

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

Division of Kidney, Urologic, and Hematologic Diseases Advisory Subcouncil Meeting January 28, 2021

Advisory Council KUH Subcommittee Members:

Dr. Iain Drummond (Mount Desert Island Biological Laboratory)
Dr. Lisa Guay-Woodford (Children's National Medical Center)
Mr. Richard Knight (American Association of Kidney Patients)
Dr. Mark Nelson (University of Vermont)
Dr. David Penson (Vanderbilt University)
Dr. Kathleen Sakamoto (Stanford University)
Dr. Ian Stewart (Commissioned Corps of the US Public Health Service)

NIH/NIDDK/KUH Staff:

Dr. Kevin Abbott	Dr. Susan Mendley
Dr. Julie Barthold	Dr. Chris Mullins
Dr. Eric Brunskill	Dr. Deepak Nihalani
Dr. Kevin Chan	Dr. Afshin Parsa
Dr. Patrick Donohue	Ms. Aretina Perry-Jones
Ms. Emily Duggan	Dr. Tracy Rankin
Dr. Greg Germino	Dr. Cindy Roy
Ms. Shannon Givens-Bradley	Dr. Anna Sadusky
Dr. Daniel Gossett	Dr. Ivonne Schulman
Dr. Shilpa Hattangadi	Ms. Neha Shah
Dr. Jason Hoffert	Ms. Aliecia Shepherd
Dr. Deborah Hoshizaki	Dr. Victoria Spruance
Dr. Chris Ketchum	Dr. Robert Star
Dr. Paul Kimmel	Mr. Jonathan Teinor
Dr. Ziya Kirkali	

Welcome and Introductions

Dr. Star welcomed council members and attendees to the KUH subcouncil meeting. Dr. Star noted Drs. Bavendam and Hoshizaki will be retiring from NIDDK. Dr. Star formally welcomed Dr. Julie Barthold, Ms. Neha Shah, and Mr. Jonathan Teinor to KUH. Councilors approved the meeting minutes from last year. Dr. Star noted upcoming meetings and workshops.

FY20 Portfolio Analysis

Dr. Ketchum provided an overview of the 2020 KUH portfolio and commented that total awarded dollars are up for NIDDK (4%) and KUH overall (8%). Dr. Ketchum emphasized that payline driven funding programs, such as the R01 mechanism, follow the science and added that new science attracts more investigators and applications, which result in more awards and more funds. While the number of NIDDK competing R01 applications increased, the number of these applications within KUH were essentially flat. Although competing R01 applications from kidney and urology investigators increased slightly, application numbers decreased from

hematology investigators. Dr. Ketchum detailed that both the NIDDK and KUH saw an increase in the number of competing R01 awards and success rates, particularly for hematology investigators. Although NIDDK ESI applications continue to rise, KUH applications are still trending downward. Dr. Ketchum noted that both NIDDK and KUH saw a rise in the number of “unique” applicants, a broad metric that includes most NIDDK funding mechanisms.

In terms of funding for underrepresented science, Dr. Ketchum noted that NIH implemented the Research, Condition, and Disease Categorization (RCDC) system, which uses text data mining in conjunction with NIH-wide definitions. Minority Health is defined as “the scientific investigation of distinctive health characteristics and attributes of minority racial and/or ethnic groups who are usually underrepresented in research.” Dr. Ketchum emphasized that NIH awards are coded as “Minority Health” if the applicant studies diseases or conditions that primarily affect minorities or examine disparities or if the application includes clinical recruitment of racial and ethnic minorities (the allocation is prorated). In FY19, NIDDK spent \$215M (about 10% of its budget) on Minority Health, including intramural. According to RCDC coding, KUH spent \$39M (or ~9%). In terms of underrepresented scientists, the NIH funded 214 Black investigators in FY18 (representing only 1.8% of the total pool of 12,082 RPG investigators). Dr. Ketchum commented that public data from NIH RePORT is available on the NIH website. Dr. Ketchum noted that data on underrepresented investigators is limiting; however, a new Executive Order was recently issued on “Establishing an Equitable Data Working Group” to address that many Federal datasets are not disaggregated by race, ethnicity, disability, or other key demographic variables. This Order will mandate that datasets collect this key demographic information to help address disparities and enhance support for underserved communities.

