Department of Health and Human Services
National Institutes of Health
National Center for Advancing Translational Sciences

27th Meeting of the
Advisory Council

Minutes of Virtual Meeting
June 10–11, 2021

The National Center for Advancing Translational Sciences (NCATS) Advisory Council held a meeting in open session on June 10, 2021, from 1:00 p.m. to 4:11 p.m. EDT, and on June 11, 2021, from 1:00 p.m. to 5:02 p.m. EDT via National Institutes of Health (NIH) Videocast. Joni L. Rutter, Ph.D., NCATS Advisory Council Chair, led the meeting. In accordance with Public Law 92-463, the session was open to the public.

Prior to the meeting, the NCATS Advisory Council met in closed session on June 10, 2021, from 11:00 a.m. to 12:30 p.m. EDT for the review and consideration of grant applications.

NCATS ADVISORY COUNCIL MEMBERS PRESENT

Chair

Joni L. Rutter, Ph.D., Acting Director, NCATS

Executive Secretary

Anna L. Ramsey-Ewing, Ph.D., Director, Office of Grants Management and Scientific Review, NCATS

Council Members

Paul A. Harris, Ph.D.
Theodore R. Holman, Ph.D.
Matthias Kretzler, M.D.
Andrew W. Lo, Ph.D.
Keith J. Mueller, Ph.D.
Paula K. Shireman, M.D., M.B.A.
Marshall L. Summar, M.D.

Ad Hoc Council Members

Christina M. Hartman, M.P.H.*
Rebecca D. Jackson, M.D.*
Annie M. Kennedy, B.S.*
Kelly Marie McVearry, Ph.D., Ed.M.*
Rajesh Ranganathan, Ph.D.*
George Vradenburg, J.D.*

Representative Members

None present

Ex Officio Members

None present

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* *Pending appointment*

Others Present

Richard Dickinson, Ph.D., National Science Foundation (NSF)
Michael Rosenblatt, M.D., Flagship Pioneering
Elizabeth Stoner, M.D., MPM Capital
Frank F. Weichold, M.D., Ph.D., Director, Office of Critical Path and Regulatory Science Initiatives, Office of Regulatory Science and Innovation, Office of the Chief Scientist, U.S. Food and Drug Administration (FDA)
NCATS leadership and staff

I. CLOSED SESSION OF THE NCATS ADVISORY COUNCIL

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

Advisory Council members discussed procedures and policies regarding voting and the confidentiality of application materials, committee discussions, and recommendations. Members did not participate in the discussion of and voting on applications from their own institutions or other applications in which there was a potential conflict of interest, real or apparent.

II. ADJOURNMENT OF CLOSED SESSION OF THE NCATS ADVISORY COUNCIL MEETING

Joni L. Rutter, Ph.D., adjourned the closed session of the NCATS Advisory Council meeting on June 10, 2021, at 12:30 p.m. EDT.

JUNE 10, 2021

III. CALL TO ORDER, OPEN SESSION DAY 1

Dr. Rutter called the meeting to order and welcomed members and guests to the 27th meeting of the NCATS Advisory Council. She reminded attendees that the open session was being videocast, introduced the members of the Council and *ad hoc* members and previewed the meeting agenda. Dr. Rutter noted that the meeting will consist of two sessions: Day 1, June 10, 2021, from 1:00 p.m. to 4:00 p.m. EDT and Day 2, June 11, 2021, from 1:00 p.m. to 5:00 p.m. EDT.

IV. APPROVAL OF MINUTES: Anna L. Ramsey-Ewing, Ph.D., Executive Secretary, NCATS Advisory Council and CAN Review Board

Members unanimously approved the minutes from the January 2021 Council meeting.

V. CONFIRMATION OF DATES FOR FUTURE MEETINGS: Anna L. Ramsey-Ewing, Ph.D., Executive Secretary, NCATS Advisory Council and CAN Review Board

Anna L. Ramsey-Ewing, Ph.D., confirmed the schedule for the meetings of the NCATS Advisory Council for the remainder of 2021, 2022, and 2023:

- September 23–24, 2021
- January 20, 2022
- May 19, 2022
- September 22, 2022
- January 26, 2023
- May 25, 2023
- September 28, 2023

VI. DIRECTOR'S REPORT: Joni L. Rutter, Ph.D., Acting Director, NCATS, Chair, NCATS Advisory Council

Dr. Rutter began by welcoming new Council members: Paul A. Harris, Ph.D.; Matthias Kretzler, M.D.; Keith J. Mueller, Ph.D.; Paula K. Shireman, M.D., M.B.A.; and Marshall L. Summar, M.D. She also welcomed *ad hoc* Council members whose appointments are pending. Dr. Rutter, Acting NCATS Director since April 2021, framed her report as a re-introduction to NCATS and its purpose and mission and highlighted the Center's approaches, programs, and initiatives. She also reported on the fiscal year (FY) 2021 and 2022 budgets.

To introduce herself to new Council members, Dr. Rutter shared a brief overview of her professional path prior to NCATS and elaborated on her personal rare disease story. Having had a mother diagnosed with a rare disease, myelofibrosis, Dr. Rutter witnessed firsthand the 12- to 15-year diagnostic journey, with no available treatments or local clinical trials. After a diagnosis was received, Dr. Rutter was able to locate a physician experienced in myelofibrosis to treat her mother, but it was not an easy task. Since that time, the NCATS Genetic and Rare Diseases (GARD) Information Center and the National Organization for Rare Disorders—a patient advocacy organization—were founded to help patients with rare diseases locate physicians who are experienced in treating particular rare diseases.

NCATS Purpose and Mission

Dr. Rutter reminded the Council that NCATS focuses on both rare and common diseases. Current estimates indicate 10,000 diseases of known molecular origin, most of which are rare. In fact, 7,000 rare diseases affect 1 in 10 Americans, or 30 million people. Tremendous work has been focused on researching what genes are related to which diseases. Although success has been significant, translating the knowledge of what gene is related to a disease into finding a treatment for that disease remains a slow process. In fact, only 500 of all known diseases have a treatment, leaving 95 percent without a treatment. The first step to consider is how to develop treatments, and then—on the scale of the more than 10,000 diseases—suggest the need for a dramatic approach.

The NCATS mission is to turn promising research discoveries into health solutions through translational science. The NCATS approach represents each stage of research along the drug-discovery spectrum—from preclinical approaches and the biological and clinical basis of health and disease to the clinical approaches of interventions that improve the health of the individuals and of the public. Each phase builds upon the others and informs the other phases across the spectrum.

NCATS develops new approaches, demonstrates their usefulness, and disseminates their findings. This approach consists of two main components: (1) finding ways to hear from people who are affected by the diseases that need these therapeutic solutions and (2) addressing health inequity, a structural issue. The aim is to go beyond developing therapies by working to raise awareness around the inequities in rare and common diseases within communities of color. These efforts include educating the public, engaging the workforce, enhancing access to care, and training the next generation of translational scientists. NCATS' driving hope is to bring more treatments to more people more quickly—which, Dr. Rutter clarified, means bringing more treatments to "all people."

NCATS Dual Strategy: Translational Research and Translational Science

Dr. Rutter explained that the NCATS strategy is twofold: (1) advancing the science of a translational project from prediscovery to a phase 4 trial and (2) identifying and addressing costly, time-consuming bottlenecks that slow or prevent translational research. NCATS' aim is to understand and simplify the drug discovery process by addressing the operational, financial, and scientific impediments to advancing a project, but doing so is complex and requires tools to facilitate the activities.

- **Drug Discovery, Development, and Deployment Map (4DM).** NCATS collaborated on the 4DM, which has been a useful addition to the NCATS Tool Kit. With this dynamic, interactive map interface, users can find information, locate best practices, and connect with NCATS staff and resources. 4DM was developed by members of an Action Collaborative of the Forum on Drug Discovery, Development, and Translation (the Forum) of the National Academies of Sciences, Engineering, and Medicine. The NIH is represented on this Forum, including former NCATS Director Dr. Christopher P. Austin who has served as an *ex officio* member.

Dr. Rutter highlighted the NCATS way, noting that NCATS undertakes large operational and scientific challenges by addressing barriers. Operational barriers include data transparency, intellectual property (IP) management, education and training, and incentives and credit for team science. Scientific barriers include predictive human toxicology and efficacy, data interoperability, and clinical trial infrastructure.

NCATS Organizational Structure and Leadership

The NCATS organizational structure consists of the leadership, Offices, Divisions, and Programs. NCATS has leadership within the Office of the Director for setting vision, strategy, and direction that extend beyond the Center to broader NIH activities—such as the Common Fund program or the Helping to End Addiction Long-term℠ Initiative or NIH HEAL Initiative℠—and more recently, COVID-19 response. The Council and the Cure Acceleration Network (CAN) Review Board are included within NCATS leadership. Teams providing stewardship, coordination, and outreach are contained within the five Offices. Activities include grants management and scientific review, administrative management, policy, communications and education, strategic alliances, and a new role soon to be established to coordinate human subjects research, ethics, and clinical study management.

NCATS Divisions and outward-facing programs provide scientific program management and oversight, and support scientific and programmatic activities from preclinical innovation to strategic initiatives, drug development partnerships, rare disease research, and clinical innovation. NCATS teams are highly integrated and require constant interaction. Updates are provided at the Council and Board meetings.

NCATS Translational Research Approach: Collaboration and Platforms

Dr. Rutter explained that NCATS has two main translational research approaches: collaborative development of treatments and addressing multiple diseases at a time using platforms (a scientific and operational infrastructure to support testing of diseases simultaneously). Both approaches allow NCATS to decrease development time, lower costs, and provide more therapies for more diseases faster.

Collaboration

- **Template Agreements.** Although collaborations are vital to NCATS, negotiations can be complex. NCATS has reduced the time from conceiving an idea to reaching an agreement from 12 months to 3 months using templates developed by the NCATS Office of Strategic Alliance (OSA). Template agreements streamline the legal and administrative processes necessary for partnering and provide a roadmap for handling IP and publications.

Platforms

Using a platform approach, NCATS addresses the challenges in drug development, including the prolonged time to market and high failure rate.

