NATIONAL ADVISORY CHILD HEALTH AND HUMAN DEVELOPMENT COUNCIL

MINUTES OF MEETING

September 22-23, 2011

DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
***EUNICE KENNEDY SHRIVER* NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT**
NATIONAL ADVISORY CHILD HEALTH AND HUMAN DEVELOPMENT COUNCIL
SUMMARY MINUTES
September 22-23, 2011[1]

The National Advisory Child Health and Human Development (NACHHD) Council convened its one-hundred-forty-fifth meeting at 8:00 a.m., Thursday, September 22, 2011, in Building 31, Conference Room 6, of the National Institutes of Health, Bethesda, Maryland. The meeting was open to the public from 8:00 a.m. to 4:45 p.m. As provided in Sections 552b(c)(4) and 552b(c)(6), Title 5, U.S.C., and Section 10(d) of Public Law 92-463, for the review, discussion, and evaluation of grant applications and related information, the meeting was closed to the public on Friday, September 23, from 8:00 a.m. until 11:45 a.m.

Dr. Alan Guttmacher, Chair, NACHHD Council, and Director, *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD), presided.

Council members present:

Dr. Jere Behrman
Dr. Robert Braun
Dr. Rebecca Craik
Dr. PonJola Coney
Dr. Gordon B. Cutler
Dr. Sherin Devaskar
Dr. Richard Greenwald
Dr. Ann James
Dr. Reneé Jenkins
Dr. Priya Kishnani
Dr. Perri Klass
Dr. Kimberly Leslie
Dr. Gail Martin
Dr. George W. Rutherford
Dr. Yoel Sadovsky
Dr. Rosemarie Truglio
Dr. Richard K. Wagner
Dr. John Chae, NABMRR Liaison

Council member absent:
Dr. Frances Jensen

Ex Officio members present:
Dr. David Heppel, Maternal and Child Health Bureau, Health Resources and Services Administration
Dr. Jay D. Kerecman, Uniformed Services University of the Health Sciences, Department of Defense
Dr. Lynn Cates, Department of Veterans Affairs, Veterans Administration

[1]Members absent themselves from the meeting when Council discusses applications from their own institutions or when a conflict of interest might occur. The procedure applies only to individual applications discussed, not to en bloc actions.

Invited speakers (in order of their presentations):

Dr. Marian Willinger, Special Assistant for SIDS, Pregnancy and Perinatology Branch, Center for Developmental Biology and Perinatal Medicine (CDBPM), NICHD, NIH

Dr. R. Douglas Fields, Senior Investigator and Chief, Section on Nervous System Development and Plasticity, DIR, NICHD, NIH

Dr. Daniel J. Raiten, Program Officer, Nutrition; Endocrinology, Nutrition and Growth Branch, Center for Research for Mothers and Children (CRMC), NICHD, NIH

Dr. Constantine Stratakis, Scientific Director, Division of Intramural Research (DIR), NICHD, NIH

Dr. Annika Paukner, Research Fellow, Comparative Behavior Genetics Section, Laboratory of Comparative Ethology, DIR, NICHD, NIH

Dr. Roger Woodgate, Chief, Laboratory of Genomic Integrity and Head, Section on DNA Replication, Repair, and Mutagenesis, DIR, NICHD, NIH

Others present were:

Members of Staff, NICHD
Members of Staff, NIH
Members of Staff, CSR

Council Roster (Attachment I)

Guests present were:

Mr. Nate Thomas, American Physical Therapy Association
Ms. Karen Studwell, American Psychological Association and Chair, Friends of NICHD
Dr. Anita Miller-Sostek, Autism Speaks
Dr. George Jesien, Association of University Centers on Disabilities
Dr. Ida Chow, Society for Developmental Biology
Ms. Kate Ryan, National Women's Health Network

I. INTRODUCTORY REMARKS

Dr. Guttmacher welcomed Council members, staff, and guests, giving special recognition to new Council member Dr. Reneé Jenkins and representatives from national professional societies and groups. He announced that the meeting would be open to the public on Thursday September 22, and would be closed to the public on Friday, September 23 for the consideration of grant applications.

Dr. Guttmacher noted that the Institute will continue to allow members the option to participate remotely in one meeting a year through electronic means via Adobe Connect. He also announced that the general public was welcome to view the open session from remote sites via NIH Videocast. He noted that for the September Council meeting there were no "virtual" attendees.

