DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH (NIH)
NATIONAL LIBRARY OF MEDICINE (NLM)
MINUTES OF THE BOARD OF REGENTS MEETING
(VIRTUAL)
February 6, 2024

The 195th meeting of the Board of Regents (BOR) was convened virtually on February 6, 2024, at 10:00 a.m.. The meeting was open to the public from 10:00 a.m. to 3:30 p.m., followed by a closed session that lasted until 4:00 p.m.

MEMBERS PRESENT (Appendix A)
Dr. James Cimino, University of Alabama at Birmingham
Dr. Kristi Holmes, Northwestern University [Chair]
Dr. Mitchell Katz, New York City Health + Hospitals
Ms. Jennie Lucca, The NIH Children's Inn
Dr. Omolola Ogunyemi, Charles R. Drew University of Medicine and Science
Dr. Nancy Smider, Epic Systems Corporation
Mr. Philip Walker, Vanderbilt University

EX OFFICIO AND ALTERNATE MEMBERS PRESENT:
Col. Alvi Azad, United States Air Force
Dr. Michelle Elekonich, National Science Foundation
Dr. Susan Kirsh, Veterans Health Administration
Dr. Lauren Maggio, Uniformed Services University of the Health Sciences
Dr. Mary Mazanec, Library of Congress
Dr. Niels Olson, United States Navy
Dr. Joseph Sterbis, United States Army
Mr. Paul Wester, National Agricultural Library, U.S. Department of Agriculture

SPEAKERS AND INVITED GUESTS PRESENT:
Dr. George Mensah, National Heart, Lung, and Blood Institute, NIH

MEMBERS OF THE PUBLIC PRESENT:
Dr. Andrew Balas, Friends of the NLM/Augusta University
Mr. Glen Campbell, Friends of the NLM
Ms. Loretta Jurnak, Technical Resources International, Inc.
Dr. George Lundgren, Friends of the NLM/Cancer Commons
Mr. Philip Spencer, Technical Resources International, Inc.

FEDERAL EMPLOYEES PRESENT:
Dr. Stephen Sherry, Acting Director, NLM
Dr. Michael Huerta, Acting Deputy Director for Operations and Innovation, NLM
Dr. Dina Paltoo, Acting Deputy Director of Policy and External Affairs, NLM
Ms. Dianne Babski, User Services and Collection Division, NLM
Mr. Jeffrey Beck, National Center for Biotechnology Information, NLM
Ms. Annice Bergeris, National Center for Biotechnology Information, NLM

Ms. In Hye Cho, Office of Strategic Initiatives, NLM
Mr. Todd Danielson, Office of the Director, NLM
Dr. Allison Dennis, Division of Extramural Programs, NLM
Ms. Nancy Fallgren, User Services and Collection Division, NLM
Dr. Catherine Farrell, National Center for Biotechnology Information, NLM
Dr. Lisa Federer, Office of Strategic Initiatives, NLM
Dr. Anna Fine, National Center for Biotechnology Information, NLM
Ms. Kathryn Funk, National Center for Biotechnology Information, NLM
Ms. Jeane Garcia Davis, Office of the Assistant Secretary for Health, HHS
Ms. Rebecca Goodwin, Office of Strategic Initiatives, NLM
Dr. Zoe Huang, Division of Extramural Programs, NLM
Ms. Christine Ireland, Division of Extramural Programs, NLM
Ms. Edna Ishayik, Office of the Surgeon General, U.S Public Health Service
Mr. William Johnson, Office of Computer and Communications Systems, NLM
Ms. Brandi Kattman, National Center for Biotechnology Information, NLM
Ms. Michelle Krever, Division of Extramural Programs, NLM
Dr. David Landsman, National Center for Biotechnology Information, NLM
Mr. Edward Leydon, National Center for Biotechnology Information, NLM
Mr. Howard Lu, Lister Hill National Center for Biomedical Communications, NLM
Ms. Wei Ma, Office of Computer and Communications Systems, NLM
Ms. Margaret McGhee, User Services and Collection Division, NLM
Mr. Patrick McLaughlin, User Services and Collection Division, NLM
Dr. Virginia Meyer, Lister Hill National Center for Biomedical Communications, NLM
Dr. Ilene Mizrachi, National Center for Biotechnology Information, NLM
Mr. James Mork, Lister Hill National Center for Biomedical Communications, NLM
Dr. Terence Murphy, National Center for Biotechnology Information, NLM
Dr. Richard Palmer, Division of Extramural Programs, NLM
Dr. Kimberly Pruitt, National Center for Biotechnology Information, NLM
Dr. Teresa Przytycka, National Center for Biotechnology Information, NLM
Dr. Goutham Reddy, Division of Extramural Programs, NLM
Ms. Christina Robinson, National Center for Biotechnology Information, NLM
Ms. Victoria Rucker, Office of the Director, NLM
Ms. Leigh Samsel, Office of Strategic Initiatives, NLM
Ms. Mary Sanders, National Center for Biotechnology Information, NLM
Dr. Richard Scheuermann, Office of the Director, NLM
Dr. Valerie Schneider, National Center for Biotechnology Information, NLM
Dr. Ali Sharma, Division of Extramural Programs, NLM
Dr. Cristan Smith, Division of Extramural Programs, NLM
Dr. Heidi Sofia, National Center for Biotechnology Information, NLM
Ms. Nicole Sroka, User Services and Collection Division, NLM
Ms. Susan Storz, National Center for Biotechnology Information, NLM
Dr. Meryl Sufian, Division of Extramural Programs, NLM
Ms. Samantha Tempchin, Division of Extramural Programs, NLM
Ms. Kimberly Thomas, Office of Strategic Initiatives, NLM
Dr. Bart Trawick, National Center for Biotechnology Information, NLM
Dr. Tony Tse, National Center for Biotechnology Information, NLM
Ms. Amanda J. Wilson, User Services and Collection Division, NLM
Dr. Maryam Zaringhalam, Office of Strategic Initiatives, NLM

