

Meeting Minutes
Department of Health and Human Services
National Institutes of Health
National Diabetes and Digestive and Kidney Diseases Advisory Council
May 13, 2009

I. CALL TO ORDER

Dr. Griffin P. Rodgers, Director

Dr. Griffin P. Rodgers, Director, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) called to order the 180th meeting of the NIDDK Advisory Council at 8:30 a.m., Wednesday, May 13, 2009, in Conference Room 10, Bldg. 31, NIH, Bethesda, Maryland.

A. ATTENDANCE – COUNCIL MEMBERS PRESENT

Dr. David Altshuler	Dr. William Mitch
Dr. Nancy Andrews	Dr. Brian Monahan
Ms. LaVarne Burton	Dr. Jerry Palmer
Dr. Charles Elson, III	Dr. David Perlmutter
Dr. Robert Flanigan	Ms. Margery Perry
Dr. James Freston	Ms. Lisa Richardson
Dr. Christopher Glass	Dr. Anthony Schaeffer
Dr. David Klurfeld	Mr. James Schlicht
Dr. Mitch Lazar	Dr. John Sedor
Dr. Mark Magnuson	Dr. Patrick Tso
Dr. Juanita Merchant	

Also present:

Dr. Griffin P. Rodgers, Director, NIDDK, and Chairperson,
NIDDK Advisory Council

Dr. Brent Stanfield, Executive Secretary, NIDDK Advisory Council

B. NIDDK STAFF AND GUESTS

In addition to Council members, others in attendance included NIDDK staff members, other NIH staff members, and members of the public. NIDDK Staff and guests present during the open session of the meeting included the following:

Abankwah, Dora – NIDDK	Barnard, Michele – NIDDK
Abraham, Kristin – NIDDK	Bishop, Terry – NIDDK
Akolkar, Beena – NIDDK	Blondel, Olivier – NIDDK
Appel, Michael – NIDDK	Bloom-Davila, Maria – NIDDK
Arreaza-Rubin, Guillermo – NIDDK	Calvo, Francisco – NIDDK

Castle, Arthur – NIDDK
 Chamberlain, Joan – NIDDK
 Chang, Debuene – NIDDK
 Connaughton, John – NIDDK
 Cowie, Catherine – NIDDK
 Curtis, Leslie – NIDDK
 Densmore, Christine – NIDDK
 Doherty, Dee – NIDDK
 Donohue, Patrick – NIDDK
 Doo, Edward – NIDDK
 Eggerman, Thomas – NIDDK
 Eggers, Paul – NIDDK
 Evans, Mary – NIDDK
 Everhart, James – NIDDK
 Farishian, Richard – NIDDK
 Ferguson, Frances – NIDDK
 Fonville, Olaf – NIDDK
 Gansheroff, Lisa – NIDDK
 Garfield, Sanford – NIDDK
 Germino, Gregory – NIDDK
 Guo, Xiaodu – NIDDK
 Haft Renfrew, Carol – NIDDK
 Hamilton, Frank – NIDDK
 Hanlon, Mary – NIDDK
 Harmon, Joan – NIDDK
 Harris, Kimberly – NIDDK
 Harris, Mary – NIDDK
 Haupt, Allison – AMERICAN SOCIETY
 OF NEPHROLOGY
 Hilliard, Trude – NIDDK
 Hoofnagle, Jay – NIDDK
 Hogan, Michelle – NEPHROLOGY TIMES
 Horlick, Mary – NIDDK
 Hoshizaki, Deborah – NIDDK
 Howards, Stuart – NIDDK
 Hunter, Christine – NIDDK
 Hyde, James – NIDDK
 Johnson, Michael – FOGARTY
 INTERNATIONAL CENTER
 Jones, Teresa – NIDDK
 Karp, Robert – NIDDK
 Ketchum, Christian – NIDDK
 Kimmel, Paul – NIDDK
 Kranzfelder, Kathy – NIDDK
 Kuczmariski, Robert – NIDDK
 Leschek, Ellen – NIDDK
 Levin, Ira – NIDDK
 Linder, Barbara – NIDDK
 Malik, Karl – NIDDK
 Malozowski, Saul – NIDDK
 Margolis, Ronald – NIDDK
 Martinez, Winnie – NIDDK
 Matsumoto, Dan – NIDDK
 May, Michael – NIDDK
 McKeon, Catherine - NIDDK
 Miles, Carolyn – NIDDK
 Miller, David – NIDDK
 Miller, Megan – NIDDK
 Moxey-Mims, Marva – NIDDK
 Misrty, Sejal – FOGARTY
 INTERNATIONAL CENTER
 Mullins, Christopher – NIDDK
 Narva, Andrew – NIDDK
 Newman, Eileen – NIDDK
 Patel, D. G. – NIDDK
 Perry-Jones, Aretina – NIDDK
 Pike, Robert – NIDDK
 Podskalny, Judith – NIDDK
 Pope, Sharon – NIDDK
 Rankin, Tracy – NIDDK
 Rasooly, Rebekah – NIDDK
 Retzlaff, Jon – ASSOCIATION OF
 INDEPENDENT RESEARCH
 INSTITUTES
 Roberts, Tibor – NIDDK
 Rosenberg, Mary Kay – NIDDK
 Rushing, Paul – NIDDK
 Sagan, Rebekah – NIDDK
 Sahai, Atul – NIDDK
 Salomon, Karen – NIDDK
 Sankaran, Lakshmanan – NIDDK
 Savage, Peter – NIDDK
 Scanlon, Elizabeth – NIDDK
 Schriver, Jane – NIDDK
 Seeff, Leonard – NIDDK
 Serrano, Jose – NIDDK
 Smith, Philip – NIDDK
 Spain, Lisa – NIDDK
 Star, Robert – NIDDK
 Staten, Myrlene – NIDDK
 Stone, Arthur – NIDDK
 Tatham, Thomas – NIDDK

Torrance, Rebecca – NIDDK
Wallace, Julie – NIDDK
Williams, Will – NIDDK
Wojnarowska, Barbara – NIDDK
Wright, Daniel – NIDDK

Wright, Elizabeth – NIDDK
Xie, Yining – NIDDK
Yanovski, Susan – NIDDK
Zellers, Charles – NIDDK

C. ANNOUNCEMENTS

Dr. Rodgers thanked the Council members for their participation and made the following announcements.

