

**NATIONAL INSTITUTES OF HEALTH
NATIONAL INSTITUTE ON AGING**

Summary Minutes

The 128th Meeting

NATIONAL ADVISORY COUNCIL ON AGING

May 10–11, 2016

**National Institutes of Health
Building 31, C Wing, 6th Floor, Conference Room 10
Bethesda, MD 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 10–11, 2016**

The 128th meeting of the National Advisory Council on Aging (NACA) was convened on Tuesday, May 10, 2016, at 3 p.m. in Building 31, Conference Room 10, 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 closed to the public on Tuesday, May 10, from 3 p.m. to 5 p.m. 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 The meeting was open to the public on Wednesday, May 11, from 8:00 a.m. to 12:00 p.m.

Council Participants:

Dr. Kimberly Acquaviva
Dr. Maria Carrillo
Dr. Eileen M. Crimmins
Dr. Steven R. Cummings
Dr. Kevin P. High
Dr. Bradley T. Hyman
Dr. James L. Kirkland
Dr. Richard Mayeux
Dr. Terrie E. Moffitt
Dr. Charles P. Mouton
Dr. Anne B. Newman
Dr. Norman E. Sharpless
Dr. Reisa A. Sperling
Dr. Debra Bailey Whitman

Absent Council Members

Ms. Jennie C. Hansen
Dr. Thomas A. Rando

Ex Officio Participants:

Dr. Richard M. Allman, Veterans Health Administration

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.

Dr. Jane Tilly, Administration for Community Living

Absent Ex Officio Participants:

Dr. Kenneth G. Pugh, National Naval Medical Center

Mr. Edwin Walker, Administration on Aging

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

In Addition to NIA Staff, Other Federal Employees Present:

Dr. Alexei Kondratyev, NIH Center for Scientific Review (CSR)

Dr. Bruce Reed, CSR

Dr. Elyse Schauwecker, CSR

Dr. Laurent Taupenot, CSR

Members of the Public Present:

Mr. Ryne Carney, Alliance for Aging Research

Dr. Navdeep S. Chandel, Northwestern University

Dr. Jason N. Doctor, University of Southern California

Dr. Laura N. Gitlin, Johns Hopkins University School of Medicine

Dr. J. Taylor Harden, National Hartford Center of Gerontological Nursing Excellence

Ms. Patricia Kobor, American Psychological Association

Dr. Rose Maria Li, Rose Li and Associates, Inc.

Ms. Laurie Lindberg, Gerontological Society of America

Dr. Eliezer Masliah, University of California, San Diego

Dr. Frances McFarland Horne, Rose Li and Associates, Inc.

Dr. Libby O'Hare, Lewis-Burke Associates

Dr. William Sansalone

Dr. Peter J. Snyder, University of Pennsylvania School of Medicine

I. REVIEW OF APPLICATIONS

This portion of the meeting was closed to the public, in accordance with the determination that it concerned matters exempt from mandatory disclosure under Sections 552(b)(c)(4) and 552(b)(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 1392 applications requesting \$2,619,516,347 for all years underwent initial review. The Council recommended 799 awards for a total of \$1,726,388,730 for all years. The actual funding of the awards recommended is determined by the availability of funds, percentile ranks, priority scores, and program relevance.

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 applied only to applications that were discussed individually, not to "en bloc" actions.

II. CALL TO ORDER

Dr. Hodes welcomed members to the open session of the 128th NACA meeting and called the meeting to order at 8:00 a.m. on Wednesday, May 11, 2016.

A. Director's Status Report

Dr. Hodes reported that the NIH appropriation for FY2016 totals \$32 billion, including targeted allocations of \$200 million for the Precision Medicine Initiative, \$85 million for the Brain Research through Advancing Innovative Neurotechnologies Initiative (BRAIN), and \$350 million for Alzheimer's disease (AD) research. The NIA appropriation increased to \$1.6 billion, which includes growth in funding for both AD- and non-AD-related research.

The table below shows paylines for FY 2016 and the more generous funding for early stage and new investigators:

Requested Direct Costs	<\$500K		>\$500K	
	General	AD	General	AD
Allocation				
All Applications Except for New Investigators and Early Stage Investigators	9	22	6	19
New Investigators (R01)	17	25	14	22
Early Stage Investigators (R01)	19	27	16	24

Dr. Hodes noted that in the previous year, the NIA was able to increase the payline by foregoing full payment of noncompeting applications. Because of the 4.2% increase in our general appropriation as well as the \$350 million increase for Alzheimer's research NIA has been able to achieve full payment of noncompeting applications and increase the payline for general, lower-cost applications from 8% to 9%.

Dr. Hodes also discussed the AD bypass budget and reminded the Council of the planning process to develop priorities, milestones, and budget estimates. The FY2018 bypass budget will be based on a preliminary report from a 2016 meeting on AD-related dementias. The estimate for the bypass budget also will assume a relatively flat budget from FY2016 to FY2017. Dr. Hodes also noted that the NIA and NIH are tracking expenditures. The Research, Condition, and Disease Categorization (RCDC) has reported on both AD and AD-related dementias for FY2015 and will continue to do so. Overlaps have been eliminated, and the International AD Research Portfolio will continue to provide detailed tracking of research initiatives and awards.

Dr. Hodes then provided the following NIA, NIH, and HHS updates:

- The expected increase in global life expectancy will cause an almost-doubling of the global population aged 65 years and older by 2050, and the tripling of the global population aged 80 years and older by 2050. Although these trends arise primarily from advances in technology and medicine, they will have societal implications associated with challenges in maintaining a healthy lifespan.
- An article in the *New England Journal of Medicine* based on the Framingham Heart Study reports substantial decreases in dementia incidence between the late 1970s/early 1980s and the late 2000s/early 2010s, primarily because of changes in and reduction of cardiovascular risk factors, as well as increases in years of education in the later cohort.
- The NIA and the National Institute of Neurological Disorders and Stroke have launched the Molecular Mechanisms of the Vascular Etiology of Alzheimer's consortium (M²OVE AD), a 5-year, \$30 million initiative to examine the influence of vascular risk factors on AD and to identify new therapeutic targets.
- A publication by Snyder, et al. (2016) reported that testosterone treatment in older men improves sexual activity and confers some benefit with respect to mood and depressive symptoms, but provides no benefit with respect to vitality or walking distance (see Program Highlight, below).
- In April, the Geroscience Interest Group (GSIG) held its second Geroscience Summit, "Disease Drivers of Aging: 2016 Advances in Geroscience Summit," with support from the NIH, the Gerontological Society of America, the American Federation for Aging Research, and the New York Academy of Sciences. The GSIG published several papers based on its first Geroscience Summit in supplements to the *Journal of Gerontology*. GSIG participants also contributed to an edited volume, *Advances in Geroscience*, which was published in November 2015.

Dr. Hodes also noted the NIA's long history of collaboration to maximize funding for meritorious research beyond the payline. By law, the NIA is unable to forward applications it has reviewed to its collaborators; however, the Institute can inform applicants that they could approach these other organizations. In response to a congressional request, the NIH, biomedical foundations, and industry have developed OnPAR, a web-based system to provide meritorious applications a second chance at funding. Dr. Hodes invited Council members to visit the site (<http://onpar.leidosweb.com/onpar/index.php>).

Dr. Hodes concluded his report by announcing that Dr. Eric Dishman has been appointed as the Director of the Precision Medicine Initiative (PMI) Cohort Study and that Vice President Joe Biden will chair the White House Cancer Moonshot Task Force to maximize investments and initiatives to support cancer research and progress in treatment and care. He also congratulated current NACA member Dr. Eileen Crimmins, and former NACA member Dr. Helen Blau, who were inducted into the National Academy of Sciences.

In response to questions from Dr. Norman Sharpless, Dr. Hodes acknowledged that the NIA remains tied with the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development for the lowest payline. He and Dr. Robin Barr cited an increased number of

applications as one reason for the low payline. Dr. Barr added that a growing number of applications are focused on AD; the proportion of small business applications focused on AD has increased to approximately 75%, an increase from the typical 50%.