In closing, Dr. Ketchum provided the following highlights from the FY20 portfolio analysis:

- KUH overall: R01 success rates remain strong and add to total dollars received by the division. ESI applications continue to lag behind NIDDK. Significant efforts need to be made to improve diversity.
- Kidney: The kidney applicant pool continues to expand, resulting in more applications and total dollars. The community still submits fewer R01 applications relative to NIDDK, leading to an underrepresentation in the NIDDK R01 funding pool (less kidney R01 money).
- Urology: The urology applicant pool growth is flat; however, urology R01 applications increased in FY20. ESI applications and awards remain low relative to NIDDK.
- Hematology: The hematology portfolio gained more total funding dollars and success rates among competitive R01s increased significantly, however, trends show a continued decline in the number of ESI applications. In addition, the NIDDK hematology program has not been as successful in attracting investigators to the Institute versus NHLBI and NCI.

Council and meeting participants offered the following feedback:

- Dr. Nelson queried if KUH uses the NIH R35 mechanism (Outstanding Investigator Award), which provides long term support to an experienced investigator with an outstanding record of research productivity. This support is intended to encourage investigators to embark on long-term projects of unusual potential. Dr. Ketchum noted that the outcomes of the MERIT program and R35 have been debated. Dr. Star noted enthusiasm for this mechanism; however, he commented that allocating funds for this program has been challenging.

- Dr. Penson commented on the growing trend to partner MDs and PhDs. Dr. Ketchum commented that this increase in multi-PI applications has been observed.
- Dr. Drummond commented on the decreasing number of hematology grantees and queried if these investigators are pursuing funding through NHLBI or through another institute. Dr. Ketchum responded that tracking this trend is a unique situation, particularly as it relates to NHLBI. While there is a significant number of hematology/oncology applications that are assigned to NCI, there is substantial overlap between the NHLBI blood mission and the NIDDK hematology portfolio mission. He added that investigators may choose which Institute to apply for, but oftentimes, investigators apply to the Institute with the better payline. Additionally, NIDDK imposes more administrative cuts to R01 rewards than NHLBI and NIDDK has no clinical program for hematology. Dr. Roy noted K awardees often choose to submit applications to NHLBI based on their institution's preference and emphasized the need for greater community outreach to demonstrate NIDDK's commitment to hematology research.
- Dr. Drummond commented on the decrease within the ESI trend and queried if there was an increase in R01s for senior investigators. If so, he suggested that staff may consider limiting funding for established investigators to increase the payline for ESIs. Dr. Drummond also inquired if Special Council Requests (SCR) requests (over \$1 million or more in direct costs) from established investigators impact funding for ESIs. Dr. Ketchum noted SCR requests are relatively rare for KUH and added that funding for SCR requests have minimal impact on funding for investigators.

KUH Training Program Update

Dr. Rankin began her discussion with a snapshot of the training portfolio and noted a significant proportion of trainees are MDs (many are on T32 awards) and commented that there has been a steady decline over time in the numbers of MDs. Although pre-doctoral awards are increasing, the proportion of fellowships awarded in KUH is lower than in other Divisions across NIDDK. While KUH fellowships represent a smaller proportion of overall DK fellowships, KUH "held its own" with respect to K applications and award. Increases in fellowship numbers are largely driven by increases in pre-doctoral F31 fellowships as there have been decreasing numbers of post-doctoral fellowships. In terms of trainees retained by KUH, K awardees lead this demographic while T32 trainees represent the lower number of trainees who stay within the Institute. Dr. Rankin added that more applicant diversity is needed within training programs.

In FY20, \$47.5 million was invested into training mechanisms for fellowship, career development, and institutional training awards. Dr. Rankin detailed that the distribution of KUH trainees by discipline is 73% kidney, 16% urology, and 11% hematology and the distribution of KUH trainees by degrees is 33% MD, 33% PhD, 9% MD/PhD, and 13% BA/BS. With respect to the training mechanisms geared towards individuals versus institutions, 68% of funds were allocated to individuals, while institutions received 32% to support 332 trainees in FY20.

