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

Council of Councils Meeting
January 25, 2019

Meeting Minutes

I. CALL TO ORDER AND INTRODUCTIONS

James M. Anderson, M.D., Ph.D., Director, DPCPSI, welcomed participants, NIH staff members, and members of the public to the meeting of the Council of Councils. The meeting began at 8:30 a.m. on Friday, January 25, 2019, in the John E. Porter Building/35A, Rooms 620/630/640, on the NIH Campus in Bethesda, Maryland. He noted that Council members Drs. Kevin Johnson and Sachin Kheterpal were unable to attend, and Dr. Bruce Ovbiagele was attending by phone. The meeting attendees are identified below. Dr. Anderson informed attendees of changes to Institute and Center (IC) directors. Dr. Stephen Katz, the long-time director of the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), died suddenly on December 20. Dr. Anderson noted that Dr. Katz was an incredible leader and scientist, and he is truly missed. Dr. Robert Carter, the Deputy Director of NIAMS, has been named as Acting Institute Director, pending recruitment of a new Director. Dr. Helene Langevin was sworn in as the Director of the National Center for Complimentary and Integrative Health in November, and Dr. Bruce Tromberg was sworn in as the Director of the National Institute of Biomedical Imaging and Biotechnology in December. Dr. Anderson welcomed Dr. Tara Schwetz, the new Associate Deputy Director of the NIH. He announced that NIH is continuing to recruit for the Chief Data Strategist who will also serve as the Director of the Office of Data Science Strategy in DPCPSI. Dr. Anderson noted that the search for a new Director of the Office of Dietary Supplements in DPCPSI has been paused while a review of the activities for the office going forward is conducted.

Following introductions and announcements from Franziska B. Grieder, D.V.M., Ph.D., Executive Secretary for the NIH Council of Councils, Dr. Anderson reviewed the day's agenda.

A. Attendance

1. Council Members

Council Members Present
Chair: James M. Anderson, M.D., Ph.D., Director, DPCPSI
Executive Secretary: Franziska B. Grieder, D.V.M., Ph.D., Director, Office of Research Infrastructure Programs (ORIP), DPCPSI
Maria L. Acebal, J.D., Food Allergy Research & Education, Inc., Washington, DC
Maria Rosario G. Araneta, Ph.D., M.P.H., University of California, San Diego, La Jolla, CA
Kristin Ardlie, Ph.D., Broad Institute of Harvard University and Massachusetts Institute of Technology, Cambridge, MA
Jeffrey R. Botkin, M.D., M.P.H., The University of Utah, Salt Lake City, UT
Linda Chang, M.D., FAAN, FANA, University of Maryland School of Medicine, Baltimore, MD

Graham A. Colditz, M.D., Dr.P.H., M.P.H., Washington University School of Medicine, St. Louis, MO
Andrew P. Feinberg, M.D., M.P.H., Johns Hopkins University, Baltimore, MD
Rick Horwitz, Ph.D., Allen Institute for Cell Science, Seattle, WA
Patricia D. Hurn, Ph.D., R.N., University of Michigan, Ann Arbor, MI
R. Paul Johnson, M.D., Emory University School of Medicine, Atlanta, GA
Paul J. Kenny, Ph.D., Icahn School of Medicine at Mount Sinai, New York, NY
Gary A. Koretzky, M.D., Ph.D., Weill Cornell Medical College, New York, NY
Michael D. Lairmore, D.V.M., Ph.D., University of California, Davis, Davis, CA
Jian-Dong Li, M.D., Ph.D., Georgia State University, Atlanta, GA
Terry Magnuson, Ph.D., The University of North Carolina at Chapel Hill School of Medicine, Chapel Hill, NC
Edith P. Mitchell, M.D., FACP, Thomas Jefferson University, Philadelphia, PA
Charles P. Mouton, M.D., M.S., The University of Texas Medical Branch, Galveston, TX
Megan O'Boyle, Phelan-McDermid Syndrome Data Network, Arlington, VA
Bruce Ovbiagele, M.D., M.Sc., M.A.S., University of California, San Francisco, San Francisco, CA
Rhonda Robinson-Beale, M.D., Blue Cross of Idaho, Meridian, ID
Susan Sanchez, Ph.D., The University of Georgia, Athens, GA
Jean E. Schaffer, M.D., Washington University School of Medicine, St. Louis, MO
Scout, Ph.D., National LGBT Cancer Network, Pawtucket, RI
Anna Maria Siega-Riz, Ph.D., M.S., University of Virginia, Charlottesville, VA

Council Members Absent
Kevin B. Johnson, M.D., M.S., Vanderbilt University Medical Center, Nashville, TN
Sachin Kheterpal, M.D., M.B.A., University of Michigan Medical School, Ann Arbor, MI