Predictive Drug Development Using Physiologically Relevant Tools

Extending beyond 2-D cell culture and animal models, the NCATS Division of Preclinical Innovation (DPI)—balancing physiological complexity with the high-throughput capability—has developed spheroids, organoids, printed tissues, and organ-on-a-chip models. Dr. Rutter described some of the advances and ongoing efforts.

- **Chroman 1, Emricasan, Polyamines, Trans-Integrating Stress Response Inhibitor (CEPT)**. NCATS laboratories have developed a four-compound cocktail, universal platform for human induced pluripotent stem cells (iPSCs) research and application. CEPT has improved cell quality and standardization and is a strategy to establish next-generation iPSC lines.

- **Biofabricated 3-D Disease Tissue Models**. NCATS laboratories collaborate with the scientific community to biofabricate functional human tissues-in-a-well using relevant human primary or iPSC-derived cells to enable disease modeling, predictive toxicology, and efficacy preclinical drug testing.

- **Tissue Chips**. The NCATS Tissue Chips program started in 2012 and is managed by the Office of Strategic Initiatives. Several tissue chip models are commercially available. Efforts are ongoing to increase complexity to design you-on-a-chip and clinical-trial-on-a-chip models. NCATS also is modeling diseases in different environments and is collaborating with NASA and the International Space Station National Laboratory on microgravity experiments. Tissue chips mimicking the kidney were launched to the ISS on June 3, 2021.

Drug Development for More Than One Disease at a Time

NCATS is using a many-diseases-at-a-time approach to speed research for many diseases. The principle is that rare-disease therapy can lead to rare and common therapeutics. Dr. Rutter described and provided updates on three strategies: gene therapy, gene editing, and antisense oligonucleotides (ASO).

- **Platform Vector Gene Therapy (PaVe-GT).** NCATS Office of Rare Diseases Research (ORDR) and NIH partners, National Human Genome Research Institute (NHGRI) and National Institute of Neurological Disorders and Stroke (NINDS), are piloting PaVe-GT through four gene therapies for rare monogenic disorders (organic acidemias and congenital myasthenic syndromes) that are being developed simultaneously. NHGRI and NINDS are developing the adeno-associated virus

(AAV) gene therapy vectors, a key PaVe-GT feature, and conducting animal model proof-of-concept studies. NCATS is performing complete investigational new drug (IND)-enabling studies, and the NIH Clinical Center is leading the umbrella clinical trials.

- **Gene Editing.** NCATS is expanding its genome editing tools and targeting different delivery systems to identify the best method(s). Efforts next will focus on developing assays for safety and efficacy studies and, subsequently, dissemination of those resources.

- **ASO.** NCATS' goal is to develop ASO candidate drugs that have full toxicology data to better understand the cellular effects. The kinesin heavy-chain isoform 5A (*KIF5A*) gene is the first being investigated and can, theoretically, treat a variety of different diseases.

NCATS Response to Coronavirus Disease 2019 (COVID-19)

Dr. Rutter updated the Council on NCATS' response to COVID-19, highlighting four areas.

- **COVID-19 OpenData Portal.** The DPI rapidly developed assays and protocols and performed high-throughput screening against several COVID-19 targets and then against all approved drugs. Data were immediately made available to the public through the DPI OpenData Portal, an online data resource and NCATS multidisciplinary and collaborative effort. Data on COVID-19 variants have been shared in the OpenData Portal and are informing the Foundation for the NIH (FNIH)-led public–private partnership—Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV) trials.
- **National COVID Cohort Collaborative (N3C)**. NCATS has been working to address the public health need for using electronic health records (EHR) for COVID-19 research. Launched in 2020, N3C—a collaboration between NCATS Information Technology/Informatics groups, Clinical and Translational Science Award (CTSA) Program Hubs, and the Center for Data to Health—is a secure national resource of EHR data from COVID-19-tested patients. The goal is to accelerate COVID-19 research and improve patient care. The N3C Data Enclave contains data from more than 6 million patients, 2 million of whom have received a COVID-19 diagnosis. The N3C also is addressing issues on data interoperability.

- **Community Engagement Alliance (CEAL) Against COVID-19 Disparities.** The NCATS CTSA Hubs are collaborating with the NIH on CEAL. Eight of the 11 CEAL research teams are within the CTSAs, and additional teams are anticipated in 2021. The Trial Innovation Network and Recruitment Innovation Center are assisting in this effort.

- **COVID-19 Randomized Controlled Trials (RCTs).** NCATS, in collaboration with the CTSA Hubs, managed two ACTIV RCTs, ACTIV Master Protocol 1 of Immune Modulators (ACTIV-1 IM) and ACTIV-6. The CTSAs supported the Convalescent Plasma to Limit COVID-19 Complications in Hospitalized Patients Trial (commonly called CONTAIN COVID-19) and the Passive Immunity Trial of the Nation for COVID-19 (commonly called PassItOnII).

Non-COVID-19 Activities

Dr. Rutter reported on NCATS' mission-critical work.

- **Online Course on Principles of Translational Science.** NCATS refreshed the online course "Principles of Preclinical Translational Science" focused on teaching key principles of translational science and how these principles have been operationalized in a real-world project setting. The course is designed as a case study of the development of a drug to treat metastatic cancer as the drug advances through the translational science process.

- **NIH HEAL Initiative.** The DPI is overseeing 51 ongoing NIH HEAL Initiative projects, many of which are supporting IND-enabling studies. DPI investigators are applying new drug development strategies for opioid misuse and addiction and pain.

Dr. Rutter noted the NIH initiative UNITE, which is addressing structural racism within the NIH and the scientific community. UNITE encompasses five major areas and NCATS has representation in all of those areas. She highlighted an NCATS effort that is focusing on some of the same themes as the NIH initiative.

- **CTSA Program Diversity, Equity, and Inclusion (DEI) Task Force.** NCATS and the CTSA Program Steering Committee discussed diversity, equity, and inclusion in the 2020 Program Annual Meeting. In response to a call to action to establish a consortium focused on these efforts, the Steering Committee launched the DEI Task Force. The DEI Task Force was charged to identify a high-impact vision on diversity, inclusiveness, and health equity as aims for the CTSA Consortium; develop implementable short-terms goals to be accomplished in 2021; develop implementable long-term goals over 5 years; and establish goals associated with metrics and accountability.

- **NCATS' Anniversary Year 2021.** Dr. Rutter announced that the 10 Years of NCATS campaign is underway. The goal is to convey how NCATS' approach is delivering on the urgent need to bring more treatments to more people more quickly. The commemorations will take place now through December and planning for internal and external activities is in progress.

FY 2021 and 2022 Budget

The NCATS budget has steadily increased over the years, with regular appropriation of $855 million in FY 2021. Approximately 69 percent of the NCATS FY 2020 budget supported the DCI, which includes the CTSA Program. The FY 2022 President's Discretionary Request includes $51 billion for the NIH ($9 billion over the FY 2021 enacted budget) and $879 million for NCATS. In addition to the regular appropriation, NCATS received allotments for the NIH HEAL Initiative and COVID-19 response.

- **Advanced Research Projects Agency for Health (ARPA-H) at NIH.** The President's FY 2022 budget proposal includes $6.5 billion to establish ARPA-H at NIH. This effort is intended to drive transformational innovation in health research and speed up the application and implementation of health breakthroughs. With its distinctive culture and organizational structure, it is anticipated that ARPA-H will complement NIH's existing research portfolio. NIH Director Dr. Francis S. Collins addressed preliminary questions about ARPA-H at NIH during congressional testimonies in May 2021, and he is in discussions with the NIH Institutes and Centers (ICs). The June 11, 2021, Advisory Committee to the Director meeting will include a presentation on ARPA-H.

Discussion

Clare K. Schmitt, Ph.D., noted the questions and answers in the chat.

George Vradenburg, J.D., asked what NCATS would need to make the "more treatments to more people" with rare diseases goal by 2035 accountable or if that goal aspirational. Dr. Rutter remarked that the goal is aspirational and depends on the success of the current pilot studies and subsequent clinical trials. A more realistic goal is then envisioned. Mr. Vradenburg also asked whether NCATS has ownership of the ability to bring new therapeutics into clinical practice and to comment on industry interactions. Dr. Rutter replied that NCATS efforts span the clinical translation spectrum, which includes phase 4 clinical trials. Most of the Center's initiatives engage industry partners. Two examples include the COVID-19 public–private partnership, Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV), and the HEAL Initiative.

Rajesh Ranganathan, Ph.D., inquired about outcomes of the COVID-19 research, particularly with the known drugs and the OpenData Portal. Dr. Rutter explained that those data are being reviewed and recalled the early work with hydroxychloroquine-related compounds tested on lung tissue chips that seem promising; those data also are being reviewed.

In response to a question from Dr. Ranganathan (who co-teaches the NIH Translational Science Training Program course) about the availability of materials of the NCATS online translational science course,

Action Item: Dr. Rutter said she will ensure information about this course and how to register is made available to the Council and others interested.

Several questions regarding NCATS and ARPA-H were proffered pertaining to transaction authorities, competitive overlapping missions, role of the CTSAs, and coverage for rare disease research and translation science. Dr. Rutter commented that, to her understanding, ARPA-H is anticipated to model the Defense Advanced Research Projects Agency in terms of having expanded authorities, but for health. Updates are anticipated as they are made available, but she could not comment today on NCATS' role in this initiative or where in the NIH the effort will reside. NCATS' ongoing initiatives and programs, Dr. Rutter explained, position the Center to coordinate and collaborate on any new programs originating from this new plan. Although it is unclear how rare diseases will be involved in ARPA-H, she conveyed that NCATS remains passionate about rare diseases because increased understanding in this area will inform on common diseases. The key is for NCATS to position itself to interact with ARPA-H.

Paul A. Harris, Ph.D., sought clarity on the "non-add" reference on NCATS appropriations for the CTSA Program and CAN program. Dr. Rutter clarified that these items, if added together, will not equal the total NCATS budget; they are included to provide a sense of their relative contributions to the total NCATS base budget. The total NCATS appropriation represents more than what is shown in the slide, so the CTSA and CAN line items are non-additive.