Council Members and Research Community

- *Dr. Brian Monahan*, Rear Admiral in the United States Navy, has been designated the Attending Physician for Congress. Dr. Monahan was nominated to the position by the United States Secretary of Defense Robert Gates and President Barack Obama. The Office of the Attending Physician was established in 1928 and presently provides free medical care and medications to the 435 members of the House and 100 members of the Senate and the nine Supreme Court Justices. The Attending Physician for Congress is also instrumental in security planning and works with the Sergeants-at-Arms of the U.S. Senate and U.S. House of Representatives, the U.S. Capitol Police, and other congressional officials to ensure medical support during contingency operations. Dr. Rodgers congratulated Dr. Monahan on his promotion and wished him well.
- *Dr. Mitchell Lazar* is the 2009 Recipient of the American Society of Clinical Investigation's Stanley J. Korsmeyer Award, in recognition of his outstanding contributions to understanding transcriptional regulation of metabolism, and his discoveries of several thyroid hormone and orphan nuclear receptors and their gene expression silencing mechanisms. His cloning of Rev-erb α led to a series of seminal discoveries on the mechanisms of nuclear receptor-mediated repression. His recent discovery that the corepressor-deacetylase interaction epigenetically governs metabolism and circadian rhythm proves the physiological importance of the corepressor paradigm. Dr. Lazar also made a number of other very valuable contributions, including the pioneering contributions to the linkage of PPAR γ to adipocyte differentiation, insulin-resistance, and Type II diabetes; and his discovery of resistin as a novel lipocyte hormone that impairs insulin action, which created a new view of the connection between obesity and insulin resistance.
- *Dr. Richard Spielman*, Professor of Genetics at the University of Pennsylvania School of Medicine, passed away on April 25th. Dr. Spielman had numerous publications on the genetics of diabetes and diabetes complications, but his most significant contribution has been more in the theoretical nature. His seminal work with Warren Ewens on family-based genetic association studies, the Transmission Disequilibrium Test (TDT), has been cited more than 2,400 times to date and has had a major impact on the field. His more recent studies with Dr. Vivian Cheung of Children's Hospital were the first to investigate

the genetics of natural variation of gene expression in humans. Dr. Spielman was a dedicated member of NIDDK review and advisory panels and will be greatly missed.

NIDDK Staff Members

- *Mr. Charles Zellers*, NIDDK's long-time Financial Management Officer, announced his retirement, as of June. He has been NIDDK's Financial Management Officer and a key member of NIDDK's senior leadership for the past 15-years. He has worked at NIH for over 30 years. Mr. Zellers first came to the NIH in 1977 as a management intern and then took a position as a program analyst in the Office of the NIH Director. He then became a budget analyst at NIDDK in 1980. He left NIDDK temporarily in 1987 to become a Budget Officer at the National Center for Nursing and then returned to NIDDK in 1990 as a Program Analysis Officer. In 1994 he was appointed as NIDDK's Financial Officer. Dr. Rodgers thanked Mr. Zellers for his years of service and wished him well.
- *Dr. Ira Levin* has been appointed Scientific Director of NIDDK. In this position Dr. Levin will serve as the Director of Intramural Research and be responsible for overseeing the Intramural Research Program. Since 1994, he has served as the Deputy Director for the Intramural Program in addition to being Chief of the Section of Molecular Biophysics in the Laboratory of Chemical Physics. From 1999 to 2001 and again over the past year Dr. Levin served as the Acting Scientific Director. Dr. Levin has a Bachelor's Degree from the University of Virginia and a Ph.D. Degree from Brown University, both in Chemistry.
- *Ms. Kathy Kranzfelder* has been appointed Director of the Office of Communications and Public Liaison (OCPL) at NIDDK. In this position, Ms. Kranzfelder will serve as a member of the Institute's senior leadership team, providing advice and guidance on external communications to the Director and the Institute. Ms. Kranzfelder came to NIDDK in 1989, serving in a variety of capacities, first as a writer-editor, a manager, and most recently as the Director of NIDDK's Clearinghouse. She received her Bachelor's Degree from the University of Wisconsin in French and Economics and has a Master's Degree from Michigan State University in Journalism. Dr. Rodgers thanked *Ms. Mary Harris* for serving as the Acting Director of OCPL during the search process.
- *Ms. Cindy Fuchs* has been appointed Chief of NIDDK's Technology Transfer Branch. She joins NIDDK from the Office of Technology Transfer at the National Institute of Allergy and Infectious Diseases (NIAID) where she was the Chief of the Extramural Technology Development Transfer Branch. Prior to that, she served as an Associate Director for Business Development and Corporate Counsel for Genetic Therapy Inc., a Novartis company. She also served as a Technology Licensing Specialist for NIH and as a Technology Transfer Fellow at the National Cancer Institute (NCI). She holds a Bachelor's Degree in Chemistry from Indiana State University and a Juris Doctorate Degree from Marshall-Wythe School of Law at the College of William and Mary.
- *Dr. Corinne Silva* joined the Division of Diabetes, Endocrinology and Metabolism (DEM) as a program director. Dr. Silva received her Ph.D. from the University of North

Carolina, Chapel Hill, where she studied glucocorticoid receptors. She then studied growth hormone receptor signaling at the University of Virginia. Since 1993, she has studied intracellular signaling mechanisms involved in breast cancer proliferation and progression and advanced as a faculty member at the University of Virginia, ultimately becoming an Associate Professor in the Department of Medicine and Microbiology. She is a long-time member of the Endocrine Society and recently served on their Research Affairs Committee.

