U.S. Department of Health and Human Services (HHS)
National Institutes of Health (NIH)
Office of the Director (OD)
Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI)

Council of Councils Meeting
April 21, 2025

Meeting Minutes

I. WELCOME AND OPENING REMARKS

Nicole C. Kleinstreuer, Ph.D., Acting Director, DPCPSI, welcomed participants, NIH staff members, and members of the public to the open session of this Council of Councils meeting. The hybrid meeting began at 10:00 a.m. on Monday, April 21, 2025. The meeting attendees are identified below. Dr. Kleinstreuer then reviewed the day's agenda.

A. Attendance

1. Council Members

Council Members Present

Chair: Nicole C. Kleinstreuer, Ph.D., Acting Director, DPCPSI, NIH
Executive Secretary: Franziska B. Grieder, D.V.M., Ph.D., Director, Office of Research Infrastructure Programs (ORIP), DPCPSI
Kristin Ardlie, Ph.D., Broad Institute of Massachusetts Institute of Technology and Harvard, Cambridge, MA
Linda Chang, M.D., M.S., FAAN, FANA, FISMRM, University of Maryland School of Medicine, Baltimore, MD
Monica Gandhi, M.D., M.P.H., University of California, San Francisco, San Francisco, CA
Rafael Irizarry, Ph.D., Dana-Farber Cancer Institute and Harvard T.H. Chan School of Public Health, Boston, MA
Kevin B. Johnson, M.D., M.S., FAAP, FACMI, FIAHSI, FAMIA, University of Pennsylvania Health System and Children's Hospital of Philadelphia, Philadelphia, PA
Karen C. Johnston, M.D., M.Sc., University of Virginia, Charlottesville, VA
Barbara Kelley, Hearing Loss Association of America, Bethesda, MD
Jean A. King, Ph.D., Worcester Polytechnic Institute, Worcester, MA
Richard D. Krugman, M.D., University of Colorado School of Medicine, Aurora, CO
Kevin C. Kent Lloyd, D.V.M., Ph.D., University of California, Davis, Davis, CA
Jennifer Jaie Manly, Ph.D., Columbia University Medical Center, New York, NY
Rhonda Robinson-Beale, M.D., UnitedHealth Group, Minneapolis, MN
Susan Sanchez, Ph.D., The University of Georgia, Athens, GA
Anna Maria Siega-Riz, Ph.D., M.S., University of Massachusetts Amherst, Amherst, MA
Lauren Silvis, J.D., Tempus, Inc., Washington, DC
Russell N. Van Gelder, M.D., Ph.D., University of Washington School of Medicine, Seattle, WA

2. Liaisons

Andrew A. Bremer, M.D., Ph.D., M.A.S., FAAP, Director, Office of Nutrition Research (ONR), and Acting Director, Office of Dietary Supplements (ODS), DPCPSI

Janine A. Clayton, M.D., FARVO, Director, Office of Research on Women's Health, DPCPSI
Josh C. Denny, M.D., M.S., Chief Executive Officer, *All of Us* Research Program Office, DPCPSI
Geri R. Donenberg, Ph.D., Director, Office of AIDS Research (OAR), DPCPSI
Matthew W. Gillman, M.D., S.M., Director, Environmental influences on Child Health Outcomes (ECHO) Program Office, DPCPSI
Susan K. Gregurick, Ph.D., Director, Office of Data Science Strategy, DPCPSI
Franziska B. Grieder, D.V.M., Ph.D., Director, ORIP, DPCPSI
Carolyn M. Hutter, Ph.D., Director, Office of Strategic Coordination (OSC), DPCPSI
David M. Murray, Ph.D., Director, Office of Disease Prevention (ODP), DPCPSI
George M. Santangelo, Ph.D., Director, Office of Portfolio Analysis, DPCPSI
Jane M. Simoni, Ph.D., Director, Office of Behavioral and Social Sciences Research, DPCPSI
Marina L. Volkov, Ph.D., Director, Office of Evaluation, Performance, and Reporting (OEPR), DPCPSI
Karina L. Walters, Ph.D., M.S.W., Director, Tribal Health Research Office (THRO), DPCPSI

3. *Ex Officio* Member Absent

Matthew J. Memoli, M.D., M.S., Principal Deputy Director, NIH

4. Presenters

Jayanta Bhattacharya, M.D., Ph.D., Director, NIH
Michael F. Chiang, M.D., Director, National Eye Institute (NEI)
Richard J. Hodes, M.D., Director, National Institute on Aging (NIA)
Carolyn M. Hutter, Ph.D., Director, OSC
Patricia Labosky, Ph.D., Program Leader, OSC
Becky Miller, Ph.D., Program Leader, OSC
Ritesh Tandon, D.V.M., Ph.D., Program Director, Veterinary Scientist Training Programs, Division of Comparative Medicine, ORIP
Bruce J. Tromberg, Ph.D., Director, National Institute of Biomedical Imaging and Bioengineering (NIBIB)
Marina Volkov, Ph.D., Director, OEPR

5. NIH Staff and Guests

In addition to Council members, presenters, and Council liaisons, others in attendance included NIH staff and interested members of the public.

B. Reminders and Procedures

Franziska Grieder, D.V.M., Ph.D., the Executive Secretary for the NIH Council of Councils, reviewed the following:

- Council members are Special Government Employees during the days of Council meetings and are therefore subject to the rules of conduct governing federal employees.

- Each Council member submitted a financial disclosure form and conflict-of-interest statement in compliance with federal requirements for membership on advisory councils. The financial disclosures are used to assess real and perceived conflicts of interest, and Council members must recuse themselves from the meeting during discussions of any items for which conflicts were identified.