When asked by Marshall L. Summar, M.D., how NCATS and the FDA align with similar but less ambitious efforts to afford the greatest difference when bringing a drug to market, Dr. Rutter noted engaging the FDA early, during the conception stage of a project, to better understand the likely hurdles. NCATS also has other connections to the regulatory science community and has helped with developing agendas for

those related meetings. Dr. Summar suggested exploring a mechanism to receive an FDA review of a study after a project is approved for funding by the NIH but before the work activates.

Action Item: Dr. Rutter will investigate a process to incorporate an FDA review post-NIH funding but before a project activates.

Annie M. Kennedy posted in the chat to all participants: Can you talk a bit about any formalized mechanisms for collaborating with other federal agency partners outside of other NIH ICs, patient advocacy groups (PAGs) outside of Rare Diseases Clinical Research Network and industry partners within these efforts?

Dr. Rutter called attention to the NCATS–FDA Translational Science Interagency Fellowship (TSIF) in which students train at the FDA for a period of time and then at NCATS for the second component of the fellowship. As a convener, NCATS also engages multiple external stakeholders and communities (e.g., PAGs) as speakers and representatives at workshops and meetings. In response to an additional question from Ms. Kennedy, Dr. Rutter confirmed partnering with the Centers for Disease Control and Prevention (CDC) on sharing COVID-19 data and leveraging resources (e.g., EHRs, artificial intelligence data) from other federal agencies doing similar work.

Christiana M. Hartman, M.P.H., pointed out that even after the FDA approves medications, patients experience difficulty in accessing their treatments and therapies and that payors often are less likely to pay for therapies with no clear value to their companies. She encouraged NCATS to engage the Centers for Medicare & Medicaid Services early to address drug pricing and cost issues.

Rebecca D. Jackson, M.D., asked about the opportunities NCATS envisions from the integration of DPI and DCI projects to facilitate the next transformative leap. Dr. Rutter highlighted the HEAL Initiative as one such integration of the NCATS preclinical and clinical research. NCATS provides a mechanism for those in the extramural community who have compounds ready to introduce into the preclinical pipeline to submit applications for review. If approved, then the drug candidate is advanced. No funds are exchanged between NCATS and the extramural community. The N3C Data Enclave is another example of this type of integration, which is unique at the NIH.

Dr. Summar noted that despite the new rule, most individuals tend not to participate in research because of the institutional review boards (IRB) and the transactional process, and that smaller hospitals and institutions do not have the resources to support their own IRB. He asked how NCATS might help to resolve some of these issues to better engage diverse populations in research. Dr. Rutter pointed out that the CTSAs have been the leaders in this area and have developed a SMART (Streamlined, Multisite, Accelerated Resources for Trials) IRB Reliance platform, which is meant to address those issues.

Kelly Marie McVearry posted in the chat to all participants: The overview is outstanding. Would you please elaborate on the public–private partnerships and how NCATS has operationalized the process enabling it to accelerate forming these collaborations?

Dr. Rutter noted that NCATS has been able to accelerate these types of collaborations within the recent ACTIV partnership through the FNIH. She also noted that the OSA is dedicated to building partnerships and supporting those necessary agreements.

VII. PROGRAM UPDATE: DIVISON OF PRECLINICAL INNOVATION: Anton Simeonov, Ph.D., Scientific Director, NCATS

Anton Simeonov, Ph.D., provided an overview and updates of the DPI, highlighting the ongoing programs and initiatives, and he began with a brief history. The DPI was created to transform therapeutic discovery approaches and tools, advance the art of collaboration, and catalyze the biomedical community to deliver the most effective therapies to treat human disease. Established in 2004 through the National Human Genome Research Institute as part of the Human Genome Project, DPI puts forth a culture of team science, fostered within the NIH. Many of the NIH's team science components, which laid the foundation for future NCATS laboratories, were developed with specific translational concepts in mind. DPI staff members come from diverse backgrounds and disciplines and investigators focus on diverse topics in the area of preclinical innovation. Team science has promoted advances within the biomedical field and outlined key recent accomplishments.

Dr. Simeonov framed his updates around NCATS' new tagline—Collaborate, Innovate, and Accelerate. He noted that collaboration and innovation are closely related; this component involves engagement of a broad range of stakeholders to advance translation, engagement of multiple disciplines and areas of expertise to drive innovation, and response to public health emergencies. Acceleration involves dissemination of discoveries and approaches to the community (i.e., teaching others "how to fish").

Collaborate and Innovate

Engaging a Broad Range of Stakeholders to Advance Translation

- **Patients, Families, and Foundations.** The DPI endorses patient engagement at the early stages of therapeutic discovery. The Division maintains collaborations with disease foundations to develop test models for inherited genetic mutations and to conduct early-stage discovery and characterization of candidate molecules. Often, foundations will crowdsource funds to translate the discovery into therapies. These projects often are championed by postdoctoral fellows working at the DPI, providing new training opportunities in translation at the level of drug discovery. Patients and advocates are critical to the success of these collaborations, providing motivation to researchers. Dr. Simeonov highlighted an ongoing project on juvenile myositis, which identified active molecules that are being validated in follow-up assays.

- **Clinical Providers.** The DPI is working with clinical providers to test a new therapy. Contract work allows sharing of resources and expertise, enabling lower costs for research. By establishing multiple partnerships across NCATS, as well as with multiple external partners, DPI researchers accelerated research on a new therapeutic for pulmonary alveolar proteinosis, which was advanced to a clinical trial.

- **Crowdsourcing Clinician Experiences.** The CURE ID smartphone app is used to capture clinicians' experiences of novel uses of existing drugs. The app was developed collaboratively by the DPI and FDA, with the support of the World Health Organization and Infectious Diseases Society of America. The app presently is being expanded for COVID-19 surveillance using EHRs in collaboration with N3C, the FDA, and the Critical Path Institute.

Engaging Multiple Disciplines and Areas of Expertise to Drive Innovation

Dr. Simeonov highlighted examples of broad multidisciplinary team approaches that NCATS used to improve predictivity of *in vitro* tests and acceleration of design and testing of new molecules.

- **3-D Tissue Biofabrication Laboratory.** 3-D tissue bioprinting represents an example of bringing together expertise in different disciplines. The 3-D tissue models represent the combined efforts of cell biologists, tissue experts, bioengineers, materials scientists, and optical engineers. The effort involves the integration of models in drug discovery and development pipelines, as well as the implementation of the principles of the "3Rs"—replacement, reduction, and refinement. Small business mechanisms have been applied for problem-solving in this area. Dr. Simeonov noted that efforts to develop tissue models for COVID-19 and other viral infections have been pursued.

- **A Specialized Platform for Innovative Research Exploration (ASPIRE).** Dr. Simeonov reflected that numerous fields within biomedical research have changed dramatically over the past 100 years. ASPIRE—an example of joining forces to automate the design, generation and testing of new molecules—was created to accelerate the process of chemical synthesis. This effort reflected the engagement of stakeholders across NCATS. Dr. Simeonov emphasized that multiple steps for synthesis must be considered; ASPIRE is focused on automated, closed-loop processing to improve capabilities for researchers.

Responding to Public Health Emergencies

- **Gulf of Mexico Oil Spill.** The Gulf of Mexico oil spill required an ultra-rapid response to evaluate the toxic effects of dispersants selected by the U.S. Environmental Protection Agency (EPA). The DPI generated key data for EPA within approximately 5 days. These efforts reflect the DPI's unique capabilities, and its commitment in this area has been demonstrated over the years.

- **Ebola and Zika Outbreaks.** These efforts involved rapid screening of candidate molecules and publication of findings in top-tier journals (e.g., *Nature Medicine*).

- **Opioid Crisis.** The DPI receives multiyear funding through the HEAL Initiative. Four DPI programs are involved in collaborative efforts to develop and disseminate test models and therapeutic candidates for pain, addiction, and overdose.

- **COVID-19 Pandemic.** The COVID-19 pandemic required a multipronged approach to perform drug screens, develop new test systems, and partner with a wide range of stakeholders—including other NIH ICs—to advance late-stage drug candidates. The NCATS OpenData Portal enabled data and protocol-sharing in near-real time.

Accelerate

Teaching Others "How to Fish": Disseminating NCATS Products and Translational Science Training of Future Research Leaders

- **Dissemination.** Many findings can be disseminated readily through peer-reviewed publications. This format, however, imposes limitations for information sharing. NCATS-supported public

platforms—Pharos, Assay Guidance Manual, The Ginas Project, Bioplanet, and Tox21 Gateway—provide new capabilities in this area.

- **Translational Science Training.** A need for dedicated training of future leaders in translational science at NCATS was identified. Jessica M. Faupel-Badger, Ph.D., M.P.H., was hired in 2018 to lead training and education across NCATS. Marcus G. Hodges, Ph.D., serves as the current intramural training director. A case study of metarrestin highlights the value of training at all stages of translational research. A recent publication in *CBE: Life Sciences Education* describes the outcomes of NCATS' intramural training program, and a joint manuscript on the systems approach to team science is in development. Additionally, a summer intern diversity cohort is planned for 2022.

- **NCATS–FDA TSIF.** The TSIF, a joint postdoctoral fellowship and 3-year program, is sponsored jointly by NCATS and the FDA and aims to provide training in both preclinical translational science and regulatory science. This partnership reflects the common goals of NCATS and the FDA. Fellows will be trained in preclinical translational science, technology development, and regulatory research and review. In the first cohort, three fellows will work on repurposing for neglected infectious diseases, translational research in developing predictive oncology for antisense oligonucleotides, and a 3-D skin model of atopic dermatitis.

Discussion

Dr. Schmitt noted that several questions submitted in the chat have already been addressed. Several participants elaborated further on their questions.

Paula K. Shireman, M.D., M.B.A., remarked on ethical issues of protecting patient privacy, in particular with genetic information. She noted that regulatory measures must be able to keep pace with the existing technologies.