Review of Confidentiality and Conflict of Interest

Dr. Yvonne Maddox, Deputy Director, NICHD and Executive Secretary, NACHHD Council, reminded Council members that material furnished for review and discussion during the closed portion of the meeting is considered privileged information. Advisors and consultants serving as members of a public health advisory committee may not participate in situations in which any violation of conflict of interest laws and regulations might occur. Responsible staff ensures that a Council member does not perform duties or render advice that might have a direct and predictable effect on the interests of an organization or institution in which he/she has a financial interest. In particular, Council members should not participate in the evaluation of grant applications for federal support that will affect the interests of such organizations or institutions. At the end of the closed session of the meeting, all members were required to certify that they had not been involved in any conflict of interest situations during the review of grant applications.

Council Minutes – June 2, 2011 Meeting

The minutes were approved as written.

Future Meeting Dates

Council agreed to the following future meeting dates:

January 26, 2012	(Thursday)
June 7, 2012	(Thursday)
September 24, 2012	(Monday)
January 17, 2013	(Thursday)
June 6, 2013	(Thursday)
September 20, 2013	(Thursday)

V. NICHD DIRECTOR'S REPORT AND DISCUSSION

In his report to Council, Dr. Guttmacher highlighted new staff appointments at NIH and NICHD, recent honors awarded to NICHD grantees and friends, NIH's efforts to increase diversity of the scientific workforce, revisions to research regulations, various recent legislative activities, and other items. The Report of the Director is available in full on the NICHD Website: http://www.nichd.nih.gov/about/overview/advisory/nachhd/

Group Discussion

After briefly reviewing the newly finalized conflict of interest regulations, Dr. Guttmacher asked the Council members if they would be interested in having Dr. Sally Rockey, NIH Deputy Director for Extramural Research provide a more in-depth presentation on the topic at a future Council meeting.

Council members responded affirmatively, and one noted that a prior presentation by Dr. Rockey on the topic was very helpful.

Regarding the National Children's Study, a Council member asked about the acceptance rate—the proportion of women asked to participate in the study who eventually agreed to participate. Dr. Guttmacher estimated that **the acceptance rate** was**, on average,** about 75 percent **[for the Vanguard alternate recruitment study]**. The Council member noted that that rate was higher than those for similar studies conducted by the U.S. military. Dr. Guttmacher noted that the 75 percent figure applied to the Vanguard portion of the study and that the participation rate might differ after the Main Study begins.

A Council member asked why a consortium was developed for Down syndrome research and not for other disorders. Dr. Maddox noted that the consortium was established in response to interest by the NIH Working Group on Down syndrome and Congress.

After the question and answer session ended, Dr. Guttmacher called on three NICHD staff members to highlight recent scientific advances:

- Researchers develop mouse with "off-switch" in key brain cell population
  Dr. Marian Willinger
  Special Assistant for SIDS, Pregnancy and Perinatology Branch
  CDBPM, NICHD, NIH

- Brain electrical activity spurs insulation of brain wiring
  Dr. R. Douglas Fields
  Senior Investigator and Chief
  Section on Nervous System Development and Plasticity, DIR, NICHD, NIH

- Biomarkers of nutrition for development (BOND) program
  Dr. Daniel J. Raiten
  Program Officer, Nutrition
  Endocrinology, Nutrition and Growth Branch, CRMC, NICHD, NIH

III. DIVISION OF INTRAMURAL RESEARCH (Annual Review)

Scientific Director Constantine Stratakis began his report with a brief overview of the NICHD Division of Intramural Research (DIR). He directed members to the division's annual report for a comprehensive description of the Division and its programs. He explained that the Division has a total budget of roughly $163 million, approximately $61 million of which is allocated to the NIH Management Fund, which finances a variety of centralized research support services and administrative activities needed to operate NIH's programs and facilities. Another $27 million is allocated for operating costs, $72 million for personnel, $10 million for the Division of Epidemiology, Statistics & Prevention Research, and $15 million for the Program in Perinatal Research at Wayne State University. The DIR encompasses 11 programs and a variety of scientific areas, such as developmental and cell biology, physics, neurosciences, vaccine development, endocrinology, medical genetics, pre and perinatal care, and reproduction and infertility.

