DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH
NATIONAL LIBRARY OF MEDICINE
MINUTES OF THE BOARD OF REGENTS MEETING
(VIRTUAL)
May 9, 2023

The 193rd meeting of the Board of Regents (BOR) was convened virtually on May 9, 2023, at 10 a.m. EST. The meeting was open to the public from 10 a.m. to 4:15 p.m., followed by a closed session that lasted until 4:30 p.m. The meeting adjourned at 4:30 p.m.

MEMBERS PRESENT (Appendix A):
Dr. Lourdes Baezconde-Garbanati, University of Southern California
Dr. James Cimino, University of Alabama at Birmingham
Dr. Kristi Holmes, Northwestern University
Ms. Jennie Lucca, The NIH Children's Inn
Dr. Omolola Ogunyemi, Charles R. Drew University of Medicine and Science
Dr. Heidi Rehm, Massachusetts General Hospital [Chair]

MEMBER NOT PRESENT:
Dr. Nancy Smider, Epic Systems Corporation

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

CONSULTANTS/PENDING NEW BOARD MEMBERS:
Dr. Andrew Clark, Cornell University
Dr. Mitchell Katz, New York Health + Hospitals
Dr. Anne Kwitek, Medical College of Wisconsin
Dr. Carmen Portillo, Yale University
Mr. Philip Walker, Vanderbilt University

MEMBERS OF THE PUBLIC PRESENT
Dr. E. Andrew Balas, Augusta University
Mr. Glenorchy Campbell, Friends of the National Library of Medicine
Dr. Peter Elkin, State University of New York at Buffalo
Ms. Loretta Jurnak, Technical Resources International, Inc.
Dr. Quynh Nguyen, University of Maryland, College Park
Dr. Barbara Redman, Friends of the National Library of Medicine
Ms. Angela Ryder, Technical Resources International, Inc.
Mr. Philip Spencer, Technical Resources International, Inc.

FEDERAL EMPLOYEES/CONTRACTORS PRESENT
Dr. Patricia Flatley Brennan, Director, NLM
Dr. Michael Huerta, Acting Deputy Director for Operations and Innovation, NLM
Mr. Jerry Sheehan, Deputy Director for Policy & External Affairs, NLM
Mr. Terry Ahmed, Division of Library Operations, NLM
Ms. Anne Altemus, Office of the Director, NLM
Ms. Stacey Arnesen, Division of Library Operations, NLM
Dr. Stacey Arnold, National Center for Biotechnology Information, NLM
Ms. Priyanka Athalye, Office of the Surgeon General, U.S. Public Health Service
Ms. Dianne Babski, Division of Library Operations, NLM
Ms. Hue Banh, Office of the Director, NLM
Mr. Jeffrey Beck, National Center for Biotechnology Information, NLM
Ms. Annice Bergeris, National Center for Biotechnology Information, NLM
Dr. Olivier Bodenreider, Lister Hill National Center for Biomedical Communications, NLM
Dr. Noni Byrnes, Center for Scientific Review, NIH
Dr. Vera Cherkasova, Division of Extramural Programs, NLM
Mr. Todd Danielson, Office of the Director, NLM
Ms. Donna Davis, Division of Extramural Programs, NLM
Ms. Allison Dennis, Division of Extramural Programs, NLM
Dr. Nachiket Dharker, National Center for Biotechnology Information, NLM
Dr. Lisa Federer, Office of Strategic Initiatives, NLM
Dr. Anna Fine, National Center for Biotechnology Information, NLM
Dr. Valerie Florance, Office of the Director, NLM
Ms. Kathryn Funk, National Center for Biotechnology Information, NLM
Ms. Jeane Garcia-Davis, Office of the Surgeon General, U.S. Public Health Service
Dr. Elisa Golfinopoulous, Lister Hill National Center for Biomedical Communications, NLM
Dr. Slava Gorelenkov, National Center for Biotechnology Information, NLM
Dr. Lynda Hardy, Division of Extramural Programs, NLM
Ms. Wendy Harman, Lister Hill National Center for Biomedical Communications, NLM
Mr. Michael Honch, Division of Library Operations, NLM
Dr. Zoe Huang, Division of Extramural Programs, NLM
Ms. Christine Ireland, Division of Extramural Programs, NLM
Ms. Melanie Johnson, Lister Hill National Center for Biomedical Communications, NLM
Dr. Alla Keselman, Division of Library Operations, NLM
Ms. Catherine Kihara, Office of the Director, NLM
Dr. David Landsman, National Center for Biotechnology Information, NLM
Dr. Zhiyong Lu, National Center for Biotechnology Information, NLM
Ms. Wei Ma, Office of Computer and Communications Systems, NLM
Ms. Jennifer Marill, Division of Library Operations, NLM
Dr. Clement McDonald, Office of the Director, NLM
Ms. Margaret McGhee, Division of Library Operations, NLM
Ms. Martha Meacham, Division of Library Operations, NLM
Dr. Virginia Meyer, Office of the Director, NLM
Mr. James Mork, Lister Hill National Center for Biomedical Communications, NLM
Mr. Thomas Murphy, National Center for Biotechnology Information, NLM
Ms. Hibah Nazir, National Center for Biotechnology Information, NLM
Ms. Jody Nurik, Office of Communications and Public Liaison, NLM
Ms. Queenmoore Okeke, Lister Hill National Center for Biomedical Communications, NLM
Dr. Richard Palmer, Division of Extramural Programs, NLM