Mr. Vradenburg (in the chat) asked about dissemination of models. He inquired further about mechanisms for technology intersection to permit access to databases and tools for public use. Dr. Simeonov agreed, noting that publications must follow journal formats. Many tools on the NCATS website (e.g., databases, browsers, manuals) help make resources available to the research community. Online workshops are focused on bringing attention to best practices in preclinical translation. Dr. Rutter added that the ORDR supports resources and toolkits on rare diseases (e.g., the GARD Information Center). NCATS also supports a telephone line to convey information to patients. She reiterated the value of the OpenData Portal and N3C for researchers. She also noted that the CURE ID app can be used as both a resource and a tool.

Dr. Harris asked how partnerships are initiated and progressed, and how resources were prioritized. Dr. Simeonov noted that late-stage projects (i.e., IND-enabling studies) use specific application mechanisms that require evaluation by external experts. For early-stage projects, reviews often are performed internally to identify areas of need and potential for intramural–extramural partnerships. Dr. Simeonov emphasized the need to engage external experts in specialized areas.

Dr. Ranganathan asked about the DPI budget and the measures for success and outcomes of patents. Dr. Simeonov responded that the current budget is $100 million and explained that it has increased over the years. Dr. Simeonov noted that, presently, several molecules have reached the biologics license application stage but are not yet marketed. He added that licensing revenue has been received; by federal statute, the funds are returned to the organization and are allocated among the corresponding laboratory and inventors. He also stated that NCATS' focus is translational science, not the advancement of drugs to the market.

Matthias Kretzler, M.D., inquired about the most utilized part of the drug discovery pipeline. Dr. Simeonov replied that all parts of the pipeline are "oversubscribed." The DPI is working to further improve the internal efficiency, but federal contracting guidelines impose limitations in this area.

VIII. ADJOURNMENT DAY 1: Joni L. Rutter, Ph.D., Acting Director, NCATS, Chairperson, NCATS Advisory Council

Dr. Rutter adjourned Day 1 of the meeting at 4:11 p.m. EDT.

JUNE 11, 2021

IX. CALL TO ORDER, OPEN SESSION DAY 2

Dr. Rutter called the meeting to order and welcomed Council members and guests to the second day of the 27th meeting of the NCATS Advisory Council. She also welcomed the Cures Acceleration Network (CAN) Review Board members and ex-officio members who are attending officially as guests in today's meeting because of statutory requirements. Dr. Rutter reminded attendees that the open session is being videocast and reviewed the agenda. She explained that the CTSA Program suite of concepts will proceed slightly differently in today's meeting. Each CTSA Program concept will be presented and discussed concurrently. Following the concept presentations, the Council will discuss a letter submitted by a subset of the CTSA institutions related to this suite of concepts. Voting for each CTSA Program concept then will proceed.

X. CLEARANCE OF CONCEPTS

The Council and Board received presentations on one project renewal and six new projects that NCATS is considering for funding. At the end of each presentation, the members discussed the proposed concept. For non-CTSA-related concepts, members voted on whether NCATS should move forward with the initiative immediately after discussion of the concept. Voting for each CTSA Program concept will proceed after an opportunity to discuss the letter referenced above.

Contract Support for NCATS Intramural R&D Activities: R. Dwayne Lunsford, Ph.D., Deputy Director, Therapeutic Development Branch (TDB), DPI, NCATS

R. Dwayne Lunsford, Ph.D., presented a renewal concept for contract support of the NCATS intramural research and development (R&D) activities. NCATS proposes to renew this concept to complement in-house scientific capabilities of the DPI scientists—who require a variety of support services—and also to maintain access to mission-critical research services. DPI advances translational science by decreasing the risk of investing (i.e., de-risking) in promising new targets and therapies for indications that otherwise lack private-sector funding.

Since the original concept was approved in 2015, the DPI has generated data for regulatory filings (pre-IND and IND stage), contributing to 19 INDs. The DPI also developed diverse therapeutic targets and drug candidates (e.g., small molecules, peptides, bio-therapeutics). Regarding implementation and impact, NCATS will issue new requests for proposals (RFPs) addressing the relevant technical service areas. It is expected that contracts will allow seamless continuity of operations supporting ongoing and future collaborations and will include a Determination of Exceptional Circumstances (DEC) clause to protect the IP rights of the collaborators.

Discussion

Dr. Ranganathan inquired about the number of contracts issued and the amount spent since the original concept was approved in 2015 and whether NCATS had awarded a single awards or multiple awards to one organization. Dr. Lunsford explained that the number of contracts and amount spent are details not discussed in open session, but he could provide this information to the Council for review after the meeting. He noted that a primary contractor provides services to the DPI and engages subcontractors as needed.

Theodore R. Holman, Ph.D., remarked on how this program provides NCATs some flexibility to conduct its activities. He asked about mechanisms to ensure the contactors are fulfilling their obligations. Dr. Lunsford explained that each task is configured with a base award and optional years are contingent upon meeting milestones. The NIDA Office of Acquisition, on behalf of NCATS, enforces federal contractor rules and measures project performance based on the milestones achieved. NCATS program managers provide oversight of the day-to-day operations of the DPI projects, which are generally standardized and not overly specialized. Dr. Lunsford also confirmed that U.S.-based contractors are eligible to apply and foreign components are allowed.

In response to questions from Dr. Summar about access to the contracted resources and the number of filed INDs resulting in a phase 2 trial, Dr. Lunsford confirmed that services will be made available primarily to the DPI, with some extended NCATS-wide. He will ensure that information on the INDs enabling a phase 2 trial is forwarded to the Council.

Dr. Lunsford noted that the DPI has no defined metrics on performance versus the number of INDs submitted. The TDB coordinates collaborations for the DPI, which are open to all interested and tend to be disease agnostic, focusing on rare and underfunded areas. The majority of the TDB projects are submitted through the Bridging Interventional Development Gaps or Therapeutics for Rare and Neglected Diseases programs.

Dr. Ranganathan asked about the performance benchmark for these types of contracts NIH-wide. Dr. Lunsford remarked that the TDB is unique to the NIH and is similar to a preclinical contract research organization. Donald C. Lo, Ph.D., Director, TDB, reiterated that contract expenditures are not discussed in open session and added that the general trend among the external venture investment sector is an average of three to four INDs consistently over decades. Compared with smaller biotechnology companies, TDB's productivity is similar. Dr. Ranganathan asked if this information could be provided in a closed session of the Council, which Dr. Donald Lo confirmed could be arranged.

Action Item: Dr. Donald Lo and the TDB, in a future Council closed session, will present data on the R&D contract performance and INDs.

Dr. Summar suggested one way to improve this concept: Clarify the details on the types of partnerships supported and who can apply, which Dr. Donald Lo also noted.

Dr. Donald Lo pointed out that the overall success rate of TDB projects reaching and clearing the IND stage is well above 50 percent, confirmed that 70 percent of contracts convert to INDs, and clarified that 19 investigator teams (not individual investigators) contributed to the 19 INDs.

Additional comments/questions posted in the chat to all participants:

13:14:56 From George Vradenburg to Everyone : What is the estimated annual cost of this contract support?

13:15:38 From Marshall Summar, MD Rare Disease Institute to Everyone : This is available to whom exactly?

13:16:13 From Marshall Summar, MD Rare Disease Institute to Everyone : Of the filed INDs, how many have progressed to Phase 2?

13:20:23 From Lili Portilla to Everyone : @Kelly McVearry it helps the collaborator from having to negotiate with the contractor to obtain any new IP that they may develop. The DEC is a very similar arrangement that pharma/biotech have in place with CROs.

13:21:05 From George Vradenburg to Everyone : 19 IND's over 6 years. How do we know that that is a good or excellent performance? What is the comparator?

13:22:48 From George Vradenburg to Everyone : Do biotechs/private sector players have access to this program?

13:24:21 From Marshall Summar, MD Rare Disease Institute to Everyone : How many investigators make up the denominator for the 16?

13:30:14 From George Vradenburg to Everyone : I'm confused, sounds like biotechs CAN access this program; it is NOT just intramural PI's

13:33:24 From Paul Harris to Everyone : Where does the ideation start? Intramural or Outside?

13:34:46 From Marshall Summar, MD Rare Disease Institute to Everyone : You are a well kept open secret :-)

Members unanimously approved the NCATS intramural R&D contract support renewal concept.

LitCoin Prize Competitions: Tyler Beck, Ph.D., Program Officer, Drug Development Partnership Programs (DDPP), NCATS; Christine M. Colvis, Ph.D., Director, DDPP, NCATS

Christine M. Colvis, Ph.D., informed the Council that the LitCoin concept was developed with the desire to help researchers share their data in a model that meets NIH requirements and the needs of investigators. NCATS will pilot test the project with the anticipation that the NIH National Library of Medicine and journal publishers will lead the efforts on a broader scale.

Tyler Beck, Ph.D., presented the concept for establishing LitCoin prize competitions. This concept addresses three main issues. First, data are not machine-readable. Second, generating computationally accessible data is costly and involves manual curation. Third, few incentives exist to promote data-sharing. In addition, early-career researchers have few mechanisms to share reproducible results outside of their respective disciplines. NCATS proposes to incentivize and enhance the sharing of machine-readable knowledge from biomedical publication free text.

Dr. Beck described the LitCoin conceptual framework, which consists of four key roles of engagement: author, NCATS, publisher, and other researchers. The author makes a discovery, writes a short publication, and uploads the text to the LitCoin server. NCATS facilitates a natural language processing (NLP) tool to build assertions and displays them back to the author, who verifies and then submits to the publisher. The publisher reviews the assertions and approves them for publication. The NLP deposits the information to a dedicated database. Other researchers can then cite the published findings and the data remain available and open to the public.

NCATS proposes two challenge competitions. Challenge 1, LitCoin NLP Challenge, will be a software contest to generate highly accurate, computationally accessible data from free text. The competition is planned for fall 2021 and winners will be required to grant a broad, permissive license to the NIH to use, alter, and redistribute the software. Challenge 2, LitCoin Concept Challenge, will encompass a competition to generate end-to-end plans to build the LitCoin submission platform, commencing in spring or summer 2022. NCATS anticipates combining ideas from multiple winners to inform and plan the next step, a LitCoin Development concept.