2. Liaisons

Joseph Betz, Ph.D., Acting Director, Office of Dietary Supplements, Office of Disease Prevention (ODP), DPCPSI
David M. Murray, Ph.D., Director, Office of Disease Prevention (ODP), DPCPSI
Karen L. Parker, Ph.D., M.S.W., Director, Sexual & Gender Minority Research Office (SGMRO), DPCPSI
Jay Radke, Ph.D., representing **Maureen M. Goodenow, Ph.D.,** Director, Office of AIDS Research, DPCPSI
Wendy Smith, representing **William T. Riley, Ph.D.,** Director, Office of Behavioral and Social Sciences Research (OBSSR), DPCPSI
Elizabeth Spencer, R.N., representing **Janine A. Clayton, M.D.,** Director, Office of Research on Women's Health, DPCPSI
Elizabeth L. Wilder, Ph.D., Director, Office of Strategic Coordination (OSC), DPCPSI
David R. Wilson, Ph.D., Director, Tribal Health Research Office, DPCPSI

3. *Ex Officio* Members Present

Lawrence A. Tabak, D.D.S., Ph.D., Principal Deputy Director, NIH

4. Presenters

Franziska B. Grieder, D.V.M., Ph.D., Director, Office of Research Infrastructure Programs (ORIP), DPCPSI

David M. Murray, Ph.D., Director, ODP, DPCPSI
Karen L. Parker, Ph.D., M.S.W., Director, SGMRO, DPCPSI
Scout, Ph.D., Council of Councils Sexual & Gender Minority Research (SGMR) Working Group Chair
Alan Simon, M.D., Medical Officer, Institutional Development Awards (IDeA) States Network, Environmental influences on Child Health Outcomes (ECHO) Program Office
Lawrence A. Tabak, D.D.S., Ph.D., Principal Deputy Director, NIH
Elizabeth L. Wilder, Ph.D., Director, OSC, DPCPSI

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. Announcements and Updates

Dr. Grieder 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 December 27, 2018.

- Minutes from the September 7, 2018 meeting are posted on the DPCPSI website. The minutes from this meeting also will be posted there.

C. Future Meeting Dates

The next Council meeting will be held on May 17, 2019. The final Council meeting of the year will be held on September 6, 2019.

II. ORIP STRATEGIC PLAN MID-POINT UPDATE

Dr. Grieder explained that ORIP's mission is to support infrastructure and resource programs in all areas of science across the NIH, and providing these high quality resources supports the precision and reproducibility of research. The three components of ORIP's extramural programs are the Division of Construction and Instruments, the Division of Comparative Medicine, and the Small Business Innovation Research/Small Business Technology Transfer program.

Dr. Grieder outlined the development process for ORIP's strategic plan, including focus groups, conferences, and public requests for information. The plan centers on models, instrumentation, and training. The first focus of ORIP's program accomplishments under the strategic plan concentrated on

ORIP's support for training programs for veterinary students and veterinary scientists engaging in research. These trainees often have unique insight into animal research. Dr. Grieder commented on ORIP's recent analysis of nonhuman primate in NIH research, which will support increased understanding of future research needs. She noted several funding opportunities related to veterinary training and veterinary scientists. Analysis of K awards funded by ORIP in recent years indicates that the ORIP's training pipeline works well and that most awardees remain in research. A recent expert panel discussed needs for the future of veterinary research training and suggested that veterinarians in research need to expand their knowledge of genetics, pathology, and infectious diseases, and veterinary and medical schools need to increase their collaboration with each other.

The second focus of the strategic plan, state-of-the-art instrumentation, is supported via three 1-year awards: the Shared Instrumentation Grant, the High-End Instrumentation Program, and the Shared Instrumentation for Animal Research Grant. As an overarching principle, types of instruments are funded according to the number of applications received, which allows review to be distributed across study sections and equalizes differences in scoring. Dr. Grieder explained that although larger ICs use shared instruments more often, grantees from every IC are involved in their use. ORIP has improved this process by participating in meetings held by the IDeA states (Institutional Development Awards). These states traditionally have lower success rates in receiving NIH funds, resulting in a considerable increase in the percentage of IDeA states applying for shared instrumentation funding. Dr. Grieder added that because these grants only last 1 year, the program can adjust to new technologies.

As a third focus, Dr. Grieder discussed animal disease models, explaining that ORIP funds both well-known and lesser known, but important models. She described ORIP's support of zebrafish models through the Zebrafish International Resource Center (ZIRC), which acquires and distributes lines nationally and internationally. Of note, 20 ICs and numerous intramural scientists request and receive zebrafish lines from ZIRC. Dr. Grieder commented on risks associated with storage of these resources, such as a fire at ZIRC in 2014, and noted that through the strategic plan, ORIP has worked with ZIRC to improve cryopreservation.

Dr. Grieder reiterated that ORIP works extensively with many DPCPSI offices and colleagues to support trans-NIH infrastructure and long-term investments. The next strategic plan will be presented to the Council when it is ready for input during the development process.