Ms. Amie Park, Division of Extramural Programs, NLM
Ms. Alison Powell, Lister Hill National Center for Biomedical Communications, NLM
Dr. Kimberly Pruitt, National Center for Biotechnology Information, NLM
Mr. Thomas Quijano, Office of the Surgeon General, U.S. Public Health Service
Ms. Aleia Ringel, Office of the Surgeon General, U.S. Public Health Service
Ms. Christina Robinson, Lister Hill National Center for Biomedical Communications, NLM
Ms. Angela Ryder, National Institute of Allergy and Infectious Diseases, NIH
Ms. Leigh Samsel, Office of Strategic Initiatives, NLM
Ms. Mary Sanders, National Center for Biotechnology Information, NLM
Dr. Valerie Schneider, National Center for Biotechnology Information, NLM
Dr. Stephen Sherry, National Center for Biotechnology Information, NLM
Ms. Nicole Sroka, Division of Library Operations, NLM
Dr. Meryl Sufian, Division of Extramural Programs, NLM
Ms. Samantha Tempchin, Division of Extramural Programs, NLM
Ms. Aida Tessema, Office of the Director, NLM
Ms. Kimberly Thomas, Office of Strategic Initiatives, NLM
Dr. Lauren Topper, Division of Library Operations, NLM
Dr. Bart Trawick, National Center for Biotechnology Information, NLM
Dr. Tony Tse, National Center for Biotechnology Information, NLM
Dr. Yanli Wang, Division of Extramural Programs, NLM
Dr. Jeremy Weiss, Lister Hill National Center for Biomedical Communications, NLM
Ms. Amanda Wilson, Division of Library Operations, NLM
Dr. Teresa Zayas Cabán, Office of the Director, NLM

I.   CALL TO ORDER AND INTRODUCTORY REMARKS
Dr. Heidi Rehm, Chair, BOR

Dr. Heidi Rehm called the meeting to order, welcoming attendees to the meeting. 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
Mr. Tag Quijano, Special Assistant, Science and Policy, Office of the Surgeon General

Mr. Tag Quijano provided an overview of the Office of the Surgeon General (OSG) activities during Q1 2023, including an update on the efforts to address the growing epidemic of social isolation – highlighting the latest Surgeon General's Advisory addressing the healing effects of social connection and community – and a review of upcoming OSG projects.

In Q1 2023, VADM Vivek Murthy continued his leadership with the Commissioned Corps of the U.S. Public Health Service (USPHS) and public outreach through his biweekly podcast, House Calls. The OSG continued social engagement and public outreach events supporting the 2021 Protecting Youth Mental Health Advisory and the 2022 Advisory on Worker Well-Being, including health care worker well-being.

The latest Surgeon General's Advisory, Our Epidemic of Loneliness and Isolation, was launched in May 2023 with the overarching goal of raising awareness of the health effects of social isolation and providing a framework for a national strategy to advance social connection. Mr. Quijano gave an overview of the advisory, acknowledged partners and stakeholders, and described national trends for social connection noting that Americans across the age spectrum, but particularly youth, are

experiencing increased levels of isolation and loneliness. The lack of social connection poses a significant risk for individual health and longevity. Research indicates poor or insufficient social connection is associated with an increased risk of disease, including a 29% increased risk of heart disease and a 32% increased risk of stroke. It is also associated with an increased risk for anxiety, depression, and dementia. Lacking connection can increase the risk for premature death by 60%, comparable to daily cigarette smoking.