- Time is allotted for discussion between the Council members and presenters, but time for comments from other meeting attendees is limited. The public may submit comments in writing; instructions are available in the *Federal Register* notice for the meeting, which was published on March 25, 2025.

- Minutes from the September 12 and 13, 2024, meeting are posted on the DPCPSI website. The minutes from this meeting also will be posted there.

C. Future Meeting Dates

The next Council meetings are scheduled to be held May 29 and 30 and September 11 and 12, 2025.

II. DPCPSI UPDATES

Dr. Kleinstreuer introduced herself and provided updates on DPCPSI activities. Dr. Andrew Bremer, Director of ONR, is serving as Acting Director of ODS. NIH has terminated the Sexual & Gender Minority Research Office and the Council of Councils Sexual and Gender Minority Research Working Group. The *All of Us* Research Program Office and ECHO Program Office have been formally added to DPCPSI, and the management of the INCLUDE (INvestigation of Co-occurring conditions across the Lifespan to Understand Down syndromE) Project has been integrated into the DPCPSI Director's Office.

In September 2024, OAR hosted the second Innovation in HIV Research Symposium during the NIH Research Festival, which honored intramural investigators working on innovative research with the potential to advance HIV care. OAR's activities around World AIDS Day in December included a virtual panel, which garnered significantly higher attendance than the previous year, and staff attendance at ceremonies and receptions. NIH also announced awards to advance technology for HIV viral load detection at the point of care. Other DPCPSI activities in December included a nutrition regulatory science workshop cohosted by ONR and the U.S. Food and Drug Administration (FDA) and the Federal Indian Boarding School Healing Summit hosted by THRO. ODS also recently shared its strategic plan for 2025 through 2029.

Dr. Kleinstreuer noted that the Common Fund Venture Program recently launched two initiatives discussed at a previous Council meeting. The first initiative will integrate various data types to allow researchers to explore the role of a specific molecule, cell, gene, or pathway across tissues. The second initiative will support work in oculomics to develop and apply noninvasive eye imaging tools and technologies to identify biomarkers for diseases that affect tissues across the entire body. Another upcoming initiative is a partnership between ODP and the Centers for Disease Control and Prevention's Office of Smoking and Health to support community-generated solutions to reduce menthol cigarette smoking, particularly among groups with disproportionately high use rates.

DPCPSI is leading the development of the agencywide NIH Strategic Plan for Disability Health Research. The NIH Disability Health Research Coordinating Committee includes subject-matter experts from 24 institutes and centers (ICs) and 18 offices and programs to share research advances and collaborate. DPCPSI hosted six community roundtable discussions and a public town hall to gain insights from people with disabilities, clinicians, and professional associations and advocacy organizations. The division also published a request for information to obtain public feedback on the draft framework and received more than 140 responses. The strategic plan will be released later this year.

III. ORIP CONCEPT CLEARANCE (REISSUE): LIMITED COMPETITION: SMALL GRANT PROGRAM FOR ORIP SPECIAL EMPHASIS RESEARCH CAREER AWARD (SERCA) K01 RECIPIENTS (R03 CLINICAL TRIALS NOT ALLOWED) [VOTE]

Ritesh Tandon, D.V.M., Ph.D., Program Director, Veterinary Scientist Training Programs, Division of Comparative Medicine, ORIP, presented a reissue concept for the Small Grant Program for ORIP Veterinary Scientist SERCA K01 Recipients (R03). The objective of this program is to facilitate SERCA K01 recipients' transition to independence through fiscal independence, success in peer review competitions, and generating additional data and publications to support future R01 or equivalent applications.

Dr. Tandon noted that ORIP supports SERCA K01 grants under the Mentored Research Scientist Development Award (Parent K01) for developing veterinary scientists. Dr. Tandon emphasized that veterinary scientists offer unique knowledge of comparative biology for developing and refining animal models for human disease, as well as recommending new approach methodologies (NAMs). These awards provide a mentored research experience that enables veterinarians to become independent investigators in research related to comparative medicine, biomedical research, and translational sciences.

R03 grants have been used by various institutes, centers, and offices (ICOs)—including the National Heart, Lung, and Blood Institute; National Institute of Allergy and Infectious Diseases; National Institute of Arthritis and Musculoskeletal and Skin Diseases; and National Institute of Diabetes and Digestive and Kidney Diseases—to competitively supplement career development (K) grants during the last two award years. Dr. Tandon explained that the intent of the R03 program is to increase the success rate of new investigators applying for R01 or equivalent grants.

ORIP's R03 program was established in fiscal year 2017 (FY17). The program has enhanced the ability of ORIP SERCA K01 awardees to conduct research as they transition to becoming independent researchers through ORIP's own R03 program. These efforts align with ORIP's mission to support research training opportunities for veterinary scientists. Three notices of funding opportunity (NOFOs) have been issued since 2017. The NOFO, PAR-23-127, was recently reissued as PAR-25-176 to align with administrative priorities. The new NOFO has three receipt deadlines each year, whereas previous NOFOs (PAR-17-301 and PAR-21-090) had an annual receipt deadline. The new deadline structure provides SERCA K01 awardees more flexibility for preparing and submitting applications.

In its Strategic Plan 2021–2025, ORIP promotes innovative approaches to training and developing the careers of veterinarians working in biomedical research. ORIP invests in training and mentorship innovations for the development of veterinary scientists as independent researchers and collaborative team scientists. Furthermore, ORIP supports career development and training that prepares graduate veterinarians to pursue research that fills major gaps in biomedical and biobehavioral science and expands knowledge in emerging areas critical to human health.

