

National Diabetes and Digestive and Kidney Diseases (NIDDK) Advisory Council Meeting

Division of Kidney, Urologic, and Hematologic Diseases Advisory Subcouncil Meeting January 10, 2024

Advisory Council KUH Subcommittee Members:

Dr. Mark Nelson (University of Vermont)
Dr. Keith Norris (University of California at Los Angeles)
Dr. David Penson (Vanderbilt University)
Dr. Aylin Rodan (University of Utah) (Subject Matter Expert)
Dr. Kathleen Sakamoto (Stanford University)
Dr. Ian Stewart (USAF Nephrologist at Walter Reed National Military Medical Center;
Commissioned Corps; ex-Officio)

NIH/NIDDK/KUH Staff:

Dr. Kevin Abbott	Dr. Chris Mullins
Dr. Eric Brunskill	Dr. Deepak Nihalani
Dr. Kevin Chan	Dr. Jenna Norton
Dr. Jason Conage-Pough	Dr. Afshin Parsa
Ms. Emily Duggan	Ms. Aretina Perry-Jones
Dr. Debbie Gipson	Dr. Matt Portnoy
Ms. Shannon Givens-Bradley	Dr. Tracy Rankin
Dr. Daniel Gossett	Dr. Griff Rodgers
Dr. Shilpa Hattangadi	Dr. Cindy Roy
Dr. Jason Hoffert	Dr. Anna Sadusky
Dr. Chris Ketchum	Dr. Ivonne Schulman
Dr. Paul Kimmel	Ms. Aliecia Shepherd
Dr. Ziya Kirkali	Dr. Robert Star
Dr. Susan Mendley	Mr. Jonathan Teinor

Welcome and Introductions

Dr. Star welcomed council members and attendees to the 224th KUH subcouncil meeting and noted that Ms. Neha Shah has left NIDDK to pursue other interests. Councilors approved the meeting minutes from last year. Dr. Star noted upcoming meetings and workshops and encouraged councilors to share this information with their colleagues.

FY2023 Portfolio Analysis

Dr. Ketchum provided an overview of the FY2023 KUH:

- KUH: total funding is holding steady with DK. R01 applications lag, but success rate remains high. Additionally, KUH needs more ESIs and diversity.
- Kidney: applicant pool is growing, resulting in more R01 applications and more total dollars. Good year for MDs. However, ESI applications lag.

- Urology: applicant pool is growing (lots of MPIs). R01 success rates have resulted in adding more total dollars. Good year for basic science. However, ESI applications lag.
- Hematology: applicant pool appears to be rebounding and success rates remain high. DK R01s remain basic, with fewer MDs. However, ESI applications lag.

Council and meeting participants offered the following feedback:

- Dr. Rodgers noted that NIDDK overall saw a lack of underrepresented investigators in 2021 and 2022 due to the pandemic.
- Dr. Nelson discussed how the pandemic affected the young investigator population and resulted in a drop in applications from women due to childcare expenses.
- Dr. Ketchum commented on the need for a high published payline to attract junior investigators into research careers.

NIH Artificial Intelligence/Machine Learning Consortium to Advance Health Equity and Researcher Diversity (AIM-AHEAD)

Dr. Norris discussed the NIH AIM-AHEAD program was established to enhance participation and representation of researchers and “communities” currently underrepresented in AI/ML science and improve capabilities of AI/ML technologies, focusing on electronic health records (EHR), to address health disparities and inequities. This program has broad geographic distribution and has four cores:

- Administrative/leadership core, which serves to lead, recruit, and coordinate the AIM-AHEAD Consortium
- Data Science Training Core, which serves to assess, develop, and implement data science training curriculum
- Data & Research Core, which serves to address research priorities and needs to form an inclusive basis for AI/ML
- Infrastructure Core, which serves to assess data, computing, and software infrastructure to facilitate AI/ML and health disparities research

Interested parties include those in higher education (e.g., Historically Black Colleges and Universities, Hispanic Serving Institutions, Tribal Colleges and Universities), community (e.g., faith-based organizations), private sector (e.g., businesses) and large data programs (Oregon Community Health Information Network (OCHIN) and MedStar). Dr. Norris discussed why nuances of AI/ML are critical for health equity advances, noting definitional concepts of AIM-AHEAD ethics and equity glossary terms. Between the AIM-AHEAD and OCHIN/MedStar data sources, AIM-AHEAD offers some of the most well-captured data. Dr. Norris noted that this program has supported over 274 diverse researchers, communities and institutions to address gaps in researcher diversity, biases in AI and data, and health disparities, and advanced health equity.

Dr. Norris presented information about the use of CURE-CKD Real-world data to increase awareness of and advance CKD related health equity, led by Kathy Tuttle, to increase awareness of and advance CKD related health equity. This initiative, using AI/ML, will complement established statistical modeling methodology to enhance risk stratification and identify effective interventions for populations with CKD and CKD related health disparities. Additionally, he noted a proposal from the National Center for Advancing Translational Sciences (NCATS) titled the “Renal Real-World Data (RWD) Tenant,” which is a collaborative workspace to support the Health Resources and Services Administration, NIDDK, Scientific Registry of Transplant Recipients, NCATS, AIM-AHEAD, and the Centers for Medicare and Medicaid Services to

improve health equity for patients with CKD who are candidates for, or recipients of, kidney transplantation. Proposed data sources include the Centers for Medicare and Medicaid Services, social determinants of health (SDoH), The Center for Disease Control, National Death Index, United States Renal Data System, AIM-AHEAD and other electronic health record data (EHR), and others to enhance available data and patient deduplication using privacy preserving record linkage. Another program goal is to reduce disparity in referral and listing rates for transplant based on SDoH.

Council and meeting participants offered the following feedback:

- Dr. Rodan queried if there are disparities within the data. Dr. Norris noted there are, and these are seen at the large medical centers, where you may have low rates of attendance related to access to care for participants. This leads to bias in the data collected.

Staff discussed other efforts within KUH:

- Dr. Norton provided an update on the e-Care plan, noting that this effort has been underway since 2015. NIDDK has partnered with the Advancing Research Careers program through NIGMS to develop a data standard. Additionally, an application will be developed for patients, caregivers, and physicians. She noted SDoH, functional and cognitive status are major focuses within the e-Care plan. Dr. Norris offered to beta test the application.
- Dr. Star noted the Atlas of Atlases project is an atlas integration effort using several different atlases and identified three knowledge gap areas: incorporating EHR data, omics, and imaging and how to incorporate the results of imaging data in these atlases. Dr. Brunskill noted a workshop is being developed for the community as there is a need to address standards and benchmarks, particularly as it relates to machine learning. The first workshop will be focused on imaging, classification of cells, definition of cell states, how to identify overlaps between cellular states and variability within the data. Another topic is how to infer biology from ML data. Dr. Brunskill added that another workshop will address bias and ethics. Dr. Norris noted the following resource for online AI/ML courses, from primer to advanced use: <https://abaim.org/classes>.

CLOSED SESSION

During closed session, council members noted concurrence with staff recommendations for a two restorations and funding plans. In addition to KUH business items, staff presented several special emphasis candidates for funding consideration. Dr. Star wished councilor members a safe trip home and concluded the meeting.