To engage stakeholders, NCATS, in collaboration with NLM and four publisher partners, will host a virtual LitCoin Stakeholder Feedback Workshop June 17–18, 2021. The DDPP is seeking advice from the Council on key factors to enable success of this program and ideas on enhancing adoption and dissemination of LitCoin.

Discussion

Dr. Harris asked whether a special class of publications was being considered. Dr. Beck noted that the DDPP envisions establishing a new publication type and new category of articles to be published in existing journals that focus on open data sharing. Dr. Harris also asked about the requirement that a figure be included with the assertion and about the rationale for sponsoring the NLP challenge before the use case. Dr. Beck explained that the requirement for a figure ensures that data are accurately represented and not just descriptive text, with the hopes that the figure would be submitted to the journals. The DDPP rationalizes that the NLP algorithm developed in the Challenge 1 will be useful to the NCATS programs (e.g., Biomedical Data Translator) regardless of the LitCoin program moving forward.

Dr. Colvis commented that LitCoin, similar to the BitCoin model, is anticipated to change the currency of academia in terms of publications.

Dr. Kretzler expressed his enthusiasm for the concept, which provides an opportunity to capture federally funded research data not being published elsewhere. He encouraged comprehensive stakeholder engagement and outreach to junior investigators in the planning phase of the program.

Andrew Lo posted in the chat to all participants: What would incentivize principal investigators (PIs) to participate?

Dr. Beck explained that the intent is to compare and link the PI's LitCoin assertions with all previous PubMed abstracts and/or publications to determine the number of times a similar idea was presented. This will help build the PI's bibliography. Dr. Colvis clarified that the prize award is for developing the NLP.

Mr. Vradenburg posted in the chat to all participants: If a machine-readable assertion is accepted, is that assertion credited to LitCoin or to a journal such as *Nature* or *Science*?

Dr. Beck responded that machine-readable assertions would be submitted into the LitCoin knowledge base and accessible through that knowledge graph. These data also would be connected directly to the corresponding sentence or phrase and then linked out to the publisher.

Ms. Hartman emphasized communicating the benefit of LitCoin rapidly and across multiple networks, noting the ownership nature of the concept. Dr. Beck noted that the assertions potentially could be linked to open researcher and contributor ID (ORCID).

Andrew Lo, Ph.D., observed two separate components of this concept: academics sharing their data and being credited and developing an algorithm capable of distilling logical statements from a variety of publications. He suggested partnering with journals and preprint servers (e.g., medRxiv, bioRxiv), as well as engaging computer scientists experienced in this area.

Additional comments/questions posted in the chat to all participants:

13:48:45 From Marshall Summar, MD Rare Disease Institute to Everyone : One of the true benefits of such a system would be the dissemination of negative data. The review for publication process would probably kill that. Instead a mechanism to create a new type of publication where the science and the data are presented for view by the public and citations or views create a metric for the investigator to use.

13:51:22 From Kelly Marie McVearry to Everyone : I love the concept at the high level. Beyond the NLP component, could you explain the technical approach and how the "coin" concept is being used to incentivize adoption? Are you planning to issue coins or tokens, and mediate the workflow with slef-executing code (I.e. smart contracts executing across a distributed ledger).

13:52:59 From Marshall Summar, MD Rare Disease Institute to Everyone : How much does this overlap with what the Open Knowledge Foundation does?

13:54:14 From Kelly Marie McVearry to Everyone : I like the name, and my view is that the association with bitcoin is contemporary and appropriate for the innovative reputation of NCATS

13:54:30 From Paula Shireman to Everyone : Maybe LitNet?

13:54:31 From Marshall Summar, MD Rare Disease Institute to Everyone : Also Share Your Work and others.

13:56:32 From Annie Kennedy, EveryLife Foundation USA to Everyone : I also really love the concept, but underscore Marshall's inquiry about how to incentivize and facilitate the sharing of negative data. This could be of tremendous impact in the rare disease space.

13:56:36 From Andrew Lo to Everyone : It would be ideal to introduce this idea in collaboration with a journal like Science or Nature.

13:56:56 From Paul Harris to Everyone : +1 Andrew

13:58:28 From Christine Colvis to Everyone : https://sites.google.com/ncats.nih.gov/litcoin-stakeholder-workshop/home

14:02:10 From Andrew Lo to Everyone : I have several comments about this concept but it seems like there's no mechanism to raise my hand, and we may be short on time, so I'll send my comments via email afterwards.

14:03:30 From Marshall Summar, MD Rare Disease Institute to Everyone : What if the peer review is skipped, the data is there, if the finding is significant enough then a publication could promote it as part of a "hot science section". For all of the data out there you could generate an H-index without it being journal related.

14:07:45 From Marshall Summar, MD Rare Disease Institute to Everyone : Call it "Open Science" that's what it is

14:09:31 From Paul Harris to Everyone : Agree with that concept of early methods development (NLP and importantly the researcher-focused adjudication process). Test the self-adjudication using papers published in the last month/year (in diverse journals/domains) + reward researchers in some way for participating

14:09:37 From Marshall Summar, MD Rare Disease Institute to Everyone : Consistent not reproducible

14:09:45 From George Vradenburg to Everyone : Repeated

14:10:36 From Christine Colvis to Everyone : Thank you all! Great discussion

Members unanimously approved the LitCoin concept.

CTSA Program Concepts

Overview of Updates to the CTSA Program: Michael G. Kurilla, M.D., Ph.D., Director, Division of Clinical Innovation (DCI), NCATS

Michael G. Kurilla, M.D., Ph.D., provided an overview of the proposed updates to the CTSA Program. He reminded the Council of the DCI's mandate around innovating clinical and translational science, with efforts spanning the translational research spectrum from T1 (translation to human) through T4 (translation to communities).

- **NCATS CTSA Program.** A national network of medical research institutions and their partners and collaborators, the CTSA Program is composed of 60 Hubs. In FY 2020, NCATS invested nearly $580 million in the Program that encompasses six broad areas: (1) develop, demonstrate, and disseminate innovations that turn science into medicine faster; (2) promote impactful partnerships and collaborations; (3) address health disparities; (4) provide a national resource for the rapid response to urgent public health needs; (5) promote training and career support; and (6) nurture the field of translational science.

- **CTSA Hub Awards.** Requirements for a Hub award include a CTSA grant and a concurrent institutional mentored career development program (K program). The Ruth L. Kirschstein National Research Service Award (NRSA) institutional training program (T program) is optional. Additional consortium-wide activities and program funding opportunities are supported.

- **CTSA Package.** The Package is composed of an integrated suite of limited competition initiatives that address many of the Program goals. The current U54 funding opportunity announcement (FOA) expires July 16, 2021, and the Package would be available shortly after.

- **Proposed CTSA Program Enhancements.** New features include a Hub component (UM1), specialized innovation programs (RC2), institutional training (T32), institutional career development (K12), and research education (R25). The proposed enhancements to the CTSA program have been informed by feedback from the public, CTSA consortium members, and the broader scientific community. The award period for the Hub UM1 would be increased from 5 to 7 years. The new series of mechanisms offers the option to award the Hub component independently of other components. Increased emphasis would be placed on partnerships and collaborations with minority-serving institutions to address health disparities, as well as on clinical research capacity and the capabilities of partners. Applications and grant actions would be streamlined, and new opportunities in training and other funding areas would be available. Several components—overall number and award size; investments for Hub, career development, and training components; institutional award limitations; and the importance of partnerships and collaborations to meet application objectives—would be unchanged.

- **CTSA Program Partnerships.** Dr. Kurilla remarked that partnerships remain a core element, vital to achieving many of the CTSA goals in terms of enhancing community engagement and addressing health disparities. The selection of such partners (and collaborators) is important to Hubs for achieving their objectives and is considered during peer review. Recognizing that not all partnering/collaborating institutions receive substantial NIH funding, NCATS has increased emphasis on clinical research capabilities: a decision objectively assessed by NIH clinical research funding. The change is expected to encourage increased partnering overall. NCATS has increased emphasis on inclusion of partners and collaborators to address the burden of conditions that disproportionately affect rural, minority, and other underserved populations. This shift is expected to encourage increased partnering in minority-serving institutions.

- **Solicitation of CTSA Program Input from Stakeholders.** Input on the CTSA Program has been solicited from the public, CTSA consortium members, and CTSA peer reviewers. In September 2019, NCATS issued a Request for Information (RFI) on enhancing the CTSA Program and collected responses through late October 2019. Stakeholder feedback sessions were convened,

and video and presentations slides are available on the NCATS website. The RFI responses have informed the proposed updates to the CTSA Program. Input from peer reviewers of CTSA Program applications and the wider NCATS also have informed the proposed updates.

- **CTSA Program Updates Timeline.** Dr. Kurilla also outlined a phased timeline for updates to the program, noting that the updates have been underway since FY 2018. The first new Hub awards would be released in FY 2023, and specialized innovation projects would be released in FY 2024. The team anticipates that all Hubs would be supported under the new FOA by FY 2027.

- **CTSA Program Modifications.** The planned modifications represent three areas of emphasis: (1) decreasing application administrative burden, (2) increasing Hub flexibility and Hub specialization opportunities, and (3) expanding Hub funding options. The Hub mechanism would transition from a U54 to a UM1. The new proposal would allow concurrent submission of the Hub with career and training applications, which would be reviewed and scored separately; the Hub can be awarded independently. It is expected that each Hub would have one K award. Additionally, the award calculation would be changed from a minimum, maximum, and sliding scale tied to 2.5 percent of the applicant and partners' total clinical NIH funding, to the rolling average of previous 5-year total NIH funding of the applicant and partners.

- **CTSA Program Budget.** The overall NIH budget has outpaced the CTSA budget over the past 10 years. To address this disparity, maximum caps were placed on CTSA budgets. Because this practice was penalizing institutions with high indirect cost rates, however, the direct cost was changed to $7.5 million. By 2020, 15 Hubs had reached the maximum cap that could be received. This figure is expected to increase by 50 percent within the next 5 years. Dr. Kurilla stated that to address this concern and to ensure the Program's sustainability, a different funding paradigm is needed. He emphasized the importance of strengthening clinical research capabilities while stabilizing and standardizing budget projections. He also illustrated changes in program funding, reiterating that the new approach would ensure added flexibility for applicants.