B. Future Meeting Dates

September 27–28, 2016 (Tuesday and Wednesday, Building 31)

January 17–18, 2017 (Tuesday and Wednesday, Building 31)

May 16–17, 2017 (Tuesday and Wednesday, Building 31)

September 26–27, 2017 (Tuesday and Wednesday, Building 31)

C. Consideration of Minutes of the Last Meeting

The minutes of the January 2016 meeting were considered. A motion was made, seconded, and passed unanimously to approve the minutes.

III. REPORT: TASK FORCE ON MINORITY AGING RESEARCH

Dr. Charles Mouton reported on presentations given to the Task Force by Lisa Evans, Science Workforce Diversity Specialist at the NIH, and Dr. Roland Thorpe of Johns Hopkins University. Ms. Evans discussed the importance of diversity overall and the need for more diversity in the extramural workforce. She described the NIH Office of Scientific Workforce Diversity, which focuses on the science of diversity and evidence-based approaches toward recruitment and training, and the new Division of Biomedical Research Workforce, which employs diversity as a cross-cutting theme as it develops a strategic policy to ensure a well-trained biomedical research workforce. Ms. Evans also discussed the 2016–2020 NIH Research Workforce Strategic Plan and highlighted upcoming activities related to each of its goals.

Dr. Thorpe's presentation focused on minority men's health and life expectancy. The extent of the difference between the health of minority men and others varies across races and ethnicities. Dr. Thorpe discussed the importance of studying men's health in the context of the overarching goals of *Healthy People 2020*. He also described what men born in 1935 might have witnessed and participated in as an example of how cohorts differ in their experiences and exposures, which can ultimately influence health. Dr. Thorpe also discussed masculinity and residential segregation as other key determinants in men's health, particularly for older African American men. He highlighted major contributions, particularly from the NIA, to the literature in minority men's health, and he emphasized the role of NIA support in his own career development. He also noted the importance of the health disparities research framework to future work.

IV. REPORT: WORKING GROUP ON PROGRAM

The Working Group on Program heard a report from the Clinical Trials Advisory Panel (CTAP) and considered six concepts for requests for proposals (RFPs) or applications (RFAs).

A. CTAP Report

Dr. Kevin High reported that the CTAP reviewed the Targeting Aging with Metformin (TAME) protocol and recommended that it move forward into grant submission and review. No further action was required from the Council on this report.

B. RFA/RFP Concept Clearances

A motion was forwarded and seconded to approve six concepts en bloc. The motion passed unanimously.

NIA Research Centers Coordinating Network

The NIA has six productive research networks across its divisions. As noted by reviews of the Division of Aging Biology (DAB) and the Division of Geriatrics and Clinical Gerontology (DGCG), however, interactions among these networks should be increased substantially. The concept proposes a modest level of funding to support scientific meetings, collaborative projects, mentorship models, and dataset integration to foster interaction and synergies among these research networks. The Working Group on Program endorsed this concept. There was no further discussion from the Council.

Alzheimer's Disease Sequencing Project (ADSP) Follow-Up Study

The concept proposes to extend an NIA program studying the genetics of AD to a second set of 10,000 controls and individuals with AD. This extension would move away from exome sequencing to whole genome sequencing, fill in gaps, and generate a replication dataset. The Working Group on Program endorsed this concept. There was no further discussion from the Council.

Complex Biology of Resilient Phenotypes

This concept proposes a set-aside to use Big Data generated from research consortia to identify factors that confer resilience in individuals who are genetically or epigenetically predisposed to various phenotypes. The proposal emphasizes data integration, transcriptomic and proteomic data, data-sharing, and some validation of candidate features. The Working Group on Program endorsed this concept. There was no further discussion from the Council.

Translational Bioinformatics and Network Pharmacology

The proposed RFA will support research to (1) mine information on approved drugs to identify those that could be used toward AD and (2) explore the underlying biology and pharmacology of combination therapies for AD. The Working Group on Program endorsed this concept. There was no further discussion from the Council.

Mobile Monitoring of Cognitive Change

For AD and other dementias, cognitive changes may appear long before the time at which traditional measures would identify them. The proposed concept would support the use of mobile phones to monitor cognitive changes over time. The Working Group suggested that mobile phone apps should not only incorporate cognitive tests, but also link to data on sleep and activity.

The Working Group on Program endorsed this concept. There was no further discussion from the Council.

Basic and Translational Research on Decision-Making in Aging and AD

The proposed concept supports research on ways to help older adults make better decisions in health and personal finance and thereby reduce their risk of falling prey to fraud, exploitation, and mistreatment, and to reduce stress on older adults and their caregivers. The proposed research will bring together multiple disciplines and require collaboration between basic decision scientists and clinical scientists working with AD patients. The Working Group recommended that the research participants in these studies include representation from populations with low education and low net worth, because these populations are particularly vulnerable to the deleterious consequences of poor decision-making. The Working Group endorsed this concept. There was no further discussion from the Council.

C. Statement of Understanding

The Statement of Understanding is an agreement between the NACA and NIA on the management of Council-related activities that do not require a Council meeting. Such activities usually include small administrative supplements, reinstatement of funds, and early concurrence for applications with direct costs up to \$500,000. All interim actions are reported in the electronic Council book. Dr. Barr commented that because of the late date for the September Council meeting, the Council will likely be asked to conduct early concurrence on applications.

A motion to renew the Statement of Understanding was forwarded and seconded. The motion passed unanimously.

D. Statistical Package

Dr. Barr reported that there were 400 more applications for the May Council meeting than for immediate prior Council rounds and that approximately half of them had been submitted in response to funding opportunity announcements and AD-targeted initiatives. The statistical package now includes a table looking at all applications for the May Council meeting and a table looking at only those that have a preliminary AD code generated by the RCDC. The majority of applications with an AD code are under consideration by the Division of Neuroscience (DN), and an additional 10% are under consideration by the Division of Behavioral and Social Research (DBSR). Of all applications submitted for May Council, those submitted to the NIA were somewhat less likely to be discussed in review compared to applications submitted in the preceding two Council rounds.

V. PROGRAM HIGHLIGHTS

A. Division of Aging Biology (DAB): Mitochondria as Signaling Organelles

Dr. Navdeep Chandel, of Northwestern University, described work in his laboratory studying mitochondria as signaling organelles. Mitochondria are well known as bioenergetic organelles and are identified as having an important role in biosynthesis. A key feature of the bioenergetics role is the coupling of the respiratory chain, which generates Adenosine Triphosphate—a

coenzyme—to the tricarboxylic acid (TCA) cycle. Hydrogen peroxide has been assumed to be a harmful by-product of respiration. However, Dr. Chandel reported that some work in his laboratory establishes that mitochondria release low levels of hydrogen peroxide, which in turn can induce transcription factors under different conditions. In addition, the TCA cycle itself is a critical substrate for factors that play a role in epigenetics. In this way mitochondria serve a signaling function beyond their role in bioenergetics and biosynthesis.

Dr. Chandel and his colleagues have been using conditional knockout mice to look at various components of the respiratory chain. He showed unpublished data for a model looking at the role of complex III in the function of regulatory T cells. He also presented data from a study examining the effects of metformin, which may inhibit respiratory chain complex I and has been associated with anti-inflammatory and anti-cancer effects, on tumorigenesis in mice. Dr. Chandel discussed the implications of these data for the traditional hypothesis that aging is associated with declines in mitochondrial respiratory function to the point where increased reactive oxygen species, oxidative stress, and/or a bioenergetics crisis leads to pathology. He made the observation that mice in his laboratory with only 50% of the bioenergetics capacity of control mice show no ill effects of the loss and even appear resilient under several stressors.

Questions compared the alterations observed in regulatory T cells to senescent cells, raised concern about the complexity of the pathway metformin must take to be biologically effective, and, based on older adults showing neuropathy and slower walking speed with only 5% to 10% loss of ATP capacity, sought clarification of the relevance of the mice studies to older humans.

Discussion focused on the technical aspects of Dr. Chandel's work and further implications for aging.

B. Division of Neuroscience (DN): Nonpharmacological Strategies for Dementia-Related Behaviors: State-of-the-Art Science and Where Do We Go from Here?

