barrett-Connor
Dr. Jeffrey Bluestone
Dr. Richard Goldsby
Senator Mark Hatfield
Dr. John Rowe
Dr. George Fuller
Dr. Judith Salerno

[1] For the record, it is noted that members absented themselves from the meeting when the Council discussed applications (a) from their respective institutions, or (b) in which a conflict of interest may have occurred. This procedure only applied to applications that were discussed individually, not to "en bloc" actions.

The Council Roster, which gives titles, affiliations, and terms of appointment, is appended to these minutes as Attachment A.

Members of the Public Present:
Dr. Shirley Brown, Gerontological Society of America
Dr. Darlene Howard, Georgetown University

In addition to NIA Staff, other Federal employees attending were:
Dr. Mary Custer, Center for Scientific Review (CSR)
Dr. Bernard Driscoll, CSR
Dr. Daniel McDonald, CSR
Dr. Ramesh Nayak, CSR
Dr. Robert Nussbaum, NHGRI
Ms. Denise Manouelian, NIDDK
Ms. Josephine Pelham, CSR

I. CALL TO ORDER

Dr. Hodes introduced Ms. Denise Manouelian, from NIDDK, NIA's new Committee Management Service Center, and Ms. Jeannette Wilson, NIA's new Council Coordinator. Introductions of Council members were made around the table.

Director's Status Report

Dr. Hodes noted that the year has been a busy and productive one as NIA implemented initiatives made possible by budget increases. No progress has been made on the budget for FY2000. He pointed out that there are a number of very important issues before the Institute, many of which would emerge in reports from the meetings of the Working Group on Program and the NACA Task Force on Minority Aging Research. The Director's Status Report is appended to these minutes as Attachment B.

Future Meeting Dates

September 23-24, 1999 (Thursday-Friday)
February 8-9, 2000 (Tuesday-Wednesday)
May 25-26, 2000 (Thursday-Friday)
September 27-28, 2000 (Wednesday-Thursday)
February 6-7, 2001 (Tuesday-Wednesday)
May 22-23, 2001 (Tuesday-Wednesday)
September 25-26, 2001 (Tuesday-Wednesday)

Consideration of Minutes of Last Meeting

The minutes of the February 3-4, 1999 meeting were approved with one correction regarding the affiliation of Dr. Rose Dobrof: Dr. Dobrof is a Brookdale Professor of Gerontology, Brookdale Center on Aging, Hunter College, New York.

II. NNA PROGRAM REVIEW

Dr. Goldman-Rakic reported on the review of the Neuroscience and Neuropsychology (NNA) program that was conducted the previous day by an ad hoc group that included scientists expert in basic neurobiology, developmental biology, genetics of aging and molecular science of aging. Reviewers included members of Council and nonmembers as well as scientists funded by NIA and others not receiving NIA support. The Review was planned over a period of several months during which reviewers requested materials on the size, nature, quality, support mechanisms, cross-cutting issues, and other aspects of the NNA neurobiology and neuropsychology portfolios and about the relation between NNA aging research programs and other NIA programs and NIH Institutes. Areas of research to be fostered were addressed, as were scientific areas that are under-represented in the current portfolio. Dr. Goldman-Rakic emphasized that the study of normal aging is very important, as are problems and diseases of aging.

The Fundamental Neurobiology program was discussed first. Its portfolio has breadth and depth. The program was commended for its initiatives in functional genetics and proteomics of aging, and for its efforts to support work on small changes associated with aging. At the same time, it was recommended that some areas be de-emphasized to make room for stimulation of new areas such as (1) Molecular transport and differential localizaton of molecules, (2) Alterations in dendritic architecture and receptor distribution, (3) Neuroimmunology and immune function of the aging nervous system, (4) Circuitry and receptors in the primate cortex, and (5) Human genetic studies and genetics of aging variables.

The Integrative Neuroscience portfolio was considered strong in sleep and circadian processes and has benefited from the contributions of outstanding extramural scientists and staff support. Gaps identified include: 1. Research on genetic bases of circadian rhythms. Because sleep disturbance is a hallmark of aging, it should be possible to identify circadian clock genes. 2. Clinical trials on safety and efficacy of sleep medications. These trials are considered important because of the wide extent to which hypnotics are used by older people. 3. Homeostatic processes of sleep in the elderly, and the effects of sleep loss on cognition and on recovery of functions and processes in older persons.