The R03 program provides access to research support that allows early stage veterinary scientists to pursue unique research directions independent of the funding support of their mentors, facilitate their transition to independence, and increase their competitiveness for R01 or equivalent awards. The proposed R03 program is intended to support research projects that can be carried out in a short period of time (i.e., 2 years) with limited funding and resources. These projects may provide preliminary data to support a subsequent R01 or equivalent application. Various types of projects will be supported, including pilot and feasibility studies; secondary analyses of existing data; small, self-contained research projects; development of research methodology; and development of new research technology.

Dr. Tandon explained that ORIP's R03 program offers a restricted, limited competition for current ORIP veterinary scientist SERCA K01 awardees. Applicants are eligible after completion of the first 2 years of

the SERCA K01 award but are ineligible if they have already successfully competed for an R01 or equivalent grant. The SERCA K01 award must be active (i.e., not in a no-cost extension) at the time of submission. ORIP SERCA K01 awardees may receive funding for only one R03 grant award. Awardees are provided with a budget of up to $150,000 in direct costs for 2 years.

Dr. Tandon briefly summarized the program's progress to date. The first NOFO (PAR-17-301) was released in FY17, followed by receipt of the first round of applications eligible for submission in FY18. Thirteen R03 awards have resulted from 42 applications submitted from FY18 to FY24. Three grantees subsequently competed successfully for NIH R01 funding. Seven grantees have R01 applications under consideration for FY25. Eight grantees have advanced to become assistant or associate professors. R03 grantees have generated 16 publications, 15 of which are senior author publications. Dr. Tandon also noted that the publications cluster primarily between animal-oriented research and molecular and cellular research.

Discussion Highlights

- The discussants, Drs. Susan Sanchez and Monica Gandhi, provided their comments. Dr. Sanchez commented that NIH has always emphasized developing a robust physician–scientist workforce, including veterinary scientists. She highlighted the program's successful funding rate, as well as the notable achievements of prior R03 recipients. Dr. Sanchez also noted that the manuscript topics are aligned with the awards, and she underscored the importance of including veterinarians in biomedical research. She expressed support for the reissue concept.

- Dr. Gandhi highlighted the importance of supporting early stage investigators and encouraging them to pursue NIH research careers. She noted that although R03 programs are in place within other ICOs, ORIP's program offers unique benefits for early stage veterinary scientists. She commented that investigators can apply for the program more than once a year, and the thrice-per-year application process offers additional advantages.

- Dr. Rafael Irizarry also expressed support for the reissue concept. He commented that this early career stage is challenging for investigators, as funding mechanisms for support often are unclear.

Vote

A motion to approve the SERCA Program reissue was forwarded and seconded. The motion passed with no abstentions.

IV. OSC CONCEPT CLEARANCE (REISSUE): HIGH-RISK, HIGH-REWARD (HRHR) RESEARCH PROGRAM [VOTE]

Patricia Labosky, Ph.D., Program Leader, OSC, introduced the four HRHR Research Program awards for reissue clearance. Three awards focus on individual researchers, and one focuses on a project or program, but all support individuals of exceptional creativity who propose unusually innovative research with the potential for broad impact, emphasizing the development of the next generation of scientists. Approximately $60 million in funding is available over 5 years, with 50 to 60 awards per year across all four categories, and each award is limited to 5 years. The HRHR program is designed to foster scientific leaps and welcomes applications for any topic within the broad mission of NIH. No preliminary data or detailed experimental plans are required, and it uses nonstandard application formats and review processes.

Dr. Labosky outlined each award. The Pioneer Award supports individual scientists with outstanding records of creativity who are proposing new perspectives on major biochemical or behavioral challenges.

This award is open to all career stages, but the funded research must comprise a major portion of the applicant's work effort. The research direction must be new but can be changed during the award. The New Innovator Award supports unusually creative early stage investigators proposing innovative, high-impact research; it is similar to the Pioneer Award but open only to early stage investigators who commit 25 percent of their research effort to the award. The Transformative Research Award supports unusually innovative and impactful research projects; it is open to applications with one or multiple principal investigators and has no fixed budget. This award focuses more on the project than the individual investigator, but no preliminary data or R01-level experimental detail is expected. The Early Independence Award enables outstanding early career scientists to move rapidly into independent research positions by skipping the traditional postdoctoral position. It has a tight eligibility window that requires the researcher to finish their research degree or clinical training within 1 year of their application. It requires substantial support and commitment from the host institution, and the recipient commits 80 percent of their effort to independent research.

Dr. Labosky provided examples of previous projects and reiterated that these awards will result in bold and highly innovative research across the entire NIH mission. Representatives from all 27 ICs participate in the HRHR working group, demonstrating strong support for the program across NIH.

Discussion Highlights

- The discussants, Dr. Jennifer Jaie Manly and Dr. Gandhi, provided their comments. Dr. Manly asked about specific metrics for success and evidence that research meets the program's goals, as well as the role of the program in the context of a reduced NIH budget. Dr. Labosky explained that follow-on funding, publications, and impact in the field have been used to measure success, although evaluating project impact requires time. She noted that funds are typically administered by the most scientifically relevant IC and that ICs are eager to support the projects. Dr. Becky Miller, OSC Program Leader, added that a third-party evaluator has compared cohorts from all four awards to matched R01 pools and determined that the HRHR program generally supports more innovative science. Dr. Miller noted that identifying a comparative group for the Early Independence Award was difficult, but a survey indicated that recipients of this award experienced success comparable with a group of early stage investigator R01 awardees and were able to do so without additional training.

- Dr. Gandhi expressed strong support for the awards and suggested expanding the scope of the Transformative Research and Pioneer Awards to help support researchers in uncertain situations.