- *Dr. Kristen Abraham* has returned to NIDDK after a period of time in central NIH where she led the implementation of the NIH-wide Transformative R01 Initiative. In her new position in DEM she will provide leadership for a wide array of animal model research across the Institute.
- *Dr. Catherine Myers*, who has served as Senior Scientific Officer in the Division of Kidney, Urology and Hematology (KUH) and as the Director of the Inflammatory Renal Disease Program, has been promoted to the Office of Clinical and Regulatory Affairs within the National Center for Complementary and Alternative Medicine (NCCAM). During her tenure at KUH, Dr. Myers managed the grant portfolio that included the NIDDK-initiated multicenter clinical studies related to kidney disease and individual R01s. She is an active member of numerous trans-NIH and NIDDK working groups, including a commitment as a co-chair of NIDDK's Clinical Studies Working Group. Dr. Rodgers thanked her for her service and wished her well in her new position.
- *Dr. Paul Kimmel* has returned to NIDDK as a Senior Scientific Officer within KUH, effective February 2009, where he will devote his full-time efforts in the area of acute kidney injury as well as renal genetics. Prior to this acceptance of his full-time position, Dr. Kimmel rejoined KUH on a part-time basis back in March of 2008 as the Director of the Translational Kidney Genetics Program and as a program officer for the Clinical Acute Kidney Injury Program. Prior to joining NIDDK Dr. Kimmel was Professor of Medicine at George Washington University and their Director for the Division of Renal Diseases and Hypertension. He also served as the Director of Education for the American Society of Nephrology. Dr. Kimmel's clinical interests include diabetic nephropathy, cytokine biology in chronic kidney disease, and the psychological adaptation of chronic kidney disease and HIV-associated renal diseases. He graduated from Yale University, received his M.D. from New York University, and trained at Bellevue Hospital and the Hospital of the University of Pennsylvania.
- *Dr. Tracy Rankin* joined KUH as the new Kidney and Urologic Research Training Program Director in fall 2008. She will oversee the kidney and urology career development and training portfolios. Prior to her arrival at KUH, Dr. Rankin worked as a program director at the National Institute of Child Health and Human Development (NICHD). There, she served as the Director of Male Reproductive Health Program. She also served as a project scientist for the National Cooperative Program for Mouse Phenotyping: Developmental and Infertility Defects and has served as a project officer for Special Cooperative Center Program in Reproduction and Infertility Research. Her research portfolio encompassed research in the mechanism of spermatogenesis, sperm

- *Dr. Gregory Germino* has been appointed NIDDK's Deputy Director-designee. Since 1992 Dr. Germino has been at the Johns Hopkins School of Medicine where he is Professor of Medicine within the Division of Nephrology and a Professor in the Department of Molecular Biology and Genetics. He earned his M.D. from the University of Chicago Pritzker School of Medicine and did an internship and residency in internal medicine at Yale. He also completed a clinical fellowship in nephrology at Yale and a research fellowship at Oxford University. Dr. Germino's faculty experience began at Yale School of Medicine in the Internal Medicine Department's Section of Nephrology. His interests have focused on the molecular basis of renal cystic diseases and renal tubular morphogenesis. He has had support from NIDDK since 1994 and presently has an active MERIT award and an R01 grant.

II. CONSIDERATION OF SUMMARY MINUTES OF THE 179th COUNCIL MEETING

Following a motion, the Council approved the Summary Minutes of the 179th Council meeting by voice vote.

III. FUTURE COUNCIL DATES

Dr. Rodgers called the attention of the Council to future meeting dates.

2009

September 9 (Wednesday)

2010

February 24-25 (Wednesday and Thursday)

May 12-13 (Wednesday and Thursday)

September 22-23 (Wednesday and Thursday)

2011

February 16-17, 2011 (Wednesday and Thursday)

May 11-12, 2011 (Wednesday and Thursday)

September 7-8, 2011 (Wednesday and Thursday)

The expectation is that most meetings in 2010 and 2011 will be a single day: Wednesday. However, NIDDK asks Council members to hold both days to ensure flexibility should a situation arise where a longer meeting is required.

IV. ANNOUNCEMENTS

Dr. Stanfield

Confidentiality

Council members were reminded that material furnished for review purposes and discussion during the closed portion of the meeting is considered confidential. The content of discussions taking place during the closed session may be disclosed only by the staff and only under appropriate circumstances. Any communication from investigators to Council members regarding actions on an application must be referred to the Institute. Any attempts by Council members to handle questions from applicants could create difficult or embarrassing situations for the members, the Institute, and/or the investigators.

Conflict of Interest

Dr. Stanfield emphasized that advisors and consultants serving as members of public advisory committees, such as the NIDDK Advisory Council, may not participate in situations in which any violation of conflict of interest laws and regulations may occur. Responsible NIDDK staff shall assist each Council member to help ensure that he or she does not participate in, and is not present during review of applications or projects in which, to the member's knowledge, any of the following has a financial interest: the member, or his or her spouse, minor child, partner (including close professional associates), or an organization with which the member is connected.

To ensure that a member does not participate in the discussion of, nor vote on, an application in which he/she is in conflict, a written certification is required. A statement is provided for the signature of the member, and this statement becomes a part of the meeting file. Dr. Stanfield drew the Council's attention to a statement within each member's folder regarding conflict of interest issues in review of applications. Each Council member was asked to read it carefully, and to sign and return it to NIDDK before departing the meeting.