During discussion of the Sensory-Motor Disorders of Aging portfolio, it was noted that NIA has had difficulty attracting quality applications in this area, largely because other Institutes vie for the same applications. For example, applications dealing with the aging visual system may be assigned to the National Eye Institute. Efforts are being made to stimulate more applications in the sensory-motor area.

The Neuropsychology portfolio has been actively developed and includes excellent investigators. Reviewers stated that the cognitive neuroscience studies are heavily weighted toward learning and memory and the development of methods to study those domains. Other cognitive neuroscience areas have received less emphasis, for example, executive functions such as attention and planning abilities. A contract with the National Academy of Sciences is in place for a study on cognitive capacity and aging. Reviewers pointed out that the program supports few animal studies, in part because of limited animal models and limited training opportunities in animal models of cognitive aging. Neuropsychology is an expanding field that offers opportunities to broaden an already strong portfolio.

Reviewers assessed mechanisms of support and review and assignment of applications as well as the scope and diversity of the scientific portfolio of each program area. During the discussion of mechanisms of support, reviewers made the following recommendations: (1) NIA should evaluate its small grant (RO3) program and consider whether it should be continued. (2) Descriptive studies are often considered to have limited merit. Reviewers said that such studies are important in aging research, need to be encouraged, and that efforts should be made to encourage study section reviewers to recognize their importance. (3) NNA should enhance training in molecular neuroanatomy of aging as a basis for studies of cortical connections.

A question was raised about the quality of applications that have secondary assignments to NIA. Specifically, program reviewers asked whether scores assigned by review groups are better for applications having primary assignment to other Institutes and a secondary assignment to NIA.

Another area emphasized by reviewers is the importance of animal resources for animal models research. An adequate supply of older animals for studies of aging requires long-range planning. Different species and strains along with various transgenic models are appropriate for different types of research and need to be available. It was recommended that a trans-NIH initiative be considered to develop a variety of animal resources. Reviewers were pleased to hear that the Institute has developed a contract to bank embryos from transgenic animals and recommended wide dissemination of the availability of such a resource.

Summary recommendations to enhance an already strong and well managed program are: (1) At least one additional scientific staff person should be recruited to handle NNA's growing portfolio. (2) Workshops and symposia should be continued. The field profits from them. A workshop on gene expression in the aging brain served to advance the field. (3) Sensory-motor system research should include differentiation, plasticity, and age-related changes in receptors. This area would profit from a workshop. (4) A workshop is recommended on changes in cortical systems. (5) Primate models and other animal resources should be expanded.

In discussion, Council members inquired about the research directions of NIA's portfolio relative to those of sister institutes. Reviewers responded that NIA places more focus on cellular, molecular, and genetic expressions of aging, and on normal aging processes. Council members suggested additional emerging areas of science that are ripe for development, e.g., differential gene display and gene chip technology applied to the aging nervous system. A workshop in this area should be

considered. Council members reiterated the need for additional staff to enhance existing personnel who were judged as excellent. Dr. Hodes thanked the ad hoc reviewers for their helpful comments.

Council members discussed the need for assessment of the program review process and for follow-up on recommendations emanating from the reviews. Dr. Hodes reminded members that the next program review, approximately 1.5 years later, includes a response to the previous review. Council members suggested that a uniform format for presentation of materials would be helpful.

III. CENTER FOR INHERITED DISEASE RESEARCH (CIDR)

Dr. Robert Nussbaum, Chief, Genetics Diseases Research Branch, NHGRI, who serves as the government project officer of CIDR, presented an overview of the Center. CIDR was established in 1996 as a joint effort by eight NIH Institutes (NHGRI, NCI, NICHD, NIDCD, NIDA, NIEHS, NIMH, NINDS) to provide genotyping and statistical genetics services for qualified investigators seeking to identify genes contributing to human disease. The Center focuses primarily on multifactorial hereditary disease although linkage analysis of single gene disorders can also be accommodated.