Discussion Highlights

- When asked about the development of the continuum of animal models, such as clinical trials with dogs to identify natural animal models of disease, Dr. Grieder commented on the attractiveness of the One Health Initiative as a method of encouraging collaborations between physician scientists and veterinary scientists. She noted that naturally occurring disease model research is more difficult to fund, but it is an important direction to investigate further. Council members also commented on the difficulty of recruiting an adequate number of animal patients for these studies.

- In response to a question about low levels of funding success for veterinary scientists, Dr. Grieder explained that veterinary scientists often are members of a team, and the NIH has made progress, but more can be done to promote the success of individual veterinary scientists.

- Dr. Anderson commented on the increase in co-animal/human complementary programs, such as the Undiagnosed Diseases Network, which has multiple sites across the country that incorporate animal cores. Dr. Grieder added that ORIP funds pilot centers that work to mimic a human disease in a mouse model. Dr. Oleg Mirochnitchenko, a Program Officer in ORIP, added that the

successes from the pilot centers are very promising. Precision medicine is just one example of the benefits gained from the pilot centers.

- When asked about outcomes of the F and T mechanisms, Dr. Grieder explained that the ORIP program, in which veterinary students conduct summer research, is well-established and supports a symposium to connect students. The F programs are newer, so comparisons are not yet available.

- Dr. Grieder clarified that the construction funding mechanism through the Division of Construction and Instruments could be used to fund any "brick and mortar" construction in which facilities, building additions, or other physical construction are built to support research.

- In response to a question about NIH support of biomedical programs at small colleges, Dr. Grieder noted that the NIH is supportive of applications from institutions that are less research-intensive. The NIH likes to see applications from small colleges and encourages them. However, for a shared instrumentation grant, there must be three NIH-funded investigators. Small colleges may benefit from using other grant mechanisms such as the R15 and R03 awards.

- When asked about the future of animal model systems databases, Dr. Anderson commented that the sustainability of current models is under discussion.

- Dr. Grieder clarified that the allocation of resources in the Shared Instrumentation Grants varies by year depending on who applies. She added that additional end-of-year funds often are distributed to this program because of its flexibility.

III. COMMON FUND HIGH-RISK, HIGH-REWARD RESEARCH PROGRAM

Elizabeth Wilder, Ph.D., the director of the OSC, relayed recommendations from the Advisory Committee to the Director (ACD) Working Group for the High-Risk, High-Reward Research Program. This is the largest program within the Common Fund, supporting any science within the NIH mission based on investigator-initiated ideas. The awards enable investigators to launch a potentially transformative project without preliminary data, and the risk involved in this structure is mitigated by allowing investigators flexibility to adjust the project. Dr. Wilder noted that although initial high-risk ideas may not be successful, investigators within this program often propose other creative ideas.

Dr. Wilder outlined the four initiatives within the program. The NIH Director's Pioneer Award was launched in 2004 and is open to all career stages, but this program selects researchers with a history of innovation. The New Innovator Awards are for early-stage investigators but also focus on the investigators' prior achievements. The Transformative Research Awards share the high-risk, high-innovation goals but are open to teams rather than single investigators, resulting in frequent multidisciplinary collaborations. The newest initiative is the Early Independence Award, which enables investigators completing their degree or residency to enter an independent research position. All of the High-Risk, High-Reward initiatives support creative scientists pursuing innovative research with the potential for broad impact, which often results in projects that do not fit well within an individual IC or the standard R01 structure.

The working group includes members at many career stages and reviews the effectiveness of the High-Risk, High-Reward initiatives. Dr. Wilder reminded attendees that a previous update to the Council included data indicating that women are underrepresented in the applicant and awardee pools. In addition to the charge to analyze the participation of women and other underrepresented groups, the working group also was asked to review institutional diversity and diversity of scientific topics. Dr. Wilder detailed

results of evaluations showing that research funded by the High-Risk, High-Reward initiatives often is more innovative and impactful than R01-funded research. Most High-Risk, High-Reward research also was found to have similar or greater clinical and technological impact.

The working group also assessed the participation of women and underrepresented minorities in the programs. Dr. Wilder explained that the review process includes several stages at which participation can be assessed. Pioneer and Transformative Research Awards show percentages of women in the applicant and awardee pools that are not significantly different, and New Innovator Awards show an increase in women in the awardee pool, but women are underrepresented in Early Independence Awards. Dr. Wilder also noted that although the interview stage was eliminated in 2018 for the Early Independence Award after consultation with the Council, the effects of this decision will not be discernible until next year, and she explained that year-to-year variation in the percentage of applicants who choose not to identify their gender, ethnicity, or race can complicate the studies. She commented on an analysis suggesting that High-Risk, High-Reward applications do not fully address the spectrum of NIH research topics, suggesting that because the goal of the program is to capture research not otherwise represented in the NIH portfolio, this analysis suggests the program applications align with this goal. Dr. Wilder also noted an analysis showing that more awards are given to research-intensive institutions with more funding.

