

***Eunice Kennedy Shriver* National Institute of Child Health and Human Development
Division of Intramural Research
BOARD OF SCIENTIFIC COUNSELORS
MINUTES
June 5, 2015
Building 31, Room 2A48**

Members Present: Dr. Jerome F. Strauss (chair), Dr. Rita J. Balice-Gordon, Dr. Jeanne Brooks-Gunn, Dr. P. Michael Conn (nominee), Dr. Barbara L. Hempstead, Dr. Laurinda Jaffe, Dr. James R. Lupski, Dr. Tarun B. Patel, Dr. Scott A. Rivkees (nominee), Dr. Lucia B. Rothman-Denes, Dr. Yoel Sadovsky, Dr. Lilianna Solnica-Krezel, Dr. Joan A. Steitz, Dr. Susan S. Taylor, and Dr. Michelle A. Williams.

Federal Employees Present: Dr. Constantine Stratakis, Dr. Alan Guttmacher, Dr. Catherine Spong, Dr. Arlyn Garcia-Perez, Ms. Brenda Hanning, and at various times additional members of the NICHD staff participated in the meeting.

I. OPEN SESSION

The meeting convened at 9:15 a.m. following a tour of the Porter Neuroscience Research Center (PNRC). Dr. Constantine Stratakis welcomed everyone and thanked the members of the BSC for their service. Dr. Stratakis then invited Dr. Guttmacher to provide an update on the institute to the BSC.

Director's Remarks

Dr. Alan Guttmacher presented several NIH-wide updates:

- The Pharmaceutical Development Section (PDS) of the NIH Clinical Center recently discovered a contamination issue with some of the products they have developed. So far there have been no ill effects and the PDS is working with the FDA to resolve the issues.
- Dr. Harold Varmus stepped down as the Director of the National Cancer Institute (NCI) in March 2015 to return to the laboratory, in New York. Dr. Douglas Lowy is serving as acting director.
- Dr. Eliseo J. Pérez-Stable has been named Director of the National Institute on Minority Health and Health Disparities (NIMHD) and will begin in September 2015. Dr. Yvonne Maddox, former Deputy Director of NICHD, has been serving as acting director of NIMHD in the interim. Dr. Maddox has been appointed as the Vice President for Research at the Uniformed Services University of the Health Sciences.

- Dr. Guttmacher continued his presentation with an update on the closure of the National Children's Study (NCS).
- The Gabriella Miller Kids First Pediatric Research Program was created following the transfer of \$126M to the Pediatric Research Initiative Fund when congress ended taxpayer contributions to nominating conventions. In FY15, the first of what is hoped to be ten \$12.6M per year appropriations to the NIH Common Fund for pediatric research was received. The program, a collaboration among NICHD, NHLBI, NHGRI, and NCI, and others will focus, at least initially, on pediatric cancers and structural birth defects. The funding will be used to support NHGRI-funded sequencing centers through an X01 for WGS structural birth defects cohorts (trios), childhood cancer cohorts (trios) with a suspected genetic basis, and samples of treatment-resistant sarcomas to collect phenotypic and genotypic data that can be made available to the research community.
- President Obama announced the launch of the Precision Medicine Initiative (PMI) in his State of the Union address to build a broad research program to encourage creative approaches to precision medicine, test them rigorously, and, ultimately, use them to build the evidence base needed to guide clinical practice. These tenets of individualized diagnosis and treatment can then be applied to cancer as well as to generate the necessary knowledge base to move precision medicine into virtually all areas of health and disease. A Precision Medicine Initiative Working Group of the Advisory Committee to the Director (ACD) chaired by Dr. Rick Lifton (Yale), Dr. Bray Patrick-Lake (Duke), and Dr. Kathy Hudson (NIH) has been established and will report to the ACD in September 2015. The current design being proposed is a longitudinal study of a one million person cohort including children and pregnant women.