Research shows that individuals in communities with more social connection show increased measures of population health, community resilience and emergency preparedness, community safety, economic prosperity, and civic engagement. To advance social connection, Mr. Quijano described the six foundational pillars highlighted in the OSG Advisory including strengthening social infrastructure in local communities, enacting pro-connection public policy, mobilizing the health sector, reforming digital environments, deepening knowledge by accelerating research funding, and building a culture of connection. Mr. Quijano noted the public engagements VADM Murthy conducted in May 2023 supporting this advisory, including press events and publications.

Mr. Quijano also described some of the ongoing collaborative activities across HHS and other government agencies including public initiatives on youth mental health and an upcoming report on tobacco. VADM Murthy was appointed to the WHO Executive Board and continues to lead the USPHS. It was also noted that the OSG continues to publish Public Health Reports and support the ongoing initiatives on workplace well-being. Opportunities for action were noted including information dissemination and further areas of research.

BOR members discussed the need to focus on the impact of loneliness on populations disproportionately affected with health disparities, including veterans, ethnic groups, and the LGBT community. Members also discussed the impact of social media, individual variability in the impacts of loneliness and social isolation, and the need to advance social connections when formulating policy and programs across government agencies and industry. Dr. Brennan updated BOR members on NLM activities to support the OSG initiative on workplace well-being. NLM leadership has increased its monitoring and staff engagement to help enhance well-being among its distributed workforce.

III.   FEBRUARY 2023 MINUTES AND FUTURE MEETINGS
Dr. Heidi Rehm, Chair, BOR

Dr. Rehm noted the listed dates for future BOR meetings, including the addition of the Spring BOR Meeting date of May 13-14, 2025. There were no objections or conflicts noted. The next fall meeting will be September 12-13, 2023 and will be in-person.

Motion: The BOR approved the motion to accept the Spring BOR Meeting dates of May 13-14, 2025.

Motion: The BOR approved the motion to accept the minutes from the February 2023 meeting.

IV.   REPORT FROM THE NLM DIRECTOR
Dr. Patricia Flatley Brennan, Director, NLM

Dr. Patricia Flatley Brennan welcomed the BOR and Consultants and thanked members for their continued contribution to the progress and work of NLM. She welcomed new members Andrew Clark, Mitchell Katz, and Philip Walker, as well as new *ex officio* members. Outgoing members Heidi Rehm

and Lourdes Baezconde-Garbanati were also noted and thanked for their contribution to the work of the NLM BOR. She also welcomed the NLM Leadership Team, who gathered at the Lister Hill National Center for Biomedical Communications (LHNCBC) as the building renovations at NLM continue. Dr. Brennan noted the outgoing Deputy Director for Policy and External Affairs, Jerry Sheehan, and highlighted his work and contributions to NLM.

New initiatives and programs are being developed in support of the NLM Strategic Plan to accelerate discovery and data-powered health. Dr. Brennan presented a video highlighting the extramurally funded "Háblame Bebé" program, which developed a mobile application to help promote bilingualism and sociolinguistic pride in families with young children. With NLM funding, "Háblame Bebé" has integrated new content and resources to become a more effective educational tool for young families. In addition, recent endeavors to develop capacity for data-powered health research include the recent "Meeting the Needs of Diverse Populations Through Tailored Personal Health Informatics" workshop, the T15 Training Conference, and the cultivation of artificial intelligence (AI) expertise and research at NLM.

NLM has continued to support its intramural trainees and improve its services to science and society. Specifically, Dr. Brennan noted recent improvements to NCBI Virus, the Sequence Read Archive (SRA), PubMed Central (PMC), and DOCLINE, NLM's Interlibrary Loan (ILL) request routing system. Dr. Brennan noted a Request for Information (RFI), currently open by request of the Center for Scientific Review (CSR), which seeks recommendations for new criteria by which to improve its review process for the NIH National Research Service Award (NRSA) Fellowship. BOR Members were asked to review the RFI and provide their recommendations.