In discussion, the following points were made:

- Dr. Wilder clarified that impact is not skewed toward research-intensive institutions after awards are distributed. Dr. Anderson added that the range of relative citation ratios for publications supported by all award mechanisms is similar at most institutions. That is, most NIH-funded institutions produce publications across the spectrum of high to low influence.

- When asked if the impact statistics are the same for researchers with multiple R01s, Dr. Wilder clarified that although the specific analysis has not been conducted, the funding level used in the analysis was an average for principal investigators within an institution.

- Although the success of the High-Risk, High-Reward Research Program could suggest that they should be adopted NIH-wide, Dr. Wilder explained that these initiatives fund research ideas that are not easily fulfilled through other types of awards. They are therefore not intended to replace R01 awards. She added that the idea of supporting high risk projects with no preliminary data is a legitimate discussion topic for the NIH, but the importance of incremental research that builds a strong knowledge base over time should not be discounted.

- Council members suggested reviewing other grant mechanisms focused on individual investigators.

- In response to a question about career advancement as a metric of success, Dr. Wilder commented that the analyses suggest that early-stage investigators who are successfully funded advance in their careers regardless of grant mechanism.

Dr. Wilder presented the working group's recommendations, including recognition of the value of these initiatives and a broad recommendation to continue and, if possible, expand them. Specific recommendations include formal evaluation of the Early Independence and Transformative Research Awards; enhanced outreach, particularly to women and underrepresented minorities; development of a career portal that centralizes all NIH training efforts; and workshops to educate students on training opportunities. Dr. Wilder pointed out that several of these recommendations can be fulfilled through

existing or in-progress efforts at the NIH. Some successful features of the High-Risk, High-Reward Research Program also can be applied to other NIH grants to enhance the success of underserved groups.

Additional recommendations include a special track for clinical outcomes; updated language in funding opportunity announcements (FOAs) to emphasize that all topics, particularly those that are underrepresented, are welcome; prioritization of institutional diversity, including institutional application caps; unconscious bias training for reviewers and withholding biosketches until the final stage of the process; and assurances from grantee organizations related to sexual harassment policies.

In discussion, the following points were made:

- Council members recommended considering the number of applications as a denominator, the unintended consequences of limited opportunity applications, the socio-behavioral consequences of expanding the scope, and interview bias training rather than interview elimination.

- Dr. Wilder clarified that review criteria are mandated by statute, so adjusting the consideration of the research environment to avoid bias toward well-funded institutions would be difficult. She agreed, however, with the importance of assessing the best way to consider the research environment.

- Dr. Wilder clarified that analyses of underrepresented minority applicants were conducted separately from the analysis of women applicants, and because the numbers were small, the results were not presented. She also explained that although some applicants elect not to provide data on their race, ethnicity, or gender, the reasons behind these choices have not been elucidated.

- In response to a question about defining "high-risk" and "high-reward" relevant to behavioral and social science, Dr. Wilder noted plans to work with the OBSSR on this issue.

- Council members suggested that institutional application limits could have unintended negative consequences by providing institutional leaders a significant role in awardee selection. Concerns about skewed nominations in terms of gender, race, and scientific topics were raised. They felt that all applicants should have a chance to have their applications peer reviewed.

- High-Risk, High-Reward Research Program staff explained that the number of applicants with M.D.s is significant, and those applicants tend to be as successful as applicants with Ph.D.s.

- Dr. Wilder explained that while there is a requirement to publish results of clinical trials, there is no requirement to publish other types of studies. Publication of negative results is an ongoing question within the NIH, but because few journals offer this ability, the program does not require it.

- In response to a question about the presence of more research-intensive institutions in the applicant pool versus the award pool, Dr. Wilder explained that the applicants come from a more diverse set of institutions, but the awardee pool is skewed toward PIs from the most research- intensive institutions.

- Council members suggested that the working group consider specific ways to ensure a diverse array of application topics.

IV. NIH UPDATE

Lawrence A. Tabak, D.D.S., Ph.D., the principal deputy director of the NIH, explained that the NIH budget increased by $2 billion between fiscal years (FYs) 2018 and 2019; at this point, more than half the purchasing power the NIH has lost since 2003 has been restored. Dr. Tabak then discussed the INvestigation of Co-occurring conditions across the Lifespan to Understand Down syndromE (INCLUDE) project, which aims to yield scientific discoveries to improve the health of individuals with Down syndrome and those at risk for a range of conditions to which individuals with Down syndrome often are resistant. INCLUDE expands projects currently supported in Down syndrome and augments existing projects to add a Down syndrome component. The three components are High-Risk, High-Reward studies on chromosome 21, building a large cohort of individuals with Down syndrome, and including individuals with Down syndrome in clinical trials. The studies in each component will support the other two components and form the most cohesive approach that can lead to clinical translation. Dr. Tabak emphasized the importance of building a cohort across the entire lifespan and testing how commonly used medications affect people with Down syndrome. Several workshops and consortia including representatives from the Down syndrome and Alzheimer's disease communities have been convened, and additional FOAs and workshops are planned for 2019. Dr. Tabak encouraged attendees to review the INCLUDE website to identify any interest in related areas, which are very broad.