Dr. Laura Gitlin, of the Johns Hopkins University School of Medicine, described work examining nonpharmacological ways to intervene against symptoms in the moderate to severe stage of dementia. Among the three clinical features of dementia, behavioral symptoms play a large role in the stress experienced by patients, their families, and their caregivers. For the patient, behavioral symptoms are associated with poor quality of life, more rapid disease progression, increased safety concerns, and increased health care utilization and cost. For the caregiver, these symptoms increase the risk for depression, the amount of time devoted to vigilance and caregiving, cost in terms of missed time from work and the involvement of formal care providers, and risk for placing their loved ones in nursing homes. Although the symptoms are unique to each family, behavioral symptoms cluster in the areas of apathy, aggression, agitation, depression, and psychosis. Agitation and aggression are the most prevalent in community-dwelling adults living with dementia.

Dr. Gitlin's group has developed a conceptual framework suggesting that behavioral symptoms occur as a consequence of a neurodegenerative process associated with dementia. Although this process could be a target for drug discovery, a concomitant set of processes, including changes in cognitive function and vulnerability to physical and social environments, also could be targets for intervention.

Dr. Gitlin presented data from Project ACT, which employs a home-based, targeted approach that identifies the most distressing behavior, then identifies and addresses the factors and triggers associated with it. In the intervention group, 70% of patients showed reductions in behavioral symptoms, compared with 20% in the control group. Less than 20% of patients showed worse symptoms, and approximately 10% of patients stayed the same. Dr. Gitlin also stated that 35% of the study population had untreated medical issues contributing to their symptoms. Dr. Gitlin also presented a phase II proof-of-concept trial that combines good dementia care, caregiver support, and an approach in which occupational therapists give patients activities tailored to their abilities and interests. Almost 80% of patients in the tailored group showed an improvement in symptoms, compared with 40% in the control group, and caregivers in the tailored intervention group showed improved efficacy. Because of these successes, pilot trials of the tailored approach are under way across the nation and in other countries.

In response to questions from the Council, Dr. Gitlin clarified that the control differs by trial, her data show results for up to 9 to 12 months, and she and her colleagues have seen the need for boosters especially as behaviors change during the course of the disease.

C. Division of Geriatrics and Clinical Gerontology (DGCG): Testosterone Trial

Dr. Peter Snyder, of the University of Pennsylvania School of Medicine, showed data from three of seven trials evaluating the efficacy of testosterone therapy, for men's health compared with placebo. Testosterone levels decline with age in men. Terms such as "male menopause," "late-onset hypogonadism," and "andropause" imply that this change is a pathologic one, and that notion is further supported by parallels between the effects of age-associated declines in testosterone and those associated with frank hypogonadism. However, previous studies of older men with slightly lower testosterone levels have shown equivocal results. Following an evaluation of the evidence regarding the effects of declining testosterone, the Institute of Medicine recommended that the NIA conduct clinical trials of testosterone therapy in older men with low testosterone levels, initial trials to assess efficacy, and studies assessing long-term risk and benefits be conducted only if the initial trials documented a clinically significant benefit.

The trials included 790 men older than 65 years with testosterone levels lower than 275 ng/dL in the early morning. The three trials specifically evaluated effects on sexual function, physical function, and vitality. Whereas testosterone levels remained below normal in the placebo group, testosterone levels in the treatment group rose to that considered mid-normal for younger men. Testosterone therapy was associated with increased sexual activity, both among men eligible specifically for the sexuality trial and among men enrolled across all testosterone trials. Libido and erectile dysfunction also improved in response to testosterone therapy. Testosterone therapy appeared to confer some benefit with respect to physical activity; although there was no statistically significant difference in 6-minute walk distance between the testosterone group and the placebo group, among men selected for the trial because of their slow walking speed, all men across the three trials did increase walking speed significantly compared to the placebo group. Testosterone therapy had no effect on vitality, but it appeared to improve positive mood and decrease negative mood and depressive symptoms. The study sample was not large enough for the investigators to draw conclusions about adverse events. However, there did not appear to be any difference between the placebo and testosterone groups in prostate cancer, lower urinary tract symptoms, or major adverse cardiovascular events.

Because only 790 men were found to be eligible for the trials, out of more than 51,000 screened, there was some discussion about the population for which testosterone therapy would be most appropriate. Dr. Snyder pointed out that efficacy results are not yet available for all seven trials and that no results about risk are available yet. Thus, he did not suggest that all men older than 65 years be screened for low testosterone. In response to other questions, Dr. Snyder noted that a cognition trial is among the four remaining testosterone trials under way.

D. Division of Behavioral and Social Research (DBSR): Behavioral Economic Approaches to Curbing Antibiotic Over-Prescribing

Dr. Jason Doctor, of the University of Southern California, noted that initial models of decision-making and behavioral change assume that clinicians are reflective, rational, and deliberate and therefore require only education and reminders. In reality, however, physicians are constrained, work in fast-paced environments, make decisions quickly, and can be influenced by emotional and social factors. Thus, behavior change approaches should incorporate an understanding of cognitive bias, appeal to clinicians' self-image, and consider other forms of socialization.

He briefly described the two cognitive systems at work in decision-making and the effects of "nudges," which are gentle, non-intrusive persuaders that influence choice by targeting automatic thinking. He then described work assessing antibiotic prescribing practices for acute respiratory infections. One study found that, overall, two-thirds of antibiotic prescribing was inappropriate and that the rate of over-prescribing increased throughout a clinician's shift. Another study found that aggressive antibiotic treatment was reduced by 12% when potential treatment orders were grouped together, rather than listed separately. Yet another study found that inappropriate prescribing was reduced by 20% among clinicians who had posters in examining rooms during the cold and flu season to explain the problem of antibiotic over-prescribing.

Dr. Doctor then discussed a national trial evaluating three electronic health record-based interventions: (1) suggested alternatives, a clinician would see a pop-up suggesting alternatives in cases for which antibiotics were not appropriate; (2) accountable justification, in which a screen would pop-up asking the clinician to justify an antibiotic prescription; and (3) peer comparison, which would rank performance based on how often antibiotics were prescribed inappropriately and send monthly emails informing clinicians whether they were top performers. The trial randomized 47 primary care practices in three health systems. The suggested alternatives intervention was associated with a general downward trend in inappropriate prescribing, although this trend was not statistically significant. However, the accountable justification and peer comparison interventions were both associated with statistically significant reductions in antibiotic over-prescribing. On the basis of these results, Dr. Doctor and his colleagues concluded that traditional approaches to behavioral change were less effective than those based on social motivation.

Discussion focused on potential differences in prescribing behaviors between physicians and physician assistants or nurse practitioners, patients wanting antibiotics and how that affects physician ratings based on patient satisfaction, comparisons of high- versus low-cost interventions, long-term effects for having a poster on the wall, and alert fatigue.

VI. ADJOURNMENT

The open session of the 128th meeting of the National Advisory Council on Aging adjourned at 12:00 p.m. on May 11, 2016. The next meeting is scheduled for September 27–28, 2016.

VII. CERTIFICATION

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



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

Prepared by Robin Barr, D. Phil.
With assistance by Rose Li and Associates, Inc.

³ These minutes will be approved formally by Council at the next meeting on September 27–28, 2016, and corrections or notations will be stated in the minutes of that meeting.

NATIONAL INSTITUTE ON AGING

DIRECTOR'S STATUS REPORT MAY 2016

Dr. Richard Hodes, Director (NIH/NIA) [E]
05/11/2016

DIRECTOR'S STATUS REPORT
National Institute on Aging
MAY 2016

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BUDGET and APPROPRIATIONS

Status of FY 2016, 2017, and 2018 Budgets

FY 2016

The President signed into law a \$1.149 trillion Omnibus spending bill on December 15, 2015 to keep most of the federal government funded through September 2016. For NIA, the FY 2016 level is \$1,600.191 million. An amount of \$1.945 million was transferred to the NIH Office of AIDS Research for HIV/AIDS, resulting in a revised operating level of \$1,598.246 million. This amount includes \$350 million for Alzheimer's Disease funding. The operating budget allows for 2,276 total research project grants (RPGs), including 882 new and competing awards. The estimate includes \$108.544 million for research centers, \$40.092 million for other research, and \$27.838 million for research training. The R&D contract mechanism will be supported at a level of \$61.020 million.