CIDR is supported through a contract to Johns Hopkins University (JHU) with Dr. David Valle of the JHU Center for Medical Genetics as Principal Investigator (PI). Access to CIDR is controlled by the chartered CIDR Access Committee (CAC), comprised of scientists with expertise in gene mapping and genetic dissection of complex diseases and by the Board of Governors, comprised of the Directors of the eight participating Institutes. Applications are reviewed and prioritized by the CAC, and the Board of Governors subsequently approves successful applications.

CIDR provides three types of services: 1. High throughput, genome-wide scanning using samples provided by principal investigators; 2. Receiving blood samples for extraction, and storage of DNA for approved projects prior to genotyping; and 3. Optional statistical genetics consulting services to investigators desiring advice/collaboration for study design, data cleaning and/or statistical analyses. Investigators are not required to have all samples collected before applying to CIDR.

Services at CIDR are available to all interested investigators from NIH-funded institutions, other government and non-profit institutions, and for-profit organizations. Only applications involving humans are considered. Mouse mapping panels are currently in development.

There are three application deadlines per year. A peer review process through the CAC evaluates applications. Final scheduling of approved CIDR projects is determined by the CIDR Board of Governors shortly following the CAC meeting. Once studies at CIDR are complete, all samples, data, and analyses are returned to investigators.

Council members were enthusiastic about CIDR's capability and services. Questions included the following: What kinds of successes have been achieved? What plans are there for lowering costs (i.e., by getting away from sequences)? What is the estimated cost for NIA to participate? What are the mechanisms for bioethics review? Dr. Blau moved that NIA join CIDR for a period of two years.

The Council recommended that NIA should participate in CIDR and inform scientists about the services available.

IV. NACA TASK FORCE ON MINORITY AGING RESEARCH

Dr. Jackson reviewed plans for the scheduled September 1999 review of NIA minority research and training programs. The review group will address: (1) What is the scientific importance of focusing on minority status? (2) What value is gained from training minority investigators? Specifically, the reviewers differentiated values related to justice, civil rights and moral imperative from scientific benefits to the research community that accrue from a focus on minority populations. (3) Cross-cutting themes: What is gained from a focus on genetics vs. environment, and what are the ethical issues related to collection of genetic data? To what extent is it meaningful to focus on ethnic/racial groups? What does race mean and does it have importance aside from factors that correlate with race, e.g., health and health disparities which differ as a function of race? Why should ethnic/racial minority researchers be the subjects of special training efforts? What does it mean to conduct research involving minority populations or rare populations? What kind of infrastructure, if any, is needed? What kinds of assessment instruments need to be developed to conduct research with minority populations?

Dr. Jackson said that reviewers need to categorize the scientific questions and develop a framework for addressing them to identify current gaps and future research directions. The review of NIA's minority programs will be conducted prior to the September meeting of Council. The review will be followed by a written report. Dr. Jackson thanked committee members and staff for their efforts to make this review possible. Dr. Hodes added that NIA seems unique among Institutes in that it is reviewing its minority programs overall, and the NIA is taking leadership in this area.

V. PROGRAM HIGHLIGHTS

Dr. Morrison-Bogorad, Associate Director for the Neuroscience and Neuropsychology of Aging Program, commented on new studies in the Alzheimer's disease (AD) area that focus on "mild cognitive impairment" (MCI) to examine whether it is a diagnosable precursor to AD.

The most recent study was carried out by Dr. Ronald Petersen and colleagues at the Mayo Clinic on clinical characterization of mild cognitive impairment (Petersen, R.C., et al., *Archives of Neurology* 56:303-308, 1999). Their subjects, community residents, presented memory complaints and abnormal memory for their age (over 65), normal activities of daily living, normal general cognitive function, and were not demented. However, on general cognition tests, the MCI subjects faired slightly less well than normal subjects with the difference attributable to memory items. On short-term memory tests, the MCI subjects performed more similarly to AD patients than to normals. Longitudinal follow-up showed progression of MCI patients to AD at 10-12 percent per year as compared to 1 percent for individuals with normal memory function at initial test.