Dr. Tabak also provided an update on a newly formed ACD Working Group on artificial intelligence. In recent years, both amounts of data and the tools to use and store them have increased, and most people use artificial intelligence every day. The biomedical applications for artificial intelligence, machine learning, and deep learning are expanding rapidly. Most working group members are experts in these areas, and Dr. Tabak emphasized that many experts are very early in their traditional careers, such as graduate students and postdoctoral researchers, but advanced in their acumen, accomplishment, or experience related to artificial intelligence. The working group's charge is to determine opportunities for cross-NIH efforts in artificial intelligence and assess methods to convey these efforts broadly across biomedical topics, foster collaborations between computer science and biomedical communities, and facilitate training. Dr. Tabak emphasized that training institutions will have to consider non-traditional career paths for this research, and he noted the importance of identifying ethical considerations.

Dr. Tabak provided an update on the Helping to End Addiction Long-Term (HEAL) Initiative, reviewing the statistics related to the opioid crisis in the United States. The HEAL Initiative is a trans-NIH effort that includes every IC, and Dr. Tabak emphasized that because this is an extensive problem with localized differences, collaborations with federal partners and local officials, as well as grassroots interventions, are critical. Projects span everything from prevention research to implementation science, as well as integrating research into environments other than traditional health care spaces, such as the criminal justice system. FOAs for 2019 were released recently, and priority areas include expanding therapeutic options, enhancing therapeutic strategies, developing new prevention and treatment strategies, and enhancing treatment for infants with neonatal opioid withdrawal syndrome. Dr. Tabak also highlighted key advances and areas of inquiry, such as new medication targets, behavioral interventions, and pain mechanism investigations.

Discussion Highlights

- Council members suggested facilitating artificial intelligence expansion by promoting infrastructure and advocating for changes in traditional mathematics education.

- Dr. Tabak clarified that individuals who are caregivers are well-represented in the INCLUDE meetings, but no specific initiatives related to caregivers are planned. The ICs collaborating on this project, however, expect to expand the number of patient-oriented studies during FY 2019.

- Council members discussed collaborating with other organizations, such as those involved in medical training, to reach trainees, general practitioners, and other types of health professionals who often are on the front lines of the opioid crisis. One component of the HEAL Initiative involves assessing whether the latest science is disseminated effectively and in a usable format.

- Council members suggested adding social scientists to the working group.

- When asked whether the success rate of R01s has been restored in proportion to the restoration of NIH's purchasing power, Dr. Tabak explained that the NIH hopes to identify other metrics of success that can be adjusted more easily and show more accurate results.

- When asked whether the NIH is developing an opinion on Plan S, which relates to open access to journal publications, Dr. Tabak explained that some journals' business models would be compromised, but the proposal is evolving and can be addressed after the partial government shutdown.

V. 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 room 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 474 ORIP applications with requested first-year direct costs of $319,732,893.

VI. ECHO CONCEPT CLEARANCE—IDeA STATES PEDIATRIC CLINICAL TRIALS NETWORK (ISPCTN)—NETWORK RENEWAL

Alan Simon, M.D., the medical officer of the IDeA States Network within the ECHO Program Office, requested the Council's concurrence and feedback to move forward with renewing the ISPCTN. Although the ISPCTN serves the mission of ECHO—to enhance the health of children for generations to come—the Network's specific goals are to provide medically underserved urban and rural populations access to state-of-the-art clinical trials and build pediatric research capacity in the IDeA states. He reminded attendees that IDeA states are those that historically have had low levels of NIH funding; the IDeA program builds research capacity in those states, enhances the ability of investigators in those states to

[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.

compete successfully for additional research funding, and serves the research needs of the medically underserved communities in those states. Dr. Simon noted that IDeA states tend to be rural, although not exclusively, and ISPCTN is the only clinical trials network and the only pediatric-focused IDeA program.

ISPCTN has been running for 2 years and has two ongoing pharmacokinetic clinical trials and several HEAL Initiative projects, as well as multiple pilots in development. Dr. Simon commented that the development and implementation of clinical trials has been ISPCTN's most successful capacity-building effort. ISPCTN has expanded its data coordination and operations center, assembled research teams at clinical sites, and provided equipment and space. Governance processes have been created for the entire network and a single-institutional review board mechanism. Dr. Simon suggested that the clinical trials are the most important outcome of the Network. Data analyses are in progress, ISPCTN plans presentations and workshops at the upcoming Pediatric Academic Societies meeting, and manuscripts are currently in development.