Dr. Stratakis also provided an overview of the process by which NICHD intramural programs are reviewed and approved. The Division's principal investigators report every 4 years to ad hoc reviewers and the Division's Board of Scientific Counselors (BSC). The BSC reviews the reports on an ongoing basis and meets biannually. Criteria of DIR reviews are now similar to those in study sections; research reports are also scored similarly. However, for investigators of the Intramural Research Program (IRP), a significant part of the review is retrospective. In addition, IRP review criteria emphasize whether the reviewed science takes advantage of the unique environment provided by the NIH intramural research environment.

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Dr. Stratakis provided brief overviews of the following studies conducted by researchers in the Division:

- Defects in succinate dehydrogenase in gastrointestinal stromal tumors lacking KIT & PDGFRA mutations
- A study of the suppressive effects of an anti-HIV vaginal gel on herpes simplex virus 2
- Control of local protein synthesis and initial events in myelination by action potentials
- De-AMPylation of the small GTPase Rab1 byt the pathogen *Legionella pneumophila*
- Protein targeting and degradation are coupled for elimination of mislocalized proteins

- Co-expression of Islet-1 and Ldb1 in the ventral-medial hypothalamus as a factor involved in obesity in mouse embryos

Dr. Stratakis introduced two DIR researchers to describe in more detail research advances made in their respective labs: Annika Paukner, of the Laboratory of Comparative Ethology, and Roger Woodgate, of the Laboratory of Genomic Integrity.

In her presentation, "Neonatal imitation in infant rhesus macaques: Cross-species universals in mother-infant communication," Dr. Paukner reviewed her studies that relate to a behavioral model of mother-infant communication and infant development in rhesus macaques. Dr. Paukner noted that macaque mothers engage emotionally with their newborn infants, and she and her colleagues observed high rates of mutual gaze between macaque mothers and infants in the first month of life. Moreover, macaque mothers direct lipsmacking gestures at their infants, which are social gestures thought to signal affiliation between macaques. In laboratory assessments, it was found that macaque infants one week old and younger are able to respond to lipsmacking gestures by lipsmacking themselves, both when reared by their mothers and when reared in a nursery setting. They also found that mutual lipsmacking exchanges have the potential to raise levels of affiliation between individuals, which could be a crucial component for mother-infant attachment. However, not all infants respond with lipsmacking gestures, and Dr. Paukner and her team have started to explore the mechanisms behind such individual differences. It was found that infants who show high levels of lipsmacking imitation also show more advanced intentional reaching-grasping abilities throughout the first months of life.

Dr. Paukner and her colleagues hypothesized that a mirror neuron mechanism could be at the basis of both these abilities, and have used electroencephalography (EEG) recording during a neonatal imitation task to investigate this issue. They found that 2-9 Hz EEG activity was suppressed both when the infants produced facial gestures and while they were observing facial gestures of a human experimenter, but not when they were observing non-biological stimuli. These findings demonstrate the presence of a distinct reactivity for biological, communicatively-relevant stimuli as a likely early signature of neuronal mirroring. The basic elements of the mirror-neuron system appear to operate from the very first days of perinatal life and contribute to the encoding of socially relevant stimuli. Given the importance of communicative signals, intersubjective exchanges, and emotional development in early infancy, mutual facial gesturing may be a fundamental behavioral adaption that serves to shape the basic building blocks of adult social cognition in primates.

Dr. Roger Woodgate described his group's efforts to identify inhibitors of two DNA polymerases in hopes of finding agents that can increase the effectiveness of cancer treatment. Living organisms, he explained, are subjected to chemicals and other agents that damage their DNA. Specialized enzymes known as translesion DNA synthesis (TLS) polymerases protect cells from the consequences of DNA damage. The TLS polymerases help the DNA to replicate itself, despite damage, thereby protecting the cell from cancer-causing mutations. The human DNA polymerase eta (pol eta) bypasses a DNA break caused by ultraviolet light. However, eta also bypasses other kinds of DNA damage, including that

induced by chemotherapeutic agents. For example, patients with non-small lung cancer who are treated with the anti-cancer drug cisplatin have a shorter life expectancy after treatment if they have high levels of pol eta than do those with lower levels. Dr. Woodgate and his colleagues are now conducting a mass screen of numerous potential compounds for their potential to inhibit pol eta, as well as the closely related pol iota, in hopes of finding agents that increase the effectiveness of cisplatin.