Dr. Brennan outlined Digital NIH, a strategic plan for information technology (IT) at NIH, developed by NLM in collaboration with the Center for IT (CIT). With the changing role of technology in science and the rapid development of new technologies and tools, NIH requires new approaches to sustain a scientific enterprise empowered by technologies. Digital NIH, therefore, is an initiative to meet the needs of various NIH areas through investment in IT. Initial steps will include the establishment of adaptive governance, the creation of Implementation Planning Teams, and action on cross-cutting IT priorities at NIH. Once this foundation is laid, Digital NIH will continue with a four-year timeline to explore new solutions.

Regarding the NLM budget for FY23, Dr. Brennan noted that the NLM was appropriated $497 million, an $18 million increase since FY22. The $18 million will be put toward new investments to expand international engagement, strengthen NLM's security posture, and make organizational, operational, and staffing improvements. Personnel changes at NLM were noted, including recent retirements and departures and a new appointment in the Scientific Computing Branch. Dr. Teresa Zayas Cabán provided policy and legislative updates focused on the NIH Public Access Plan, the Health Data, Technology, and Interoperability (HTI-1) proposed rule, and FY24 appropriations. The FY 2024 NLM Congressional Justification was released in mid-March 2023, summarizing NLM's mission, goals, accomplishments, and objectives and budget allocations for the coming fiscal year. It is also available for public viewing.

Mr. Sheehan outlined a proposal to establish a new standing BOR subcommittee focused on oversight of NLM extramural programs. The subcommittee will complement the existing Research Frontiers Working Group to help provide early concurrence and other oversight for NLM extramural research projects. The subcommittee will assemble in Summer 2023 to finalize its procedures and responsibilities for presentation at the September 2023 NLM BOR meeting.

BOR members further discussed opportunities and possible mechanisms for NLM investment in IT, noting the priority for IT investment to continue advancing the NIH mission. As part of the Digital NIH initiative, NLM will continue to develop technologies and tools for both intramural and extramural use. Members also discussed the potential use of generative AI tools in the extramural grant review process, including potential investment in the development of NLM's own generative AI tools. Additionally, members discussed the importance of sustainability in data storage and disposal practices in the context of resource demands and the value of stored information.

V.   WORKING GROUP BREAKOUTS

BOR members divided into four breakout groups. Group representatives summarized their discussions later in the meeting, as presented below.

VI.   WORKING GROUP REPORTS AND DISCUSSION

Strategic Planning

Dr. Anne Kwitek reported for the Strategic Planning Working Group. The Working Group discussed methods to improve public access to reliable online health information. Emergent themes included the use of MedlinePlus to promote strategies to help individuals evaluate the quality and credibility of health information. MedlinePlus currently offers resources and tools to assist individuals in the evaluation of information they encounter online. In 2021, NLM was asked to participate in a National Academy of Medicine (NAM) project to assist in determining credible sources of health information in social media. This participation resulted in a discussion paper published in NAM Perspectives. Recommendations included ensuring that information is free from unsolicited advertising, privacy is prioritized, and consumers are always directed toward trustworthy information. Other suggestions for improving health information evaluation to ensure credibility included informing consumers about the importance of confirming the authority of information and literature accessed, determining how the publishing organization or group is funded, and determining whether the information accessed has been reviewed by an expert or cites biomedical literature.

Dr. Kwitek also provided an overview of the Network of the National Library of Medicine's (NNLM) initiative to ensure health professionals have equitable access to biomedical information and to promote public access to information, thus enabling more informed health decisions. NNLM's current efforts are focused on funding, training, and outreach to better equip health professionals, researchers, and the general public with the tools needed to find credible information online. In April 2023, the NNLM National Virtual Health Misinformation Symposium was held to explore both the research behind health misinformation movements and to provide practical and evidence-based solutions to support librarians, health educators, and direct care providers in combating the spread of all types of health misinformation. Additionally, NNLM continues to host the Health Misinformation Webinar Series, which explores various aspects of health misinformation, disinformation, and malinformation and provides workable and empirically-supported solutions for both care providers and patients. Further suggestions for improving access to credible health information included training general consumers on how to identify and combat misinformation online by exercising critical thinking and identifying trusted spokespeople in underrepresented and marginalized populations as resources to disseminate and educate the broader community.