At Council meetings when applications are reviewed in groups without discussion, that is, "en bloc" action, all Council members may be present and may participate. The vote of an individual member in such instances does not apply to applications for which the member might be in conflict.

Dr. Stanfield addressed multi-campus institutions of higher education as follows: An employee may participate in any particular matter affecting one campus of a multi-campus institution of higher education, if the employee's financial interest is solely employment in a position at a separate campus of the same multi-campus institution, and the employee has no multi-campus responsibilities.

V. REPORT FROM THE NIDDK DIRECTOR

Dr. Rodgers

When Council last met in February stimulus funds had just been legislated through the American Recovery and Reinvestment Act (ARRA). Since that time, our staff members have been extraordinarily busy. Our program directors have been fielding great numbers of emails and calls from potential applicants regarding the ARRA opportunities that have been advertised. In some cases they have worked with applicants to restructure their longer term projects into a two-year plan that is eligible for ARRA support. Grants Management staff members have been working diligently to make the necessary pre-award arrangements and obtain institutional clearance for the earliest of what will become hundreds of extra grant awards and supplements. Managers are making arrangements for overtime and some extra hiring to accommodate the extra workload over the next 17-month period. Budget staff is sorting through the plans and proposals to keep all sources of funds straight while responding to the multiple requests for reports.

NIDDK will focus its ARRA funding on several areas including R01 and R21 applications, supplements to existing grant projects to accelerate the pace of research and strengthen research capacity, and some additional funding opportunity announcements (FOAs) coordinated by central-NIH. Some applications have already begun to arrive for September Council—for example, Challenge Grant applications and applications for competitive supplements have already been received. Many ARRA funding actions will take place at the end of the fiscal year—at the same time staff is working to finish obligating NIDDK’s direct appropriations as well as its Special Type I Diabetes appropriations. Where possible, the early concurrence process will be used to expedite making awards and manage workload.

Regarding regular appropriations in 2009, a final appropriation was given to NIDDK after the last Council meeting—this occurred nearly at the midpoint of the fiscal year. The Institute received a 2.7 percent increase in appropriation as a whole. By limiting the allocation in many parts of the budget, the Institute has been able to increase its research project grant budget by 2.9 percent. The Institute also is continuing to see a drop in its non-competing portfolio. The combined effect of this is the ability to maintain a relatively high pay line: 17 percent for established investigators and 19 percent for new investigators, and to dramatically mitigate average reductions to competing awards, at about 4 percent, down from approximately 15 percent last year. NIDDK also is able to fully honor the non-competed commitment levels for all research project grants this year rather than reducing all of them by a small percentage, as has been necessary in recent years.

The 2010 President’s Budget calls for an overall increase of 1.5 percent for NIH and a 1.2 percent increase for NIDDK. There is a newly announced initiative in cancer research that is supported by a 3.6 percent increase for the National Cancer Institute (NCI) and a proportional increase for many other institutes supporting cancer-related research, including NIDDK. There

are also significant increases requested for autism research, a special increase for nanotechnology-related environmental research, health and safety research at the National Institute of Environmental Health Sciences (NIEHS), an increase for the Clinical and Translational Science Awards (CTSAs) at the National Center for Research Resources (NCRR), and an increase for research on rare and undiagnosed disease research at all of the Institutes and Centers (ICs). The budget proposes to resume the reductions on non-competing research project grants and proposes no increase for tuition and other training costs for the National Research Service Award (NRSA) Programs.

Normally there is at least one House Appropriations Committee meeting and a Senate Appropriations Committee meeting per year focusing on the NIH budget. On March 26th, Dr. Rodgers accompanied Dr. Raynard Kington, the Acting NIH Director, and several other IC Directors, to the House Appropriations Subcommittee hearing, where questions focused on use of ARRA funds, and the National Children's Study and NIH's review of its progress. The Senate Appropriations Committee hearing is scheduled for May 21. It is expected that this hearing will focus on the President's 2010 Budget as well as ARRA activities.

VI. FOGARTY INTERNATIONAL CENTER UPDATE – GLOBAL HEALTH

Dr. Rodgers introduced Dr. Glass, who was named the Director of the Fogarty International Center (FIC) by former NIH Director Dr. Zerhouni in March 2006. Dr. Glass graduated from Harvard University in 1967 and received a Fulbright Fellowship to study at the University of Buenos Aires. He has an MBA and MPH from Harvard as well. He worked at the Centers for Disease Control and Prevention in 1977 as a medical officer, received a Ph.D. from the University of Gothenburg in Sweden in 1984, and then joined the NIH Laboratory for Infectious Diseases where he performed research focused on Rotavirus. He has maintained field studies in India, Bangladesh, Brazil, Mexico, Israel, Russia, Vietnam, and China as well as elsewhere, and his research has targeted the introduction of a Rotavirus vaccine.

Dr. Glass

FIC is the NIH IC which focuses on research and training in global health. Dr. Glass is also the Associate Director of NIH for Global Health Programs, working with all the ICs on strategies for research in the developing world. NIH spends about \$600-700 million annually in international grants and contracts. Less than 11 percent goes to areas in greatest need, such as Sub-Saharan Africa. In this setting, about 85 percent of the research is HIV-related—in an area of the world where only about five percent of the people are HIV-infected. Part of FIC's mandate is to address issues in low- and middle-income countries.

In inviting him to speak, Dr. Rodgers asked Dr. Glass to consider the following questions: Should NIDDK be engaged in research and training in global health? What are the global health research questions that NIDDK might best address? Who should be trained to conduct this research? Who are the global health leaders in the NIH-NIDDK panorama of individuals, and how can this research be justified given current budgetary issues?