A number of studies are examining whether the brains of individuals with MCI differ from normal. Recent studies by Mony De Leon, New York University School of Medicine, show shrinkage of the

hippocampus of brains from persons with MCI compared to normal brains, though less shrinkage than in brains of persons with AD (Convit, A., et al., *Neurobiology of Aging* 18:131-138, 1997). On the molecular level, Drs. John Morris and Joseph Price, Washington University School of Medicine, in St. Louis, examined two neuropathological characteristics of AD: tangles and plaques (Price, J.L., and J.C. Morris. *Annals of Neurology* 45:358-368, 1999). They found substantial amounts of this Alzheimer's pathology in brain hippocampus and cortex of persons who died with MCI. These studies follow up on prior research showing that people with MCI had lost a massive number of neurons in the cortex, another characteristic of AD.

The results imply that AD symptoms begin earlier than previously thought. However, they are encouraging because they identify a high-risk group with whom to intervene before clinical symptoms become too severe (or before clinical symptoms of diagnosable AD are apparent). NIA has recently launched an intervention trial (the Memory Impairment Study) focused on this high-risk group.

The Memory Impairment Study is a double-blind, placebo-controlled trial using two drugs--vitamin E and donepezil hydrochloride (Aricept) and a placebo--in an attempt to stop people who have MCI from progressing to AD or to prevent further cognitive decline. The study is planned to last three years and will involve 720 participants, 240 per treatment group, at 65 to 80 centers. The Alzheimer's Disease Education and Referral (ADEAR) center, NIA's Public Information Office, and the Alzheimer's Association, are assisting in recruitment, as are public service announcements, a nationwide toll-free number, and an international web site.

Discussion focused on the extent to which current studies with persons who have MCI but not AD will support inferences about treatments useful for AD. To test the validity of such inferences, research would be needed to determine the natural history of progression from MCI to AD. The role of the FDA and drug companies in such research was noted. Dr. Morrison-Bogorad said the NIA plans to discuss future research with the FDA.

Dr. Richard Suzman, Associate Director for the Behavioral and Social Research Program, described a study on home strength training by Drs. Alan Jette and Margie Lachman at the Boston University Roybal Center Consortium, one of the Edward R. Roybal Centers of Research on Applied Gerontology (Jette, A., et al., *American Journal of Public Health* 89(1):66-71, 1999).

About 70 percent of older adults do not exercise, and most programs are highly supervised and conducted in groups. This study of 215 disabled elder volunteers focused on a strength training program (10 exercise routines) that could be conducted at home. It used one home visit by a physical therapist and a motivational videotape to promote adherence. The investigators measured psychological state and quality of life as well as strength, balance, and physical function.

Relative to controls, participants in the strength training program achieved significant gains in lower extremity strength and tandem gait, and reported overall declines in disability at the six month follow-up visit. Adherence rates were exceptionally high both to the overall program and to the recommended frequency and intensity levels of training. No psychological benefits were found.

Council discussion focused on the choice of measures and analyses and possible reasons why the intervention showed no effect on mood.

Dr. Frank Bellino, Acting Associate Director for the Biology of Aging Program, introduced Dr. Helen Blau, a Council member, who described work conducted by her research group on improving delivery of gene therapy (Kringstein, A.M., et al., *Proceedings of the National Academy of Sciences*, USA, 95:13670, 1998; Rossi, F., et al., *Nature Genetics*. 20, 389, 1998; Blau, H.M., and F. Rossi, *Proceedings of the National Academy of Sciences*, USA, 96:797, 1999). She characterized gene therapy as similar to drug therapy, indicating that it must conform to the standards of being safe, easily administered, easy to produce and allowing controlled and graded delivery of the treatment.

Vascular Endothelial Growth Factor (VEGF) induces blood vessel growth and could prove useful in treating stroke, heart disease and diabetic patients. However, in earlier work in Dr. Blau's laboratory, delivery of VEGF via a retrovirally transformed myoblast led to blood vessels growing out of control. Therefore, Dr. Blau's group sought a way to allow graded delivery of VEGF using the tetracycline (tet) system for controlling gene expression. The transcription regulator in this system is a fusion protein composed of the viral transactivator (VP16) and the bacterial tet repressor. The bacterial agent exists in two forms. One form binds to the tet operator in the absence of tetracycline to induce transcription. A second form binds to the tet operator only in the presence of the drug. In principle, by varying the proportion of the two "stop" and "go" forms of the fusion protein and by administering or removing tetracycline (or its analogue, Doxycycline which has been found to be safe in humans) a system for controlling the amount of VEGF expression is possible. However, existing systems for delivery resulted in such a high basal level of expression that little gradation in level could be introduced through using the different forms of the fusion protein.