FY 2017

The FY 2017 President's budget was released to the public on February 9, 2016. The President's request for NIH is \$30.237 billion, which is -\$1.067 billion lower than the FY 2016 level of \$31.304 billion. The difference of a little over \$1 billion is proposed as mandatory funding for NIH instead.

The NIA budget request for FY 2017 is \$1,598.246 million, flat to the FY 2016 enacted level. This amount includes \$333.113 million of mandatory financing. The NIA FY 2017 Congressional Justification can be viewed at <https://www.nia.nih.gov/about/budget/2016/fiscal-year-2017-budget>.

For NIA, the FY 2017 President's Budget will allow for 2,217 total research project grants (RPGs), including 603 new and competing awards. The estimate includes \$108.224 million for research centers, \$49.092 million for other research grants, and \$27.838 million for research training. The R&D contract mechanism will be supported at a level of \$67.520 million.

FY 2018

Preliminary work on the budget for FY 2018 has begun using the FY 2017 President's budget request as the base. After intermediate stages of review, the President's budget request for FY 2018 will be presented to Congress in February 2017, at which time it will become available to the public.

NATIONAL INSTITUTES OF HEALTH

National Institute on Aging

(Dollars in thousands)

MECHANISM	FY 2015 Final Allocation		1/ FY 2016 Operating Plan		FY 2017 President's Budget	
	No.	Amount	No.	Amount	No.	Amount
<u>Research Grants</u>						
<u>Research Projects</u>						
Noncompeting	899	493,020	875	549,615	1,105	709,806
Administrative Supplements	(90)	14,214	(109)	17,250	(68)	10,750
Competing	452	271,222	882	559,669	603	391,675
Subtotal	1,351	778,456	1,757	1,126,534	1,708	1,112,231
SBIR/STTR	76	32,383	117	49,728	122	52,122
Subtotal, RPG	1,427	810,839	1,874	1,176,262	1,830	1,164,353
<u>Research Centers</u>						
Specialized/Comprehensive	82	92,301	97	108,013	96	107,693
Clinical Research	0	0	0	0	0	0
Biotechnology	0	0	0	0	0	0
Comparative Medicine	0	1,021	0	531	0	531
Res. Centers in Minority Instit.	0	0	0	0	0	0
Subtotal, Centers	82	93,322	97	108,544	96	108,224
<u>Other Research</u>						
Research Careers	212	29,681	233	32,681	219	32,681
Cancer Education	0	0	0	0	0	0
Cooperative Clinical Research	0	0	0	0	0	0
Biomedical Research Support	0	0	0	0	0	0
Minority Biomed. Res. Support	0	0	0	0	0	0
Other	54	12,329	72	16,411	72	16,411
Subtotal, Other Research	266	42,010	305	49,092	291	49,092
Total Research Grants	1,775	946,171	2,276	1,333,898	2,217	1,321,669
<u>Training</u>	<u>FTTP</u>		<u>FTTP</u>		<u>FTTP</u>	
Individual	134	5,653	144	7,041	141	7,041
Institutional	408	19,375	416	20,797	408	20,797
Total Training	542	25,028	560	27,838	549	27,838
Research & Develop. Contracts (SBIR/STTR)	102 (4)	57,584 (1,779)	109 (0)	61,020 (0)	111 (0)	67,520 (0)
Intramural Research	244	124,096	244	129,060	244	132,932
Res. Management & Support	155	44,644	159	46,430	159	48,287
Total, NIA		1,197,523		1,598,246		1,598,246

1/ Does reflect the recent reallocation as of 3/31/2016

LEGISLATIVE UPDATE

May 2016

Legislation of Interest:

H.R. 2029 – On December 18, 2015, the House passed the Consolidated Appropriations Act, 2016, (Omnibus) by a vote of 316-113, and the Senate immediately thereafter passed it by a vote of 65- 33. The President signed it into law.

H.R. 653 – On January 11, 2016, the House passed, by voice vote, H.R. 653, the FOIA Oversight and Implementation Act. The bill would, among other provisions, codify the “presumption of disclosure” of information requested under FOIA (see 01/21/09 Presidential Memorandum on the Freedom of Information Act), require each agency to post electronically documents requested more than three times through FOIA, amend Exemption 5 (intra-agency memoranda or letters) by excluding information created 25 years or more before the date on which a request is made and by excluding “records that embody the working law, effective policy, or the final decision of the agency.” On January 12, 2016, the bill was passed to the Senate (S.337) and referred to the Committee on the Judiciary. On March 15, 2016, the Senate passed, by Unanimous Consent, S. 337, the FOIA Improvement Act.

H.R. 2347 – On March 1, 2016, the House passed, by voice vote, H.R. 2347, the Federal Advisory Committee Act Amendments. The bill requires that all appointments to advisory committees be made without regard to political affiliation or political activity; extends all of the Federal Advisory Committee Act (FACA) requirements (except charters) to working groups; allows the public to make recommendations for committee members; requires that advisory committee members be designated as a "special government employee" or "a representative"; curtails the ability of contractors to create "FACA-type" committees; and expands transparency requirements (for example, who nominated each member and why the selectee was appointed). H.R. 2347 contains an additional provision that requires the head of each agency to ensure that advisory committee advice and recommendations are the result of independent judgment. Further, when transmitting advice and recommendations, each advisory committee would be required to include a statement describing the process used in formulating its advice and recommendations. On March 2, 2016, the bill was passed to the Senate and referred to the Committee on Homeland Security and Governmental Affairs.

S. 2624 – On March 3, 2016, Senator Elizabeth Warren (D-MA) introduced S. 2624, the National Biomedical Research Act. The bill establishes a Biomedical Innovation Fund within the Treasury and directs the Treasury Secretary to transfer \$5 billion not later than September 1, 2016, and each year through 2025. As long as the discretionary appropriations increase, the fund allocates money for PMI; BRAIN Initiative; Cancer Moonshot Initiative; research that fosters disruptive innovation; research related to diseases that disproportionately account for Federal healthcare spending; early career

scientists; research efforts that increase the potential for breakthrough discoveries across a diverse set of investigators, research groups, and institutions, among other areas. S. 2624 was referred to the Senate Committee on Health, Education, Labor, and Pensions.

H.R. 1831 – On March 16, 2016, the Senate passed and on March 17, the House passed (both by Unanimous Consent), H.R. 1831, the Evidence-Based Policymaking Commission Act. The bill establishes a Commission to study how to best use data to evaluate the effectiveness of federal programs and “tax expenditures” (e.g. tax credits, deductions, and subsidies) to assist in policy-making. The Commission would also consider whether a data clearinghouse should be established for policymakers and study how to best protect the privacy rights of individuals who interact with federal agencies. The impetus for this legislation is partly the result of a GAO Report on the limited usefulness of the Federal Program Inventories required by the GPRA Modernization Act of 2010. The bill now heads to the President’s desk for signature.

S. 2713 – On March 17, 2016, Senators Lamar Alexander (R-TN) and Patty Murray (D-WA) introduced S. 2713, the Advancing Precision Medicine Act of 2016. The bill provides a broad authorization for the Secretary of Health and Human Services to establish and carry out the Precision Medicine Initiative. S. 2713 was referred to the Senate Committee on Health, Labor, Education, and Pensions. The bill was marked up by the Committee on April 6, 2016, as part of the Senate’s Innovation Initiative.

S. 2014 – On April 4, 2016, the Senate HELP Committee reported S. 2014, the Next Generation Researcher Act. The bill establishes the Next Generation Researchers Initiative through which the NIH Director will coordinate all policies and programs within the agency aimed at promoting and providing opportunities for new researchers and earlier research independence. The legislation also consolidates NIH’s current loan repayment programs (LRPs) into extramural and intramural LRPs with the current LRPs listed as subcategories under each section and raises the cap to \$50,000. Finally, the bill requires a GAO report within 18 months after enactment on NIH efforts to attract, retain, and develop emerging scientists. The Committee intends to combine this legislation into a comprehensive Senate innovation bill.