When Dr. Glass directed a public relations group that advises NIH, he met Nicole Johnson, Miss America 1998, who was representing the American Diabetes Association, as a patient herself. She noted that a child in Africa who has HIV at birth receives money and treatment from the President's Emergency Plan for AIDS Relief (PEPFAR) for life. Why then doesn't his sibling with diabetes—a treatable disease—receive similar support? The HIV epidemic and its treatment in Africa has demonstrated that we can address chronic disease issues in the developing world through effective means.

When Dr. Glass became the FIC Director, he was given a report of the Disease Control Priority Project, a collaboration of the Gates Foundation, the World Bank, the World Health Organization, and the Population Reference Bureau, to identify global health priorities for investment in the developing world. The report found that everywhere in the world, except in Sub-Saharan Africa, life expectancy had grown longer and was continuing to increase. This growth primarily was due to biomedical or public health advances, regardless of income level. For example, China has had an eight-year prolongation of life every decade for the past four decades, from 40 years in 1977 to 75 today. That constitutes the longest and most rapid prolongation of life in the history of the world. This means that, with the exception of Sub-Saharan Africa, the chronic disease agenda has come to the fore—for example, diabetes, obesity, smoking, cardiovascular disease, and cancer. In fact, diabetes is the leading cause of death globally, affecting 250 million people today, and substantially more as life expectancies increase. India and China now each have about 40 million individuals with diabetes.

FIC has awarded an International Clinical, Operational and Health Services Research and Training Award (ICOHRTA) to address diabetes in the developing world. Dr. Glass asked the collaborators what research questions should be asked. One of the collaborators, V. Mohan, had just started doing national surveys of diabetes in India to determine risk factors and rate. He found that the burden of disease is great and growing. However, the pattern of obesity and obesity-related diabetes is different than what is seen in the United States, and the rates vary among different groups in rural and urban settings. Part of the variation appears to be genetic. India has more than 150 ethnic groups, some of whom have especially high rates of diabetes—such as the Sikhs. By studying unusual populations we may be able to get a better handle on the genetics of diabetes.

Dr. Glass has consulted with Dr. Anil Kapur of the World Diabetes Federation, which has programs around the world to support diabetes interventions, to get a better understanding of the biggest research questions regarding diabetes. Dr. Kapur is focusing on fetal programming and the “Barker Hypothesis,” which suggests that maternal nutrition is strongly associated with diabetes. When mothers are malnourished, their babies are born small and then are often over-nourished during infancy. These over-nourished children then grow up to have an increased risk of diabetes; thus, the problem of prevention of diabetes starts with the mother. Furthermore, it appears from longitudinal studies performed in the developing world that would be difficult to do in the United States that children of women with gestational diabetes have increased rates of disease — diabetes appears to beget diabetes and this appears to start in utero.

Dr. Glass mentioned that NIDDK has longstanding and well done studies of diabetes in Pima Indians, who he stated originally came from Asia. He suggested these studies could be extended

to founder populations and in this way serve as a model for other settings. Other population studies have found high rates of diabetes among Hispanics along the Texas-Mexican border. The rates in this population are higher than either the rest of the United States or Mexico. These populations also have higher rates of tuberculosis, suggesting that diabetes is an immunocompromising disease. Dr. Glass suggested that here is an opportunity to think globally not only about the Hispanic population in Texas but across Latin America.

Dr. Glass then focused on the impact of changes in environmental factors, including economic factors, on the health of populations. For example, he noted the Tokelau Islanders in the South Pacific who moved to New Zealand because of volcanic activity on their island. After they migrated the Tokelau Islanders immediately acquired a risk for diabetes that was much higher over the ensuing years. Environmental and nutritional factors were responsible for that rapid change, suggesting the importance of studying the transition of populations from under-development to development and from a rural to an urban lifestyle. Dr. Glass also noted that obesity has become a global pandemic which appears to follow expanding markets and economic development. Are we exporting this pandemic to the developing world as it is introduced to our fast food? How can we help it avoid the consequences we are witnessing in the United States? In countries where malnutrition is or recently has been common, overweight and obesity are seen as signs of success, or wealth—to the extent that in some cultures women are “fattened-up” before marriage as part of the dowry. Thus, social and cultural factors also influence the impacts of changing environmental/economic situations on different populations and these factors need to be considered and studied.

Dr. Glass mentioned that there are a number of large intervention studies in several countries that cost the U.S. almost nothing. China, India and Brazil have put substantial new money into research and what they need are collaborators and scientific validation for their research programs. Collaborating with these countries there are opportunities for global health research in low- and middle-income countries that could substantially advance the state of the science.

Dr. Glass noted that there is growing interest in global health among undergraduate medical students and doctors in training. Many students in medical institutions have experience and interest in the developing world. Dr. Glass gave the example of Christine Wyatt, a junior faculty member at Mt. Sinai who worked with a team in Uganda studying nephropathy in HIV patients. Renal disease in HIV patients is the third leading cause of end-stage renal disease in the United States after hypertension and diabetes. Some of this is reversible with antiretroviral therapy started early. The implications are that in settings such as Africa, HIV patients with impaired glomerular filtration rates should be started on antiretrovirals earlier, not later, when their CD4 counts go to 200. However, identifying patients with impaired GFR in many places in Africa is very difficult since there is no simple diagnostic test. Clearly there is a need for research to develop simpler and more portable diagnostic tests. Also, the Mt. Sinai group has found that the problems of renal disease appear to have a genetic association. These associations deserve further exploration.

Dr. Glass explained that FIC’s mission is to address global health challenges through innovative and collaborative programs of research and training and to support and advance the NIH mission through global partnerships. Thus, FIC works with all of the NIH ICs. Recently, FIC completed

its strategic plan. In that plan the definition of global health was expanded to include not just infectious diseases and child health as it had been defined in the 20th Century, but also to include chronic disease.

In its strategic plan, FIC's key goal is to train the next generation of U.S. and foreign health researchers through creative programs of training and research. Training takes place in the United States and abroad and until recently has focused primarily on infectious diseases—this should be expanded to include specialties needed in chronic diseases.