Dr. Blau's group attempted to reduce the basal level of expression by putting both stop and go forms of the fusion protein in the same cell. The result led to no clear response either to administering or to removing tet (or dox). The "stop" and "go" forms of the fusion protein apparently dimerized. The task then was to find a base specificity that would create only homodimerization (i.e., binding of like forms).

The group deduced the necessary base specificity and incorporated that into the resulting delivery system. They confirmed that only homodimers form with this system and then established that the system allowed a dose-dependent response in reporter expression six orders of magnitude greater than the basal expression. By choosing either to use only the activator form of the fusion protein, or to use the activator-repressor combination with the administration of tet or dox, the resulting level of expression can either be graded and dose-dependent, or all-or-none. The system therefore allows a unique opportunity to explore the physiological effects of VEGF.

Council discussion focused on how specific the effects of the therapy are to the target cells (very specific relative to systems developed by other methods); on whether the method may be used to inhibit function rather than stimulate growth (Dr. Blau's team is designing experiments to test that

possibility); and on problems that might arise when the therapy is introduced next to endogenous strong promoters or repressors (such cells can be screened out).

Dr. Chhanda Dutta, Director, Musculoskeletal and Nutrition Program, in the Geriatrics Program, described the results of the first randomized placebo-controlled clinical trial that directly compared behavioral intervention versus drug therapy for treatment of urinary incontinence. The study was conducted by Dr. Kathy Burgio, at the University of Alabama (Burgio, K.L., et al., *Journal of the American Medical Association* 280(23):1995-2000, 1998).

Urinary incontinence (UI) affects approximately 13 million Americans across all age groups and approximately 15 to 35 percent of community-dwelling individuals over 60 years of age. It is more common in women than in men. Between 25 to 30 percent of those affected experience incontinent episodes weekly or daily.

UI is classified into three primary types: (1) Urge incontinence, an immediate sensation of having to urinate, followed by a loss of urine. It is primarily associated with involuntary contractions of the muscles of the bladder. (2) Stress incontinence is the loss of urine occurring at times of intense physical activity, sneezing or coughing, or other instances where the intra-abdominal pressure increases and results in loss of urine; and (3) mixed incontinence, showing symptoms of both.

The participants in Dr. Burgio's study were 197 community-dwelling women, aged 55 to 92 years, with urge or mixed urinary incontinence, where the predominant symptom was urge incontinence. The behavioral intervention involved four clinic visits at two-week intervals, a bladder diary, and biofeedback-assisted pelvic muscle exercises for 15-minute periods three times each day.

The drug treatment was oxybutynin chloride, an anticholinergic drug which is the drug of choice in treatment of urge UI. The drug was given three times a day in doses ranging from 2.5 to 5 milligrams. A placebo control group completed the design.

Although the drug therapy was effective in reducing the number of incontinent episodes, the behavioral treatment was more effective (81 percent versus 69 percent reduction in number of episodes). Biofeedback-assisted behavioral training is a safe and effective method and should be considered as a first line treatment for urge UI.

In discussion, Dr. Gage asked if anticholinergic drugs pass the blood/brain barrier. Dr. Dutta noted that another NIA-supported study reported that when oxybutynin chloride is given to older people, it does cross the blood/brain barrier and impairs cognitive function (Katz, I.R., et al., *Journal of American Geriatrics Society* 46:8-13, 1998). She added that common side effects of anticholinergics are dizziness, delirium, and forgetfulness.

VI. WORKING GROUP ON PROGRAM

Dr. Gage summarized the working group's discussion of NIA's plan to expedite Council review of some applications in order to shorten the time between receipt of applications and award. Council

members echoed the conclusion from the working group discussion which was that Council generally approves of the intent and procedures to expedite awards but cautions NIA to be conservative by making it clear that although applications are eligible for expedited review up to the 20th percentile, funding to that level depends on particular circumstances.