Dr. Guttmacher continued his update to the Board with NICHD news:

- Dr. Della Hann has been named the new NICHD Division of Extramural Research Director and will assume the role in September 2015. Dr. Hann is currently the Deputy Director of the NIH Office of Extramural Research.
- Dr. Dennis Twombly, Deputy Director of Extramural Policy at NICHD, is leading a task force to review NICHD's extramural training programs to look at how to define success among the programs, determine whether the funding levels and mechanisms are appropriate, and to assess the proportions of awards at different career stages.
- The NICHD Data and Specimen Hub (N-DASH) will be launched in summer 2015 as a centralized data and specimen repository that will aide grantees in complying with the NIH's data sharing policy as well as enable the research community to mine existing data.
- The NICHD Office of Communications has launched a number of new initiatives including cultivating a presence on Pinterest as well as developing a Spanish-language website.
- The Human Placenta Project is a collaborative effort involving multiple researchers, institutions, and funding sources, with the ultimate goal to monitor placenta development

and function over time. The first funding opportunity announcement (FOA) had a deadline in February 2015 for proposals to establish novel tools to assess human placental structure and function. A second FOA for a U01 Cooperative Agreement to develop paradigm-shifting innovations for in vivo human placental assessment in response to environmental influences had an application deadline of June 1 and will likely see eight to nine five-year awards totaling \$41.5M in FY15. \$39M of the funding comes from the original NCS appropriation. The second HPP meeting was held in April to evaluate the role of “omics” technologies and imaging to achieve the goals of the project and had more than 300 participants. The next meeting will be held April 14-15, 2016 and will likely focus on imaging, bioinformatics, and technology.

- A review of the NICHD Office of the Director (OD) was recently completed to determine whether the current structure and resource allotments best meet the needs and goals of the institute. While the roles of Deputy Director and Director of Extramural Research were split in 2012, the underlying offices were not restructured so this is now underway.
- *MyPregnancy*, the name of which will be changed, is a research initiative with 18 partner organizations to better understand pregnancy through a crowd-sourced, interactive, mobile app. The app will provide a detailed natural history of each woman’s pregnancy to researchers, provide women with accurate information about pregnancy from trusted sources, and will also let pregnant women know about opportunities to participate in targeted research. Participants will be consented but no medical advice will be given.

In legislative news, the Newborn Screening Saves Lives Reauthorization Act of 2014 amends and reauthorizes current agency authorities relating to newborn screening, including NICHD’s Hunter Kelly Newborn Screening program. The Act created a new federal registry as well as stated that federally funded research on newborn dried blood spots is human subjects research requiring informed consent that cannot be waived by IRBs. NICHD has been discussing the optimal timing and methods for collecting consent given this change. Senators Lindsey Graham and Dick Durbin are co-chairing a new caucus that is seeking bipartisan help to restore NIH’s capacity to fund research as NIH has lost 25 percent of its purchasing power since 2003. The FY16 budget has not been set yet and the House and Senate committees are currently working on their respective appropriations bills. Without action from Congress, the sequestration caps that were lifted in FY15 will return in FY16. The 21st Century Cures Act is a bill currently receiving bipartisan support in the House that would authorize significant increases in NIH funding over the next several years while requiring NIH to develop a five-year research plan and setting up five-year renewable terms for IC director appointments. The Act would also mandate the establishment of Pediatric Research Networks and require NIH to work with the European Medicine Agency to support a Global Pediatric Clinical Trials Network, among other things.

Dr. Guttmacher then invited questions. À propos of the accomplishments of the NCS, Dr. Guttmacher pointed out that data and biospecimens have been collected from about 5,000 children on pregnancy and early outcomes. There have also been a number of insights gained in terms of the science and the mechanisms of running such a large study. A number of papers have been published or are in development, particularly regarding methodology.

A short break followed.