IV. REPORT OF THE SUBCOMMITTEE ON PLANNING AND POLCIY

Dr. Sherin Devaskar, Chair of the Council Subcommittee on Planning and Policy, presented the minutes of the Subcommittee's September 6, 2011 meeting by conference call. In attendance were Subcommittee members Sherin Devaskar, Rebecca Craik, and Ann James, and NICHD staff members Alan Guttmacher, Yvonne Maddox, Constantine Stratakis, Stephen Hirschfeld, John Jarman, Mona Rowe, Kathleen Stephan, and Elizabeth Wehr (Executive Secretary). Dr. Devaskar said that Dr. Guttmacher presented a report to the group that included information on the newly formed Blue Ribbon Panel on Medical Rehabilitation Research at NIH and updates on the scientific visioning process and the National Children's Study. He also suggested a number of topics for the January 2012 Advisory Council meeting.

In executive session with Subcommittee members and Guttmacher, Maddox, Jarman, and Wehr, Dr. Stratakis presented the following reports of NICHD Board of Scientific Counselors (BSC) site visits for NICHD intramural laboratories and programs, together with reviewer and institute responses to the reports:

- Review of the work and research support of Deborah Merke, MD, MS (supported by NICHD and the NIH Clinical Center) (Site visit of October 5, 2010)
- Child and Family Research Section (Site visit of October 27, 2010)
- Program in Molecular Medicine (Site visit of November 9, 2010)
- Program in Developmental Endocrinology and Genetics (PDEGEN) (Partial site visit of December 2, 2010)
- Cell Biology and Metabolism Program (Site visit of December 15-17, 2010)
- Section on Nervous System Development and Plasticity (Site visit of February 1, 2011)
- Unit on Perinatal and Developmental Neurobiology (UPDN) (Site visit of May 27-28, 2010)
- Program in Perinatal Research and Obstetrics (PPRO) (Site visit of May 27-28, 2010)

With a few minor suggestions, the Subcommittee endorsed the BSC reports and their recommendations.

(The minutes of the Subcommittee teleconference are attached – Attachment II.)

V. NICHD SCIENTIFIC VISIONING

Dr. Guttmacher delivered a presentation on the NICHD's ongoing scientific visioning process, saying that its purpose was to identify the most promising scientific opportunities within the scope of the Institute's mission, for the next ten years. In addition, the process was intended to engage early-stage (as well as senior) investigators, including those in fields not commonly seen in research relevant to the Institute's mission, with a goal of gaining their novel insights as well as expanding the Institute's scientific community. The process was not intended to produce a strategic plan for the Institute but rather to catalyze ongoing discussions among scientists and advocates on ways that NICHD and its partners can advance science and health. Results of the process will be published as an article in a major scientific journal and disseminated widely.

VI. NICHD SCIENTIFIC VISIONING DISCUSSION

Dr. Guttmacher highlighted for the Council's review and discussion the main concepts of the draft scientific vision statement, which reflected input from diverse groups of attendees at a series of vision meetings earlier in the year. The concepts were grouped in sets of scientific opportunities and "bold ideas" related to the following themes:

- Reproduction
- Pregnancy
- Developmental biology
- Early origins of health, disease, growth and development
- Behavior and cognition
- Plasticity and rehabilitation
- Population dynamics
- Conduct of science

Council members discussed the opportunities and suggested some additional areas for inclusion.

(The PowerPoint slide presentation is attached – Attachment III.)

VII. REVIEW OF APPLICATIONS

A total of 1,429 applications were initially assigned to the Institute. Applications that were transferred out, withdrawn, noncompetitive, unscored, or not recommended for further consideration by the initial review groups were not considered by the Council. Council reviewed 687 applications requesting $260,120,382 in total costs. Council favorably recommended 687 new, renewal, and supplemental research and training grant applications with requested total costs of $260,120,382.

X. ADJOURNMENT

There being no further business, the meeting adjourned at 11:45 a.m. on Friday, September 23, 2011. The next meeting is scheduled for January 26, 2012.

Attachments:	Council Roster	(Attachment I)
	Council Subcommittee Teleconference Minutes	(Attachment II)
	Scientific Visioning PowerPoint Slide Presentation	(Attachment III)

I hereby certify that, to the best of my knowledge, the foregoing minutes and attachments are accurate and complete.[2]

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Alan E. Guttmacher, M.D. Date
Chair, National Advisory Child Health
and Human Development Council
Director, *Eunice Kennedy Shriver* National Institute
of Child Health and Human Development

Mary Plummer
Committee Management Officer, NICHD

[2]These minutes will be formally considered by the Council at its next meeting, and any corrections or notations will be incorporated in the minutes of that meeting.