Dr. Simon emphasized that despite much progress, considerable work remains. Children in rural communities and IDeA states remain underrepresented in clinical trials and experience worse health outcomes, and IDeA state institutions require additional capacity building. ISPCTN plans to remain at its current size of 17 clinical sites and one data coordinating and operations center, with both the clinical sites and the data coordination and operations center determined by open competition among IDeA state institutions. The Network also plans to maintain its status as a cooperative agreement and hopes for a renewal of 5 years, starting in 2020. Additionally, the data coordinating and operations center will continue providing resource allocation, data management, analysis, and data sharing, as well as help with protocol development. The clinical sites will continue to develop and implement trials, but as part of the application the Network will ask sites to propose a multicenter trial to ensure that the chosen sites are positioned for success within the Network. Applicants also will be asked to propose and implement a plan to improve engagement with rural communities, and both sites and the data coordination and operations center will be asked to propose a capacity-building plan for faculty and research coordinators. Centers also will be encouraged to collaborate with researchers who have demonstrated success, such as by collaborating with clinical and translational research awardee institutions within their state. However, the majority of each award must stay within the IDeA states.

Discussion Highlights

- When asked whether practicing clinicians are involved in the clinical trials, Dr. Simon explained that each additional trial incorporates many new researchers including practicing clinicians, each of whom requires training as the project progresses.

- In response to a question about families without the resources to travel to a clinical site, Dr. Simon clarified that one pilot project under consideration involves identifying barriers to participation. He added that, within some research networks, clinical sites apply for extra compensation for patients with particularly high burdens to participation and this may be the approach that the ISPCTN uses.

- When asked about measures to ensure that children participating are from rural areas rather than urban areas of rural states, Dr. Simon explained that early data suggest that participant rurality is similar to the overall urban/rural breakdown of the country, but strategies for tracking this are in

the early stages. The Network currently relies on rural-urban commuting area codes to assess rurality, but this may require reassessment in the future.

- Council members questioned the relative benefit of these trials to the children participating. Dr. Simon acknowledged that ISPCTN might be unable to represent the many ways in which a community may be underserved but asserted that the Network considers this issue carefully.

- Dr. Simon commented on the use of centralized laboratories to ensure harmonization across sites and added that the Network prioritizes extensive training and consistent measures.

- In response to a question about uniform pesticide exposures in relationship to asthma, Dr. Simon noted that ISPCTN hopes to leverage relations with ECHO Cohorts, which includes some researchers with pesticide expertise. He added that although asthma is one of the Network's focus areas, this specific question is a longer-term consideration.

Vote

A motion to approve the ISPCTN renewal was forwarded and seconded. The motion passed with two abstentions.

VII. SGMR WORKING GROUP RECOMMENDATIONS

Karen Parker, Ph.D., M.S.W., the director of the SGMRO, reminded attendees that the SGMRO's 5-year strategic plan serves as a blueprint for research across the NIH with sexual and gender minority (SGM) populations. In line with objectives in the strategic plan, the SGMR Working Group convened in September 2018 for a mid-course review of progress on the strategic plan. Working group members reviewed data on the NIH's progress related to SGM research since 2015 and developed the recommendations detailed in the report provided to Council members. Scout, Ph.D., the Council of Councils SGMR Working Group chair, outlined the history of NIH's SGM health efforts and noted that a recent series of rollbacks in policies related to SGM health within government agencies has significantly increased concern within SGM communities.

Goal One: Expand the knowledge base of sexual and gender minority (SGM) health and well-being through NIH-supported research.

Recommendations:

- Publish Funding Opportunity Announcements (FOAs) focused on training the next generation of scholars through both individual and institutional awards (e.g., F, T, K, and R25 grants). Emphasize institutional awards, as the literature indicates that they can build capacity in less-developed research areas. Promote cross-institutional and interprofessional collaborations to facilitate research training in rare diseases.

- Release an FOA or Notice focused on SGM-related measurement, using outputs from the Sexual & Gender Minority Research Office (SGMRO)-sponsored measurement workshop.

- Encourage all NIH applicants to demonstrate consideration of inclusion of SGM populations in clinical research, as appropriate.

Dr. Scout commented on the lack of basic data necessary to form a foundation of research on SGM health and explained that, following a workshop on measurement held by the SGMRO in April 2018, the Office

has published a webpage focused on measurement. He added that the NIH has begun an initiative to include gender identity status on electronic health records at the Clinical Center and it falls well short of the IOM report recommendation to routinely collect SGM data on all NIH research participants. He also noted how career information on SGM researchers was limited by lack of SGM data collection for that population. He requested Council members' comments.

- Dr. Scout explained that the SGM population experiences a cluster of health disparities, predominantly around risk behaviors that might be related to coping skills, stigma, and discrimination. These behaviors likely lead to many adverse health outcomes, such as increases in cancer incidence. Because SGM status has not been included in electronic health records or cancer registries, little data on such disparities is available.