S. 2745 – On April 5, 2016, Senator Susan Collins (R-ME), introduced S. 2745, the Advancing NIH Strategic Planning and Representation in Medical Research Act. On April 6, the Senate HELP Committee ordered to be reported, as amended, by voice vote, S. 2745. This bill requires NIH to develop a six year, NIH wide strategic plan, and includes several provisions promoting the inclusion of women, racial and ethnic minorities, sexual and gender minorities, and various age groups in clinical research. The Committee intends to combine this legislation into a comprehensive Senate innovation bill.

S. 2700 – On April 6, 2016, the Senate HELP Committee ordered to be reported, as amended, by voice vote, S. 2700, the FDA and NIH Workforce Authorities Modernization Act. Of interest to NIH, the bill exempts scientific meetings from

reporting requirements and restrictions based on OMB Memo 12-12 in annual appropriations acts, exempts NIH research from Paperwork Education Act requirements, and expands the Senior Biomedical Research Service appointment authority primarily by increasing the cap on slots from 500 to 2,000 and raising the salary cap to that of the President's (\$400,000). The Committee intends to combine this legislation into a comprehensive Senate innovation bill.

S. 2713 – On April 6, 2016, the Senate HELP Committee ordered to be reported, as amended, S. 2713, the Advancing Precision Medicine Act of 2016. The bill provides a broad authorization for the HHS Secretary to establish and carry out the Precision Medicine Initiative. The bill also authorizes the NIH Director to require data sharing; provides Other Transactions Authority to ICs and OD office; and allows the Secretary to exempt from disclosure under FOIA biomedical information that is about an individual and that is gathered or used during the course of biomedical research. The Committee intends to combine this legislation into a comprehensive Senate innovation bill.

Hearings, Visits, and Other topics of interest:

On February 15, 2016 NIA Director, Richard Hodes joined Senator Jerry Moran (R-KS) – at his invitation - for a tour of the University of Kansas Alzheimer's Disease Center in Kansas City.

On February 25, 2016, the House Appropriation Subcommittee on Labor, Health and Human Services, Education, and Related Agencies, Chair, Tom Cole (R-OK), held a hearing on the FY 2017 HHS Budget. Sylvia Mathews Burwell, Secretary, HHS, testified.

On February 29, 2016, House Appropriations Subcommittee on Labor, HHS, Education Chairman Tom Cole (R-OK), visited NIH and was accompanied by Subcommittee members and staff. Other members in attendance were Representatives Nita Lowey (R-NY), Mike Simpson (R-ID), Steve Womack (R-AR), Andy Harris (R-MD), and Charlie Dent (R-PA). The Chairman, Members, and staff visited the laboratories of Steve Rosenberg, NCI, where they met with two patients who had been treated with immunotherapy for their cancer; Daniel Reich, NINDS, and Susan Resnick, NIA, where they viewed brains scans of Alzheimer's disease patients; and heard from Carlos Zarate, NIMH, and a patient about the use of ketamine for treatment for severe depression and suicide prevention.

On March 16, 2016, the House Appropriations Subcommittee on Labor, Health and Human Services, Education, and Related Agencies, Chair, Tom Cole (R-OK), held a hearing on the FY2017 President's budget for NIH. Francis Collins, Director, NIH testified accompanied by Anthony Fauci, Director, NIAID; Richard Hodes, Director, NIA; Doug Lowy, Acting Director, NCI; and Nora Volkow, Director, NIDA

On March 31, 2016, Laura Friedel, Clerk, and Alexander Keenan, Minority Clerk, Senate Appropriations Subcommittee on Labor, HHS, Education, and Related

Agencies, came to NIH and were briefed on some specific initiatives and programs of interest to them in advance of the Subcommittee's April 7 hearing on the FY2017 proposed budget. Richard Hodes, Director, NIA, participated in this briefing.

On April 7, 2016, the Senate Appropriations Subcommittee on Labor, Health and Human Services, Education, and Related Agencies, Chair, Roy Blunt (R-MO), held a hearing on the FY2017 President's budget for NIH. Francis Collins, Director, NIH, testified accompanied by Douglas Lowy, Acting Director, NCI; Walter Koroshetz, Director, NINDS; Richard Hodes, Director, NIA; Christopher Austin, NCATS; and Nora Volkow, Director, NIDA.

On April 11, 2016, Senator Barbara Mikulski (D-MD) visited NIH to have a private meeting with Dr. Collins and hold an event in Masur auditorium to thank NIH employees for their support during her tenure as a Senator.

Submitted by: Dawn Beraud, Ph.D., Public Health Analyst, National Institute on Aging

STAFF CHANGES

Effective February 21, 2016, Dr. John W.R. Phillips left NIA/BSR for a position at the Social Security Administration as Associate Commissioner for the Office of Research, Evaluation, and Statistics. In this role Dr. Phillips will manage the production of information on the main source of income for 80% of US households with older people, and for disabled Americans of all ages, just as the nation is experiencing the largest increases ever in both populations.

Ms. Laura Major, MPH, joined NIA/BSR as a Research Program Analyst on March 14, 2016. Ms. Major received her B.A. from Dickinson College in Carlisle, PA, with a major in Anthropology and Psychology and her MPH in Health Behavior from the University of North Carolina - Chapel Hill in May 2012. Prior to joining NIA, Ms. Major worked for Westat on research operations for the National Health and Nutrition Examination Survey (NHANES), where she was responsible for training data collectors, writing manuals and user guides, ensuring quality control of data collection, and assisting in the introduction of technological innovations.

DAB is pleased to announce that a new program officer has joined the division to fill the vacancy in the Biological Resources Branch. Dr. Francesca Macchiarini comes to DAB from NIAID, with years of experience managing portfolios of grants and contracts. She was involved in the Geroscience Interest Group while at NIAID, and has experience in aging biology through her NIAID portfolio on the immunology of aging and radiation exposure. Dr. Macchiarini will cover the Animal Models portfolio in the Biological Resources Branch and the Tissue Physiology portfolio in the Aging Physiology Branch, as well as participate in the oversight of the resource contracts.

INSTITUTE-SPONSORED MEETINGS, WORKSHOPS, and CONFERENCES

I. PAST MEETINGS

THEORIES OF AGING (JANUARY 27-28, 2016)

On January 27-28, 2016, the NIA sponsored, “Theories of Aging: a Translational Perspective Workshop.” The workshop, led by Dr. Rafael de Cabo, was devoted to discussions and brainstorming about the question: “Can we measure in humans the biological and physiological processes that are supposedly responsible for aging, as shown in animal models?”

The following 7 topics that were selected from the current literature were discussed:

Macromolecular Damage, DNA Damage, Proteostasis and Autophagy
Cell Senescence
Epigenetics
Inflammation
Stem Cell Exhaustion
Bioenergetics, Mitochondrial Function and Metabolism
Challenges in Translation From Model Organisms to Humans

(Contact: Dr. Ronald Kohanski, DAB, 301-496-6402)

EFFECTS OF AGING ON HEMATOLOGY - January 28-29, 2016

Older adults are faced with a significant burden of non-malignant hematologic disease. The molecular bases of these hematologic disorders are largely unknown, which prevents the development of rational treatment approaches and delays effective diagnostic and prevention strategies. This workshop aims to review the most recent progress in the field and to promote discussion of the gaps in our knowledge of these biological processes and pathways. We also expect to gain a specific understanding of the current scientific and technologic barriers to the hematology research community in the pursuit of knowledge in this area. Once these areas have been defined by the research community, NIH staff with the assistance of Advisory Council members can consider the most appropriate ways to try to address defined gaps.

The explanatory workshop was held on January 28-29, 2016 in Bethesda, MD.

(Contact: Dr. Rebecca Fuldner, DAB, 301/496-6402).

GSIG SEMINARS - February 4, 2016 and May 12, 2016

This seminar series is sponsored by the trans-NIH GeroScience Interest Group (GSIG). The GeroScience Interest Group (GSIG) was formed to enhance opportunities for

discussion of the intersection between the biology of aging and the biology of disease and conditions that are of interest across ICs. It is focused on basic biology, but with a longer view towards translation. These seminars were focused on the areas of aging and diverse aging-related diseases, with emphasis on the intersections between the basic biology of aging and the basic biology of the disease. Such topics are important to further the goals of the GSIG.