- Dr. Labosky reiterated that any research within the NIH mission is acceptable and pointed out that proposals must succeed in peer review and programmatic priority review. Flexibility is available to support areas of research that are not typically funded but have the potential for high impact. She added that all institutions eligible for R01s are eligible for this award.

- When asked whether the career trajectories of awardees could be compared to those of applicants who were not funded, Dr. Miller explained that such a comparison had been attempted but that the metric was not effective or fair. Council members noted that demonstrating the value of existing awards will be critical in a time of funding uncertainty.

- Dr. Manly pointed out that at least five HRHR grants have been canceled recently and asked whether new awards would be available for all topics. Dr. Labosky reiterated that the HRHR program will be open to all science within the NIH mission space but pointed out that the HRHR program likely would not support areas of science that NIH does not currently support.

Vote

A motion to approve the HRHR Research Program reissue was forwarded and seconded. The motion passed with no abstentions.

V. TRANSFORMATIVE RESEARCH (HRHR) WORKING GROUP OF THE COUNCIL OF COUNCILS

Carolyn Hutter, Director, OSC, introduced a proposal for a Transformative Research Working Group of the Council of Councils. Transformative biomedical research is innovative research that goes beyond incremental advances to include creative approaches and substantial breakthroughs that challenge established norms. Such research applies broadly across NIH beyond the HRHR Program and can arise from novel ideas on the edges or intersections of disciplines. Challenges include identifying critical topics and approaches with potential impact and developing appropriate mechanisms and review processes to foster innovation. The working group could address such questions as how best to foster transformative biomedical research at NIH; what the appropriate portfolio balance is for HRHR efforts; how to assess appropriate risk; how to broaden participation, including across institutions, scientific disciplines, and the translational science spectrum; and what the leadership role is for DPCPSI in this space.

Discussion Highlights

- Council members expressed support for the establishment of this working group. They also suggested that metrics should be adjusted to fit the current situation. Dr. Hutter confirmed that the working group will include a broad selection of collaborators, including health care and innovation leaders.

- Council members recommended expanding the applicant pool for who receives awards in this space and considering sustainability of funding.

- When asked about the boundaries of the working group's tasks, Dr. Hutter emphasized that the goal is to think broadly about the future of transformative research at NIH, and how DPCPSI can play a role. The scope goes beyond the current existing Common Fund HR/HR programs.

VI. REVIEW OF GRANT APPLICATIONS

This portion of the meeting was closed to the public, 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 the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix).[1] Members were instructed to exit the meeting if they deemed that their participation in the deliberation of any matter before the Council would represent a real or perceived conflict of interest. Members were asked to sign a conflict-of-interest/confidentiality certification to this effect. The *en bloc* vote for concurrence with the initial review recommendations was affirmed by all Council members present. During the closed session, the Council concurred with the review of 350 ORIP applications with requested first-year direct costs of $268,347,967 and 20 ECHO applications totaling $11,341,778.

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

VII. NIH UPDATES

Jayanta Bhattacharya, M.D., Ph.D., Director, NIH, provided an update on NIH activities and plans. He noted his background as an NIH-funded researcher and study section member and emphasized his commitment to NIH and its mission. Dr. Bhattacharya also recognized Dr. Kleinstreuer's transition to DPCPSI Acting Director and noted that many other transitions, particularly at the IC leadership level, have occurred.

Dr. Bhattacharya introduced several new initiatives, one of which aims to investigate the increase in diagnoses of autism spectrum disorder, a highly heterogenous condition with many potential causes. Dr. Bhattacharya explained that NIH will invest in research programs, coordinate interagency activities, and collaborate with the autism community in an effort to identify causes, risk factors, and treatments for autism spectrum disorder. This initiative also will leverage existing large-scale data resources to enable researchers to query stored data.

NIH will launch a new Real World Data (RWD) platform to collect existing datasets for chronic disease research; autism will be the first use case for the RWD platform. The platform will be available for multiple research initiatives within NIH and will also facilitate collaborations across HHS and the federal government by including claims data from Medicare and Medicaid and electronic health record data from the private sector. Dr. Bhattacharya emphasized that by bringing data together in one place, providing access to advanced computation resources, and leveraging the latest techniques, the platform will accelerate research and create new opportunities for cross-agency use of data in real-time health monitoring; enabling faster drug development; enabling longitudinal data sets to better understand the progression of disease; and launching national competitions and research programs to answer key questions. He noted that the data platform will preserve the privacy of patients within the context of the platform, and linkages across data sets will not threaten the confidentiality of patients. To create this database, NIH will form collaborative partnerships with federal, state, and private entities to expand data resources and identify opportunities. Existing programs will be used as a foundation, and all available funding mechanisms will be used.

Dr. Bhattacharya outlined the major aims he would like to accomplish as NIH Director to address the key health needs of the country. He noted that although one of NIH's missions is to expand the longevity of the American people, the United States has had a flat life expectancy since 2012. Dr. Bhattacharya suggested that NIH should focus on diseases that affect the most Americans and emphasized the need to investigate methods to prevent the development of chronic disease and address complications of chronic disease at early stages. He also noted that any approaches to addressing health needs should be scaled to be accessible to all Americans.

Dr. Bhattacharya's second goal is to address the long-standing replicability crisis in science and ensure that scientific literature is trustworthy. He aims to reward scientists who participate in replication efforts and will ask every IC to establish its own standards for replication in the fields under its purview and identify the key scientific claims in the literature that require replication. NIH also will establish a peer-reviewed journal with low gatekeeping to publish replication studies, and Dr. Bhattacharya outlined his intent to create a new office within OD to measure productivity, including participation in replication and data sharing efforts.