Scientific Director's Presentation

Dr. Stratakis began his presentation by noting that there were a number of outgoing members following this meeting as well as some new members of the BSC. He thanked Drs. Hempstead, Lupski, and Rothman-Denes for their years of service. Dr. Richard Wasserman's term is also ending but he was not able to attend the meeting. Commenting on the service of the outgoing members, Dr. Stratakis noted that the past few years had been a tough time for NIH and research budgets in general but, despite all that, wonderful things had been accomplished at the NICHD DIR under the guidance of the BSC. He then welcomed the new members of the BSC and noted extensions of current members: **Dr. Michael Conn** is the Senior Vice President for Research and Associate Provost at Texas Tech University with expertise in cellular and molecular biology, neuroscience, and endocrinology. **Dr. Scott Rivkees** is a pediatric endocrinologist from the University of Florida. **Dr. Frances Jensen**, a neurologist from the University of Pennsylvania, and **Dr. Eric Vilain**, a molecular and human geneticist from the University of California, Los Angeles, will join the BSC at the next meeting on December 4, 2015. Dr. Jensen just completed her service on the NICHD Advisory Council and will continue to serve in an advisory role for NICHD on the BRAIN Initiative. **Dr. Tarun Patel**, who was just appointed Provost and Vice President of Academic Affairs at the Albany College of Pharmacy and Health Sciences, has agreed to serve on the BSC for one more year until June 2016.

Dr. Stratakis reviewed briefly the tasks of the BSC and the responsibility of BSC members to assess the science of the NICHD DIR and promote high-risk, high-yield, and high-impact laboratory and clinical investigations, research that would not be readily supported through extramural granting mechanisms, in addition to advising institute leadership on programmatic decisions and resource allocations. The BSC also has an important role in evaluating the progress of tenure-track investigators. The NICHD DIR Guidelines for Site Visit Reviews were approved in 2010 and call for each laboratory to be reviewed every four years. Site visits are chaired by at least two members of the BSC and each investigator is reviewed by two or three ad hoc reviewers. The BSC reviews the site visit reports on an ongoing basis, each June and December.

He then went on to present his updates to the Board, including a number of personnel changes.

- Dr. Michael T. Collins, a tenure-track investigator in the National Institute of Dental and Craniofacial Research (NIDCR), has been recruited to be the new Associate Director for the Inter-Institute Endocrine Training Program for NICHD. Dr. Collins is an NICHD alumnus, having completed his endocrine training at NICHD prior to being recruited by NIDCR. He will retain his lab within NIDCR but his new administrative role will be within NICHD.
- Dr. Maya Lodish was appointed the Director of the Pediatric Endocrinology Training Program after serving as Deputy Director since 2009. Dr. Stratakis stepped down as Director on December 31, 2014 after holding the position for 12 years.

- Three DIR investigators were recently appointed as scientists emeriti following their retirements: Dr. Kuo-Ping Huang, Dr. Greti Aguilera, and Dr. Judith Levin.
- Dr. Alan Hinnebusch, head of the Program on Cellular Regulation and Metabolism, was elected to the National Academy of Sciences in April 2015.

The FY15 NICHD DIR budget is \$177 million, about 14 percent of the total NICHD budget. Approximately 21% of the DIR budget goes toward consumables, which also includes contractor support. Another 35% is allocated toward personnel, 15% is paid in support of the NIH Clinical Center, and a further 20% goes towards the NIH Office of Research Services to cover buildings, maintenance, etc. The remainder of the budget covers animal costs, IT infrastructure, capital equipment, and renovations. Since FY12, the DIR has undertaken the huge effort to co-localize laboratories into five or six research hubs around the Bethesda NIH campus. The cost of these renovations and moves will be approximately \$7M in FY15 and an additional \$5-6M in FY16 before the costs taper off the following year. The Program in Perinatal Research and Obstetrics, headed by Dr. Roberto Romero, is supported by a \$15.5M contract with Wayne State University in Detroit, MI and the program receives an additional \$1.5M for operating costs from the DIR.

NICHD DIR's staff currently numbers just over 1000, including 69 PIs and about 300 trainees. More than 100 clinical protocols are run by NICHD, two-thirds of them at the NIH; five accredited graduate medical education programs train clinical fellows, some in collaboration with other ICs (e.g., Medical Genetics run by NHGRI). The DIR also trains a number of graduate students through several partnerships including the NIH Oxford-Cambridge Scholars Program.