The second key in FIC's strategic plan is to develop a chronic diseases portfolio. Dr. Glass emphasized that this is because chronic diseases are going to be issues that we share and research questions that we need to develop together.

A third aim of FIC's strategic plan is to bridge the implementation/research gap. For example, in the United States we know how to cheaply treat hypertension, which is the main cause of stroke, heart disease, and diabetes. But how do we encourage treatment of hypertension on a global scale? We know the science. We don't know how to change people's behavior and implement the interventions we have available.

FIC is also working to build sustainable capacity in the developing world for chronic disease research and treatment, in addition to the infrastructure already in place for infectious diseases and malnutrition, e.g., community-based research, ethical review boards, grants mechanisms. FIC has a number of different training awards to build up centers of excellence in the developing world and training grants to promote collaborations between U.S. and developing country institutions.

Dr. Glass emphasized that FIC is the watering can for promoting global health activities at NIH and is constantly looking for partners. He asserted that working internationally is the next frontier in science and that international scientific collaboration and cooperation promotes diplomacy, economic development and political stability—and it is just the right thing to do.

Dr. Glass closed by asking for NIDDK's input in developing a global health research agenda.

Council Questions and Discussion

What is the capacity for the residents and undergraduates that you send to other countries? Is it possible to recruit Ph.D. scientists as we try to increase their translational education? FIC has predoctoral and postdoctoral programs for the biomedical sciences, which covers all types of degrees in the biomedical sciences. FIC is also working with the Fulbright Commission to start a Fulbright Fogarty Program in health-related fields.

Are there programs for supporting the training of foreign scientists in U.S. laboratories? There have been VISA issues that have been barriers to recruiting foreign nationals to postdoctoral positions in the United States. These issues are being resolved.

How do you advertise your programs? FIC programs are posted on its website, and announcements are sent to academic departments.

VII. ADVISORY COUNCIL FORUM

American Recovery and Reinvestment Act (ARRA): NIH/NIDDK Initiatives and Management

Dr. Rodgers

ARRA Initiatives

ARRA was signed into law by President Obama February 17, 2009. Through the Act, NIH has the opportunity to expand its role in improving not only the nation's health but the nation's economy.

In 2008, NIH had a large number of grant applications that just missed the pay line. In years when the NIH budget was a little more robust these applications would have been funded. In a sense, these were "shovel ready" projects, and this was the first rationale for considering NIH participation. In testimony before the Senate Finance Committee, both Dr. Zerhouni and subsequently Dr. Kington, Acting NIH Director, had an opportunity to make a case for NIH's participation in ARRA. They presented results from an outside analysis indicating that every dollar of NIH-funded research is leveraged by another dollar from the community. In addition, each modular grant of about \$250,000 made by NIH would pay for the salaries, at least in part, of 5-6 individuals and the dollars would be cycled within the community approximately three and a half times. Clearly, this fulfilled the criteria for stimulating the economy. Additional considerations were that an infusion of funds would advance biomedical research and have an enduring impact on the state of science and human health moving forward.

Through ARRA, ultimately approximately \$10 billion was allocated directly to NIH. Approximately \$1.3 billion of this allocation was targeted for NCR. Of the funding targeted for NCR \$300 million was directed to fund extramural scientific shared instrumentation and \$1 billion to fund repairs, improvements and construction projects in the extramural research program. The NIH intramural program will receive \$500 million for repairs, improvements, and some construction here on the NIH campus. The Agency for Healthcare Research and Quality (AHRQ) received \$700 million for comparative effectiveness research, of which about \$400 million was a pass-through to NIH. The remaining \$8.2 billion was targeted for extramural research. Of this \$8.2 billion, \$800 million went to the NIH Director's Fund. The NIH Institutes and Centers all received a share of ARRA funds for research proportionate to their normal allotment. For NIDDK this came out to approximately \$450 million. It should be noted that associated with ARRA funds are levels of oversight, risk management, and reporting that are unprecedented.

In addition to some specific programs that the NIH Institutes and Centers will establish, there are a number of trans-NIH ARRA programs:

- Of the \$800 million allocated to the NIH OD, \$200 million will be focused on **Challenge Grants**. These grants will go toward priority avenues of research and they will fund up to \$500,000 total costs per year for two years.
 - The NIH OD will award about 200 of these grants.
 - There are 15 different categories of Challenge Grants. NIDDK developed a total of 92 Challenge topics within these 15 broad categories.
 - In addition to the 200 grants that NIH Central will fund, each of the ICs will have the opportunity to fund grants relevant to specific Challenge Grant topics.
 - To date, NIH has received 20,858 Challenge Grant applications. Of these, approximately 1,200 have been referred to NIDDK as the primary IC, and there are another 1,200 applications in which NIDDK is listed as a secondary IC.
 - NIDDK expects to fund additional Challenge Grants after OD has made its initial selections.
 - The reviews for the Challenge Grants will be conducted using a special editorial board process.
 - Scores and summary statements for Challenge Grants are expected to be available in the late-July/early-August timeframe for funding in Fiscal Year 2009.
- The NIH OD has set-aside \$200 M for **Grand Opportunity (GO) Grants**.
 - What distinguishes Challenge Grants from GO Grants is that GO Grants are larger scale and higher impact—and come with a higher price tag. Whereas the ceiling for Challenge Grants is \$500,000 per year, GO Grants must be over \$500,000 per year and there is no ceiling.
 - Because of concerns that there would be a high probability of untargeted research with a large price tag and concerns about developing appropriate review panels for these applications NIDDK elected not to participate in the GO Grant program. NIDDK felt that targeting its investment in Challenge Grants and other ARRA activities would be a better use of NIDDK ARRA funding.
- **New Faculty Awards** will provide new tenure-track scientists with start-up packages to fund pilot research projects.
 - The awards use a P30 mechanism, which does not work as well for ICs with a diverse portfolio, such as NIDDK. Thus, NIDDK opted out of this program.
- **Summer Research Experiences for Students and Science Educators** will be funded using Administrative Supplements. The goal of this program is to engage students and educators in research, to encourage students to pursue research careers, and to provide summer internships at NIH-funded laboratories for science teachers.
 - For the April 17, 2009 application deadline NIDDK received 200 administrative supplement applications for summer research experiences and put forth a list of applications to the NIH OD, requesting more than \$6 million for funding consideration.