- Dr. Scout recognized longstanding concerns about the potential detrimental use of SGM status data but explained that negative incidences have been rare and the greatly feared instances of HIV data disclosure have not transpired. The increase in risks and concerns related to the current social climate will require education, but the public health benefit of data collection outweighs the concerns.

- Dr. Edith Mitchell, a member of the SGMR Working Group, noted that SGM populations also lack preventive services, especially for cancer, and research is needed to determine what kinds of preventive strategies should be implemented. Dr. Scout added that the majority of the newest medical trainees still demonstrate implicit bias against SGM populations and noted that trusting relationships between doctors and patients are a critical component of health outcomes. Patients with cancer, whose interactions with the health care system increase suddenly, need to find many more doctors who are welcoming, which often is difficult and causes small barriers to care to cascade into large barriers.

- When asked about a Patient-Centered Outcomes Research Institute group called PRIDEnet that might be open to partnership, Dr. Scout explained that it is a new study and its data are not yet available. Dr. Parker noted that the researchers who conduct PRIDEnet provide advice to the *All of Us* Program on engaging with the LGBT community. She also clarified that the data provided to the working group for this mid-course review addressed NIH's efforts in SGM health and did not include scientific data about the health of SGM populations.

- Dr. Scout commented that although research on broad health issues, such as aging, also is important to the SGM population, the current concern is the skewed proportion of SGM research related to HIV.

- Dr. Parker clarified that the recommendation to promote cross-institutional and interprofessional collaborations to facilitate training in rare diseases was designed to address the disorders of sexual development (DSD) and intersex communities, which often are small and disconnected.

- Dr. Scout commented on the many health areas in which information on SGM populations is sparse. He encouraged institutional training to expand the number of health care professionals with expertise in SGM health.

- Dr. Scout noted that the demographic questions for the *All of Us* Program include SGM status.

Goal Two: Remove barriers to planning, conducting, and reporting NIH-supported research about SGM health and well-being.

Recommendations:

- Publish a Notice in the NIH Guide to clarify the inclusion of SGM populations as a health disparity population for research funded by the NIH to ensure inclusion in related FOAs supported by the NIH.

- Expand the SGMRO to include one position for a scientist with program officer experience and one position for a communications specialist.

- Increase awareness of the SGMRO and SGM-related work at the NIH through targeted communications efforts, including social media and a Web presence.

- Increase the SGMRO budget to provide funds for the training- and measurement-related FOAs recommended under Goal One.

Dr. Scout emphasized the need to publicize SGM populations' status as a health disparity population more widely. He added that following through with the Goal One recommendations will require additional support, and the SGMRO's profile will need to be increased to keep people apprised of the opportunities.

- Council members suggested that the SGMRO clarify the research their office supports to ensure that applicants are not misled. Dr. Parker explained that the SGMRO is a coordinating office without grant-making authority, and although the Office works closely with ICs, each IC considers its own mission and priority when reviewing applications related to SGM health. Dr. Scout added that the magnitude of barriers to conducting research in SGM health results in high levels of commitment from scientists working in this field.

- Dr. Parker explained that although the SGMRO has co-funded administrative supplements in SGM health research during the past 3 years, scientific workshops, and the NIMHD summer research program, the budget has not yet allowed for co-funding of large R01s.

- Council members suggested removing barriers to navigator training, and Dr. Scout emphasized that lack of training across all medical professions in SGM health is a major issue and opportunities to expand are plentiful.

Goal Three: Strengthen the community of researchers and scholars who conduct research relevant to SGM health and well-being.

Recommendations:

- Work with the National Science Foundation to support their efforts in collecting sexual orientation and gender identity in their annual *Graduate Students and Postdoctorates in Science and Engineering* survey to determine representation of SGM populations in biomedical research.

- Conduct an NIH SGM workshop specifically focused on research related to disorders or differences of sex development, sometimes known as intersex.

- Collaborate with the Office of Scientific Workforce Diversity to ensure SGM representation in its programs.

Dr. Scout noted that since these recommendations were written, the NSF has announced that it will pilot SGM-related questions in the Survey of Earned Doctorates.

He explained that issues relevant to the LGBT community and SGM researchers often are different from

those relevant to the DSD and intersex community, and the working group was concerned that the SGMRO is not elevating DSD concerns adequately. Because the DSD research community is extremely fractured and isolated, a workshop could bring together many leading researchers and help them identify shared goals.

- Dr. Scout clarified that DSD researchers might not have had the same opportunities to connect at conferences as researchers in other disciplines. Dr. Parker added that the SGMRO has been hosting regional workshops that provide networking, mentoring, and *grantspersonship* education. The working group recommended that a workshop focused specifically on DSD/intersex research would benefit the DSD research community, but its distribution suggests a need for connection on a national scale.

Goal Four: Evaluate progress on advancing SGM research.

Recommendations:

- Explore the most effective ways to collect and report on the SGM status of participants in clinical research funded by the NIH.