In an effort to promote diversity, the NICHD Scholars program was created and will add three new postbaccalaureate trainees during the 2015-2016 academic year: Nicolas Johnson in Dr. Mary Lilly's lab, Miles Oliva in Dr. Paul Love's lab, and Rim Mehari in Dr. Jack Yanovski's lab. The program also continues to support four additional fellows: Gian Rodriguez in Dr. Denny Porter's lab, Dezmond Taylor Douglas in Dr. Jack Yanovski's lab, Nicole Millan in Dr. Erin Wolff's lab, and Ashleigh Bouchelion in Dr. Anil Mukherjee's lab.

The DIR will once again be supporting the Three-minute Talks (TmT) competition to promote the effective communication of science. This year NICHD postdocs and graduate students will participate in a live competition with trainees from NHGRI and NIDCR. The winning students will then be video-taped and these videos will be shared with the BSC at their December meeting.

An update was provided on the efforts to open up the NIH Clinical Center to extramural investigators through collaborations with intramural researchers. NICHD continues to participate, having made two awards during both the first and second cycles. The third round of funding is underway and awardees will be announced in December 2015.

An effort has been made to strengthen the Lasker Clinical Research Scholars Program, which provides career research opportunities for physician-scientists. For a variety of reasons including salary support and competition with academic centers, this program has not been as successful as

its basic research counterpart, the Stadtman Tenure-Track Investigators Program. The next application deadline for the Lasker Program in August 27, 2015, and BSC members were asked to encourage prospective candidates from their institutions to apply.

Dr. Stratakis then introduced Dr. Germaine Buck Louis to provide an update on the Division on Intramural Population Health Research (DIPHR).

As with the DIR, the number of personnel in DIPHR has been flat or declining over the past several years, affecting their ability to support postdoctoral fellows and summer students. In FY15, DIPHR will not be able to support any summer students, while they have typically hosted between eight and fifteen in the past. Two students will, however, be supported by a Gates Foundation grant awarded to the Chief of the Biostatistics and Bioinformatics Branch, Dr. Paul Albert.

The members of DIPHR have also received numerous honors in the past six months. Dr. Sunni Mumford, an Earl Stadtman Investigator, received the Brian MacMahon's Early Career Award from the Society of Epidemiologic Research. Dr. Enrique Schisterman, head of the Epidemiology Branch, received the Excellence in Education Award from the Society of Epidemiologic Research in recognition of his teaching and mentoring accomplishments. Mr. Benjamin Gee, a postbaccalaureate fellow in the Health Behavior Branch, received a Meritorious Student Abstract Award at the 2015 Society of Behavioral Medicine meeting. Dr. Rajeshwari Sundaram was awarded tenure in December 2014 by the NIH Central Tenure Committee and will continue her work on new models for predicting pregnancy and human fecundity. Finally, Dr. Stephen Gilman has been recruited from the Harvard School of Public Health to serve as the Acting Chief of the Health Behavior Branch where he will continue his work on the developmental origins of mental health as well as the early effects of social disadvantage in childhood.

Dr. Stratakis thanked Dr. Buck Louis.

Dr. Stratakis went on to present the reorganization plan of the NICHD DIR. The NICHD Advisory Council approved the reorganization on June 4, 2015 and today's presentation serves as the second and final public hearing. With the approval of the BSC, this represents the final approval phase before the plan goes into effect October 1, 2015.

The current and proposed organizational charts were presented. A number of Associate Scientific Director (ASD) positions have been created that will serve the needs of PIs such as managing maintenance contracts and shared equipment, but will not participate in budget and personnel negotiations. Scientifically, the laboratories have self-assembled into intellectual affinity groups as recommended by the Blue Ribbon Panel, with some having secondary affiliations in addition to their primary groups. This structure will allow PIs to negotiate directly with the scientific director while also allowing for centralized support of seminars, core facilities, and new collaborative projects through competitive funding. The ASDs are Dr. Brant Weinstein, Dr. Janice Chou, Dr. Gigi Storz, Dr. Juan Bonifacino, Dr. Josh Zimmerberg, and Dr. Peter Basser covering the six different functional areas. Additionally, Dr. Mary Dasso will serve as the ASD for Budget and AMB Liaison and Dr. Tracey Rouault will serve as the ASD for Recruitment, Retention, and Diversity. The ASDs will constitute the Group of Senior Advisors (GSA) along with the Deputy SD Dr. Chris McBain, the Clinical Director Dr. Denny Porter, and ex officio members Dr. Alan