- The NIDH OD will support approximately 25 applications, and provide matching funds for another 25.
 - NIDDK expects to fund more than 130 Summer Research Experience applications on its own.
- **Signature Initiatives**, such as nanotechnology, genome-wide association studies, Alzheimer's disease research, biomarker studies, large-scale sequencing, and community-based research opportunities will be highlighted as high-profile areas.
 - NIDDK has two Signature topic areas including gene-wide association studies for diseases within NIDDK's mission and novel cell therapies in degenerative medicine. The focus of the latter initiative is to develop human islet cell replacement therapy for diabetes.
 - **Administrative Supplements** also will be supported using ARRA funds. NIDDK can fund administrative supplements to replace equipment up to a \$100,000 per proposal.
 - NIDDK has received approximately 2,000 administrative supplement applications, which will be funded based on their responsiveness to the ARRA goals and potential to enhance the pace of scientific discovery.
 - Funding decisions regarding Administrative Supplements will be made by teams within the divisions. A guiding principle is that no one person will make a funding decision. Rather, teams will review arrays of applications and make recommendations based on the quality of applications and potential for scientific acceleration.

NIH's website for ARRA, www.nih.gov/recovery, provides currently available information about funding opportunities. The level of transparency and oversight associated with ARRA funds is unprecedented. To achieve accountability, grantees must submit detailed budget reports if they are to receive two-year allocations of funds. These reports will summarize the total amount of ARRA funds received on a quarterly basis, how much of these funds were expended, and, importantly, the number of jobs created or retained as a result of use of these funds, as well as the normal level of reporting on activity and progress. These reports will be publicly available.

Dr. Stanfield

ARRA Management Challenges

There are a number of challenges associated with ARRA funds. For example, ARRA funds must be kept separate from regular appropriations. NIH cannot simply co-fund an ongoing activity if that activity is being funded through normal appropriations. Also, all ARRA funds must be obligated by September 30, 2010; two-year awards must be obligated by September 30, 2009. An additional challenge was the summer research opportunities. Decisions regarding these supplements were made by necessity very quickly since college semesters are ending and the opportunities for summer research experiences are already beginning.

A key administrative hurdle in making ARRA awards is that pay plans must pass through the White House; this adds an extra two weeks to the process of releasing funds. It should be noted that the White House is not micromanaging and reviewing the activity, but rather looking for items that would be newsworthy.

Like other Institutes and Centers, NIDDK has had unprecedented numbers of applications to receive, refer, review, process, and pay and the timeline is extremely challenging for review staff, program staff, and especially grants management staff. Because of the scientific opportunities, NIDDK will be fund a number of two-year activities with ARRA funds. Any two-year ARRA funded award must be made by September 30, 2009 and this is in addition to all the regular appropriation awards that need to be made—this makes the volume of awards that need to be made by the end of the fiscal year extremely high.

One of the biggest ARRA-associated management challenges for NIDDK thus far has been administrative supplements. Large numbers of administrative supplement applications are especially challenging to receive and track because, unlike a grant application, they cannot be received electronically by or entered into the NIH grant tracking system until a decision has been made to pay the supplement. To overcome this, staff members have developed a new electronic data system for receiving, tracking, reviewing and awarding administrative supplement applications. The system automatically refers supplement applications to the program official who has dealt with the parent grant and lets these officials see and access all the information about all the applications within their portfolios. Reviewing these administrative supplements has also been complicated because NIDDK typically does not manage many administrative supplements and a new and fair process had to be developed to make funding decisions. In the new system, program directors are required to review the most recent summary statement or progress report from the parent grant for each administrative supplement application, and, within the context of this information, they then review the administrative supplement request and complete a standardized form. This form is then forwarded to one of the internal review panels convened by the programmatic Division to review the ARRA administrative supplement applications. These panels then recommend funding priorities, which are then forwarded to the relevant division director.

Because ARRA dollars must be kept separate from regular appropriations there are sometimes difficulties with carryover. For example, if NIDDK funds a competitive renewal application with ARRA money, regularly appropriated money from the previous funding period cannot be carried over the year when ARRA funding will begin. Likewise, when the ARRA-funded period of a project is complete, ARRA money cannot be carried over into the next period of the award that is funded with regularly appropriated money.

In addition to the management complications for NIH staff members there are also complications and challenges for the extramural community. For example, grantees awarded ARRA funds will be required to report quarterly and address items typically not included in NIH reports. Some of the atypical reporting requirements include the number of people hired, the number of jobs created, and the number of people who were retained in their present positions as a result of stimulus funds. Also, because the entire process and focus for ARRA-funding is different, investigators and academic deans have no baseline against which to determine their strategies for

applications. It is difficult to determine the probability of success for ARRA funds and it is also difficult to ascertain which ARRA opportunities would be best to pursue given the limited time to develop applications.

All of these challenges for both NIH staff and the extramural community are coming on the heels of changes in the peer review process. Virtually all ARRA applications will be reviewed and scored using the new NIH peer review scoring system—the 1 to 9 scoring system instead of the traditional 100 to 500 scoring system. There will also be a change in the policy for use of human embryonic stem cells in NIH funded research, for which draft guidelines are out for public comment. Applications involving stem cell research cannot be reviewed until the guidelines are finalized.