The next topic from the Working Group presented by Dr. Gage concerned development of NIA's strategic plan. Following an Institute of Medicine recommendation that the NIH Institutes improve priority-setting processes, Dr. Varmus instructed the Institutes to develop two to five year strategic plans. NIA intends to have a draft plan available to Council at its September meeting and to submit the plan to Dr. Varmus by the end of the year. The Working Group reviewed a draft outline of NIA's strategic plan (which was also available to Council members) and commented both that NIA should focus on a few broad goals and use terms that are familiar to a broad public audience. Further discussion at Council concerned the nature and levels of goals that should be stated. Members indicated that it is not appropriate to have explicit goals to reduce the incidence of, or prevent, particular diseases or conditions. However, it is appropriate to have goals expressed as launching trials of interventions to reduce incidence of, or prevent, disease. Other members commented that research goals are feasible - such as a complete map of the mouse genome, with sites mapped that are associated with longevity. Finally members stressed that the document can also educate the public about the importance of understanding fundamental mechanisms as a way to approach the disease and health conditions of old age.

The role of NACA in considering the recommendations of NIA-sponsored advisory meetings was also discussed in the Working Group. The Federal Advisory Committee Act (FACA) assures that government receives external advice in a forum where there is opportunity for public comment. The NACA meeting is such a forum. Therefore NIA is presenting recommendations from workshops or notice of intended advisory workshops to the Working Group which discusses them and then makes a recommendation about their support to Council. The Working Group heard summaries and recommendations from the Caloric Restriction and Clinical Implications Advisory Group (meeting held in March, 1999) and the NIA Biospecimen Repository Group (held in November, 1998). The Working Group proposed supporting the recommendations from both meetings. The group also heard plans for future meetings on: the Biology of Noise-Induced Hearing Loss, Transgenic Approaches to the Study of Neurological Diseases; a meeting on Evaluation of Anti-Aging Treatments, and one on Biomarkers for Diagnosis and Prevention of Alzheimer's Disease. The Working Group supported plans for these meetings. After brief discussion Council endorsed the recommendations of the Working Group.

The final issue discussed was genotyping resources. Dr. Gage referred both to the working group's positive recommendation that NIA participate in the Center for Inherited Disease Research (CIDR), and to Council's endorsement of the recommendation following Dr. Nussbaum's presentation at Council the previous day (May 27). Dr. Hodes indicated that he had notified Dr. Nussbaum of the decision and that NIA would begin making the appropriate administrative and budgetary arrangements to become a participant in CIDR.

VII. REVIEW OF APPLICATIONS

This portion of the meeting was closed to the public in accordance with the determination that it was concerned with matters exempt from mandatory disclosure under Sections 552b(c)(4) and 552b(c)(6), Title 5, U.S. Code and Section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix).[2]

A total of 996 applications requesting $809,207,821 for all years was reviewed. Council recommended 683 for a total of $563,872,983 for all years. The actual funding of the awards recommended is determined by the availability of funds, percentile ranks, priority scores, and program relevance.

VIII. ADJOURNMENT

The 77th meeting of the National Advisory Council on Aging was adjourned at 11:45 a.m. on May 28, 1999. The next meeting is scheduled for September 23-24, 1999.

Attachments:

A. Roster of Council Members
B. Director's Status Report to the NACA

IX. CERTIFICATION

I hereby certify that, to the best of my knowledge, the foregoing minutes and attachments are accurate and complete.[3]

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Richard J. Hodes, M.D.
Chairman, National Advisory Council on Aging
Director, National Institute on Aging

Prepared by Miriam F. Kelty, Ph.D.

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[2] For the record, it is noted that members absented themselves from the meeting when the Council discussed applications (a) from their respective institutions or (b) in which a conflict of interest may have occurred. This procedure only applied to applications that were discussed individually, not to "en bloc" actions.

3 These minutes will be approved formally by the Council at the next meeting on Sept 23-24, 1999 and corrections or notations will be stated in the minutes of that meeting.