Dr. Teresa Zayas Cabán, Office of the Director, NLM

I. CALL TO ORDER AND INTRODUCTORY REMARKS

Kristi Holmes, PhD, Chair, BOR

Dr. Kristi Holmes called the meeting to order, welcoming attendees to the meeting. Dr. Holmes also welcomed Colonel Alvi Azad, Chief of Medical Operations from the Office of the Air Force Surgeon General, who attended the meeting on behalf of the Surgeon General. She also announced the retirement of Colonel Thomas Cantilina and thanked him for his participation on the BOR.

The meeting was broadcast to the public via streaming video at https://videocast.nih.gov.

II. REPORT FROM THE OFFICE OF THE SURGEON GENERAL, PHS

Jeane Garcia Davis, MSN/MPH, RN, Public Health Advisor, Office of the Assistant Secretary for Health and Edna Ishayik, Associate Director for Science and Policy, Office of the Surgeon General, PHS

Ms. Jeane Garcia Davis provided an update on the Office of the Surgeon General's (OSG's) continuing efforts around eliminating tobacco-related disease, addressing social media and youth mental health, and supporting workplace mental health and well-being. She noted the upcoming release of the Surgeon General's Report on Eliminating Tobacco-Related Disease and Death: Addressing Disparities, which is currently in the review phase and is anticipated to launch within the next several months. This report updates the 1998 Surgeon General's Report on Tobacco Use Among U.S. Racial and Ethnic Minority Groups. She noted that in 2024 the CDC: Tips from Former Smokers Campaign added new voices of people from different backgrounds impacted by serious long-term health effects from smoking and secondhand smoke exposure. In addition, Surgeon General VADM Vivek Murthy continues to stay engaged in supporting youth mental health via an interagency task force on youth online health and safety. Work also continues with the National Academy of Medicine (NAM) to prepare for the National Day for Health Workforce Well-Being on March 18, 2024, with celebratory events scheduled for March 11-18, 2024.

Ms. Edna Ishayik provided an overview of OSG activities to support the Surgeon General's Advisory on the Healing Effects of Social Connection and Community in May 2023. She described how social connection is a fundamental human need that can improve health, expand life spans, and enhance the well-being of both individuals and communities. She also noted that research also indicates the physical consequence of poor or insufficient social connection can contribute to poor health outcomes including heart disease, stroke, diabetes, depression, and cognitive decline. It is estimated that one out of every two American adults express some type of loneliness.