Dr. Bhattacharya also aims to increase NIH's emphasis on transformative ideas for nearly every mechanism. He noted that in the 1980s, researchers funded by NIH tended to work on ideas introduced within the past 1 to 2 years, whereas in the 2010s, most NIH-funded researchers were working on ideas that were 7 to 8 years old. Dr. Bhattacharya also pointed out that researchers in the 1980s received their first large grant when they were in their mid-30s, whereas in the 2010s, researchers receiving their first large grant were in their mid-40s. Dr. Bhattacharya commented that the slow progression of early career

scientists to independence and a portfolio that emphasizes incremental advances that are highly likely to succeed, rather than bold ideas that may fail, reduces the potential for significant advances. He planned to shift NIH decision-making and metrics for success to prioritize transformative possibilities over regular publication of moderate results.

Dr. Bhattacharya commented on the controversial theory that SARS-CoV-2 was the result of laboratory experimentation and emphasized his intent to ensure that NIH-supported research poses no risk of harm to human populations. He intends to ensure that NIH cooperates with efforts to regulate its research and confirm that research meets the highest ethical standards and does not endanger human populations.

Dr. Bhattacharya suggested that NIH should foster a culture of academic freedom in which scientists can express disagreement respectfully. He intends to develop a policy ensuring that intramural researchers have minimal oversight of whether their research can be published. He closed by emphasizing the importance of novel biomedical discoveries to enhancing health and lengthening life.

Discussion Highlights

- Dr. Gandhi asked whether Dr. Bhattacharya will advocate for NIH during congressional budget proposals in June. Dr. Bhattacharya noted the disruption in NIH's activities and suggested that scientific review panels will have caught up by May. Dr. Bhattacharya noted that the normal process involves a negotiation among the Office of Management and Budget (OMB) and agencies, including NIH. He commented that he has heard bipartisan support for NIH from members of Congress and that the president's letter to the incoming Office of Science and Technology Policy director committed to continuing U.S. leadership in biomedicine. Dr. Bhattacharya expressed an intent to advocate to ensure NIH has the capacity and resources for that global role.

- Dr. Kevin Johnson asked how NIH should be involved in training, particularly because trainees receiving their first grants are unlikely to have the impactful ideas on which Dr. Bhattacharya aims to focus. Dr. Bhattacharya emphasized the importance of ensuring that trainees can try new ideas, citing his own research showing that early and mid-career scientists are more likely to try new ideas. He suggested some potential ideas, such as evaluating research projects on the advance of postdocs into independence, having more institutional K awards, and allowing researchers with training support to apply for R-level awards.

- Dr. Irizarry commented on NIH as one of the most valuable investments made by taxpayers and expressed confidence in the resilience and creativity of the current workforce. He noted the difficulty of strategic planning during times of uncertainty and requested clear guidance from NIH. Dr. Bhattacharya replied that although research emphases may shift, planning will allow institutions to work on them. He commented that although research projects that do not align with the president's executive orders have been disrupted, he remains committed to ensuring that the health needs of every American—regardless of race, sex, or sexual orientation—are reflected in the NIH portfolio. Dr. Bhattacharya also commented on the distrust between people who voted for President Trump and the scientific community. He emphasized the need for NIH to communicate respectfully about public concerns and noted that he hopes to build a bridge between the scientific community and those who distrust the community's commitment to the public interest.

- Dr. Kevin C. Kent Lloyd asked for Dr. Bhattacharya's perspective on supporting animal research. Dr. Bhattacharya noted that he is still gathering information in this area but hopes that animal research can be reserved for studies with no alternatives, and he stated that many alternatives

have become available in recent years. Dr. Bhattacharya turned to Dr. Kleinstreuer for additional comment. Dr. Kleinstreuer added that advances in many fields suggest the potential to move toward methods based more in human biology. She noted the Complement Animal Research in Experimentation, or Complement-ARIE Common Fund program, which will include a validation and qualification network to ensure that NAMs are robust, reliable, replicable, and translatable into better public health protection and additional insights. Dr. Kleinstreuer also referred to a scientific roadmap released by the FDA highlighting increased support for NAMS from both NIH and the Interagency Coordinating Committee on the Validation of Alternative Methods, a congressionally mandated group that includes18 federal partners.

- Dr. Rhonda Robinson-Beale commended the focus on reproducibility and noted the need for real-world studies with large numbers of subjects, which may involve such entities as health systems, insurance companies, and employers. She commended *All of Us* for its ability to recruit both members of the public and partners across many areas. Dr. Robinson-Beale pointed out that the distrust between members of the public and scientists was influenced by lack of effective communication during the COVID-19 pandemic about the iterative nature of science, and she expressed hope that part of Dr. Bhattacharya's initiative would focus on building scientific literacy to increase acceptance of NIH findings. Dr. Bhattacharya commented that he could use skills he developed hosting podcasts to improve communication between NIH and the public. Dr. Robinson-Beale noted that social media communications need to show the public that information is legitimate.

- Dr. Jean King requested clarification on the intended focus on academic freedom when NIH has removed funding from some areas of science. She also suggested increasing efforts to engage the public in conversation. Dr. Bhattacharya suggested that academic freedom, to him, means that NIH is investing in research that will advance the health and longevity of the American people and that scientists can publish research confirmed by experimentation and communicate what they want within the scientific community at large. He commented that the executive order on diversity, equity, and inclusion initiatives is not aimed at stopping fundamental research that advances the health and well-being of minority populations and noted that funding research on prevention of chronic diseases, which often affect minority Americans at higher levels, will be more impactful.