(Contact(s): Drs. Felipe Sierra/Ronald Kohanski, DAB, 301/496-6402).

NAS CNSTAT MEETING ON CMS DATA AND RESEARCH USES – Washington DC – May 4, 2016

This meeting is supported by NIA via a task order. CMS data are used by many NIA-supported researchers, including projects that link CMS administrative data to NIA-supported surveys. The meeting considered potential uses of data, sharing and confidentiality, and linkages to other data sources. For additional information contact Dr. Partha Bhattacharyya in BSR, 301-496-3138.

II. FUTURE MEETINGS

NIA SPONSORED SYMPOSIUM “THE INTERPLAY BETWEEN CHRONIC VIRAL INFECTION AND IMMUNOSENESCENCE” AT THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF IMMUNOLOGY (AAI) - May 15, 2016

This NIA sponsored symposium will be held at the American Association of Immunologists annual meeting on May 15, 2016 in Seattle, WA. The NIA sponsors a symposium each year to highlight recent findings in the area of Immunity and Aging and this year’s session is entitled: “**The interplay between chronic viral infections and immunosenescence**”

The purpose of this symposium is to have presentations on state of the science findings on this research topic.

(Contact: Dr. Rebecca Fuldner, DAB, 301/496-6402).

NAS BBCSS SEMINAR ON DYADIC ANALYSES IN THE CONTEXT OF THE FAMILY AND INTIMATE RELATIONSHIPS – May 26, 2016

This meeting is supported by NIA via a task order. The goal of this meeting is to identify the most promising targets and methodological approaches for advancing research that can identify and better specify the dyadic processes within interpersonal relationships which influence health; particularly, in the context of intimate and family relationships. For additional information contact Dr. Melissa Gerald in BSR, 301-402-4156.

MODIFYING SPECIFIC ASPECTS OF PERSONALITY IN MIDLIFE TO PROMOTE WELL-BEING AND HEALTHIER AGING – June 9-10, 2016

This meeting is supported by NIA/BSR RMS funds. The goal of this meeting is to explore early stage development of targeted, personalized behavioral interventions to modify specific aspects of personality to promote well-being and healthier aging in mid-life. For additional information contact Dr. Lisa Onken in BSR, 301-402-4156.

On June 17, 2016, the NIA will sponsor “Biomarkers of Preclinical AD.” The goal of this symposium, which will be led by Dr. Susan Resnick, is to inform and provide an update for the broader NIH community on recent advances in the development of biomarkers for detecting and tracking preclinical Alzheimer’s Disease at the earliest stage of the disease process. The event will be held at Masur Auditorium at the NIH Clinical Center, in Bethesda, MD.

NAS CPOP meeting on Regional and SES Differences in Mortality Trends – June 23-24, 2016

This meeting is supported by NIA via a task order. The purpose of this meeting is to consider implications for research priorities to identify findings in the recent paper by Case and Deaton entitled “Rising morbidity and mortality in midlife among white non-Hispanic Americans.” For additional information contact Dr. John Haaga and Ms. Georgeanne Patmios in BSR, 301-496-3138.

TENTH ANNUAL DIVISION OF AGING BIOLOGY NEW INVESTIGATORS FORUM (DAB NIF) - June 29-30, 2016

The purpose of the forum is to bring together new awardees of grants from DAB in the spring of the year following their award. The goal of the conference is to encourage their continued success in this field by allowing them to get acquainted with us (NIA program staff) as well as learn from each other. The new investigators will be asked to make short presentations describing their planned work and results to date with an emphasis on how it relates to the area of aging research. This is the tenth annual DAB NIF, and feedback from prior years’ attendees indicate it is a highly valued meeting for new investigators. Twenty new investigators, with awards ranging from F32 postdoctoral fellowships to R21 grants, will attend the 2016 DAB NIF. The meeting will start with a keynote address by an eminent aging researcher, Dr. Holly Brown-Borg, UND Chester Fritz Distinguished Professor in the Department of Biomedical Sciences, University of North Dakota School of Medicine & Health Sciences.

We propose a workshop to be held on June 29-30, 2016 on NIH campus.

(Contact: Dr. Nancy Nadon, DAB, 301/496-6402).

ADVANCING AND EXTENDING A PALLIATIVE CARE RESEARCH AGENDA IN THE SPECIALTIES - August 2-3, 2016

Palliative care (PC) is an essential element for optimal care of older adults facing many acute and chronic medical conditions. Clinician-scientists focusing on palliative care

have made significant and recent strides in advancing care focused on older adults. Medical and surgical specialties have recently formed specific palliative care interest groups to advance PC within their specialties including cardiology, nephrology, pulmonary/critical care medicine, and surgical subspecialties. This workshop aims to harness this growing interest and focus on advancing PC and provide a venue to synergize research goals, strategies, collaboration and resources, many of which are being developed in parallel within the specialties. This NIA-sponsored workshop, with additional support from NINR, NHLBI, and NINR, will bring together physician-scientists and researchers in PC within these medical and surgical specialties with leaders in the PC research field, geriatrics, and other key stakeholders to exchange current and future PC research agendas and identify mutual areas to foster; identify PC research gaps and develop strategies for transdisciplinary initiatives; promote networking and collaboration for future PC research; and develop a plan to augment the number of trainees and junior investigators focusing on PC in their respective specialties and devise strategies to bolster their mentoring and career development.

(Contacts): Drs. Basil Eldadah and Susan Ziemann, DGCG, 301/496-6761

GSIG SEMINAR - August 4, 2016

This seminar series is sponsored by the trans-NIH GeroScience Interest Group (GSIG). The GeroScience Interest Group (GSIG) was formed to enhance opportunities for discussion of the intersection between the biology of aging and the biology of disease and conditions that are of interest across ICs. It is focused on basic biology, but with a longer view towards translation. The seminar will focus on the areas of aging and diverse aging-related diseases, with emphasis on the intersections between the basic biology of aging and the basic biology of the disease. Such topics are important to further the goals of the GSIG.

(Contact(s): Drs. Felipe Sierra/Ronald Kohanski, DAB, 301/496-6402).

MITOCHONDRIAL DYNAMICS, MITOPHAGY AND AGING - August 17, 2016

Deterioration of mitochondrial quality control is implicated in aging and common age-related diseases such as metabolic diseases, neurodegenerative diseases, and cancer. Autophagy of damaged mitochondria, a.k.a. as mitophagy is a major cellular process for removal of dysfunctional mitochondria involving the ubiquitin-proteasome system. Mitochondrial dynamics of fusion and fission are integral to mitochondrial quality control as efficient mitophagy requires mitochondrial fission whereas fusion promotes exchange of mitochondrial content and maintains mitochondrial health.

While defective mitochondrial quality control is associated with neurodegenerative diseases whereas mitochondrial fusion facilitates metabolic health, less is known about how mitochondrial quality control impacts the aging process. Recent studies have begun to shed light on i) genetic manipulation of an autophagy protein in extending *Drosophila* lifespan, ii) regulation of mitochondrial fusion during *Drosophila* aging and iii)

on how the pro-fission protein DRP-1 cooperates with the insulin signaling pathway to modulate *C. elegans* longevity. Therefore, the under-studied regulatory control of the dynamic process of mitochondrial fusion and fission in the context of aging and healthspan represents a nascent and exciting area in identifying potential novel molecules and pathways to regulate aging.

The purpose of the proposed workshop is to assemble the leaders in the field to discuss the current knowledge on mitochondrial quality control and aging, emerging research findings and development of novel techniques in assessing mitochondrial quality control during aging or as an outcome of anti-aging interventions.

We propose an explanatory workshop to be held on August 17, 2016 on NIH campus.

(Contact: Dr. Yih-Woei Fridell, DAB, 301/496-6402).