DeCherney, Dr. Roberto Romero, Ms. Francie Kitzmiller, and Ms. Brenda Hanning. À propos of the amount of time GSA members will spend in their administrative roles, Dr. Stratakis indicated that they will meet once monthly and he expects about ten percent of their time will be spent on building operations. This structure represents a hybrid system that does away with some of the previous hierarchy but is not completely flat, allowing for diversity in leadership and for PIs to be heard.

With regard to recruitment, Dr. Rouault will head a committee of four to five investigators representing physician scientists, translational scientists, and basic scientists to help set scientific recruitment priorities. The recruitment of up to five PIs over the next few years is anticipated.

In her role, Dr. Dasso has been representing the PIs in budget and personnel discussions during the weekly administrative meetings. She has also established a committee that is drafting a new plan to reallocate resources based on personnel and accomplishments, rather than “legacy” budgets.

The BSC commended the DIR on its reorganization efforts. À propos of how the structure will be assessed, Dr. Stratakis indicated that consultant Dr. David Dilts will be retained as an advisor and that the ASDs are currently putting together a plan for reevaluation every two to three years.

The new proposed mission statement of the NICHD DIR is:

Our mission is to plan and conduct the Institute's laboratory and clinical research programs to seek fundamental knowledge about the nature and behavior of living systems through basic, clinical, and population-based research and determine how to apply such knowledge to illuminate developmental origins of health and disease and help ensure that women and men have good reproductive health, that children are born healthy, and that people develop to live healthy and productive lives.

The BSC pointed out that among the affinity groups, there was still some isolation between the clinical investigators and basic researchers. Dr. Stratakis responded that this was addressed through secondary affiliations and that the level of engagement was high.

The BSC unanimously supported the NICHD DIR reorganization proposal.

In addition the review and reorganization of the NICHD DIR, the whole Intramural Research Program (IRP) of NIH recently underwent a review. The Deputy Director for Intramural Research (DDIR), Dr. Michael Gottesman, in consultation with the Scientific Directors, has drafted a response and implementation plan, which will be presented to the NIH Advisory Committee to the Director during their June 11-12, 2015 meeting.

Ms. Brenda Hanning then presented a few slides on a new online annual progress review for trainees, currently under development. The new system will simplify the renewal process for PIs while promoting engagement of trainees in their career development by linking the reports to individualized development plans. The reports will be provided to reviewers during site visits to

help in the evaluation of mentoring. Testing is underway in a small number of laboratories, expanding to all PIs in summer 2015, with reports being incorporated into site visit reviews by June 2016.

Presentation on the Pediatric Endocrinology Training Program

Dr. Maya Lodish, Director, Pediatric Endocrinology Training Program

Dr. Stratakis introduced the first speaker, Dr. Lodish, who was appointed as the new Fellowship Program Director as of January 1, 2015.

The NIH Inter-Institute Pediatric Endocrinology Program (NIPEP) is our Accreditation Council for Graduate Medical Education (ACGME) accredited training program in Pediatric Endocrinology sponsored by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD). Our fellowship provides comprehensive training in clinical patient management and guidance in the development of research skills, ensuring the delivery of excellent pediatric endocrine care to patients at the Clinical Center and at affiliate sites. The fellowship sustains the mission of intramural research at the NIH Clinical Center, including training the next generation of physician researchers and mentoring trainees in the process of clinical research. We strive to work toward fulfilling the mission of the NICHD, specifically with regard to helping children achieve their full potential for healthy and productive lives in the face of diseases related to impairment of the endocrine system. Our mission is to transform fellows to become independent practitioners in pediatric endocrinology along the continuum of medical education by fostering the development of the skills, knowledge, and attitudes leading to proficiency in all the domains of clinical competence under the guidance and supervision of faculty members.