- Dr. Gandhi pointed out that NIH research already is skewed toward chronic diseases, including infectious chronic diseases, such as hepatitis B, HIV, and tuberculosis. She noted that global research in areas of high burden for these diseases is translated to treatments that improve the health of Americans, and most of the work that has led to advances in treatment, prevention, and screening has been conducted in global settings. She added that this also applies to such areas as pollution and violence. Dr. Bhattacharya commented that NIH should ensure the results from research in other countries are translated to improving the health and well-being of the American people. He pointed to lenacapavir as an example of an HIV advance supported by global research that could be used to eradicate HIV in the United States.

- Dr. Linda Chang asked about rumored plans to reorganize the structure of NIH ICs. Dr. Bhattacharya replied that he had no specific plans for reorganization at that time and emphasized that any reorganization will require justification and advice. He added that the Scientific Management Review Board has a process that may be used if Congress requests a reorganization.

VIII. COUNCIL OF COUNCILS WORKING GROUP ON SCIENCE OF SCIENCE

Marina Volkov, Ph.D., Director, OEPR, outlined plans for a Council of Councils working group on the science of science, or metascience, which is the field of research on the scientific process. Studying NIH programs, policies, and impacts will ensure that NIH is funding the best science, supporting more breakthrough research, speeding discovery and interventions, and achieving its mission.

In a 2014 report assessing the value of NIH-supported biomedical research, the Scientific Management Review Board recommended that NIH use a systematic and comprehensive approach to study itself. Questions of interest within NIH often differ from those outside NIH. However, work conducted by extramural science of science researchers have at times influenced NIH's approach to supporting the research community, such as Dr. Bhattacharya's study of "edge science" and Dr. Donna Ginther's 2011 report on race and ethnicity in relation to NIH awards.

Much research in this field is supported by the U.S. National Science Foundation (NSF), which funds basic and applied research to guide public- and private-sector policymaking for science innovation. A science of science program jointly supported by the National Institute of General Medical Sciences and NSF includes projects studying the impact of NIH policies on the conduct of science. In 2018, Congress passed the Foundations of Evidence-Based Policymaking Act; as part of its implementation of the Act, OMB is seeking to create connections between federal departments and the research community through its research portal. NIH has published a list of questions on the OMB portal that the external community could consider that would provide insight into NIH success. Additionally, OEPR is collaborating with the Office of Extramural Research to pilot a Science of Science Scholars Program that will recruit volunteers to work closely with NIH staff to examine proprietary NIH data and determine opportunities for improvement.

Dr. Volkov noted that a Council of Councils working group can help determine how to support and conduct science of science studies in a systematic and comprehensive way to help ensure that NIH continually strengthen its efforts in pursuit of its mission.

Discussion Highlights

- Dr. Johnson asked whether this effort aligns with past Council discussions on improving NIH science communication activities. Dr. Volkov emphasized the need to communicate with the public about the relevance of NIH investments and pointed out that explaining how NIH research produces the evidence base that others use to improve health is difficult. She commented that NIH needs to be able to explain how science is implemented and identify when NIH research has led to benefits for the public.

- Dr. Robinson-Beale suggested studying care delivery and emphasized the need to explore new collaborations with organizations that fund infrastructure within the health care delivery system that is not based on research. Dr. Volkov pointed out that NIH can achieve its mission only if other entities apply the research it produces, so understanding the translation process and capturing the flow of evidence among HHS entities and the health care delivery system is critical.

- Dr. King noted the importance of Dr. Ginther's report and suggested communicating through narratives and personal stories. She encouraged NIH to support specialists in scientific communication and interpretation.

- Dr. Volkov agreed that basic science discoveries may not produce treatments accessible to the public for many years.

- Dr. Kleinstreuer noted the need to look critically at unsuccessful research and gain insights from negative findings or lack of translation.

IX. OSC CONCEPT CLEARANCE (STAGE 2): CELLULAR SENESCENCE NETWORK (SENNET) PROGRAM [VOTE]

Richard J. Hodes, M.D., Director, NIA, outlined the progress of the NIH Common Fund's Cellular Senescence Network (SenNet) Program in its first stage and proposed advancing the program to the second stage. The overarching goals of SenNet are to advance the understanding of the biological relevance and heterogeneity of cellular senescence, develop robust biomarkers, and inform senotherapeutic interventions for improving human health.

Cellular senescence is a complex biological process in which cells permanently halt normal proliferation in response to stress or damage, contributing to age-related diseases. Although the consequences of cellular senescence are well recognized, the underlying mechanisms require further investigation. To address this gap, the NIH Common Fund launched SenNet to support 5 years of funding on senescent cell health. Throughout Stage 1, SenNet generated more than 1,300 data sets across organs and published more than 780 data sets, 288 manuscripts, and 153 protocols on how to study and detect senescent cells. Multiple techniques—including positron emission tomography, magnetic resonance imaging, bioinformatics, various transcriptomics approaches, and, recently, artificial intelligence (AI)—have expanded the understanding of senescent cells. SenNet's progress reflects broad collaboration among consortium principal investigators, working group members, expert panels, and program consultants. These stakeholders identified key priorities, including developing preclinical models to validate interventions, characterizing cellular senescence in health and disease, and deploying computational tools to identify senescence signatures and guide therapeutic interventions.

Research on cellular senescence preceded the development of SenNet. A portfolio analysis of NIH awards during the years 2015 to 2024 found 53 awards for research topics that address Stage 1 and 2 SenNet topics; 31 of the awards were made through SenNet. Stage 2 will build on this foundation by generating discovery, mapping, and validation centers (Initiative 1); senescence technology projects to further develop technologies needed to study senescent cells both *in vivo* and *in vitro* (Initiative 2); and a data coordination and organizational center to improve data accessibility to the broad research community (Initiative 3).