She described three areas of recent OSG activity to combat social isolation and loneliness: raising awareness, identifying measures and prevalence estimates, and exploring the current research base on healthy social connection. As part of a recent OSG initiative, the Surgeon General's Connection Tour: We Are Made to Connect, VADM Murthy visited colleges across the country to engage with young people, challenging them to connect with others and incorporate social engagement in their daily routines, reminding them that relationships with others can be a source of healing which can help them achieve healthier, fuller, more productive lives. Efforts also continue to incorporate data points related to social support and loneliness in

national health data gathering. The National Health Interview Survey (NHIS), the oldest ongoing health survey in the United States, incorporated a question on social support for adolescents and teens in their 2021 and 2022 survey. The Behavior Risk Factor Surveillance System (BRFSS), an annual system of state-based health-related telephone surveys, now includes two optional modules on social support and loneliness that are utilized by over 40 states. In partnership with the United States Census Bureau, the Census Household Panel and the Census Household Pulse Survey now include modules on social support, loneliness, and social isolation. Finally, Ms. Ishayik noted the current effort to explore research literature to determine whether there is sufficient data and evidence to make clear and helpful statements to the public regarding what constitutes healthy social connections.

BOR members discussed recommendations for a future public statement regarding the need for social connection and the distinction between real life and virtual connections. Dr. Sherry also noted the opportunity for NLM to host both raw data and reports on healthy social connections to ensure their availability to researchers. Members also discussed the promotion of standard measures used to understand social connections.

III. SEPTEMBER 2023 MINUTES AND FUTURE MEETINGS

Kristi Holmes, PhD, Chair, BOR

Dr. Holmes noted the listed dates for future BOR meetings, including the addition of the Winter BOR Meeting date of February 10, 2026. There were no objections or conflicts noted.

Motion: The BOR approved the motion to accept the Winter BOR meeting date of February 10, 2026.

Motion: The BOR approved the motion to accept the minutes from the September 12-13, 2023 meeting.

IV. REPORT FROM THE NLM DIRECTOR

Stephen Sherry, PhD, Acting Director, NLM

Dr. Stephen Sherry welcomed the BOR and recognized members of the NLM Leadership Team. Dr. Sherry noted the retirements of Dr. Patricia Flatley Brennan and Dr. Olivier Bodenreider and shared new additions to the NLM Leadership Team in 2024. He also presented a video highlighting an enzymatic mystery solved by NLM researchers as an example of how NLM shares its important work with the public.

Dr. Sherry noted guiding principles recently articulated by Dr. Monica M. Bertagnolli, the recently appointed NIH Director. Per Dr. Bertagnolli, NIH research encompasses the laboratory, the clinic, and the community, and should recognize patients' partnership in discovery. In support of this principle, NIH will employ advanced scientific methods and will continue to propel the integration of biomedicine and artificial intelligence (AI). Under Dr. Bertagnolli's vision, NLM is tasked with developing strategies to expand biomedical research data to inform new research and improve health outcomes.

NLM continues to progress in all three pillars of the NLM Strategic Plan to accelerate discovery and data-powered health. First, NLM Intramural Research Program (IRP) investigators published

131 peer-reviewed papers and 29 preprints in 2023. IRP training and education endeavors also continue, and NLM Extramural Programs (EP) continue to provide support for groundbreaking research. Second, recent milestones in enhancing dissemination and engagement include the release of a smartphone-based system for malaria screening and the integration of the Foreign Contamination Screening (FCS) – GX tool into the Galaxy computing platform. Third, regarding building a workforce for data-driven research and health, Dr. Sherry noted the December 2023 decision of the NIH Fellows United to be represented by the International Union of United Automobile, Aerospace, and Agricultural Implement Workers of America (UAW). NLM is also building AI expertise across all divisions; Dr. Sherry highlighted the 2023 NLM Vizathon, which engaged teams of NLM staff to create data visualizations to drive improved outcomes and uncover insights.

Regarding the NLM budget for FY24, Dr. Sherry noted that the appropriation for NLM is still pending. While NLM leadership remains hopeful that the budget will not be cut, a flat budget would still significantly impact the potential for new discoveries. Despite the potential constraints from a flat or decreased budget, the NLM Leadership Team established guiding principles and continues to plan for investment of the FY24 budget in the context of NLM's mission and commitment to excellence for the public good. Personnel changes were also noted, including retirements, departures, and new arrivals.