The NICHD program is located in one of the largest and most sophisticated research institutions in the United States, and our pediatric endocrine fellowship is one of the largest in the country with three fellows per year. The NIH Clinical Center maintains clinical research protocols investigating the treatment of adrenal and pituitary tumors, congenital adrenal hyperplasia, precocious puberty, idiopathic juvenile osteoporosis, Cushing's syndrome, obesity, and others. Our fellows spend 4 months of their first year rotating at Children's National Medical Center (CNMC) in Washington, DC, one month at Georgetown University Medical Center, and one month at Johns Hopkins Children's Center in Baltimore, MD. Fellows participate in a rigorous curriculum providing many research, conference, and learning opportunities. At CNMC, fellows interact with residents and medical students rotating from George Washington University School of Medicine. Fellows care for patients with a wide variety of endocrine disorders in a number of settings, including inpatient floors, outpatient clinics, satellite clinics, PICU, and NICU. We also offer multidisciplinary clinics in long-term follow-up for childhood cancer survivors, bone health, polycystic ovarian syndrome, disorders of sexual development, obesity, and thyroid nodules and cancer. Pediatric Endocrine fellows maintain continuity clinics both at the NIH Clinical Center and at CNMC.

Questions followed. À propos of how the program recruits, Dr. Lodish indicated that many applicants have been referred by former fellows or through its affiliations with local hospitals and institutions. NIH is also attractive to prospective fellows because of the unique research opportunities afforded to them. Fellows are offered grant writing courses through the NICHD Office of Education and are encouraged to apply for NIH awards as well as outside funding. Trainees also have the opportunity to take courses through the Foundation for Advanced Education in the Sciences (FAES).

Presentation on the Inter-Institute Endocrine Training Program

Dr. Michael T. Collins, Associate Director for NICHD, Inter-Institute Endocrine Training Program

Dr. Stratakis introduced the next speaker, Dr. Collins, who completed his fellowship with NICHD before being recruited by the National Institute of Dental and Craniofacial Research (NIDCR) as a tenure-track investigator.

The NIH Inter-Institute Endocrine Training Program (IETP) is a long-standing ACGME-accredited training program in Diabetes, Endocrinology and Metabolism with a storied history of having produced many outstanding physician scientists. The NICHD supports two IETP FTE trainees per year for the three-year training period (total six), with a member of the NICHD faculty serving as Associate Program Director (APD). By way of an MOU between the NIDDK, the lead IC in the IETP, the NIDCR, the IC through which Dr. Collins is appointed and supported, and the NICHD, and after approval of the NIH Graduate Medical Education Committee, Dr. Collins assumed the position of APD in January 2015. With the assistance of a 0.5 FTE NICHD-supported Staff Clinician, he carries out the responsibilities enumerated in the MOU and the APD Position Description. Broadly, these responsibilities include accomplishing curricular goals, supervising and evaluating clinical activities of trainees, meeting accreditation benchmarks, and overseeing fellow research and career development.

In assuming the role of APD, and in agreement and with the support of the Program Director, Dr. Monica Skarulis, Dr. Collins has set the following goals for himself:

- 1) Formalize a Research Oversight and Career Development (ROCD) process for all IETP Fellows
- 2) In concert with the Pediatric Endocrinology Training Program Director, reorganize the Fellows' weekly clinical and academic training schedule
- 3) Update and modernize the IETP web page
- 4) Reevaluate the trainee interview process

5) Create a database of former IETP graduates

6) In part to use as a tool to attract superior applicants to the IETP, write an article on the history of the NIH IETP using the above-mentioned database and highlighting the accomplishments of former trainees

7) Similar to successful model programs that exist in the NHGRI (<http://www.genome.gov/10002060>) and NIDCD (<http://www.nidcd.nih.gov/research/training/pages/training.aspx>), explore with the SDs of NICHD, NIDDK, and NIDCR the establishment of a physician scientist training program within the IETP.

Questions followed. Dr. Strauss suggested that the program develop a relationship with the National Institute on Aging (NIA) given the number of endocrine issues associated with aging.

The open session concluded.