Research Frontiers

Dr. James Cimino reported for the Research Frontiers Working Group. The Working Group received and discussed a presentation by Michelle Elekonich, Deputy Director of the Division of Integrative Organismal Systems (IOS) at the National Science Foundation (NSF), on the importance of data interoperability for biological sciences research. Dr. Elekonich proposed the establishment of a public-private partnership to establish a national biodata fabric promoting data discovery, complete life cycle, and re-use. The Working Group discussed the proposal, noting that any such tool should be built based on research community needs. The Working Group members also noted concern with the diverse data standards in use across the research landscape. In addition, the Working Group discussed current efforts to promote open data access and integration, including the potential strategic use of generative AI tools. BOR members discussed NLM's role in efforts to enhance global data sharing and sustainability, noting the importance of engaging with global data generators but also NLM's unique position as an agency of the United States government.

Public Services

Dr. Lourdes Baezconde-Garbanati reported for the Public Service Working Group. She acknowledged the Working Group's role in the ClinicalTrials.gov Modernization and described its effort to date, including 16 Working Group meetings and various public activities and events, such as two public meetings and the release of two progress reports, with a third one due this fall. She also provided an overview of the ClinicalTrials.gov Modernization effort including the activities associated with initial engagement, development, implementation, and continuing releases and refinements of ClinicalTrials.gov and the Protocol Registration and Results System (PRS) beta sites.

On April 25, 2023, the Working Group on ClinicalTrials.gov Modernization participated in a virtual public meeting where more than 500 attendees received an update on the modernization effort and the role of user engagement in improved functionality of the beta websites. A presentation by Jennie Lucca from the Children's Inn at NIH described the needs of patients as users of ClinicalTrials.gov. Polling during the meeting revealed that attendees' preferred methods of engagement included public meetings, webinars, e-bulletins/newsletters, and training sessions. In breakout rooms focused on the ClinicalTrials.gov and PRS beta sites, attendees also had the opportunity for more targeted discussion and additional feedback.

The ClinicalTrials.gov beta plan for 2023-2024 was presented, noting the anticipated transfer of the beta site to the primary landing page by June 2023, with additional features and feedback incorporated into the website into 2024. The classic site is scheduled to be retired in 2024 and timing will be communicated so users have time to prepare. The PRS beta plan for 2023-2024 was also presented; it was noted that the new Protocol Registration Data Entry forms were released to the PRS data production site on May 4, 2023, with refinements continuing into 2024. Dr. Baezconde-Garbanati also provided a summary of public outreach and engagement efforts.

BOR members also discussed the integration of user requests for future enhancements. It was noted that the effort has relied on user engagement and input throughout the modernization process. Dr. Baezconde-Garbanati thanked the Working Group members, BOR members, and the NLM staff for their continued support and participation in the modernization effort and this will be her last report out. The working group charge originated for one year and members dedicated 4 years of service to the group which will be sunset before the end of the fiscal year.

Collections

Mr. Jeffrey Beck reported for the Collections Working Group. The Working Group focused its discussion on investigations of bias in PubMed search results. To better understand bias in the PubMed Best Match algorithm, a Codeathon was held May 2022 to engage with natural language processing (NLP) and library communities. Building on that engagement and the need for a greater understanding of bias in PubMed search results, a collaboration with the National Institute of Standards and Technology (NIST) was started in 2023 to help in the investigation of systemic bias in PubMed search results.

The Working Group agreed bias may be a natural consequence of any search system that ranks results. It is also important to understand the various ways bias is introduced in search results including the makeup of the collection, indexing, duplicate studies, and promotion of articles based on popularity. The Working Group noted the need to understand bias in the ordering of search results and to be explicit with users on how the presentation of results is affected. They also discussed the need to include the management of bias into the framework when developing new code. It was agreed that the discussion of search result bias will continue in future Collections Working Group meetings.

Dr. Brennan also emphasized the importance of the engagement with NIST, whose AI Risk Management Framework is available for viewing at https://www.nist.gov/itl/ai-risk-management-framework.