Dr. Sherry provided an update on NLM's efforts to create a culture of continuous innovation. NLM is establishing a continuous, forward-looking model of innovation, applied consistently across NLM, to advance the NLM mission. Since June 2023, four key components of the continuous innovation model were selected: Governance and Management, Idea Lifecycle, Deployment and Measurement, and Organizational Readiness. Working Groups will continue developing intended outcomes for each of the four key components and a full initial model is targeted for the end of FY24.

Dr. Teresa Zayas Cabán outlined recent policy and legislative updates. She highlighted the public workshop, hosted by the National Academies of Sciences, Engineering, and Medicine, examining considerations to update the NIH Public Access policy. NLM also continues to monitor policy and legislative activities related to AI and will continue monitoring for updates related to FY24 appropriations.

BOR members discussed the importance of communicating NLM's efforts to establish a model of continuous innovation across NIH. Dr. Sherry also noted that outcomes for each of the four key components of the continuous innovation model will be developed and prioritized based on guidance from the NIH Director. BOR members also discussed implications of the FY23 Continuing Resolution (CR) on new investments and research at NLM.

V. WORKING GROUP BREAKOUTS

BOR members divided into three breakout groups: Strategic Planning, Research Frontiers, and Public Services/Collections. Group representatives summarized their discussions later in the meeting.

VI. WORKING GROUP REPORTS AND DISCUSSION

Strategic Planning

Dr. Susan Kirsh reported for the Strategic Planning Working Group. She described a presentation delivered by Ms. Kathryn Funk titled "Leading the Way on Public Access to Publications – How Interagency Collaborations Support NLM Strategic Goals." The presentation highlighted the NIH Office of Science Policy (OSP) subcommittee's efforts to enhance access to federally funded publications in collaboration with the White House Office of Science and Technology Policy (OSTP) and other federal agencies. The OSP subcommittee is prioritizing actions outlined in the 2022 OSTP Public Access Memo, with a focus on achieving free, immediate, and equitable access to such research publications. Key initiatives include enabling machine learning (ML) and proposing strategies for large-scale text mining and analysis of federally funded publications. The Working Group discussed leveraging AI and ML to accelerate these efforts.

Ms. Funk's presentation highlighted NLM's efforts to enhance access to federally funded research, including the PubMed Central (PMC) Open Access Subset, which contains over 6 million accessible journal articles and preprints. The presentation also discussed goals for the OSP subcommittee, focusing on improving accessibility to publicly funded research and exploring alternatives to journal access to expedite access and facilitate the discovery of agency research products, preprints, technical reports, and other gray literature. These efforts aim to strategically align NLM with other federal agencies, support the NLM Strategic Plan, and position NLM as a leader in the research field.

Dr. Kirsh highlighted a second presentation by Dr. Miriam Akeju which discussed OSTP's designation of 2023 as a Year of Open Science, with seventeen agencies participating in efforts to enhance public access to research. Open science, defined as the principle and practice of making research products and processes available to all while respecting diverse cultures, maintaining security and privacy, and fostering collaboration, reproducibility, and equity, has been a focal point for NLM and the OSP subcommittee. NLM's contributions to open science include maintaining PMC as the primary repository for NIH-funded research, as well as platforms such as the database of Genotypes and Phenotypes (dbGaP) and ClinicalTrials.gov.

The Working Group discussed leveraging NLM's position to further promote equitable access to NIH-funded research. They explored avenues for organizing a conference to advance open science and fostering bidirectional sharing of information with diverse communities. NLM is also developing a workshop, anticipated for May or June 2024, focused on a network approach to advancing equitable open science. This workshop aims to understand current resource utilization by knowledge translators, identify opportunities for improvement, and enhance engagement to promote equitable access to health and biomedical research information.

BOR members discussed strategies to improve PMC for scientific contextual translation. Ms. Funk highlighted recent efforts of the OSP subcommittee, including expanding journal review processes to identify article titles within MEDLINE which offer full-text articles in other languages. Additionally, she noted that the OSP subcommittee has been adding Spanish-language journals to PMC to broaden its reach and ensure representation of global biomedical literature. Dr. Stephen Sherry emphasized generative AI projects throughout NIH aimed at producing plain language summaries and translating content for various grade levels. He suggested that scalable algorithmic approaches could streamline translation efforts for NLM.