- **New CTSA Program Opportunities.** New Hub opportunities would include Hub operations (UM1), specialized innovation programs, small grants (R03), and training grants (Ts and R25). Dr. Kurilla briefly illustrated overall changes, reiterating changes to CTSA Hub grants, the institutional mentored career development program, and the institutional training program. He presented representative images of the application components noting that the streamlined structure is beneficial for applicants and reviewers.

Dr. Kurilla concluded by briefly outlining the CTSA Program concepts and introducing the presenters.

Comments/questions posted in the chat to all participants:

14:18:23 From George Vradenburg to Everyone : Why limited to medical research institutions and not include private clinical trial sites? Are any HBCU's included in hubs?

14:20:05 From Andrew Lo to Everyone : Does the increase in clinical research discourage collaboration with other research institutions that don't have medical schools but which add important technology components?

14:21:08 From Erica Rosemond to Everyone : @George many CTSAs are minority serving institutions (U Texas HSC, U Washington, UC Irvine, U Illinois Chicago, and USC); many CTSAs partner with minority serving institutions (such as Meharry, Morehouse and Howard, etc.)

14:21:54 From George Vradenburg to Everyone : Why not

14:21:58 From Erica Rosemond to Everyone : @Andrew - no - that is not our intention.

14:22:05 From Andrew Lo to Everyone : This could DISCOURAGE partnerships between clinical and non-clinical research.

14:22:35 From George Vradenburg to Everyone : Any HBCU's which are 'hubs' as opposed to 'partners'? Sounds like second-class CTSA citizens?

14:22:39 From Andrew Lo to Everyone : @Erica, I understand that this isn't the intention but it may be an unintended consequence.

14:23:01 From Erica Rosemond to Everyone : @George - Georgetown - Howard is a partnering CTSA

14:23:36 From Paul Harris to Everyone : Partner selection strength/assessment by NIH Clinical Research portfolio means the program will de-value other partners (e.g. institutions with strength in engineering, general engagement) in funding equations?

14:24:07 From George Vradenburg to Everyone : Why not Howard as a "hub"? Lack of capacity, skills, etc. Intentional program to upgrade to 'hub"?

14:24:44 From Clare Schmitt to Everyone : COUNCIL MEMBERS: As we are receiving so many comments (keep them coming!), NCATS will answer as many questions as possible in the chat and will not read the chat questions - instead, please use the raise hand function (or chat if that isn't working) during the discussion period. NOTE: No discussion time after Dr. Kurilla's overview, as we need to get through all Concept presentations. We hope to have time at the end for continued discussion.

14:26:56 From George Vradenburg to Everyone : How do we measure the performance of the system or of a "hub" in increasing speed, reducing cost, improving quality of clinical research?

14:29:29 From Erica Rosemond to Everyone : @George - Howard is a true partner of the Georgetown-Howard hub - however there can only be one primary applicant institution.

14:30:32 From Andrew Lo to Everyone : This is exactly what I was referring to. The proposed language would discourage partnering with universities that don't have as much *clinical* funding but does have lots of NIH funding, including universities like Caltech, Carnegie Mellon, and MIT. This seems counter to increasing flexibility of hubs.

14:31:05 From Marshall Summar, MD Rare Disease Institute to Everyone : The partnership/primary applicant dynamic is always a problem. Mechanism to allow all partners to apply as equals would result in a lot more joint activity so the each get the prestige and benefits.

14:31:09 From Andrew Lo to Everyone : I would propose deleting "clinical" in the proposed FOA language.

14:31:49 From Jamie Doyle to Everyone : @George: We are conducting an extensive literature review on measures to be considered for an evaluation of the CTSA program. The intent is to evaluate the consortium as a whole.

14:31:49 From George Vradenburg to Everyone : Perhaps funding should vary year-over-year based on performance metrics — speed of enrollment, cost to sponsor, consistency of rater data, etc.

14:33:47 From Marshall Summar, MD Rare Disease Institute to Everyone : I go back to the old GCRC and then transition to the new CTSA model. An observation is that the budget hasn't grown but the number of centers has. That really limits the effectiveness of what the program can do at an institution. Is there a view to limit #s.

14:35:01 From George Vradenburg to Everyone : @Marshall. Performance-based funding?

14:35:38 From George Vradenburg to Everyone : The amount of funding in this program is massive

14:35:40 From Marshall Summar, MD Rare Disease Institute to Everyone : Performance is really hard to quantify and very gameable.

14:37:08 From George Vradenburg to Everyone : I think it can be done. My organization manages a CT platform with clear performance metrics. We have done or are doing about 10 major p2/3 trials over 80 clinical trial sites

14:37:43 From Marshall Summar, MD Rare Disease Institute to Everyone : Highly interesting George

14:41:35 From Clare Schmitt to Everyone : One note about the CTSA Program: most of the funding is for capabilities and expertise to facilitate CTS, and less for specific CTs

14:42:03 From keith mueller (he/him/his) to Everyone : slide read "clinical and translational", so why so emphasis on clinical only? This may be semantics, but the message seems to be expanding clinical research capacity, which may not be sufficient to promote translation, which requires a knowledge base in dissemination and implementation.

14:42:37 From Andrew Lo to Everyone : +1 @Keith

Clinical and Translational Science Award (UM1): Erica Rosemond, Ph.D., Acting Deputy Director DCI, NCATS

Erica Rosemond, Ph.D., presented the CTSA UM1 award concept. NCATS proposes this concept to support an integrated research and training environment for clinical and translational science. The objectives and areas of emphasis align with the six main objectives of the Program. This concept addresses the RFI responses to decrease applicant administrative burden, increase CTSA Hub flexibility specialization opportunities, and introduce a distinct clinical and translational science research project.

NCATS proposes to simplify the application and budget, enhance review quality, and streamline award actions. With the UM1 mechanism, applications will be simpler, less repetitive, more organized, and have a single budget. The Hub career development and optional training components will be separate, allowing for independent scores and reviews. The administrative adjustments will speed processing the awards. In terms of flexibility, this concept will require fewer elements, emphasize unique qualities, and create a Hub-specific research project.

The activities of the CTSA will be retained, reorganized and grouped more appropriately, and balanced and focused on the Hub's activities. These enhancements will allow the Hubs to showcase unique strengths and capabilities. The unique clinical and translational science research project will address existing roadblocks to translational research. This concept builds on the existing CTSA Program and nurtures innovations in clinical and translational science.

Discussion

Dr. Shireman appreciated NCATS' streamlining the CTSA applications and eliminating the redundancy. She made several key points regarding the updates. Because many of the CTSAs have built relationships with basic science and translational science institutions, the budget likely will be controversial. Many of the CTSA partner organizations that are critical for diversity, equity, and inclusion have NIH budgets.

Rebecca D. Jackson, M.D., highlighted four areas for further clarification in the FOA. The reorganization includes all the components, but the integrated ecosystem of translational science at both a Hub and a consortium level should be retained. The value of distilling the robust slate of resources into a single project and the ways of reaching similar goals with the new UM1 are unclear. Limiting partnerships to primarily those that have clinical research capacity does not support the translational research spectrum. It is unclear how innovation, commercialization, and entrepreneurship as another pathway toward translation would fit into the CTSA initiative.

Dr. Harris commented that innovation tends to emerge from small pilot projects and expressed concern in having a single-project focus and de-emphasizing the network capacity of the CTSA Hubs.

Dr. Kurilla clarified that the focus on clinical research partnerships will change the funding levels of the individual Hubs only 5 percent or less. The Program updates do not discourage other collaborations, but model the funding structure of institutions that partner with underrepresented and minority-serving institutions in which the ratio of clinical versus total NIH funding is not substantially different.

Dr. Andrew Lo elaborated on how the NCATS CTSA Program is a national resource that is addressing critical gaps in funding. He pointed out that the Program updates discourage partnerships with nonclinical research universities that have productive and robust science programs and suggested deleting "clinical" from the proposed changes in research capabilities. Dr. Kurilla reiterated that no disincentive to collaborating with nonclinical institutions is being proposed.

Dr. Summar remarked on how the CTSA Program is a social engineering tool that promotes networking and collaborations. Shifting the focus to a primary single project will change this structure. Dr. Kurilla clarified that the rationale of a single research project is to have the Hub identify a significant, problematic translational science bottleneck and propose a use case linked to its expertise and capabilities. The single project would be a demonstration of a use case that would be universally applicable to translational science.

Additional comments/questions posted in the chat to all participants:

14:44:36 From Marshall Summar, MD Rare Disease Institute to Everyone : For those who haven't done one of these applications the simplification and streamlining would be HUGE!!!

14:44:37 From Clare Schmitt to Everyone : @Keith: the program does both clinical and translational science - capacity, expertise, and research. Of note, clinical capacity has always been a focus (hence the name of the program) - and this aspect is critically important for emerging needs such as addressing the opioid epidemic and the pandemic. The clinical aspect is unique.

14:46:55 From Marshall Summar, MD Rare Disease Institute to Everyone : Question: would the application allow co-equal partners as opposed to primary institution and "secondaries"?

14:47:15 From Andrew Lo to Everyone : But @Clare, by only counting "clinical" funding in the FOA, you create very strong dis-incentives for partnering with universities that have a lot of scientific expertise that isn't necessarily clinical. Caltech is just starting to engage more collaboratively with City of Hope, and this FOA change will greatly discourage those collaborations. Same with MIT, Carnegie, etc.

14:47:43 From Paul Harris to Everyone : In Mike's example slide, we didn't see scenario of poor hub score and good training score — I assumed this was because the training won't be funded without the hub being funded. Is that correct?

14:48:09 From Clare Schmitt to Everyone : @Paul - correct - a UM1 hub award is required

14:49:32 From George Vradenburg to Everyone : Innovations in in-home clinical study participant would be huge value to the field and to income/racial equity

14:49:51 From Rajesh Ranganathan to Everyone : In that case, separate the training review from the HUB is a false separation since a Hub award is needed to receive the training award. So, you could do the Hubs first and then only allow awards Hubs to apply for training awards. Why do it in parallel?