The proposed budget for SenNet Stage 2 is $30 million per year for 5 years, which will support the development of searchable senotype atlases for health and disease, refinement of preclinical models to accelerate senotherapeutic interventions, and innovation tools and technologies (e.g., AI and machine learning) to predict the biological outcomes of senescence heterogeneity and modulation of senescent cells *in vivo*.

Discussion Highlights

- The discussants, Drs. Lloyd and Manly, provided their comments. Dr. Lloyd expressed concern about incomplete data sets from Stage 1, emphasizing that information from the data sets is needed for biomarker discovery in Stage 2. Dr. Hodes remarked that the analysis is ongoing due to the volume of data sets generated through multi-omics methods. Given the dynamic nature of Stages 1 and 2, the increased information received from Stage 1 will help translate those findings to clinical application in Stage 2.

- Dr. Lloyd inquired about mechanisms governing transitions between senescence, apoptosis, and quiescence. Dr. Hodes explained that several studies are in progress to address those questions in several cell types. Apoptosis, programmed cell death, is irreversible. Quiescence, a state of

relative inactivity, is more easily reversible. He emphasized that one strategy to eliminate senescent cells is to block the pathways that protect them from apoptosis. Senescence in cells is now considered "durable" rather than irreversible, and certain conditions may reverse senescent states. Dr. Lloyd commended the rigorous efforts that will be applicable to the second phase and supported the program's extension.

- Dr. Manly supported Dr. Lloyd's comments on the strength of SenNet's Stage 2 program and raised questions about the program's continuity through the NIH Common Fund, measurements of the program's success, and the broad-ranging applicability of this program to human health. Dr. Hodes emphasized that the continued exploration of senescence heterogeneity will generate valuable data for developing widely accessible atlases. The success of the program has also been demonstrated in the funding of senescence-related projects by sources outside of the NIH Common Fund. Continuation of this work may influence the development of senotherapeutics to treat a broad range of human conditions. Dr. Hodes anticipated that in Stage 2, SenNet participation will expand to a broader set of institutions and involve more early stage investigators, facilitating development of the next generation of researchers.

- Dr. Hutter highlighted SenNet's integration into the broader NIH Common Fund data ecosystem, including R03 opportunities and training initiatives to enhance researcher access and engagement. Dr. Kleinstreuer added that cellular senescence intersects with many biomedical research areas and reaffirmed the value of NIH Common Fund support, noting that SenNet's structure promotes NIH-wide collaboration and aligns with the NIH Common Fund's goal of supporting synergistic research across ICs.

Vote

A motion to approve the SenNet Program Stage 2 concept was forwarded and seconded. The motion passed with one abstention.

X. OSC CONCEPT CLEARANCE (NEW): PRECISION MEDICINE WITH AI: INTEGRATING IMAGING WITH MULTIMODAL DATA (PRIMED-AI) PROGRAM [VOTE]

Bruce J. Tromberg, Ph.D., Director, NIBIB, introduced the Common Fund PRIMED-AI program, which aims to catalyze the development and adoption of innovative AI-based clinical decision support tools that integrate clinical imaging with multimodal non-imaging clinical data. The program will enable cost-effective, accessible, and sustainable precision medicine workflows for diagnosis, treatment, and quality of care for patients. This initiative addresses the needs of multiple ICOs and can significantly impact the broader community.

Dr. Tromberg highlighted the collective effort of the working group members across NIH ICOs to create the PRIMED-AI concept. Clinical imaging—including radiology, pathology, and camera images—will be used in combination with other multimodal health data (e.g., electronic health records, multi-omics data, wearables), improving on previous NIH efforts in these core technical areas that have been siloed and lacking in cohesive structure. The PRIMED-AI program will provide the opportunity to increase clinical image content analysis and guide patient management. Developing this concept included issuing a request for information and convening a strategic planning workshop. Four themes were identified from these efforts: integrating imaging and multimodal data, developing AI algorithms and tools, supporting clinical implementation, and building trust and coordination.

Michael F. Chiang, M.D., Director, NEI, explained that PRIMED-AI fills several unmet needs, including integration and interpretation of multimodal health data sets using AI, advancement and promotion of AI-

driven precision medicine for all Americans, development of cohesive infrastructure to link data, acceleration of clinical decision support tool implementation, and creation of trusting relationships between patients, clinicians, and data scientists. Three sets of NOFOs will address the themes and current gaps. One will focus on developing standardized frameworks, academic-industrial partnerships, and modular software tools. The model-to-clinic NOFO will encompass two phases: tool development and ancillary clinical testing of developed models. The third set of NOFOs will cultivate trust through the creation of a validation center, a logistics center, and communication curricula.

Deliverables will include best practices for developing precision medicine tools that integrate imaging and multimodal data, innovative and reliable tools, and durable relationships between stakeholders to expand and sustain the field. PRIMED-AI will have an AI-supported translational impact on patients, initiate cultural changes in clinical practice, enable precision medicine strategies at scale, foster cross-platform validation, integrate input from all stakeholders, and accelerate use of multiscale digital biomarkers. The proposed budget is $121 million over 5 years.