VII. NLM LIBRARY OPERATIONS: VISION AND ROADMAP FOR THE LIBRARY'S THIRD CENTURY
Ms. Dianne Babski, Associate Director for Library Operations, NLM

Ms. Dianne Babski presented the work of NLM Library Operations (LO) to build the vision and roadmap for the third century of NLM. LO collects, curates, and connects biomedical information to a global audience to support better-informed health decisions and improve access to quality health information. LO's 2036 Long Range Plan (LRP) was developed in alignment with the NLM Strategic Plan, NIH-Wide Strategic Plan, and other agency strategies. The LRP puts forward long-term goals to meet the diverse challenges faced today in the generation and dissemination of reliable health information.

To develop the LRP, LO engaged NLM staff and external users via several feedback channels and established five goals: to create a modernized organizational structure, unify and transform NLM Collections, support and promote the use of health data standards and terminologies, provide customer design experience support, and know and equitably engage with users. Ms. Babski noted objectives already in progress in support of all five goals.

The NLM has embraced several open science and data sharing endeavors in support of the U.S. government initiative to promote open science. NLM also continues to explore the use of generative AI tools to facilitate user-computer communication, create novel content, and a variety of other innovative applications and use cases. In the scientific landscape, generative AI may help perform complex data analyses, identify new patterns or trends, generate new hypotheses, facilitate the development of new therapies, and even accelerate the peer review process. Ms. Babski summarized use cases, as well as limitations, for generative AI in the biomedical research landscape. NLM will continue to monitor the increasing use of AI, considering copyright issues, workforce concerns, and the potential need for policy updates especially around privacy and security.

BOR Members discussed the numerous efforts across NLM to advance diversity, equity, inclusion, and accessibility (DEIA). Considering the global audience for NLM information and resources, accessibility for non-English speakers and users with varying levels of health literacy was emphasized. It was suggested that AI tools be used to translate written content for users of different levels of comprehension. With the increased use of AI, the accuracy of generated information and analyses, as well as legal implications of research data use, will need to be prioritized. Ultimately, AI tools will likely need to be employed in tandem with human review and verification to maintain an adequate level of trust.

VIII. NEIGHBORHOOD LOOKING GLASS: 360 DEGREE AUTOMATED CHARACTERIZATION OF THE BUILT ENVIRONMENT FOR NEIGHBORHOOD EFFECTS RESEARCH
Dr. Quynh Nguyen, University of Maryland, College Park

Dr. Nguyen provided an overview of the "Neighborhood Looking Glass: 360 Degree Automated Characterization of the Built Environment for Neighborhood Effects Research" project, which has been supported through NIH funds since 2018. The goal of this research is to create built environment indicators using computer vision techniques. Using the publicly available Google Street View (GSV) image application programming interface (API), the project investigated relationships between neighborhood-built environments, demographic characteristics of residents, and health outcomes. Several research studies have been conducted and sponsored through this initiative to first assess the efficacy of employing computer vision to detect environmental factors in local communities and then to assess their relationship to health outcomes such as coronary heart disease, diabetes, obesity, physical disorders, and mental stress. Analyses were also performed both at the national and patient level. The advantages of employing GSV data to identify environmental characteristics included better efficiency and researcher safety, lower costs, and unobtrusive data collecting. However, the use of GSV is limited by variance in the age and quality of images. The next research study to be conducted through this initiative will use GSV to create computer vision algorithms for analyzing crash risk indicators to reduce pedestrian collision fatalities and injuries.

In addition to the above analyses, historical GSV images were compared over time and examined for trends in environmental factors. Dr. Nguyen's research team also collaborates with external entities to evaluate other factors such as air quality to further assess neighborhood conditions. It was noted that for research purposes, GSV image characteristics are examined, and the conclusions are summarized; however, no direct data sharing of GSV images occurs for any studies conducted under this project.

IX. PERSONAL HEALTH INFORMATICS CONCEPT CLEARANCE
Dr. Allison Dennis, Division of Extramural Programs, NLM

Dr. Allison Dennis presented the concept clearance for NLM Personal Health Informatics (PHI). PHI refers to the development and application of information technology and informatics knowledge to address the challenge of managing personal health information. In response to the 2017-2027 NLM Strategic Plan aimed at ensuring that personal data collection is the foundation of self-knowledge and personal health management, the NLM Division of Extramural Programs has supported several projects focused on PHI research. These projects have been solicited through the NIH Research Project Grant (R01) titled Data Science Research: Personal Health Libraries for Consumers and Patients (R01 Clinical Trial Optional). The R01 was open from March 2017 to July 2021 and funded 12 applications to advance the science of personal health informatics through studies developing health tracking tools for specific use cases and various other research products.