14:50:47 From Paul Harris to Everyone : The single research project seems risky and harkens back to GCRC and CCC applications where too much time and energy is devoted to a single exemplar use case where all CTSA services are represented and all hub partners are included (and various other forms of cherry-picking). This approach may inadvertently ignore the fact that CTSA infrastructure needs vary across the spectrum of T0-T4 research. Applicants will be tempted to organize around single projects rather than providing a home for diverse research.

14:51:32 From Clare Schmitt to Everyone : @Andrew - the program distinguishes Partners as having a major role in achieving stated application objectives. They may or may not have any NIH funding, clinical or otherwise. (that is the current state). Collaborations are also very important. Appropriate partners and collaborators are peer reviewed, separately from any NIH funding.

14:52:02 From Marshall Summar, MD Rare Disease Institute to Everyone : @Paul makes a very good point. A historic model that worked well was supporting the unique types of clinical research at an institution rather than a specific project.

14:52:20 From George Vradenburg to Everyone : @Andrew. To your point, partnering with external technology companies might be quite productive

14:52:53 From Andrew Lo to Everyone : Agreed @George!

14:53:10 From Paul Harris to Everyone : I have mixed emotions about the collapsing of sections. There are obvious advantages in terms of the review process and allowing sections to be a little less prescriptive, but at the end of the day it's really hard to include all of the innovation we'd like to include in the sections we have - and this will seem to worsen and result in even more competition within the application for space across the program components.

14:54:23 From George Vradenburg to Everyone : Rather than peer-reviewing partners, peer review of performance-based contract objectives seems more program oriented

14:56:36 From Clare Schmitt to Everyone : @George - just a note that these are grant based (cooperative agreements) rather than contracts to give the investigators more flexibility to respond to local needs and emergent issues.

14:58:42 From Paul Harris to Everyone : +1 on 7 years

15:11:36 From Paula Shireman to Everyone : Agree with the concern with the Research Project, one more added element to the UM1

15:13:16 From Andrew Lo to Everyone : Can you please turn the slides to the specific page with the current versus proposed FOA language?

15:14:26 From Andrew Lo to Everyone : I disagree.

15:25:33 From Rebecca Jackson to Everyone : How do we measure the success of the single project? For science and for the Consortium. Why would this be more effective than funding small pilots that focus on this goal.

15:25:55 From Paul Harris to Everyone : This "choose one exemplar science study for submission" approach may also lead to less collaboration across hubs … we need to keep this one at MY HUB and MY PARTNERS rather than being open to additional collaboration.

15:26:35 From Matthias Kretzler to Everyone : +1 on building incentives for network and integration mechanism

15:31:27 From Paula Shireman to Everyone : The institutions with the greatest need and access to disadvantaged populations for partnering with CTSA often do not have NIH funding. These are

institutions were critical during the pandemic for providing access and education to counteract disinformation. These factors need to be considered in CTSA budgets.

15:37:38 From Andrew Lo to Everyone : +1 @Paula

15:38:03 From Paula Shireman to Everyone : While the vaccine development for COVID-19 was amazing and critical to resolving the pandemic, actually providing the vaccination to people was critical to the success and hopefully end of the pandemic. Both ends and the continuum of the translational spectrum are needed.

Specialized Innovation Programs (SIPs) (RC2): Erica Rosemond, Ph.D., Acting Deputy Director DCI, NCATS

Dr. Rosemond presented the new SIPs RC2 concept, which aligns with the RFI responses to increase flexibility and diversity across Hubs to leverage strengths and drive innovation, allow awardees to specialize, and balance local efforts with Consortium efforts. The aim of this concept is to provide support to SIPs through an RC2 funding mechanism, with the goal of catalyzing clinical and translational science locally through the support of unique activities, resources and/or expertise at CTSA Hubs. The proposed innovation ecosystem will consist of a CTSA UM1 Hub (local and national collaborations), RC2, Collaborative Innovation Awards (R21/U01), and Consortium-wide centers (U24), all focusing on improving health.

The goals of the SIPs are to support highly specialized capabilities or resources—with local impact and considerations for early dissemination—and to create a streamlined program-level tracking of outcomes and impact. SIPs will be peer reviewed separately and only Hub awardees will be eligible to apply. Examples of SIPs include telehealth, regulatory science, clinical informatics, genetics and genomics, pragmatic trials, dissemination and implementation, rural health and health disparities, community outreach and engagement, and other specialized programs.

Discussion

Dr. Holman asked about the reasons for the restriction to Hub awardees and the potential advantage of de-linking the award. Dr. Rosemond explained that the SIPs replace the existing activity within the U54 mechanism. The CTSAs have, over the years, noted the challenge to understand the activities across Hubs. Working with the coordinating center to compile such a list took enormous effort. SIPs address some of those issues. Dr. Kurilla added that the aim is to conduct activities within the Consortium. Non-CTSA members can collaborate on a specific project within the program.

Dr. Andrew Lo commented that the idea of specialization is appropriate for a CTSA Program concept, given how complex translational medicine has become. The concept provides the Program the opportunity to extend into other less-funded areas. He suggested including an online learning component with short videos or online courses for the Hub's SIP and dedicating a portion of the grant to developing educational materials for researchers.

Dr. Kretzler endorsed the concept, which from his perspective is the most critical and impactful mechanism of the CTSA Program. He continued that the SIP is one of the few national outreach tools to advertise the CTSAs and proved to be effective during COVID-19. Dr. Kretzler suggested NCATS think creatively of ways to add incentives to ensure strong support across the CTSA Hubs.

Dr. Shireman advised partnering with a research-intensive university (e.g., Massachusetts Institute of Technology) on an SIP project to fill gaps in the translational spectrum not being pursued.

Dr. Jackson asked how NCATS will address funding the UM1, RC2 and K12 programs now that they are no longer linked and whether funding would be sufficient for the SIP. Dr. Kurilla pointed out that the RC2 awards will be delayed 1 year, and only UM1 awardees will be eligible. The projected NCATS budget growth over the next 5 years is anticipated to meet the demands of the Program.

When asked by Dr. Summar about a mechanism to disseminate resources, Dr. Kurilla noted that Hubs could collaborate on a CTSA Consortium-Wide Centers: Resources for Rapid Demonstration and Dissemination (U24) grant.

Additional comments/questions posted in the chat to all participants:

15:38:57 From keith mueller (he/him/his) to Everyone : Great point, thanks!

15:41:09 From Matthias Kretzler to Everyone : National clinical research infrastructure needs/standards come with costs for entities participating. Not coupling these needs to the main funding mechanism allows institution to easily opt out of shared activities.

15:41:29 From Paula Shireman to Everyone : Will the SIP cores project length be independent or linked to the remaining time on the UM1 award?

15:41:50 From Clare Schmitt to Everyone : @Paula - independent

15:46:50 From Paul Harris to Everyone : This may be obvious, but I'm sensing this shift would allow "Optional Modules - now SIPS" to be funded separate and apart from the Hub awards? So there could be a net positive budget for those Hubs who obtain SIPS?

15:47:06 From keith mueller (he/him/his) to Everyone : SIPs present great opportunities to realize the full potential of translational research.

15:48:11 From Paula Shireman to Everyone : The review for the SIPs would be facilitated by having study sections with reviewer expertise.

15:48:27 From Rebecca Jackson to Everyone : There are multiple ways to make the projects more visible rather than to pull them out of the UM1-It will be important to address this concern even if you do make this separate.

15:48:46 From Clare Schmitt to Everyone : @Paul - yes - independent funding & positive net funding. Applications restricted to UM1 awardees.

15:49:28 From Michael Kurilla to Everyone : @ Paul - we hope this will be viewed as a net positive; additional funding opportunities.

15:50:16 From Marshall Summar, MD Rare Disease Institute to Everyone : is there a dissemination model for the network for new useful tools.

15:51:25 From Rebecca Jackson to Everyone : On funding- I assume that all of these programs must come under the CTSA budget-how will the cost of this program be covered while still maintaining UM1 funding close to the same level.

Overview of CTSA Program Career, Training, and Research Education: Mercedes Rubio, Ph.D., Program Officer, DCI, NCATS

Mercedes Rubio, Ph.D., explained that the CTSA Program creates an environment of excellence and innovation by ensuring the development of a 21st century workforce across all career levels. Such a program is capable of advancing clinical and translational science. NCATS sponsors an NRSA Training Award (TL1) for undergraduates, graduates, and postdoctoral fellows and an Institutional Mentored Career Development Award (KL2) that supports later-stage postdoctoral fellows.

The DCI has considered the stakeholder feedback to separate the career and training applications from the Hub application and opportunities for predoctoral, postdoctoral and short-term training.
NCATS is proposing four limited competition concepts for career, training, and research education: NRSA Institutional Predoctoral Research Training (T32), NRSA Institutional Postdoctoral Research Training (T32), Institutional Mentored Career Development Award (K12), and Research Education Grant (R25) Short-Term Research Experiences.

NCATS anticipates that the proposed awards will develop the characteristics of a translational scientist strategically by promoting diversity, supporting evidence-informed mentoring practices, and improving understanding in career opportunities.

National Research Service Award (NRSA) Institutional Predoctoral and Postdoctoral Research Training Grants (T32): Mercedes Rubio, Ph.D., Program Officer, DCI, NCATS

Dr. Rubio presented the NRSA Predoctoral and Postdoctoral Research Training Grant (T32) concept, which aligns with NCATS Strategic Goal 3 to develop and foster innovation in translational training and a highly skilled, creative, and diverse translational science workforce.

This NRSA T32, which replaces the CTSA Program TL1, has the objectives to customize research training opportunities, provide high-quality research training, develop characteristics and attributes of successful translational scientists, and promote evidence-informed mentoring practices. In FY 2020, 181 postdoctoral trainees, 305 predoctoral trainees, and 34 short-term/summer training positions were supported. This concept is expected to enhance the career and training education opportunities available to the clinical and translational science workforce and nurture the clinical and translational science field.