Research Frontiers

Dr. James Cimino reported for the Research Frontiers Working Group. The group discussed refocusing its efforts to provide oversight for non-IRP public products, rather than focusing solely on new research investments for the intramural and extramural programs. This shift would involve advising on new and existing public products, suggesting potential data services, products, and technologies for NLM's consideration, representing the needs of NLM BOR stakeholders, advising on standards to support NLM products, and discussing plans for product discontinuation.

The Working Group will discuss elements to include in a new charge redirecting its focus toward future-oriented activities. Additionally, they emphasized the importance of considering the interests of consumers, researchers, and practitioners when promoting products. Dr. Stephen Sherry expressed enthusiasm for collaborating on the process of sunsetting applicable NLM products and ensuring sufficient resources are allocated for this purpose.

Collections and Public Services

Mr. Paul Wester reported for the Collections and Public Services Working Groups. Among the topics discussed were the reorganization of the User Services and Collection Division (USCD), recent activities within the Comparative Genomics Resource (CGR) project, ongoing efforts around the modernization of ClinicalTrials.gov, developments related to the NLM Data Catalog, and updates made to the Collection Development Guidelines of the National Library of Medicine.

The Working Group discussed the reorganization of USCD, formerly known as Library Operations (LO). This initiative resulted from the Division's 2036 Long Range Plan (LRP), which has five goals, including:

> Goal 1: Create a Modernized Organizational Structure.
> Goal 2: Unify and Transform NLM Collections. Leveraging our resources, we will redefine and manage our diverse collections as a single, unified product.
> Goal 3: Support and Promote the Use of Health Data Standards & Terminologies. This will position us as the center for standards, terminologies, policies, data, and tools across NLM.
> Goal 4: Provide Customer Design and Experience Support. We will provide leadership, support, and training to know our product's users and ensure that we are meeting their needs and expectations.
> Goal 5: Know and Equitably Engage our Users, which is centered on effectively and equitably engaging our stakeholders to access trusted health information resources.

Aligned with the objectives outlined in the NLM Strategic Plan, these goals are aimed at enhancing the efficiency, accessibility, and effectiveness of USCD's operations and services, and ensuring alignment with contemporary needs and standards in the field.

Additionally, the Working Group received an overview of recent activities related to the CGR project, currently in its third year of operation. The focus remains on improving accessibility to CGR tools and resources for analyzing various model and eukaryotic organisms. The discussion

included updates from the most recent NIH CGR Working Group meeting, including various communication activities aimed at promoting NCBI Dataset tools, CGR workflows and use cases, and efforts to conduct outreach activities to raise awareness and increase usage of CGR tools among relevant communities.

The Working Group also discussed recent and upcoming communications for the ClinicalTrials.gov Modernization plan. The modern ClinicalTrials.gov will be the sole website this summer (2024). Additionally, updates were provided on the affiliated Protocol Registration and Results System (PRS), along with discussions on various communication strategies and outreach efforts for disseminating technical information to different users of this submission portal.

The Working Group had a demonstration of the functionality of the Beta version of the NLM Data Catalog and discussed the discoverability opportunities of this new resource for enabling users to access various research data repositories. They discussed the incorporation of data from sources such as Dryad, Dataverse, and other repositories, as well as the Dataset Metadata Model (DATMM), which is the foundation of the Dataset Catalog. Working Group members were invited to attend an upcoming NLM Office Hours on April 11, 2024. All feedback received from users will be reviewed to determine future development of the resource, such as additional datasets and functionality.

The discussion concluded with an overview of recent updates made to the NLM Collection Development Guidelines. The Guidelines are based on the Collection Development Policy adopted by the NLM Board of Regents in 1976 and amended in 1983, 1992, and 2019. The Guidelines define the range of subjects to be acquired and the extent of the Library's collection efforts within these subjects. Recent edits were made to chapters on Datasets, Preprints, and the Retention Policy. Additionally, the group explored the potential application of Generative AI in various NLM tools, including the NLM Dataset Catalog. Use cases from the NLM Generative AI Pilot Program were presented to illustrate how AI could support these tools.