Discussion Highlights

- The discussants, Drs. Johnson and Chang, provided their comments. Dr. Johnson expressed enthusiasm for the program and commented that PRIMED-AI is likely to have an impact on precision medicine using AI and produce translatable outcomes. He suggested that the initiatives within the subgoals be reviewed and evaluated as individual ideas and recommended gathering insights from the Bridge2AI Program. Dr. Johnson emphasized that the trust component of this concept should be introduced from the beginning through public–private partnerships and suggested including other multimodal data (e.g., unstructured text, audio signals). He recommended the use of additional funding mechanisms to ensure that successful projects advance to clinical trials and bedside use without recompeting for additional funding. Drs. Tromberg and Chiang agreed that these additional forms of multimodal data should be included. Dr. Tromberg noted that NIBIB-funded programs have a strong track record with the FDA and that programs funded by NIH have access to supportive resources to expedite the validation process and enter the regulatory process to have a trustworthy, beneficial impact in the clinic. He mentioned that additional funding mechanisms that could be useful for this program are being discussed. Dr. Chiang commented that the concept allows flexibility to alter the project design as the field evolves. He added that Bridge2AI alone could not advance the field sufficiently, resulting in the creation of this concept to fill the gap.

- Dr. Chang communicated her gratitude to the presenters and PRIMED-AI Working Group members who developed this concept. She noted that this program is similar to the real-world data platform presented by the NIH Director and recommended reaching out to him for a potential partnership. Dr. Chang highlighted two feasibility concerns. Variability in imaging acquisition and data harmonization is an issue, especially in multicenter studies, even when standardized protocols and equivalent instrumentation are used. She asked whether tools will be developed to improve data uniformity and suggested incorporating algorithms previously developed from clinical data to improve medical outcomes. Dr. Chang also expressed concern that the proposed budget is too limited to develop these tools when compared with the investment in AI initiatives by private industry and venture funds. She recommended reaching out to the University of Maryland Institute of Health Computing because of its similar effort with electronic health record data. Dr. Chiang agreed that AI algorithms and tools that can help standardize and harmonize data would be beneficial. Dr. Kleinstreuer commented that PRIMED-AI will be integrated into the real-world data platform along with other NIH data infrastructure. Dr. Tromberg noted that a good foundation exists from previous government programs that the PRIMED-AI concept can build on to benefit clinicians and patients.

- In response to a question about the unique role NIH plays in developing this program, Drs. Chiang and Tromberg explained that NIH can provide validation standards, public–private partnerships, navigation of the regulatory process, and support for interoperability, as well as resources and experience.

- Council members pointed out that the size of this program will require significant investment for sustainability and validation across hospitals, which is complicated by privacy concerns. Dr. Chiang responded that the validation center was proposed to address the issue of testing models across hospitals, and Dr. Tromberg noted NIH's commitment to facilitating data sharing.

- Council members noted previously approved concepts and tools that address similar challenges in data sharing and suggested prioritizing data integration in the budget.

- In response to a question about intellectual property (IP) policies, Dr. Tromberg noted that standard IP policies will be followed but highlighted the growing movement toward open science and distribution of algorithms, adding that PRIMED-AI will monitor the community response to determine next steps. Dr. Chiang emphasized that this program aligns with the priorities of the Assistant Secretary for Technology Policy and Office of the National Coordinator for Health Information Technology.

- Dr. Hutter commented that memoranda of understanding with FDA could be incorporated in NOFOs to ensure early regulatory feedback.

Vote

The motion to approve the PRIMED-AI Program concept was forwarded and seconded. The motion passed with no abstentions.

XI. REFLECTIONS FROM DEPARTING COUNCIL MEMBERS

Departing Council members offered remarks. Dr. Johnson emphasized the importance of the scientific process as a dynamic engine for truth driven by curiosity, discipline, skepticism, and creativity and pointed out that meaningful innovation emerges when people, process, and technology are aligned with intention. He expressed concern about recent changes at NIH framed as progress, noting that progress is not synonymous with speed. People remain at the heart of science and deserve stable structures, trustworthy communication, solid evidence, collaboration without disruption, and health for the nation. New initiatives require thoughtful implementation strategies, inclusive engagement, and iterative feedback loops. Dr. Johnson emphasized that the success of NIH will hinge on preserving institutional memory and rewarding learning and that technology must be approached with a commitment to validation. He thanked fellow Council members and supporting staff and reiterated the need to keep championing people, process, innovation, and technology in harmony to move science forward.

Dr. Robinson-Beale concurred with Dr. Johnson's remarks and noted that her Council service gave her the opportunity to learn about the complexity of bringing scientific ideas forward. She was encouraged that NIH has connections to be able to reduce the time between discovery and implementation, but she emphasized that new innovations should not create fragmentation in the long term. She noted that science must be trusted and communicated clearly and broadly and encouraged the inclusion of the private-sector perspective and emphasizing governance. Dr. Robinson-Beale added that alignment around other funding organizations will strengthen the NIH system's ability to make changes.

Dr. Chang expressed her gratitude for participating on the Council and noted that in-person meetings add value to communication and discussion. Dr. Sanchez commented on the honor of serving on the Council and emphasized the importance of its work.

XII. CLOSING REMARKS

Dr. Kleinstreuer expressed gratitude for the input, discussion, and feedback provided by Council members.

XIII. ADJOURNMENT

Dr. Kleinstreuer adjourned the meeting at 4:58 p.m. EDT on April 21, 2025.

XIV. CERTIFICATION

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

Kleinstreuer, Nicole (NIH/OD) [E]
Digitally signed by Kleinstreuer, Nicole (NIH/OD) [E]
Date: 2025.05.29 07:17:36 -04'00'

Nicole C. Kleinstreuer, Ph.D. — Date
Acting Chair, NIH Council of Councils
Acting Director, DPCPSI, OD, NIH

Franziska B. Grieder -S
Digitally signed by Franziska B. Grieder -S
Date: 2025.05.23 07:11:53 -04'00'

Franziska B. Grieder, D.V.M., Ph.D. — Date
Executive Secretary, NIH Council of Councils
Director, ORIP, DPCPSI, OD, NIH