In 2023, NLM convened a workshop on Meeting the Needs of Diverse Populations through Tailored Personal Health Informatics. During presentations and discussions during this workshop several themes emerged regarding improving PHI tools including methods by which to incorporate community engagement in design processes, the value of a modular approach where components can be reused and tailored to meet specific needs, and the importance of sustainability and scalability. Several recent advances in the field of PHI have the potential to transform personal health informatics, these include electronic health record (EHR) interoperability, incorporation of machine learning and AI, proliferation of wearable medical devices and environmental sensors, digital social support networks, better responses to social determinants of health, digital health interventions, and personalized risk assessment.

The NLM Division of Extramural Programs seeks to continue to advance the science of PHI through anR01 grant program. The proposed program will support future research efforts to accelerate the development of novel informatics and data science approaches that can help individuals understand and improve their overall health. New PHI research will aim to provide actionable insights via innovative personal health data collection, integration, analysis, and personalized risk assessments and interpretation. In addition, initiatives will emphasize the importance of community engagement and real-world evaluation of PHI tools designed to be reused and scaled, as well as advancing understanding of how informatics tools can best present the results, interpretation, and limitations of personalized assessments. The Funding Opportunity Notice is anticipated to be published in July 2023 with NIH standard application due dates.

Motion and Decision: The BOR approved the concept for the Personal Health Informatics R01.

X.   REPORT FROM THE NOMINATING COMMITTEE FOR THE NEXT BOR CHAIR
Dr. Lauren Maggio, Uniformed Services University of the Health Sciences

Dr. Lauren Maggio noted the committee's nomination of Dr. Kristi Holmes as the next Board of Regents Chair for the 2023-2024 term.

Motion and Decision: The BOR approved the motion to appoint Dr. Kristi Holmes as Chair of the Board.

XI.   ANNOUNCEMENT OF OUTGOING BOARD OF REGENTS MEMBERS, NLM DIRECTORS' AWARD AND FRANK B. ROGERS AWARD
Dr. Patricia Flatley Brennan, Director, NLM

The NLM Director's Honors Award, recognizing the work of NIH employees who have contributed outstanding achievements to the NLM, was awarded to Mr. Todd Danielson, Executive Officer and Associate Director for Administrative Management in the NLM Office of the Director. He was recognized for executive leadership in significant NLM-wide initiatives that include directing the implementation of a multi-year, multi-building renovation project, helping lead the multi-year reorganization of NLM's structure, and facilitating the implementation of various workplace initiatives to ensure workplace safety and flexibility.

Dr. Brennan presented the Frank B. Rogers Award, recognizing the work of NIH employees who have made fundamental, significant contributions to the library's operational programs and services, to the following individuals: (1) Ms. Renee Bougard, Project Specialist in the Office of Engagement

and Training in the Division of Library Operations, recognized for outstanding leadership in project management and efforts to update and enhance the NLM's Outreach and Evaluation Reporting System (OERS), and (2) Ms. Elizabeth Mullen, Manager of Web Development and Social Media for the History of Medicine Division in the Division of Library Operations, recognized for her exceptional leadership, vision, and technical skills in the outstanding success of the division's blog, "Circulating Now."

XII.   CLOSED PORTION

The closed portion of the meeting took place from 4:15 p.m. to 4:30 p.m. The Board of Regents reviewed and approved for further consideration during *en bloc* concurrence, a total of 236 applications with the requested direct cost amount of $1,376,594,640.

XIII.   ADJOURNMENT

Dr. Rehm adjourned the BOR meeting at 4:30 p.m. on May 9, 2023.

Actions Taken by the Board of Regents:
- Approval of the February 7, 2023, BOR meeting minutes
- Approval of the May 13-14, 2025, meeting dates
- Approval of Personal Health Informatics Concept Clearance
- Approval of Dr. Kristi Holmes as next BOR Chair
- 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.

Digitally signed by Patricia F. Brennan -S
Date: 2023.07.10 16:43:47 -04'00'

HEIDI REHM
Digitally signed by HEIDI REHM
Date: 2023.07.10 08:23:56 -04'00'

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Patricia Flatley Brennan, RN, PhD   Heidi L. Rehm, PhD
Director, National Library of Medicine   Chair, NLM Board of Regents