- Provide a more exhaustive portfolio analysis, including by SGM population, of NIH-funded SGM research; identify comparison groups for the purposes of conducting analyses.

- Include in the next NIH *SGM Research Strategic Plan* goals related to operational activities and scientific opportunities within the field.

Dr. Scout emphasized that expansion of SGM status data collection within the NIH would cascade to many other health programs. Dr. Scout noted that current efforts within the strategic plan are basic steps necessary to advance the field, and the next strategic plan should go beyond these foundations to identify and address specific scientific opportunities.

- Dr. Scout agreed with Council members' suggestions to incorporate specific success metrics and develop a "data backbone."

- When asked about the existence of a common data element, Dr. Scout explained that the Behavioral Risk Factor Surveillance System is the most commonly used but is not well-tested and further testing should be conducted before determining such a common data standard.

- Dr. Scout asserted that including SGM status inquiries on all NIH studies is an attainable goal lacking only research and effort. He added that many researchers have successfully used a 2-step question for sex assigned at birth and current gender identity.

- Dr. Mitchell reiterated that SGM health is a critical area of medicine in which little is known, universal guidelines or practices do not exist, and universal research is scarce. She emphasized the necessity of collecting basic information and supporting prevention, education, and collaboration to ensure the greatest benefit.

Dr. Anderson noted that the Council's comments would be conveyed with these recommendations to the NIH Director. The Council voted to accept the report and recommendations.

VIII. PREVENTION RESEARCH FUNDED BY NIH DURING FY 2012–2017

David M. Murray, Ph.D., NIH's Associate Director for Prevention and the director of the ODP, explained that the ODP is charged with improving public health by improving and increasing the scope, quality, dissemination, and impact of prevention research across all ICs. The first priority in ODP's strategic plan

has been to conduct a portfolio analysis and impact assessment of prevention research supported by the NIH. The ODP determined that existing measures were inadequate for this process and began by identifying 12 R, P, and U activity codes focused on primary and secondary prevention research across the NIH, particularly those with at least 500 awards or at least $500 million in awards between FY 2012 and FY 2017.

Using both machine learning and human assessment, the team identified and coded >11,000 projects, representing about 92 percent of all research projects that the NIH supports funded by R, P, and U activity codes and 84.1 percent of the funds for those projects. This analysis estimates that 16.7 percent of projects and 22.6 percent of funds address primary or secondary prevention research in humans or methods projects to support that research. Many projects were missing gender identity and minority inclusion codes, but when codes were provided, inclusion was not notably skewed. Regarding study methods, 63 percent of prevention research projects included an observational study, 43 percent included analysis of existing data, 24 percent included methods research, and 18 percent included randomized interventions. Dr. Murray noted that this works out to 3 percent of the entire NIH research portfolio supporting randomized preventive interventions, which he suggested is a low percentage, particularly given that 74 percent of the variability in county-level life expectancy is explained by established risk factors. He suggested that additional resources could be devoted to evaluating preventive interventions to address those risk factors.

Next steps for this analysis include collaborating with ICs and Offices—as well as the Research, Condition, and Disease Categorization coding group—to identify areas for collaboration, expansion, or further analysis. Additional refinement and expansion of the machine-learning algorithms also is planned. ODP's tools and methods will be used to further evaluate the impact of prevention research, and FY 2018 awards will be coded within this FY.

Discussion Highlights

- Dr. Murray clarified that the risk factors used in the analysis were taken from those identified in the Global Burden of Disease Project's 2016–2018 papers as causes of a large fraction of variability and county-level mortality or life expectancy. He emphasized the need for additional research on behavioral risk factors.

- Council members suggested additional analyses, such as comparing data from other sources or crossing study design with activity codes. These data also could be used to examine the necessity of preliminary data for R, P, and U applications.

- Dr. Murray clarified that his suggestion to redirect resources applies not to reducing funding for basic science in favor of prevention research but to supporting fewer observational and secondary data analysis studies and more interventions.

- Dr. Murray explained that some numbers displayed in the analysis, such as percentages of veterans or persons with disabilities, might seem low if the study's focus on such populations was not specifically identified in the areas of text analyzed by this coding method.

IX. CLOSING REMARKS

Dr. Anderson thanked the Council members and speakers for their contributions at this meeting. He reminded the members that the next Council meeting is scheduled for May 17, 2019.

X. ADJOURNMENT

Dr. Anderson adjourned the meeting at 3:39 p.m. on January 25, 2019.

XI. CERTIFICATION

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

James M. Anderson -S
Digitally signed by James M. Anderson -S
Date: 2019.03.14 10:29:20 -04'00'

James M. Anderson, M.D., Ph.D.
Chair, NIH Council of Councils
Director, DPCPSI, OD, NIH

Date

Franziska B. Grieder -S
Digitally signed by Franziska B. Grieder -S
Date: 2019.03.14 09:31:51 -04'00'

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

Date