Discussion

Because the NRSA T32 mechanism is replacing the TL1, Dr. Harris asked whether NCATS is anticipating that the CTSA Program would have an equivalent number of trainees as it did previously. Dr. Rubio confirmed that NCATS is committed to keeping the number of trainees at the previous level.

Keith J. Mueller, Ph.D., asked whether data on the number of participants from the various scientific disciplines matriculated through the Program and whether data on the diversity across disciplines are

available. Dr. Rubio explained that the plan is to implement methods to better track the CTSA Program trainees, which is a strength of updating the T32 mechanism.

When asked by Dr. Shireman whether administrative costs could be reduced by combining some of the support services not related to training, Dr. Rubio responded that this could be considered.

Ms. Kennedy asked about using the training grants to spur research development in areas of unmet need. Dr. Kurilla called attention to the CTSA Diversity and Re-Entry Research Supplements, which might be more applicable.

Additional comments/questions posted in the chat to all participants:

16:12:38 From Paula Shireman to Everyone : Multiple T32 grants support pre and postdocs within a single award. The administration of T32 awards can cover both. Help explain the rationale of having only a predoc or postdoc T32 rather than one or the other or both within the same award

16:13:34 From Annie Kennedy, EveryLife Foundation USA to Everyone : Can these training awards be tailored to help incentivize development in areas with particularly high unmet need? Is this something that is already happening? For example, to help spur the ultra-rare field, could a select number of training awards be for those seeking careers in that field. And so on?

16:13:45 From Erica Rosemond to Everyone : @Paula - the intention is to allow the institution/hub to identify their strengths and pool that they want to move forward with

16:14:15 From Erica Rosemond to Everyone : @Paula - institutions can apply for both predoc and a postdoc T32

16:18:32 From Marshall Summar, MD Rare Disease Institute to Everyone : we run an R25 on rare disease research topics with the RDCRN.

Institutional Career Development Award (K12): Joan Davis Nagel, M.D., M.P.H., Program Officer DCI, NCATS

Joan Davis Nagel, M.D., M.P.H., presented the K12 concept. The CTSA Institutional Career Development Program (KL2) offers postdoctoral scholars and junior faculty advanced training in clinical and translational science research and allows 75 percent of protected time for research. The proposed K12 will provide customized career development and education opportunities to align with local institutional strengths and resources; and will promote flexible, innovative learning models to engage scholars in team science, individual development plans, and advanced research training. The concept also will promote evidence-informed mentoring practices and includes a leadership and management component. This concept aligns with NCATS Strategic Goal 3 to develop and foster innovation in translational training and a highly skilled, creative, and diverse translational science workforce.

NCATS anticipates that the K12 will nurture the characteristics of a translational scientist, with enhanced tracking of scholar outcomes and measures of impact. The K12 is expected to create a clear and sustainable career pathway for junior faculty, enable scholars to acquire the knowledge and skills needed to cross translational science hurdles, and expand the field of translational science. This concept will support the next generation of diverse clinical and translational scientists who have the knowledge,

skill sets, and abilities to advance discoveries across the translational science spectrum to improve health.

Discussion

Drs. Shireman and Summar expressed their support for the CTSA K programs. Aside from unlinking the review and switching to a new funding mechanism, Dr. Shireman observed no changes to the scope of the programs.

Dr. Summar commented on the challenge of justifying 75 percent of protected time for clinical researchers when the budget does not support 75 percent of the salary of that clinician. Dr. Rosemond noted that salary and the protected time within have been the topic of ongoing discussions in NCATS. She pointed out that the current salary cap for the NCATS KL2 far exceeds the awards provided in the K programs.

In response to a question from Dr. Ranganathan on encouraging industry experience for trainees, Dr. Nagel explained that one of the objectives of the CTSA K12 is to nurture the characteristics of a translational scientist, with the unique feature of promoting team science. Efforts are ongoing with the Workforce Development Enterprise Committee to help scholars obtain translational skill sets. In 2016, NCATs launched the Eli Lilly Externship Opportunity in Clinical and Translational Sciences initiative to provide scholars with opportunities to gain industry experience.

Dr. Jackson posted in the chat to all participants: One of the consortium-wide benefits of the K12 could be the development of resources and toolkits that can be shared and adopted by other Hubs. This should be built into K12, as well.

Additional comments/questions posted in the chat to all participants:

16:21:08 From Marshall Summar, MD Rare Disease Institute to Everyone : Can someone settle for me if I should say KL2 or K12????

16:21:20 From Erica Rosemond to Everyone : This concept is for a K12

16:21:42 From Erica Rosemond to Everyone : the KL2 is essentially a K12 but the KL2 comes out of the U54

16:22:04 From Jamie Doyle to Everyone : The "L" in the activity code indicates that it is a linked award

16:22:25 From Marshall Summar, MD Rare Disease Institute to Everyone : Light has dawned on me. Thanks

16:27:40 From Matthias Kretzler to Everyone : 1+ for Paula, critical element of CTSA

16:31:53 From Paula Shireman to Everyone : Agree with @Marshall. Salary limits are an issue for the clinicians on K awards

16:37:33 From Paula Shireman to Everyone : Agree totally with Joan, our scholar and now junior faculty member had an excellent experience and she is amazing.

16:40:10 From Joan Nagel to Everyone : @ Marshall and Paula, thank you for you for your supportive comments. We will continue to work on the salary issues although some of it is out of our control as to institutional support

16:46:08 From Marshall Summar, MD Rare Disease Institute to Everyone : Over the years the K program are one of the true backbones of developing our next generation of scientists.

Research Education Grant (R25): Jamie Mihoko Doyle, Ph.D., Program Officer, DCI, NCATS

Jamie Mihoko Doyle, Ph.D., presented a concept for the CTSA Research Education Grant (R25). The NIH R25 grant supports activities that complement or enhance workforce training; enhance diversity; help recruit individuals with specific specialty or disciplinary backgrounds; and foster a better understanding of biomedical, behavioral, and clinical research and its implications. Currently, 25 R25 funding opportunities are active across the NIH. Very few training programs have short-term agendas. The current CTSA TL1 programs can include predoctoral, postdoctoral, and short-term positions.

This NCATS R25 concept provides an opportunity to expand, enhance, and meet local needs with the objective to support short-term clinical and translational research experiences (10 to 15 weeks) not available through formal NIH training mechanisms. The overarching goal is to build a pathway for a translational science workforce of the future.

Discussion

Dr. Kretzler remarked on how the R25 serves as a critical tool for outreach, particularly in minority populations. He encouraged having materials and tools accessible for training the next generation of translational scientists, especially minority students.

Dr. Summar expressed his support for the concept and underscored focusing early on the career pipeline to increase minority representation in a program.

Additional comments/questions posted in the chat to all participants:

16:46:25 From Paul Harris to Everyone : This R25 initiative is great. Great presentation Jamie.

16:47:20 From Joan Nagel to Everyone : @Rajesh, R25 is totally new. Didn't exist before

16:50:08 From Paul Harris to Everyone : CTSA's on the old RFA would only become eligible for R25 participation after(if) they transition to UM1s?

16:50:35 From Erica Rosemond to Everyone : @Paul - yes; it is tied to UM1

16:50:36 From Clare Schmitt to Everyone : @Paul - yes

16:50:57 From Clare Schmitt to Everyone : All based on projected budget modeling

16:51:29 From Michael Kurilla to Everyone : @Paul - yes since their current U54/UL1/KL2/TL1 gives them this potential capability already.

CTSA Program Institutions Letter to Delay the U54 FOA

Dr. Rutter referred the Council to a letter received from a subset of the CTSA Program institutions requesting an immediate delay of the U54 FOA. Because this letter was related directly to the concepts being considered today and was received before any public discussion of the concepts, the Council is provided the opportunity for further discussion on this topic. After discussion, voting will proceed on the aforementioned concepts. Dr. Rutter asked if any content of the letter was not addressed by the concept presentations and warrants further discussion.

Discussion

Dr. Summar commented that COVID-19 was cited as a reason to delay the FOA, but he had not observed a significant decrease in contacts or conferences during the pandemic.

Dr. Jackson noted that many of the PIs cited lack of an opportunity to have a discussion on lessons learned amid the COVID-19 pandemic and how translational science has changed.

Dr. Shireman echoed Dr. Jackson on the lack of discussions on COVID-19 being the theme of the investigators' concerns. She also noted that the clinical funding component likely was a driver for concerns as well.

Dr. Kurilla commented that NCATS has been working to enhance the CTSA Program for several years and has listened to the community. The aim has been to increase Hub flexibility and to be less prescriptive.

Dr. Ranganathan remarked that the proposed changes will simplify the application process and introduce new funding mechanisms; he did not observe any changes to be prohibiting the CTSAs from continuing their work.

Dr. Mueller posted in the chat to everyone: I agree with the comments that there was not something specific in the letter.

CTSA Program Concepts Voting

Dr. Ramsey-Ewing proceeded with the voting and concept approvals.

Members unanimously approved the CTSA UM1 concept.

Members unanimously approved the SIPs RC2 concept.

Members unanimously approved the CTSA NRSA T32 concept.

Members unanimously approved the CTSA K12 concept.

Members unanimously approved the CTSA R25 concept.

XI. PUBLIC COMMENTS

Comments from the public were accepted until June 25, 2021 and will be appended to the minutes.

XII. ADJOURNMENT OF THE OPEN MEETING

Dr. Rutter thanked the participants for their input. The next meeting is scheduled for September 23–24, 2021; the final logistics are in progress. Dr. Rutter adjourned the open portion of the meeting on June 11, 2021, at 5:02 p.m. EDT.

CERTIFICATIONS

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

Joni L. Rutter, Ph.D. Date
Chair, NCATS Advisory Council
and
Acting Director, National Center for Advancing Translational Sciences, NIH

Anna L. Ramsey-Ewing, Ph.D. Date
Executive Secretary, NCATS Advisory Council
Executive Secretary, Cures Acceleration Network Review Board
and
Director, Office of Grants Management and Scientific Review, NCATS