Dr. Rankin detailed that the F99/K00 program was launched last year with the intent to recruit graduate students from outside KUH science. For this mechanism, awardees must commit to pursuing post-doctoral training within KUH science. Dr. Rankin noted an increase in K08 applications; however, data also shows a decline in K01 applications, as well as a significant drop in K99 applications. Within the K mechanism, kidney application numbers are stable, but data shows a decline in urology and hematology training applications. In addition to the FY99/K00 program, KUH launched the U2C/TL1 program in FY20 as a new approach to institutional training grants. The program is intended to include professional development and networking

resources for trainees as well as build a community of trainees and peer mentors, within an institutional training grant. Dr. Rankin added that this program can also be leveraged to promote diversity among trainees.

To address training support for underrepresented investigators, Dr. Rankin noted that KUH has two programs in place, a pre-doctoral fellowship program (F31) solicited through PA-21-052 and supplemental slots through a T32 diversity supplement program. In FY20, KUH funded 65 out of 308 F31 diversity applications while T32 supplements were awarded to 22 out of 433 applicants.

Dr. Rankin noted that overall subsequent applications and awards for the T32 mechanism declined from 2018; however, there has been a significant increase in fellowships and K applications and awards. While kidney applications and awards lead the division, urology trainee applications and awards have improved substantially from 2018 but have fewer trainees than in both kidney and hematology areas. Dr. Rankin commented that hematology trainees decreased in the T32 and F32 mechanisms, however, K awards for hematology are stable.

Dr. Rankin emphasized that data shows K awardees are highly committed to research with most awardees subsequently applying for R01s. Within subsequent R01 applications and awards from K awardees, 82% of kidney and urology investigators applied for their R01 while 73% of hematology investigators applied. Funded applications included 55% of kidney applications, 48% urology applicants, and 44% of hematology applicants.

Dr. Rankin requested feedback from councilors on how to increase the number of fellowship applications and maintain graduate students who are supported by the F32 and F31 mechanism within KUH. Additionally, she added that she would like input on the appropriate mix of degrees within NIDDK and whether staff should consider revising the goal of the F99/K00 program due to low applicant numbers.

Councilors provided the following feedback:

- Dr. Guay-Woodford queried if KUH is able to track successful investigators who were not funded through the K mechanism. Dr. Rankin noted this is measured through R01 outcome data, which is a success indicator.
- Referring to the F99 mechanism, Dr. Drummond commented that success of this mechanism is contingent on post-doctoral mentors who recruit trainees. Dr. Maric-Bilkan noted she has directed outreach efforts toward funded PIs to bolster recruitment, however, she added that this has not been successful.
- Dr. Guay-Woodford commented that although the F99/K00 mechanism is a helpful recruitment tool, there is still a barrier for young investigators who wish to start families. She added that investigators with clinical backgrounds may apply for the Loan Repayment Program (LRP) while simultaneously applying for their first R01. Dr. Rankin noted many investigators in the LRP are supported by K awards and added that she will research LRP data as it relates to the K and T32 mechanism to evaluate the level of investigator support from this program. Dr. Guay-Woodford commented on the need for mentors to advise investigators to apply for the LRP after they receive a K award.
- Dr. Drummond commented on the need for more PhD academic nephrologists and added that while funding more PhD investigators is not a concern for NIDDK, it could become problematic as it relates to recruiting this expertise for academia and medical schools. Dr. Drummond added that there is also a need to address the difficulties PhDs may face in applying for funding post-graduation. Dr. Rankin responded that basic science studies are necessary as well as the need for MDs who have a clinical background for translational

studies to make foundational advances that affect patient care. Dr. Nelson commented on the value of adding clinical co-investigators within multi-PI applications.

CLOSED SESSION

Councilors voted to accept the CMB and EEP recommendations for all studies to continue with minor changes. During closed session council members noted concurrence with staff recommendations for a special council review, restorations, and funding plans. In addition to KUH business items, staff presented several special emphasis candidates for funding consideration.