Developing Informed Primate Models of Human Aging – a seminar at the American Society of Primatologists and the International Primatological Society meeting – Chicago IL – August 22, 2016

This meeting is supported by NIA/BSR RMS funds. The goal of this seminar is to address the central question: How might primate models fill critical knowledge gaps about processes involved in the affective, cognitive, and social domains? For additional information contact Dr. Melissa Gerald in BSR, 301-402-4156.

What has been Learned from Evaluation of the Experience Corps – August 26, 2016

Two evaluations of the effects of participation in the Experience Corps program produced somewhat conflicting results. The goal of this meeting is to bring together analysts involved in the two studies, and independent experts, to assess which methodological differences were likely most crucial, and to determine what can be said with confidence about the effects of the Experience Corps. For additional information contact Dr. John Haaga and Ms. Georgeanne Patmios in BSR, 301-496-3138.

AUTONOMOUS AND NON-AUTONOMOUS MECHANISM OF AGING AND LONGEVITY - August 31, 2016

Research in the past several decades suggest that the underlying cause of aging is the time-dependent accumulation of stochastic damage to cells, organelles and biomolecules. This is consistent with the free radical theory of aging, which posits that organisms age because cells accumulate damage caused by free radicals, primarily from mitochondria. These theories imply that aging is primarily driven by cell autonomous mechanisms. However, cell autonomous mechanisms alone may be inadequate to explain aging. In the past several years, emerging evidence indicate that cell non-autonomous mechanisms also play a key role in regulating aging, lifespan and healthspan. Recent studies strongly support the notion that aging is driven, at least

in part, by systemic factors, but we know very little about the mechanisms by which damage drives the aging process. These conflicting autonomous and non-autonomous theories of aging pose a barrier to aging research. This workshop will evaluate these aging theories and discuss the future research directions on understanding the roles of autonomous and non-autonomous mechanisms of aging.

We propose an explanatory workshop to be held on August 31, 2016 on NIH campus.

(Contact(s): Drs. Max Guo/Ronald Kohanski, DAB, 301/496-6402).

NAS CPOP Meeting on the Effect of Education on Recent Dementia Trends – Washington DC – September 14, 2016

This meeting is supported by NIA via a task order. The goal of this meeting is to critique the evidence for a significant contribution of increasing educational attainment to the observed decline in cognitive impairment; consider the mechanisms by which education contributes to declines; consider implications for future trends in prevalence and incidence of dementia. For additional information contact Ms. Georgeanne Patmios in BSR, 301-496-3138.

ADVANCES AND GAPS IN MUSCULOSKELETAL BIOLOGY - Summer, 2016

To explore recent advances in our understanding of age-related changes in musculoskeletal tissue cross-talk and identify gaps in our knowledge.

We propose an explanatory workshop to be held in Summer, 2016 in Bethesda, MD.

(Contact: Dr. John Williams, DAB, 301/496-6402).

DISRUPTIVE APPROACHES TO UNDERSTAND THE INITIATION AND TRANSMISSION OF MISFOLDED PROTEINS IN ALZHEIMER'S DISEASE - August 2016

Currently, the biochemical processes and molecular machinery involved in the transmission of misfolded proteins such as tau and Abeta are only partially known. This NIA-sponsored workshop will bring together a group of NIA-funded investigators and experts in the cutting-edge areas of molecular and structural biology, precision top-down and shotgun proteomics and next-generation AD animal models to foster and exchange ideas for new approaches to understand the molecular mechanisms underlying the transmission of these misfolded proteins during the early pathogenesis of AD. Participants will also identify needs, gaps and opportunities in this new area of basic, discovery and translational AD research. For more information please contact Austin Yang (301-496-9350) or austin.yang@nih.gov.

Behavioral and Neuropsychiatric Complications in Dementia: Mechanisms, Moderators and New Treatment Targets - Summer 2016

This workshop sponsored by NIMH and NIA is a two day workshop to identify research needs and opportunities to enhance mechanistic understanding of neuropsychiatric disorders in dementia and to discuss clinical research opportunities for improving their treatment. For more information please contact Laurie Ryan (301-496-9350 or at ryanl@mail.nih.gov).

NIA SPONSORED SATELLITE SYMPOSIUM “INNATE IMMUNITY AND AGING” AT THE ANNUAL MEETING OF THE SOCIETY FOR LEUKOCYTE BIOLOGY (SLB) - September 15, 2016

This NIA sponsored satellite symposium will be held at the 49th Annual Meeting of the Society for Leukocyte Biology which will take place in Verona, Italy on September 15, 2016. The NIA has sponsored satellite symposia previously at SLB to highlight recent findings in the area Innate Immunity and Aging.

The purpose of this symposium is to have 4 speakers present state of the science findings on this research topic and to hold discussions on promising areas of research on rejuvenating the aged immune system.

(Contact: Dr. Rebecca Fuldner, DAB, 301/496-6402).

AMERICAN SOCIETY FOR BONE AND MINERAL RESEARCH (ASBMR) WORKING GROUP ON AGING SYMPOSIA - September 16-19, 2016

Provide the convention center costs for the Working Group on Aging Symposia at the Annual meeting of the ASBMR on September 16-19, 2016 in Atlanta, GA so as to improve and sustain the quality of the presentation.

(Contact(s): Dr. John Williams, DAB, 301/496-6402; Dr. Lyndon Joseph, DGCG, 301/496-6926).

GENERAL INFORMATION/STAFF AWARDS

Andrew Singleton, Ph.D., Chief of the Laboratory of Neurogenetics (LNG), National Institute on Aging (NIA) was approved for the designation of NIH Distinguished Investigator with an effective date of March 20, 2016. Under Dr. Singleton's direction, the LNG has been a key laboratory in furthering our understanding of the basic biology leading to Parkinson's disease (PD) occurrence and progression and the lab is now applying these techniques to a host of other diseases. These neurological diseases include Alzheimer's disease, other dementias, stroke, and in particular, a number of movement disorders, restless legs syndrome, dystonia, ataxia, myasthenia gravis, and amyotrophic lateral sclerosis (ALS).

On April 14, 2016, the Women Scientist Advisors (WSA) of the National Institute on Aging (NIA) held a special program in conjunction with the National Institute on Drug

Abuse (NIDA) to honor the 2016 WSA Excellence in Research Achievement Awardees. The program will feature presentations by the following awardees: Leslie Whitaker (NIDA Fellow), Huiling Wang (NIDA Staff Scientist), Anna McCarrey (NIA Fellow), Monica Bodogai (NIA Staff Scientist), and Michele Evans (NIA Senior Investigator).

Madhav Thambisetty, M.D., Ph.D. of the National Institute on Aging's Intramural Research Program won the 2016 Norman Geschwind Prize in Behavioral Neurology. Dr. Thambisetty is a Clinical Investigator and Chief of the Unit of Clinical and Translational Neuroscience in the Laboratory of Behavioral Neuroscience. His research focuses on enhancing the understanding of disease mechanisms operating in Alzheimer's Disease and on identifying novel biomarkers that might predict disease before the onset of clinical symptoms. He also evaluates and cares for patients with memory disorders at the Johns Hopkins Bayview Memory and Alzheimer's Treatment Center. The Norman Geschwind Award in Behavioral Neurology is presented through the American Academy of Neurology and the Society for Behavioral and Cognitive Neurology yearly in honor of Geschwind.

Grantee Honors

The article, "Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century," by Anne Case and Angus Deaton, published in PNAS in 2015, won the Cozzarelli Prize for recently published papers of outstanding scientific excellence and originality.

NIA grantee and Council Member Terrie Moffitt and Avshalom Caspi jointly won the 2016 APA Award for Distinguished Scientific Contributions. This award honors psychologists who have made distinguished theoretical or empirical contributions to basic research in psychology.

Press Releases

World's older population grows dramatically: NIH-funded Census Bureau report offers details of global aging phenomenon.
March 28, 2016.

PUBLICATIONS

United Nations, Department of Economic and Social Affairs, Population Division (2015). Directory of Research on Ageing in Africa: 2004-2015 (ST/ESA/SER.A/391).

Dedication

This report is dedicated to the late Richard Suzman, former director of the United States National Institute of Aging's Division of Behavioral and Social Research; and to the late Barney Cohen, former chief of the United Nations' Population Studies Branch. Richard and Barney are remembered with admiration and affection.