VII. COMPUTATIONAL APPROACHES TO STUDY MUTATIONAL SIGNATURES

Teresa Przytycka, PhD, Senior Investigator, Computational Biology Branch, National Center for Biotechnology Information, NLM

Dr. Teresa Przytycka discussed the ongoing research efforts by the Algorithmic Methods in Computational and Systems Biology (AlgoCSB) group, using computational approaches to delineate interactions between mutagenic signatures, cellular processes, and the environment. She acknowledged the diverse array of researchers and computer scientists comprising the AlgoCSB group and highlighted their overarching research focus, which centers on developing computational methods to advance the understanding of biomolecular systems. This work includes research on gene regulation, network biology, tumor evaluation, and algorithms tailored for emerging technologies such as single-cell sequencing, nanopore sequencing, and High Throughput-Systematic Evolution of Ligands by Exponential Enrichment (HT-SELEX).

Dr. Przytycka provided a brief introduction to mutational processes and signatures, highlighting that mutations in cancer are typically attributed to a combination of errors in DNA replication and DNA damage induced by external mutagenic factors such as ultraviolet (UV) light, smoking, or drug consumption. These mutagenic processes often yield characteristic mutational patterns

known as mutational signatures. Understanding these signatures can significantly enhance our knowledge of mutational processes in cancer and pave the way for developing diagnostics, prevention, and therapeutic interventions. She emphasized the AlgoCSB group's interest in uncovering interactions among mutational signatures, molecular properties of cancer cells, and exogenous mutagenic factors. Additionally, she underscored the group's use of a network biology approach, which focuses on associations with larger mutated subnetworks rather than solely seeking associations with cancer-driving mutations.

Dr. Przytycka highlighted various methods developed to perform mutational signature analysis, including deconstructSigs, SignatureEstimation, fitMS™, and SigProfiler. She emphasized the AlgoCSB group's utilization of algorithmic methods to study interactions between mutational signatures and gene expression, aiming to identify expression-based pathways associated with these signatures using statistical analysis software such as ECoSigClust and NetSig. Additionally, the group examines the impact of environmental factors and mutated gene networks using NETwork-to-PHenotype association with eXclusivity (NETPHIX).

Furthermore, the AlgoCSB group focuses on understanding and developing more complicated models to capture the interaction between DNA damage and repair using computational methods like RepairSig. The group's current work includes investigating mutational signatures and drug responses using machine learning (ML), as well as studying the timing of signatures. Dr. Przytycka emphasized that the joint analysis of mutational signatures, gene expression, and mutated subnetworks offers valuable insights into the etiology and properties of the mutational landscape in cancer.

BOR members deliberated on the significance of reducing bias in data collection for mutational research. Dr. Przytycka emphasized that mutational research has predominantly focused on cancer, attributing this to the advantageous utilization of single-cell sequencing for comprehending the composition and alterations within the tumor microenvironment and mutational signals. She noted that mutational signatures research has yet to be leveraged to differentiate between driver and passenger mutations, citing instances where certain driver mutations are disproportionately represented in populations of patients with a specific mutagenic process. Dr. Przytycka highlighted that the AlgoCSB group's research endeavors are guided by available data and collaborations with experimental researchers or through public data sources. She underscored the importance of obtaining high-quality, consistent, accurate, and extensive data to enhance the group's efforts in developing predictive models for cancer immunotherapy.

VIII. NIH COMMUNITY ENGAGEMENT ALLIANCE (CEAL) PROGRAM: MOVING AT THE SPEED OF TRUST

George Mensah, MD, FACC, Director, Center for Translation Research and Implementation Science, National Heart, Lung, and Blood Institute, NIH

Dr. George Mensah presented an overview of the NIH Community Engagement Alliance (CEAL) program, which was launched in 2020 as part of the federal response to the COVID-19 pandemic. He outlined the program's history, current initiatives, and future plans, emphasizing its role in addressing vaccine hesitancy and misinformation, particularly among communities disproportionately affected by the virus. The objectives of the CEAL Program, including community engagement and workforce development, closely align with the NLM Strategic Plan. Dr. Mensah highlighted the importance of community engagement forums in defining the

mission of the CEAL program, which includes conducting urgent community-based research and outreach, initially focused on COVID-19 awareness, education to address misinformation and mistrust, and promoting and facilitating inclusion of diverse racial and ethnic populations in clinical trials.