The requirements for ARRA come on top of the regular workload for NIH staff. Staff members are willing to work extremely hard and under very demanding deadlines because they understand the importance of ARRA for our scientific communities. However, they also understand that more lies ahead for them. A large percentage of the Challenge Grant applications are not going to be successful and it is likely that a large proportion of these unsuccessful proposals will be resubmitted as R01 or other applications. Thus, the implications for out year pay lines and work pressures are worrisome.

Council Questions and Discussion

Dr. Andrews expressed support for NIDDK's opting out of the P30s because of the timelines and requirements.

Dr. Klurfield asked for clarification on limited or no carryover of ARRA funds at the end of the grant period. Dr. Stanfield explained that ARRA funds cannot be carried over into a non-ARRA funded competitive renewal. However, at the end of an ARRA-funded project period, normal carryover is allowed.

Dr. Tso asked if ARRA grants would be reviewed based on programmatic interests as well as priority scores. Dr. Stanfield responded that generally the same considerations taken into account for applications funded with regular appropriations will be used for ARRA funding decisions—a combination of priority scores and relevance to NIDDK mission and programmatic priorities. In addition, the NIH OD will select and fund some Challenge Grant applications assigned to NIDDK, so funding could come from either the OD allocation or NIDDK funds.

Dr. Altshuler expressed concern about trying to “democratize” rather than prioritize funding, which could result in a lot more work for NIDDK and the funding of similar “me too” projects. Dr. Rodgers responded that decisions will not be based solely on priority score, but will also take into account programmatic priorities and ARRA requirements.

Dr. Freston asked about the selection criteria for the summer research experience. Were applicants asked to name a potential student or just offer an opportunity? Dr. Stanfield responded that both situations have occurred. Some applicants identified individuals who would take advantage of research opportunity slots. In other cases the applicants simply indicated the number of research experience positions that would be made available—in addition to

demonstrating the qualifications of the research team and how the environment was appropriate for the opportunities proposed. Dr. Stanfield noted that program staff has carefully reviewed the merits of these applications—including budgets—to ensure that what was being sent forward to OD was realistic and appropriate.

Dr. Schaeffer expressed concerns about what such an influx of funds will have on out years. Dr. Rodgers responded that NIDDK considered models for the future based on what happened during the doubling of the NIH budget. In fact, consideration of out-year impact is one of the reasons that NIDDK opted out of some of the larger cost programs.

Drs. Stanfield and Rodgers noted that the details of the reporting requirements for ARRA awards are still need to be clarified.

Dr. Stanfield closed the session by informing Council that because of the workload associated with ARRA and regular appropriation awards that it may be necessary to have more than a single “en bloc” early concurrence this summer.

VIII. SCIENTIFIC PRESENTATION: Resisten: Looking Forward and Back

Dr. Mitchell Lazar

Dr. Rodgers introduced NIDDK Advisory Council member Dr. Mitchell Lazar, Sylvan H. Eisman Professor of Medicine and Genetics at the University of Pennsylvania School of Medicine. Dr. Lazar is Chief of the University’s Division of Endocrinology, Diabetes and Metabolism and Director of the Institute of Diabetes, Obesity and Metabolism Program. He received his undergraduate degree in Chemistry from the Massachusetts Institute of Technology, his M.D. and Ph.D. in Neuroscience from Stanford University Medical School. Dr. Lazar completed an internship and residency at the Brigham and Women’s Hospital, followed by a fellowship in Endocrinology at the Massachusetts General Hospital where he worked on parathyroid hormone secretion. As mentioned in the announcements, Dr. Lazar received the 2009 American Society of Clinical Investigation’s Stanley J. Korsmeyer Award. He is widely known for his work on nuclear receptors, beginning with his cloning of a novel thyroid and orphan receptor as a post-doctoral fellow at Brigham and Women’s Hospital. Dr. Lazar’s research has been supported by NIDDK since 1991, including two Merit Awards. Furthermore, he has been an outstanding mentor whose trainees have advanced in their own scientific careers, both in academia and industry. In addition to serving on NIDDK’s Advisory Council, he has been elected to the American Society of Clinical Investigations as a council member, the Association of American Physicians, the Institute of Medicine of the National Academy of Sciences, and the American Academy of Arts and Science.

IX. CONSIDERATION OF REVIEW OF GRANT APPLICATIONS

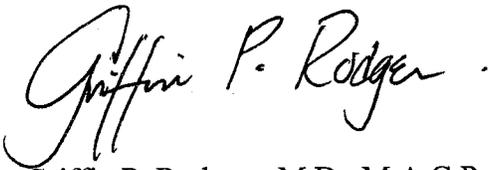
A total of 1,720 grant applications, requesting support of \$461,510,760 were reviewed for consideration. Funding for these 1,720 applications was recommended at the Scientific Review Group recommended level. Prior to the Advisory Council meeting, an additional 1,067 applications requesting \$281,798,288 received second-level review through expedited

concurrence. All of the expedited concurrence applications were recommended for funding at the Scientific Review Group recommended level. The expedited concurrence actions were reported to the full Advisory Council.

X. ADJOURNMENT

Dr. Rodgers thanked the Council members for their attendance and valuable discussion. There being no other business, the 180th meeting of the NIDDK Advisory Council was adjourned at 4:30 p.m.

I hereby certify that to the best of my knowledge, the foregoing summary minutes are accurate and complete.

A handwritten signature in black ink that reads "Griffin P. Rodgers". The signature is written in a cursive style with a period at the end.

Griffin P. Rodgers, M.D., M.A.C.P.
Director, National Institute of Diabetes and Digestive and Kidney Diseases
Chairman, National Diabetes and Digestive and Kidney Diseases Advisory Council