Dr. Suzman was passionate about the science of multidisciplinary aging research globally, including in Africa, the continent of his birth. He supported the production of the first Directory in 2003. The evidence of his considerable influence and vision is in the pages that follow.

Dr. Cohen also had a deep affinity for sub-Saharan Africa, including his lifelong work in demography and aging. He was very keen to see an update of the Directory of Research on Ageing in Africa.

* * * * *

This publication includes descriptions of research activities submitted by primary investigators, with minimal editing. The submissions were summarized according to how the research results addressed the policy directions of the Madrid International Plan of Action on Aging (MIPAA), and the research methods that have been applied. It is clear that research has been less active in some countries, and that some high-priority areas of research remain under-investigated.

Filling the evidence gaps on the status and needs of older persons in Africa requires concerted efforts from individual countries and the pan-African community, together with contributions from the international research community. It is hoped that this Directory will enhance networking and political action and facilitate collaborative research efforts to focus on older persons in Africa.

Wan He, Daniel Goodkind, and Paul Kowal; U.S. Census Bureau, International Population Reports, P95/16-1, An Aging World: 2015, U.S. Government Publishing Office, Washington DC, 2016.

In Memory of Dr. Richard M. Suzman

The Population Division of the U.S. Census Bureau wishes to express our deep gratitude and pay tribute to Dr. Richard M. Suzman, director of Division of Behavioral and Social Research, National Institute on Aging, who passed away on April 16, 2015. A pioneer and champion for the science of population aging, Dr. Suzman played a critical role in developing the aging research program in the Population Division. For over three decades he steadfastly supported numerous Census Bureau publications focused on population aging trends and demographic, socioeconomic, and health characteristics of the older populations in the United States and the world. Enormously popular report series such as 65+ in the United States and An Aging World are a remarkable testimony to Dr. Suzman's dedication to research on population aging which, in his words, is reshaping our world.

* * * * *

The world population continues to grow older rapidly as fertility rates have fallen to very low levels in most world regions and people tend to live longer. In 2012, 8% of the global population were aged 65 and over. In 2015 the proportion of the older population reached 8.5%. The older populations in more developed countries are projected to continue to grow in size, but at a much slower pace than those in less developed

countries, particularly in Asia and Latin America. By 2050, less than one-fifth of the world's older population will reside in more developed countries.

PUBLICATIONS AND WEB CONTENT

Booklets, AgePages, Fact Sheets, DVDs:

“Exercise and Physical Activity: Getting Fit for Life” AgePage (update/print)

“Forgetfulness: Knowing When to Ask for Help” AgePage (update/print)

Go4Life Everyday Exercises DVD (reprint)

NIA Research Program Contacts tip sheet (reprint)

“Talking With Your Older Patient: A Clinician’s Handbook” (update, redesign both print and online versions, and print)

“Lewy Body Dementia: Information for Patients, Families, and Professionals” (update/print)

Web Projects

“Aging Well in the 21st Century: Strategic Directions for Research on Aging” (updated)

Feature story: [“Does poor sleep raise risk for Alzheimer’s disease?”](#)

(For more information about NIA’s publications and web content, contact Vicky Cahan, Director, OCPL, 301-496-1752.)

MEDIA & OUTREACH

Press Releases

NIA posted and distributed the following press releases:

[World’s older population grows dramatically](#)

[Decoding the molecular ties between vascular disease and Alzheimer's](#)

[NIH-supported trials test hormonal therapy in older men with low testosterone levels](#)

[Hypothermia and older adults](#)

[NIH supports new studies to find Alzheimer’s biomarkers in Down syndrome](#)

Social Media

@NIAGo4Life Twitter followers now more than 5,500 with an additional 6,500+ subscribing to a daily e-alert of tweets

More than 51,700 users on Go4Life monthly e-alert list

@Alzheimers_NIH Twitter followers now more than 4,700 with more than 6,800 daily e-alert subscribers

Go4Life launched a bimonthly webinar series for partners on March 10 introducing the 2016 Go4Life month theme – #Fit4Function and featuring NIA scientific staff discussing current research on exercise and aging.

(For more information about NIA's media and outreach, contact Vicky Cahan, Director, OCPL, 301-496-1752.)

MEETINGS AND EXHIBITS

Chilean health delegation, November 2015 -- Dr. Marie Bernard, along with other NIA staff, met with a Chilean health delegation. Topics discussed included the Alzheimer's Disease Centers program and other Alzheimer's planning activities; the Health and Retirement Study; recent advances related to longevity; and international aging projects, among others.

Ad Hoc Group for Medical Research, January 2016 -- Drs. Hodes and Bernard, along with other NIA senior staff, met with a broad range of NIA stakeholder organization representatives that comprise the Ad Hoc Group. Topics discussed included recent FY2016 dollars appropriated for AD research, shared interests in research, health disparities, and the costs of dementia.

University of Pennsylvania scientists, February 2016 -- Dr. Hodes traveled to the University of Pennsylvania to meet with scientists at various NIA-funded centers, including the university's Alzheimer's Disease Center, the Penn-CMU Roybal Center on Behavioral Economics and Health, and the Population Aging Research Center, as well as other researchers.

American Association of Medical Colleges, February 2016 -- Drs. Hodes and Bernard, along with other NIA senior staff, met with Dr. Alexander Ommaya, current Interim Chief Scientific Officer, AAMC. Topics discussed included recent FY2016 dollars appropriated for Alzheimer's research, shared interests in research, and possible collaborations.

Dementia Discovery Fund, February 2016 -- Drs. Hodes and Bernard, along with other NIA staff, met with managers of the Dementia Discovery Fund. Topics discussed included possible collaborations, Alzheimer's clinical trials, drug discovery, and NIH initiatives such as AMP-AD.

Australian National Health and Medical Research Council, February 2016 -- Dr. Bernard, along with representatives from NIMH, NCI, and ACL, met with the Chief Executive Officer of the Research Council, Professor Anne Kelso. Topics discussed included areas of collaboration, areas of shared research interest, and various Alzheimer's research initiatives at the NIA.

Act for NIH, March 2016 -- Drs. Hodes and Bernard, along with other NIA staff, met with Act for NIH. Topics discussed included NIA paylines, Alzheimer's science advances and related activities, among others.

Friends of the NIA, March 2016 -- Drs. Hodes and Bernard, along with other NIA staff, met with the Friends for a budget-focused meeting. Topics discussed included recent FY2016 dollars appropriated for Alzheimer's and related dementias research, new PARs released by NIA, and updates for tracking Alzheimer's spending.

American Geriatrics Society, March 2016 -- Drs. Hodes and Bernard, along with other NIA staff, met with the AGS. Topics discussed included the NIA budget, new PARs released by the NIA, the NIA strategic plan, and collaborations at the AGS Annual Meeting.

Northeast Ohio Medical University, March 2016 -- Dr. Bernard, along with other NIA staff, met with representatives from the university. Topics discussed included recent FY2016 dollars appropriated for Alzheimer's research, new PARs released by the NIA, and funding opportunities for new and young investigators.

Korean Delegation, March 2016 -- Dr. Robin Barr and Mr. Patrick Shirdon met with a Congress person from the National Assembly of Korean and other delegates. Topics discussed included NIA's budget, research program areas of interest, and family caregivers.

NIA exhibited at the American Society on Aging, March 21-22, 2016, Washington, DC.

(For more information about NIA's conferences or exhibits, contact Vicky Cahan, Director, OCPL, Ph. 301-496-1752. For more information about NIA's professional meetings, contact Dr. Melinda Kelley, Legislative Officer, Ph. 301-451-8835.)

NEW NOTICES AND INITIATIVES RELEVANT TO THE NATIONAL INSTITUTE ON AGING (NIA) For the May 2016 Council Meeting

For 'Notices' and 'Research Initiatives' with NIA's participation or interest please visit these two websites: <http://www.nia.nih.gov/research/funding> and <http://www.nia.nih.gov/research/dea/nih-funding-policies> (Please look for 'Recent Changes in NIH Policy' on this web link).

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