The program's mission currently goes beyond COVID-19 and includes a commitment to advancing community-driven solutions to address health inequities, foster trust in science and research, and ensure inclusion across the research continuum. By utilizing existing NIH-funded centers, institutions, and clinical trial sites, the CEAL program aims to sponsor and support research, develop trusted relationships, enable knowledge sharing, build a network of community-engaged researchers, provide access to experts, and promote trustworthy information. The program achieved its enrollment targets for COVID-19 vaccine clinical trials, evidence of its success in combating COVID-19 vaccine hesitancy and misinformation. Dr. Mensah also acknowledged NLM's promotion of the CEAL program's work through social media during the COVID-19 pandemic.

The community engagement resulting from the COVID-19 pandemic has laid the foundation for a robust platform for future community engagement. Dr. Mensah described some of the components of the CEAL platform including: 21 regional CEAL teams with over 1,000 community-based partners; a network of primary care research organizations for collaboration that reach CEAL's focus populations; customized consultations to optimize inclusive participation in research; and partnering with an existing monitoring and response system to test the feasibility of disrupting the spread of inaccurate health information and delivering timely relevant health information to both local and national communities.

Dr. Mensah emphasized that CEAL capabilities can be applied across all program priorities to address a variety of areas. He presented a comprehensive map illustrating CEAL's presence throughout the United States including the CEAL regional research teams and the expanded programs targeting areas of health disparity such as maternal health and pregnancy, climate health, primary care research, and other important health care domains.

Dr. Mensah also described the Health Knowledge Monitoring and Response System (HKMRS), designed to increase public knowledge of consequential, timely health topics, and reduce susceptibility to inaccurate information through a centralized rapid response system. The active HKMRS Pilot Study builds upon the iHeard St. Louis health monitoring and response system. The components of the HKMRS Project include a monitoring and response system, coordination and training center, a Blue-Ribbon Panel for strategic guidance, and a partnership with the Annenberg Public Policy Center at the University of Pennsylvania, leveraging its FactCheck.org's SciCheck feature.

He also highlighted a recent funding opportunity, available on the NLM website, focused on disseminating trustworthy information in communities via the Network of the National Library of Medicine (NNLM). He underscored the added value and impact of collaborating with CEAL regional teams on initiatives to disseminate trustworthy health information to communities across the country. Dr. Mensah noted CEAL team investigators are currently reviewing Research Opportunity Announcement (ROA) applications for 2024.

Finally, he described a vision for a strategic partnership between NLM and the NIH CEAL

program, highlighting the consultation services available through the NIH Community Engagement Alliance Consultative Resources (CEACR). CEACR provides expertise and resources to support NIH-funded research teams by improving community engagement and enhancing inclusive participation efforts.

BOR members discussed the history and underlying causes of the increase in misinformation, mistrust in science, and health disparities. They also discussed the opportunity for the CEAL platform to integrate training and workforce development initiatives to address the labor shortage in health care, as well as the potential for programming aimed at engaging students, including those in high school. Members also discussed the methods for measuring the impact of efforts to combat health misinformation, particularly in addressing vaccine hesitancy rates within underserved communities.

IX. APPOINTMENT OF NOMINATING COMMITTEE FOR NEXT BOR CHAIR

Dr. Lauren Maggio, Dr. Mary Mazanec, and Mr. Paul Wester agreed to serve on the nominating committee for the next BOR chair. They will review eligible candidates and report to the BOR at the next meeting.

X. CLOSED PORTION

The closed portion of the meeting took place from 3:30 p.m. to 4:00 p.m. on February 6, 2024. The Board reviewed and approved for further consideration during *en bloc* concurrence, a total of 179 applications with the requested direct cost amount of $223,164,032.

XI. ADJOURNMENT

Dr. Holmes adjourned the BOR meeting at 4:00 p.m. on February 6, 2024.

Actions Taken by the Board of Regents:

- Approval of the September 12-13, 2023, BOR meeting minutes
- Approval of the February 10, 2026, meeting dates
- Approval of Revised Grant Operating Procedures
- *En Bloc* Concurrence of Grants

Appendix A.

- Roster — Board of Regents

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

Stephen T. Sherry -S

Digitally signed by Stephen T. Sherry -S
Date: 2024.03.18 13:12:55 -04'00'

Stephen Sherry, PhD
Acting Director, National Library of Medicine

Kristi Holmes

Digitally signed by Kristi Holmes
Date: 2024.03.24 08:56:32 -04'00'

Kristi L. Holmes, PhD
Chair, NLM Board of Regents